

RESEARCH ARTICLE

Pharmacists' practices and challenges regarding Continuing Professional Development in Mpumalanga province, South Africa

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Abstract

Introduction: The study aimed to assess the extent to which pharmacists in Mpumalanga Province, South Africa, voluntarily participated in recording their CPD activities on the CPD online recording system of the South African Pharmacy Council (SAPC), and to identify associated challenges. **Methods:** A quantitative, descriptive study was conducted. Data were collected using Survey Monkey from 578 registered pharmacists over a four month period. Responses were exported to Microsoft Excel and analysed using SPSS version 25. **Results:** The response rate was 25.4%. Most pharmacists (87%) agreed that CPD was necessary. While 64% participated in CPD activities, only 24.8% recorded these activities voluntarily. Challenges faced with participating in recording activities included recording of CPDs is currently not mandatory (27.3%), lack of information (27.3%), lack of interest (27.3%), time constraints (39.1%) and system/programme issues (26.1%) were also cited as reasons for not recording CPD activities. **Conclusion:** Improving the ease of accessing the SAPC system (83.7%) was suggested as a way to improve participation in CPD activities and subsequent recording online.

Introduction

"Pharmacists are health care professionals whose professional responsibilities include seeking to ensure that people derive maximum therapeutic benefit from their treatments with medicines. This requires them to keep abreast of developments in pharmacy practice and the pharmaceutical sciences, professional standards requirements, the laws governing pharmacy and medicines and advances in knowledge and technology relating to use of medicines" (FIP policy statement, 2002: p. 7). Recommendations by the International Pharmaceutical Federation (FIP) states that pharmacists are required to continuously update their skills to ensure quality patient care. The evolving professional role of pharmacists mandates them to adapt to deliver quality, evidence-based and patient-centred care (Gelayee, Mekonnen & Birarra, 2018). In this process, it is imperative that individuals be able to develop their learning needs and plan accordingly to address them (Rouse, 2004). Continuing Professional Development (CPD) facilitates the ongoing acquisition

of knowledge and skills pertinent for pharmacists to stay up to date and competent in practice which ultimately benefits the patients (Kenya Pharmacy and Poisons Board, 2013).

Evolving population demographics and disease patterns, in addition to progression in technology, diagnostics and treatment methods, have necessitated the need for health professionals to progressively advance their knowledge and skills (Geyalee *et al.*, 2018; Wheeler & Chisholm-Burns, 2018). The pharmacy profession is continually adapting to provide safe and patient-centred health services, and this requires pharmacists to ensure continued competence in practice (Wheeler & Chisholm-Burns, 2018). Implementation of continuing professional development (CPD) systems is necessary to address performance gaps and facilitate quality improvement in the health sector (Geyalee *et al.*, 2018; Wheeler & Chisholm-Burns, 2018).

The global CPD models have evolved over time. Continuing Professional Development is a concept developed in the early 2000's from an older concept of Continuing Education (CE). The FIP (2014) defined CPD as *"the responsibility of individual pharmacists for systematic maintenance, development and broadening of knowledge, skills and attitudes, to ensure continuing competence as a professional, throughout their careers"* (FIP, 2014: p. 2). Whereas the Accreditation Council for Pharmacy Education (ACPE) (2015) in Chicago, United States of America (USA) defined CE as *"structured educational/activity designed or intended to support the continuing development of pharmacists and/or pharmacy technicians to maintain and enhance their competence"* (Owen, Skelton & Maine, 2020: p. 1). The South African Pharmacy Council (SAPC) defines CPD as *"a process by which registered persons maintain and enhance their competence throughout their professional careers"* (SAPC, 2019: p. 3).

Globally, pharmacists have different perceptions and practices regarding CPD. A study on pharmacist's knowledge and attitude in Texas, USA, in 2008, showed that almost 50% of the pharmacists who participated in their study had not heard of the CPD model prior to the review and more than 50% of those pharmacists were uncertain of the profits of the system (Bellanger & Shank, 2010). In Botswana, a study among pharmacists in 2014 showed that most did not feel that recording their CPD had any significant contribution to their practice (Kasvosve *et al.*, 2014). Another study in Scotland revealed that when comparing community pharmacists with hospital and primary care pharmacists, community pharmacists participated the least in CPD activities (Power *et al.*, 2008). To ensure lifelong learning, the Pharmacy Board of Australia made CPD mandatory in 2015 to maintain registration (Pharmacy Board of Australia, 2015). In 2013, an online survey was conducted to investigate the level of understanding by Australian pharmacists of the CPD framework. The results of the Australian study showed that most pharmacists (85.4%) knew the CPD requirements for registration and also agreed that they received sufficient guidance for CPD requirements. However, a minority (10.7%) did not know the difference between CPD and CE and were not fully aware of the significance of the four steps in the CPD learning cycle (Thompson & Nissen, 2013). While this study was conducted, only intern pharmacists and tutors had to submit CPD activities. All CPD recordings for other registered pharmacists were voluntary. However, the regulations relating to CPD made in terms of Section 33 (1) (0) of the Pharmacy Act, 1974 (Act no. 53 of 1974) was published in the government gazette on 17 May 2019. This then made provision that the SAPC, may from time to time, specify by a Board Notice which categories of persons registered in terms of

Section 14 of the Pharmacy Act are required to record their CPD activities (Pharmacy Act, 1974). On the first of February 2020, the SAPC launched a new CPD page. All pharmacists' were then required to submit their annual declaration by the first of May 2020 and a minimum of six CPD entries by 31 December 2020. This study sought to determine the extent to which pharmacists voluntarily participate in the online recording of CPD activities and the barriers that prevent the recording of CPD activities in the Mpumalanga Province, South Africa.

Methods

Participants

A quantitative study was conducted using a descriptive approach. The study included all 636 actively registered pharmacists and specialist pharmacists with the SAPC practising within the Mpumalanga Province in South Africa in all sectors of pharmacy at the time of the study. However, only 616 pharmacists provided the SAPC with their email addresses, of which 38 were inactive. The actual sample therefore comprised of 578 pharmacists. A pilot study was conducted on 13 pharmacists; their responses were analysed and used to improve the questionnaire's validity and reliability.

Ethical considerations

Ethical approval was obtained from the Sefako Makgatho Health Sciences University Research and Ethics Committee (SMUREC/P/176/2017:PG). The cover letter on the emails stated that participation was voluntary and that withdrawal was possible at any stage. Participation in the research was regarded as consent to the study.

Instrument

A structured online questionnaire comprising of two sections was developed by the researcher after the literature review. It was loaded onto Survey Monkey. Section 1 focused on the demographic information of the participants, whereas section 2 focused on information relating to participation in and recording of CPDs. Open and close-ended questions covered the understanding of the term CPD, knowledge of and ease of access of the CPD online recording system, participation in CPD and subsequent recording of CPD activities, barriers to participation and recording, the types of CPD activities, professional association membership and suggestions to improve CPD were also part of the questionnaire. Results from the pilot study were used to limit confusion and create a flow of

questions. Respondents were not required to answer all questions in order to submit the questionnaire.

Procedure

The structured questionnaire was uploaded onto Survey Monkey. The survey cover letter and the link of the survey were then emailed to the 578 pharmacists. Data were collected over a period of 14 weeks. Reminder emails were sent every second Wednesday, totalling seven reminders over the data collection period. The online structured questionnaire was completed anonymously by the participating pharmacists.

Data analysis

The collected data were kept within SurveyMonkey and were accessible through login details. At the end of the data collection period, data from SurveyMonkey were exported to Microsoft Excel, arranged, coded and discussed with the statistician. Categories were created for open-ended questions. Data analysis was carried out at a 95% confidence interval, using the Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics, frequencies and percentages were used to summarise data. The summarised data were then classified according to the research objectives.

Results

Of the 578 pharmacists that met the selection criteria, only 147 pharmacists responded to the structured questionnaire, giving a response rate of 25.43%.

The response rate (25.43%) from this study corroborates with response rates recorded in similar studies conducted among pharmacists in Malaysia (31% and 29.2%) (Aziz *et al.*, 2013). An even lower response rate (9.5%) was reported for a web-based survey conducted among pharmacists in Texas, USA. Electronic studies have been reported to yield lower response rates compared to paper-based surveys (Bellanger & Shank, 2010).

Demographic characteristics

The demographic characteristics of the pharmacists are presented in Table I. More females (53.6%) participated in the study. Pharmacists (26.5%) who participated in the study were mainly aged between 25 and 30 years. Pharmacists working in the private sector (63.6%) participated more than those from the public sector, with 57.0% of these pharmacists (63.6%) working in community pharmacies. More than half of the

pharmacists (58.9%) registered for practice within the last decade. Approximately a third of pharmacists (39%) had practised for less than five years. Only 7% of the pharmacists had a Master's degree. Four pharmacists obtained their qualifications outside South Africa, and most pharmacists (83.5%) were active members of the Pharmaceutical Society of South Africa (PSSA).

The gender distribution (53.6% female & 46.4% male) is consistent with SAPC records which show that there are currently more registered female pharmacists (9421) than males (5650) (South African Pharmacy Council, 2018). However, a study conducted on CPD in Texas by Bellanger & Shankin (2008) found that there were more male participants (54.1%) who completed their survey.

In the Mpumalanga Province, there are 273 registered community pharmacies, 66 institutional pharmacies, one manufacturing pharmacy and three private wholesale pharmacies (South African Pharmacy Council, 2018), which would explain why most participating pharmacists (57.0%) were from community pharmacies.

Although the majority of pharmacists (86.39%) were members of one or more professional associations, only 24% of pharmacists attended CPD activities organised by these associations. Professional association membership is advantageous as such associations often facilitate several CPD workshops for pharmacists who can attend for free or at a minimal fee. These workshops can be used to augment practice skills for career strengthening and advanced patient care (Moyo & Renard, 2016). Professional associations can potentially develop and coordinate CPD strategies and create incentives for professionals at various levels of performance to improve service delivery (Moyo & Renard, 2016).

Pharmacist participation in CPD

A collective of 86.6% of pharmacists agreed that CPD was necessary, with 28.4% of pharmacists (n= 141) strongly agreeing that a CPD programme was necessary for the profession and 58.2% of pharmacists agreeing on its necessity.

More than 60% of pharmacists had participated in CPD activities, with 84.7% of these pharmacists attending CPD activities in the last two years. Most pharmacists (73.6%) participated in at least four CPD activities annually. Only 7.8% of pharmacists cited reasons for not participating in CPD activities which included CPD not being mandatory (27.3%), a lack of information on the CPD process (27.3%), lack of interest in participating in CPD's (27.3%) and lack of time for participating in CPD's (18.2%).

Table I: Pharmacist's demographic characteristics

Variable (n)		Frequency, n (%)
Gender (138)	Female	74 (53.6)
	Male	64 (46.4)
Age (years) (147)	20-25	16 (10.9)
	>25-30	39 (26.5)
	>30-35	27 (18.4)
	>35-40	23 (15.7)
	>40-50	18 (12.2)
	>50	24 (16.3)
Sector of practice (140)	Private	89 (63.6)
	Public	51 (34.4)
Area of practice (142)	Community pharmacy	81 (57.0)
	Institutional pharmacy	41 (28.9)
	Primary Health Care clinic	6 (4.2)
	Wholesale pharmacy	4 (2.8)
	Non-governmental organisation	3 (2.1)
	Manufacturing pharmacy	2 (1.4)
	Medical aid- Drug Utilisation Review	1 (0.7)
	Management	1 (0.7)
	Pharmaceutical depot	1 (0.7)
	Pharmaceutical industry	1 (0.7)
Occupational health care	1 (0.7)	
Highest qualification obtained (141)	B.Pharm	121 (85.8)
	Master's degree	10 (7.1)
	Dip Pharm	4 (2.8)
	Honours degree	2 (1.4)
	BSc Dip Pharm	2 (1.4)
	Primary Care Drug Therapy (PCDT)	1 (0.7)
Years of practice as a pharmacist (142)	≤5	55 (38.7)
	>5-10	33 (23.2)
	>10-15	17 (12.0)
	>15-20	9 (6.3)
	>20	28 (19.7)
Years of registration as a pharmacist (134)	2009-2018	79 (58.9)
	1999-2008	25 (18.7)
	1989-1998	11 (8.2)
	1979-1988	12 (8.9)
	1969- 1978	7 (5.2)

Encouragingly, 84.5% of the pharmacists displayed understanding and could correctly explain the CPD concept. This result is higher than results reported in an Ethiopian survey, where more than half of the pharmacists did not understand the concept (Gelayee *et al.*, 2018). Similarly, it was also reported that pharmacists in developing countries only became aware of the CPD concept after an intervention such as training (Adepu & Shariff, 2010).

Globally, health professional boards are progressively requiring registered professionals to engage in CPD to maintain high competence standards (Kasvosve *et al.*, 2014). Most respondents (86.5%) agreed that CPD activities were necessary. This is consistent with other study findings observed among pharmacists in Kenya and Malaysia (Aziz *et al.*, 2013; Kenya Pharmacy & Poisons Board, 2013). 93% of pharmacists agreed that CPD systems assisted them in staying conversant with the latest pharmaceutical developments. This is important for providing quality pharmaceutical care services and ensuring patient safety in practice (Tran *et al.*, 2014).

Variable (n)		Frequency, n (%)
Participation in pharmaceutical associations (127)	Pharmaceutical Society of South Africa (PSSA)	106 (83.5)
	South African Society of Clinical Pharmacy (SASOCP)	5 (3.9)
	National Association of Pharmaceutical Manufacturers (NAPM)	3 (2.4)
	Innovative Medicine South Africa (IMSA)	3 (2.4)
	South African Association of Hospital and Institutional Pharmacists (SAAHIP)	3 (2.4)
	South African Society of Oncology Pharmacists (SASOP)	2 (1.6)
	Pharmaceutical Industrial Association of South Africa (PIASA)	2 (1.6)
	South African HIV Clinicians Society (SAHIVSOC)	2 (1.6)
	Independent Community Pharmacy Association (ICPA)	1 (0.8)
	South African Association of Hospital and Institutional Pharmacists (SAAHIP)	3 (2.4)
	South African Society of Oncology Pharmacists (SASOP)	2 (1.6)
	Pharmaceutical Industrial Association of South Africa (PIASA)	2 (1.6)
	South African HIV Clinicians Society (SAHIVSOC)	2 (1.6)
	Independent Community Pharmacy Association (ICPA)	1 (0.8)

Despite agreeing that CPD was important, only 63.8% had previously participated in CPD activities. These findings were lower than those reported in a Kenyan study by pharmacists and pharmaceutical technologists, where 85.6% had participated in CPD activities (Kenya Pharmacy & Poisons Board, 2013). Discouragingly, only 53 pharmacists (36%), had participated in at least four CPD activities per year. Pharmacists' attitude and perceptions towards CPD needs to be urgently addressed as some stated that they did not perceive any value in CPD.

The most common CPD activities that the pharmacists reported that they engaged in were attending pharmaceutical companies training events and reading journals. These were also reported as the most common CPD activities in studies conducted among pharmacists in Kenya and Malaysia (Aziz, Jet & Rahman, 2013; Kenya Pharmacy and Poisons Board, 2013).

The SAPC online CPD recording system and associated challenges

Table II presents information on the registration status of pharmacists on the SAPC online CPD recording system as well as the reasons for not having a password to access the SAPC CPD online recording system.

Table II: Access to the SAPC online CPD recording system

Access to SAPC online CPD recording system	Frequency, n (%)
Pharmacist registered on the SAPC website to access online CPD recording system (n=139)	
Yes	91 (65.5)
No	48 (34.5)
Online registration to obtain a login password considered easy (n=113)	
Yes	70 (61.9)
No	43 (38.1)
Challenges experienced during online registration to obtain a login password (n=16)	
SAPC website not user-friendly	12 (75.0)
Too time-consuming	2 (12.5)
Never tried	2 (12.5)
Reasons for not having a password to access the SAPCCPD online recording system (n=18)	
Have no interest in having one	10 (55.6)
Lack of information on how to get one	5 (27.8)
Too time-consuming to get one	2 (11.1)
Lack of support from SAPC in the acquiring process	1 (2.6)
Willingness to obtain login password (n=48)	
Yes	18 (37.5)
No	30 (61.5)
Reasons for not planning on obtaining a login password (n=5)	
Don't know how to use the website	1 (20.0)
Do not think CPD is necessary	1 (20.0)
It is very difficult and lots of information needed to complete this online - very unnecessary	1 (20.0)
Time-consuming, family time after hours important.	1 (20.0)
Planning to retire from the profession	1 (20.0)
Challenges experienced during online registration to obtain a login password (n=16)	
SAPC website is said to not be user-friendly	12 (75.0)

65% per cent of pharmacists had access to the SAPC online CPD recording system, and 61.9% found the registration process easy. Also, some pharmacists said they did not know how to use the online system.

Only 32% of pharmacists completed the online annual declaration in the previous two years, as depicted in Table III. The majority of pharmacists (75.2%) did not record their participation in CPD activities, citing the following reasons: a lack of time (39.1%) and 64.8% of the pharmacists' reported programme/system issues.

Almost 40% of pharmacists had completed the online annual declaration in the previous two years. More than 60% of pharmacists had participated in CPD activities, with most of the activities (84.7%) being in the last two years. The majority of pharmacists (73.6%) have taken part in at least four CPD activities annually. Reading journals (39.2%) is the most common CPD activity.

Table III: Recording of CPD activities on the SAPC online CPD recording system and associated challenges

Recording of CPD activities by pharmacists	Frequency, n (%)
Completion of the annual declaration on the SAPC system (n=141)	
Yes	46 (32.6)
No	95 (67.4)
Previous recording of any CPD activities (n=125)	
Yes	31 (24.8)
No	94 (75.2)
Reasons for not recording CPD activities (n=46)	
Lack of time	18 (39.1)
System/program issues	12 (26.1)
Lack of interest	11 (23.9)
Lack of information	5 (10.1)
Recording of CPD activities considered easy (n=71)	
Yes	25 (35.2)
No	46 (64.8)
Challenges faced when recording CPD activities online (n=25)	
System/program issues	18 (72.0)
Lack of time	7 (28.0)

The main reasons for not recording CPDs were time constraints and that both participating and recording were not yet compulsory at the time the study was conducted. These factors were similar to those found in studies conducted among pharmacists in Australia and Lebanon (Tran *et al.*, 2014; Saade *et al.*, 2018). The infrequent recording of CPD activities was also attributed to difficulties in accessing the CPD online system as 38% remarked it had not been easy for them to obtain login credentials on the SAPC website. Challenges with online access were also reported among pharmacists in the UK (Donyai *et al.*, 2011). In this study, almost 35% of the pharmacists had not registered on the website and could therefore not record CPD activities. In this era of technological advancement, it is vital that pharmacists be technology literate and acquaint themselves with computer skills as these are required when offering patient services (Grappasonni *et al.*, 2014). It is important to record CPD activities to evaluate, and document achieved outcomes (Tran *et al.*, 2014). Documenting these activities serves as evidence that the pharmacist is committed to self-development and is competent to deliver quality services to patients (Tran *et al.*, 2014).

Unlike other countries such as New Zealand and Australia, where participation in CPD activities are mandatory, this was not the case in South Africa (SA) at the time of this study. This played a significant role in suboptimal participation and CPD recording by registered pharmacists in the Mpumalanga Province. In this study less than five percent of pharmacists agreed to making CPD mandatory for all pharmacists as similarly reported in another study conducted in Australia (Tran *et al.*, 2014). In another study carried

out in Ethiopia, 85% of the respondents suggested that CPD should be mandatory for pharmacists (Gelayee *et al.*, 2018).

Barriers to participating in CPD

Table IV provides information on the barriers faced with attending and recording CPD activities sponsored by professional associations and also information on pharmacists' recording of CPD activities on the SAPC online CPD recording system.

Table IV: Participation in and recording of CPD activities sponsored by professional associations

	Frequency, n (%)
Attendance of conferences hosted by professional associations (n=129)	
Yes	31 (24.0)
No	98 (75.9)
Online recording of conferences hosted by professional associations as CPD activities (n=80)	
Yes	5 (6.3)
No	75 (93.7)
Barriers faced with recording conference attendance as CPD activity (n=26)	
Lack of information	4 (15.4)
Time-consuming	16 (61.5)
Too costly to record	1 (3.9)
Recording is not mandatory	5 (19.2)
Attendance of CPD workshops offered by professional associations (n=132)	
Yes	49 (37.1)
No	83 (62.9)
Online recording of professional association sponsored workshops as CPD activities (n=89)	
Yes	8 (9.0)
No	81 (91.0)
Reasons for not recording professional association sponsored workshops as CPD activities (n=31)	
Time-consuming	13 (41.3)
Recording not compulsory	7 (22.6)
Lack of information	6 (19.4)
Difficulties experienced with the recording system	5 (16.1)

Pharmacists (98.6%) listed the following barriers for not participating in CPD activities: time constraints (87.1%), family and social commitment (38.8%), misperceptions and misunderstanding on the importance of CPD (20.9%), difficulty complying with objectives and outcomes as stipulated by the SAPC (17.1%), employer's restrictions on what employees can partake in during working hours (15.6%) and difficulty in identifying possible learning needs (8.2%).

Only 24.8 % of pharmacists had previously recorded CPD activities on the SAPC online CPD recording system. Of the pharmacists (24.0%) who previously had attended conferences hosted by professional associations, only 6.3% recorded this as a CPD activity.

Pharmacists (98.6%) suggested that increased access to information on CPD as a whole (59.7%), improved ease in the recording system (30.9%), making it mandatory (5.8%) and making them realise the need (3.6%) could possibly improve participation and recording of CPD activities. Regrettably, some pharmacists (10.8%) even felt that there is no need for recording CPD activities.

Other studies highlighted similar challenges to CPD participation as cited in this study, such as lack of awareness about CPD activities, inaccessibility, time constraints, lack of relevant activities and work commitments (Marriott, Duncan & Namara, 2007; Kenya Pharmacy and Poisons Board, 2013; Gelayee *et al.* 2018). When CPD activities are relevant for the pharmacist, motivation to participate may be increased (Laaksonen, Duggan & Bates, 2009; Saade *et al.*, 2018). In this study, there were additional challenges like misperception and misunderstanding of CPD's and the fact that CPD's are not mandatory. A study conducted in the USA during 2008, amongst pharmacists, also cited being too old to learn new things and the perception that one was too experienced to learn as reasons for non-participation by pharmacists (Laaksonen *et al.*, 2009).

Limitations

The study was conducted in only one province in South Africa. Hence the results may not be accurately representative of pharmacists in other provinces in South Africa. The researchers acknowledge that the low response rate further limits the generalisability of the findings in this study. Another limitation was most responses were from the community and institutional pharmacists, therefore potentially raising questions about the representativeness of the findings regarding other pharmaceutical sectors. Self-reporting of CPD participation may have potentially resulted in exaggerated findings. Despite these limitations, the researchers believe the findings are robust and provide relevant information for future CPD related decisions and actions by various stakeholders.

Conclusions

This paper presented an assessment of the extent to which pharmacists in the Mpumalanga Province voluntarily participated in recording CPD activities on the SAPC's online recording system. The study found that participation in and recording of CPD activities is not optimal in Mpumalanga. Barriers to recording were lack of interest, time constraints, lack of adequate information and challenges with the SAPC online

system. This negatively impacts pharmacists' lifelong learning and professional development. Gaps in the implementation of CPDs should be addressed to successfully align with the diverse and growing needs of the South African health care system. Now that South Africa has made CPD mandatory, a new study can be conducted to study the new recording rate and the pharmacist's perceptions.

In order to record, pharmacists must first participate in CPD activities, which is why issues affecting participation must be addressed. An increase in interest in CPD might encourage people to create more time to participate and therefore record. Further investigation into strategies that can create a positive attitude whilst improving CPD participation, other than making it mandatory, is needed in South Africa. Professional competence contributes to overall patient outcomes. Because 27.3% of the pharmacists stated that they lack an interest in participation in CPD, with 17.1 % having difficulties identifying objectives and 8.2% having challenges with choosing a learning need, it is therefore recommended that the SAPC creates a platform to make suggestions on the nature of topics/subject areas that can be addressed at CPD meetings. This will then ensure that we align CPD activities with performance and knowledge gaps presented by pharmacists. It is important for employees and employers to devise strategies that will allow the successful incorporation of CPD into daily practice without compromising the pharmacist's responsibility to deliver quality patient services (Bellanger & Shank, 2010).

The author supports the SAPC's decision of increasing awareness of the CPD recording process for registered pharmacists who are not being tutored through workshops and tutorials. To address the issue of time constraints and travel challenges, CPD activities can be offered online so that they are continuously reviewed and updated. Regular reminders can be sent to pharmacists by the SAPC to improve the uploading of CPD activities online. Increased training and demonstrative videos can be used to address system issues. Strategies and incentives that will encourage employers to promote employee CPD participation should be developed in partnership with the SAPC.

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Author contributions

LG was responsible for the literature review, questionnaire design, data collection process and first draft of the manuscript. EH and SB were responsible for research supervision and review of the manuscript. All authors approved the final version of the manuscript.

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