



Assessment of pharmacists' attitude, behaviors, and preferences related to continuing education

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ABSTRACT

Background: In the context of contemporary pharmaceutical care, maintaining and enhancing pharmacist competency is crucial. Continuing education (CE) plays a vital role in this endeavor, with various international models emphasizing lifelong learning.

Objective: This study aimed to assess the CE preferences of pharmacists, informing the development of a mandatory annual CE program for licensure renewal.

Setting: The study surveyed 400 pharmacies in Cairo, randomly selected from the yellow pages directory.

Method: A validated questionnaire was distributed through personal interviews, covering pharmacist demographics, internet resource access, past CE participation, delivery and content preferences, motivation for participation, and future CE plans. Data analysis utilized SPSS version 18.0 with a significance level of $p \leq 0.05$.

Results: Of the 400 pharmacists surveyed over six months, 359 responded (89.75%). Approximately 23% of respondents had practiced with their highest pharmacy degree for less than 5 years, while 19% obtained their initial degree over 15 years ago. The majority were female (53.3%), with strong interest in therapeutics-related topics (85.3%), followed by clinical skills. Community pharmacists attended fewer CE events in the past two years compared to hospital-based pharmacists (15% vs. 28%, $p = 0.034$), while hospital pharmacists reported lower satisfaction with current CE (21% vs. 33%, $p = 0.021$).

Conclusion: The survey highlighted pharmacist enthusiasm for CE alongside barriers such as employer and technology constraints. These findings underscore the need for flexible CE programs aligning with pharmacists' preferences and perceived needs.

INTRODUCTION

Contemporary pharmaceutical care necessitates continuous pharmacist competency development to enhance knowledge, skills, and performance. While many pharmacists engage in continuing education (CE) for this purpose, CE represents just one facet of ongoing professional development (CPD). An essential component of CPD involves self-directed learning, which encompasses reflection, planning, action, and evaluation. (Bruke et al., 2008)

Various CE models globally reflect diverse approaches to lifelong learning. Many countries mandate annual demonstration of CE activity participation. However, mandated CE has faced criticism for potentially conflicting with lifelong learning principles, focusing more on attendance or form submission rather than assessing actual improvements in patient care outcomes. Some regions and groups have shifted to

professional or learning portfolios to emphasize reflective and planned aspects of CE, avoiding last-minute accumulation of CE units for licensure renewal. Yet, few countries have established robust CE auditing systems to measure pharmacists' knowledge and skills maintenance. Establishing a CE program is crucial to address gaps in pharmacist development and delivery of CE. (Driesen et al., 2007)

Just as individual pharmacists assess their learning needs to plan structured learning, developing a national CE program is essential to support patient care and career growth. (Vlasses, 2007)

Aim of the Study

This study aimed to assess CE preferences among pharmacists before instituting compulsory annual CE activities for licensure renewal.

METHODS

A questionnaire focusing on the continuing education needs and preferences of pharmacists was developed and validated. The questionnaire covered specific domains including pharmacist demographics, access to internet resources, past CE activities, preferences for delivery and content, motivation for participation, and plans for future CE activities.

Face and content validity were assessed by 10 pharmacists who evaluated the clarity, relevance, and representativeness of the questions. The assessment survey was launched in July 2010 and distributed to 400 pharmacies in Cairo, randomly selected from the yellow pages. The pharmacies included both community and hospital pharmacies across five districts of Cairo, representing diverse socioeconomic levels. The survey was conducted through personal interviews, where the interviewer introduced themselves as an independent researcher studying pharmacist preferences and attitudes toward compulsory CE. The questionnaire was handed to the pharmacist in charge, typically the pharmacy manager, who filled it out and sealed it in an envelope provided by the interviewer.

The data collection spanned six months from July to December 2010. The internal consistency of the questionnaire was evaluated using the Cronbach Alpha coefficient. Data analysis was performed using SPSS for Windows version 18.0, with categorical data presented as percentages. Responses were stratified based on gender, practice site, and length of pharmacy practice, and compared using χ^2 tests with a significance level of $p \leq 0.05$.

RESULTS

During the 6-month questionnaire distribution period, 400 pharmacists were invited to participate. The response rate was 89.75%, with 359 pharmacists completing the survey and 41 pharmacists declining participation due to being busy or uninterested. The average age of the pharmacists was 38.6 years (SD = 18.9), and their years since graduation ranged from 3 to 15 years. Twenty-three percent had practiced with their highest pharmacy degree for less than 5 years, while 19% had obtained their initial degree over 15 years ago. More than half of the respondents were female (53.3%), and the majority (87.3%) had a bachelor's degree as their highest pharmacy qualification.

The validity assessment by 10 pharmacists confirmed the questionnaire's clarity, logical order, and representativeness of its objective. The internal consistency of the questions was high (Cronbach's $\alpha > 0.7$). Regarding practice sites, community and in-patient pharmacy representation was fairly equal (52% and 48%, respectively). Most respondents spent a significant portion of their professional time on distribution activities (79%), with 21% focused on direct patient care.

Internet access was reliable at home for 83.5% of pharmacists, used primarily for self-directed learning activities (97%). However, workplace internet access was lacking for 62% of respondents.

In the past 2 years, 43% had not attended any local education programs, citing barriers such as poor timing (74%), excessive workload (68.8%), and cost (31.6%). Nevertheless, 89% planned to participate in at least 2 CE activities over the next year, with topics related to therapeutics (85.3%) and clinical skills (communication, pharmacokinetics, drug-related problems) of highest interest.

A full-day CE program was preferred by 47% of respondents, and Saturday mornings were the most desired time for live program participation.

Regarding mandatory CE, 61.4% were open to the idea, with 59.4% preferring voluntary participation if given the choice.

Demographic differences showed that community pharmacists attended fewer CE events than hospital pharmacists (15% vs. 28%, $p = 0.034$) in the past 2 years. Hospital pharmacists expressed less satisfaction with current CE (21% vs. 33%, $p = 0.021$). Gender differences were noted in barriers to CE, with women citing location, program awareness, and format as major obstacles, while men mentioned cost more frequently. Younger pharmacists (≤ 5 years since graduation) were more likely to have home internet and participate in online CE programs compared to those practicing for over 15 years.

DISCUSSION

This study provides valuable insights into the preferences for continuing education (CE) among pharmacists. The findings align with similar research conducted globally, indicating a shared interest in interactive formats and workshops among pharmacists in Canada, Belgium, Ireland, and Scotland. Common barriers to CE participation, such as timing, workload, cost, and program awareness, were also identified, highlighting the need for tailored support and program design. (Thomson et al., 2001)

The context of pharmaceutical care, where many drugs are available without prescriptions, underscores the importance of professional guidance to ensure patient safety. However, the implementation of comprehensive pharmaceutical care practices lags behind developed countries, necessitating a structured CE program to bridge this gap and advance pharmacy practice. (Haughey et al., 2007)

Cultural considerations, including language, technology access, and workplace realities, must inform the delivery of CE programs. Limited internet access in pharmacies poses challenges for web-based learning, emphasizing the need for diverse educational approaches and optimization of available resources. (Power et al., 2008)

While most countries do not mandate CE for pharmacists, some Middle Eastern countries have implemented annual CE requirements for licensure renewal. However, the survey revealed a general opposition among pharmacists to connecting CE with relicensure, citing concerns about barriers and obstacles to accumulating required CE hours. (Rouse, 2004)

The debate between compulsory CE and lifelong learning through Continuous Professional Development (CPD) is ongoing. While CPD systems align with lifelong learning principles, they require substantial support and framework development. In contrast, CE offers a quantifiable evaluation method, which many pharmacists prefer for regulatory purposes. (El Shammaa, 2008)

Preferences for CE formats, such as standalone presentations versus series of lectures, and certification options for internet-based courses, highlight the importance of offering diverse learning opportunities that meet pharmacists' needs and preferences. (Austin et al., 2005)

Limitations of the study include the small sample size and its focus on pharmacists in Cairo, limiting generalizability to all pharmacists. A larger nationwide survey, offered in both English and Arabic, would provide a more comprehensive understanding of CE preferences and barriers across pharmacy landscape.

CONCLUSION

The survey respondents showed enthusiasm for continuing education (CE) activities, highlighting their recognition of the importance of ongoing professional development. However, they also identified common barriers related to participation, including employer-related and technological obstacles. These findings emphasize the need for a flexible CE program that can accommodate the preferences and perceived needs of pharmacists.

Before implementing a compulsory CE system for pharmacists' licensure renewal, a larger nationwide survey should be conducted to gather more comprehensive data. In the meantime, voluntary CE activities can be initiated to promote the concept and encourage pharmacists to embrace the benefits of CE, particularly its positive impact on the quality of pharmaceutical care services provided to patients.

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