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COMMENTARY

Continuing Pharmacy Education: Exploring the Status and Future Prospects in Nepal

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Abstract: Continuing pharmacy education (CPE) is an educational way for pharmacy professionals to develop competency in providing quality pharmaceutical care to patients. The CPE program helps maintain up-to-date knowledge and skills, increase the professionalism of pharmacists, and positively impact patient health outcomes. However, the concept and practice of CPE are still in their infancy in Nepal. Nepal's conventional pharmacy education system involves didactic lectures focusing more on theoretical learning than practical and experiential approaches, leading to the generation of pharmacists theoretically knowledgeable but practically non-competent to deliver pharmaceutical care services in independent practice settings. Additionally, in the absence of CPE, the professionals might miss updated information on new therapies, technologies, and approaches in patient management. The community and hospital pharmacies in Nepal are often business-oriented rather than service, and may not even be staffed by pharmacists, so the CPE programs are rarely conducted for the pharmacy professionals. Hence, the present commentary aimed to explore the status of CPE and its barriers or challenges in implementation and to suggest solutions in Nepal.

Keywords: continuing professional development, continuing pharmacy education, competency, Nepal, pharmacists

Introduction

Pharmacists require adequate skills, training, and knowledge in pharmacy practice and service to provide qualitative pharmacist care to patients. Above and beyond a pharmacy degree, they should maintain their competency lifelong, and this can be achieved through Continuing Pharmacy Education (CPE). The Accreditation Council for Pharmacy Education (ACPE) defined CPE as

> Continuing education for the profession of pharmacy is a structured educational activity designed or intended to support the continuing development of pharmacists and pharmacy technicians to maintain and enhance their competence. CPE should promote problem-solving and critical thinking and apply to the practice of pharmacy.[1]

CPE is an approach to identifying a productive avenue to remain updated and upgrade knowledge, skills, and performance in delivering qualitative pharmaceutical services in practice settings.[2] The pharmacists should be a compassionate caregiver, decision-maker, communicator, leader, manager, life-long learner, teacher and a researcher.[3]

Besides Continuing Education (CE), the concept of Continuing Professional Development (CPD) enables healthcare professionals, including pharmacists for the lifelong acquisition of knowledge and skills.[4] CPD aids pharmacists for systematic maintenance, development and broadening of knowledge, skills and attitudes to ensure continuing competence as a professional throughout their careers.[5] Both CPD and CE focus on lifelong learning. However, CE is more inclined towards education and training events participation, whereas CPD is a cyclical process where the pharmacist plans and

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learns according to their needs and implements those learnings in their practice.[6] CPD adds value to CE to ensure that pharmacists' competency is maintained to serve as the leading and supporting roles in healthcare settings.

Significance and Methods of CPE

CPE aims to maintain the pharmacists' knowledge and skills up to date, ameliorating their professional capabilities and impact of interventions on patients' health outcomes. It is also essential for pharmacists throughout their professional careers to make them competent in developing and implementing treatment guidelines, policies and procedures for therapeutic management, enduring novel, timely and effective treatment approaches, medication delivery devices or systems, and health technologies.[7] CPE programs effectively upgrade pharmacists' knowledge, attitude, skills and practice, and provide them with a meaningful learning environment.[8,9]

The CPE program provides educational activities and an evaluation of resources required to ascribe for professional development.[10] CPE activities may either be knowledge-based, application-based or practice-based as per the ACPE.

- CPE can be provided through formal education and training to the professional pharmacists that involve their knowledge assessment from remote learning, in-house training, and in-person education. Additionally, informal learning can be introduced to professional pharmacists as their work requirement to broaden their horizon of practical knowledge.[11–14]
- The continuing education for pharmacists can also be facilitated by attending relevant seminars, conferences, and workshops. In addition, presenting papers and giving presentations helps explore journal papers and learn about recent and updated information.[13]
- Developed nations such as France, Singapore, Japan, Canada, Finland, Poland and the United States incorporate CPE programs into their regular curricula via online e-learning courses to minimize operating costs and completion time.[15] Circulating online reading materials and completing web-based questionnaires for evaluation encourages effective continuing education among pharmacists.[16] However, some community pharmacists may lack technological skills, hindering them from participating in web lecture series and making them dependent on physical sessions.[9]

Pharmacists' Perceptions of Continuing Education Around the World

Studies have been published highlighting the pharmacists' attitudes and perceptions towards CE, where pharmacists were found to support and value CE for their professional growth and maintenance of social sanction.[17] The top three facilitators identified for lifelong learning via CPE are the personal desire to learn, willingness and readiness to update their own proficient licensure with skills and abilities, and joyful learning with change from routine teaching-learning modality.[18] The most common motivators to participate in CE activities include gathering and sharing practical exposures and standardizing scientific knowledge and concepts.[19] Time constraints and excessive workload were common hindrances to CE participation, as shown by various studies.[18–21] Similarly, lack of program accreditation, expenses incurred, and unrelated topics are other checkpoints for the successful implementation of CPE programs.

Pharmacists globally were inclined to some common CE topics, including therapeutic/pharmaceutical care topics and recent advancements in pharmacy practice.[17–23] Interestingly, CPE in the United States (US) has been used as a standard to maintain competency among pharmacists.[24] Also, peer-mentoring programs for pharmacy students in the US are considered valuable in acquiring knowledge, skills, and experiences that will be useful in their professional fields in the future.[25] Australia, Canada, New Zealand and the United Kingdom have made CPD a prerequisite for pharmacists' annual or scheduled re-licensure based on[26] fixed-term participation in CPD courses and skills demonstration activities.[27]

A systematic review showed that the pharmacists involved in hospital and community settings in UK, Australia and Canada have a positive attitude towards practice-based research and evidence-based practice to improve patient care and health outcomes.[28] This fact presents evidence to show the interests of pharmacists working in different settings towards enriching their knowledge and skills through research which is a consideration for CPE. There are no similar models for CPE or CPD across the various countries, but all of them are focused on improving the quality of care provided by the pharmacists. There are also countries where there are no CPE/CPD, but the pharmacists may want to indulge in new

learnings and improve skills.[29] Additionally, pharmacists prefer face-to-face learning whenever feasible, which includes different formats reflecting the preferences of different learners over distant learning, though it has the flexibility of time and place.[29]

CPE Initiatives and Status in Nepal

Pharmacy education in Nepal has been delivered since the early '70s. The government-owned Tribhuvan University started an intermediate-level pharmacy course at the Institute of Medicine (IOM) in 1972, and Kathmandu University, Dhulikhel, started the Bachelor of Pharmacy (BPharm) course in 1994, for the first time in the country. Later, BPharm programs were started at Tribhuvan University in 2000, Pokhara University in 2001 and Purbanchal University in 2004. Likewise, Kathmandu university launched various postgraduate courses, such as Master of Pharmacy (MPharm) in Pharmaceutical Care and MPharm in Industrial Pharmacy in 2000, Post-Baccalaureate Doctor of Pharmacy (PharmD) in 2010 and Doctor of Philosophy (PhD) in Pharmacy programs in 2004.[30–34] Currently, Purbanchal University, Morang and Pokhara University, Kaski and one private college named CIST college, Kathmandu have also been running postgraduate pharmacy courses. In addition, 19 private institutions under the affiliations of Tribhuvan University, Pokhara University and Purbanchal University have been offering undergraduate study in pharmacy within the country.

Nepal Pharmacy Council (NPC), an authorized body for the pharmacy profession, was established in 2001[35] to regulate pharmacy education and profession evaluating plans and programs for pharmacy education in the country. Since 2015, the licensure examination for pharmacists has been started by NPC to authenticate pharmacy practitioners' ethics and social sanction throughout the country.[35] Also, the Department of Drug Administration (DDA) regulates the community and hospital pharmacies as per the provision of the Drug Act, 1978 in Nepal. As per the Act, pharmacies can be run only by NPC licensed pharmacists (ie, at least graduates in pharmacy) or assistant pharmacists (ie, at least diploma in pharmacy holders).[36] These pharmacies should be registered to DDA. As mandated by the Act, drug inspectors from DDA regularly supervise and monitor the pharmacy operation status and report to the DDA Chief accordingly.[36] Still, pharmacy practices, including clinical pharmacy and community, are in their infancy in the country.[34,37,38] DDA has passed the Hospital Pharmacy Directives, 2015,[39] and Drug Sales Codes[40] yet pharmacists' career pathways, training, and mentorship programs need to be streamlined nationwide.[41]

The hospital pharmacy of Chitwan Medical College Teaching Hospital (CMCTH) started the CPE program for pharmacy practitioners in Nepal in mid-2016 in collaboration with the hospital's Health Professionals Education and Research Center (HPERC).[42] Continuous efforts are being held in Nepal by various private and government hospitals in Nepal for pharmacists.[43,44] Hospitals and community pharmacists in Nepal are currently providing services such as patient counselling, blood pressure monitoring, medication record-keeping, medicine information, first aid treatment, vaccination, medical devices demonstration training (eg, inhaler, rotahaler techniques), reduction in prescription errors and telepharmacy.[38,42,45–47]

The concept of CPE is still in the developing phase and is of great importance in Nepal. There are no stringent policies regarding mandatory conduction of CPE programs for pharmacists, and some aspiring organizations are infrequently conducting CPE programs voluntarily.[42] Additionally, besides a one-time licensing exam for registration of pharmacists held by NPC, there is no such approach to assess their timely knowledge or competency throughout their professional life. Many community pharmacies used to be and are still being operated by people without any formal degree in pharmacy or in the absence of registered pharmacists. In Nepal, many pharmacies were established earlier by people with short-term training or basic orientation on medical dispensing.[48] As of 2022, the authorized bodies have made the presence of registered pharmacists or assistant pharmacists mandatory to run a pharmacy. However, the previous pharmacies also provide community services, so their services may not be comparable to the pharmaceutical care a pharmacist can provide.

In Nepal, students under different pharmacy programs are exposed to internships in hospital, clinical and community pharmacy, pharmaceutical industry, and regulatory settings for a particular duration (2–14 weeks varying with the universities' curricula) during their study periods. Still, the duration of these internships is not sufficient to enable them to get in-depth exposure to real practice settings. Even the pharmacy internees have not seen developing professional expertise up to the desired standards and levels because of the lack of supervised learning in the concerned

settings in the presence of the mentors. This is crucial because it is shown that the sense of responsibility in their work and confidence of a pharmacy graduate is strongly associated with the quality of mentorship provided in their study period.[49] Some job organizations provide internship opportunities to nurture fresh job applicants, but this is an infrequent phenomenon.

Additionally, universities have no established manuals, policies, or guidelines specifying what students should learn during their internship. The competency of the practicing pharmacists/pharmacy assistants, besides the future pharmacists, should also be considered because many may not train, supervise, and monitor the pharmacy students during their internships.[50] The role of mentors for the pharmacy students is essential as they contribute to the personal growth and development of the students in the aspect of knowledge, responsibility and positivity towards their professional roles.[51]

Challenges in Implementing CPE Programs in Nepal

The CPE program in Nepal is not common nor mandatory in hospitals and community pharmacies due to time constraints associated with heavy patients and workloads, lack of resources and motivation or incentives.[21,42,52]

Since most of the education settings follow theoretical learning rather than pragmatic approaches, the effective implementation of the theoretical learning in practice is lacking by many. Pharmacy education improves the analyzing, evaluating and synthesizing skills, while the critical thinking skills can be gained with CPE programs.[53] Amalgamating CPE and the practices will help bridge the theory with the real scenario. During the undergraduate or postgraduate studies of pharmacy, it may not include all the areas of the professional fields, no matter how updated the curricula are as the actual practice settings are far more significant than the scopes of a certain duration of curricula. The graduates may not be competent enough to work effectively in the practical set-up if they do not develop a culture and habit of continuing their knowledge level and expertise. CPE serves as an essential means to bridge the void in the curricula and trap the advancements in practice in the current times. It also helps pharmacists expand their pharmacotherapeutic knowledge, skills, and medication management abilities.[7]

A lack of reflective practice involving acquiring new knowledge from experience, relating and transforming knowledge into practice and unifying the up-to-date knowledge or new understanding for better decision-making in the future is observed in pharmacy education.[53] Pharmacists' participation with a multi-disciplinary team of health care professionals to measure patient health outcomes is minor. However, they are expected to collaborate for medication management and provide better pharmaceutical care. To make a significant difference in patients' health outcomes in collaboration with doctors, community pharmacists should metamorphose themselves from the mere existing dispensers of the medications to those who provide medication therapy management service for the needy. Pharmacists' attitude, skill, and updated knowledge are the integral components, and CPE may be a catalyst to achieve this goal.[9]

Although CPE should be an essential component of the regulatory system, not all countries have established a CE or CPD system. In Nepal, the NPC, though it has been working to uplift the status of the pharmacy profession in Nepal, is very sluggish in executing the plans for the same.

Prospects of CPE and the Way Forward

It is high time that NPC, as a regulatory body,[35] takes steps to strengthen CPE in Nepal. Different stakeholders should also promote CPE in different pharmacy professions, including academia and research, hospital pharmacy, community pharmacy, clinical pharmacy, regulatory, and others.

The CPE program can be covered in the pharmacy syllabus to make future pharmacists aware of the approaches and become skilled and trained professionals. Although the system for qualifying as a pharmacist varies in different countries, similarities can be observed in the policy dependency for self-regulation of professional development.[54] Therefore, stringent policies and procedures should be developed and implemented focusing on the professional growth of the pharmacists and for regulating the CPE by the regulatory authority in collaboration with the concerned pharmacy authorities and practitioners. In addition, the state licensing boards of pharmacy can play an essential role in conducting CPE to update the knowledge and skills of pharmacists.

Addressing pharmacy professionals' exact needs in their practice settings and grasping their expectations are essential to make the CPE program viable.[19,55] Therefore, it is essential to include the opinion of a pharmacy practitioner toward such a program to meet their expectations.[42]

Since the registered pharmacists may not necessarily be competent enough to deliver pharmaceutical services independently in their practice settings at all times, they need timely updates on their knowledge and skills in pharmaceutical service delivery. With due consideration, NPC has introduced timely licensure renewal policies at the interval of three years. Still, it has yet to implement mandatory continuing education activities for pharmacists by matching their preferences and needs. To design and implement CPE/CPD programs, collaborations with the relevant international organizations may be a good step forward. The CPE training modules should be designed and developed so that the educator can identify what a participant does not know but requires and educate accordingly based on their level and experience. The CPE training should enhance the pharmacist's proficiency to the next level of practice. Besides this, there should be a practice environment for the pharmacists to implement what they have learned in the CPE sessions.[56]

The hospital management authorities may play a crucial role in uplifting pharmacy services by regularly arranging the CPE programs for pharmacy professionals within their hospitals and the local community. Similarly, community pharmacists can also independently organize such programs periodically to uplift social recognition of their profession.

Blogs and portfolios (e-portfolios) may serve as practical reflective tools in pharmacy education where the practicing pharmacists can share their clinical experiences in different settings and their perspectives, approaches, and biases regarding different clinical situations. This provides a platform for aspiring pharmacists to acquire knowledge and ideas of the real practice scenario via group participation and feedback mechanisms.[53] Additionally, better information sharing, suggestions on therapeutic alternatives, other healthcare professionals' experiences and perspectives, and expert opinions on practice advancements can be integrated into the pharmacists' blog and the CPE training modules.[53]

Above all, given the preconceptualized national situation of CPE in Nepal, it seems necessary to collaborate with neighbouring countries, especially in South-East Asian countries like Japan, Thailand, Singapore, where CPE programs are being conducted, or international organizations, like International Pharmaceutical Federation (FIP), American Society of Health-System Pharmacists (ASHP) and others, to get working on CPE and uplift the current pharmaceutical services sector in the country.

Conclusion

Although it can be a challenging task to adopt continuing pharmacy education (CPE) in Nepal, its importance for the professional growth of pharmacists is undeniable. However, since the one-time registration system cannot address the all-time practice scenario of pharmacies, pharmacists should prove themselves competent enough to deliver pharmaceutical services independently at their practice settings at all times. Hence, the regulatory authority needs to integrate CPE with credits or non-credits on its timely licensure updates. Also, given the preconceptualized phase of CPE in the country, collaborations with neighbouring countries and international organizations to initiate and develop CPE programs seem appropriate in the days to come.

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