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Contents

Foreword

Welcome to the latest edition of the International Journal of Clinical Skills (IJOCS), Volume 7, Issue 3, May 2013.

Working out of hours is associated with heightened levels of fatigue among medical staff, when compared with day work. Professor Aidan Byrne leads a group of researchers to investigate the effect of 'out of hours' working on the mental workload of anaesthetists during routine practice. The study supports the use of mental workload measurement as a technique to measure the effect of changes in the anaesthetic working environment. The technique could be used to provide a method of identifying individuals or periods of high mental workload and to measure the effectiveness of putative risk reduction strategies.

Doctors are often interrupted during the course of their clinical activities and it is likely that such distractions contribute to medication related errors. However, the impact of distraction on an individual's ability to perform drug related calculations has never been formally tested. Our colleagues at Queen's University Belfast, Northern Ireland, investigate cognitive distraction and discuss interesting findings which should be incorporated into every medical curriculum.

Extensive research indicates that adults learn best when they are motivated, self-directed, and can choose what and how they learn. This is especially important for postgraduate continuing professional development. Dr Anita Young and Dr Helen Meldrum of Bentley University, USA, present a study focusing on continuing pharmacy education. This thought-provoking study clearly demonstrates that all stakeholders in pharmacy education need to consider moving forward to revise the underlying structure of the continuing education experience.

As always, your feedback is invaluable for the continued development of the International Journal of Clinical Skills – the only peer reviewed international journal devoted to clinical skills (e-mail: feedback@ijocs.org)

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Assessing motivational factors for participation in continuing education in pharmacy

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Keywords

Motivation

Self-directed learning

Pharmacy education

Abstract

Extensive research indicates that adults learn best when they are motivated, self-directed, and can choose what and how they learn. This study focuses on continuing pharmacy education and how pharmacists can be motivated to participate in post-graduate education programs because they want to, not simply because they have to. The research examined to what extent specific intrinsic and extrinsic motivators affect pharmacists' perceptions about participation in self-directed learning activities. The data also focuses on what specific obstacles prevent them from participating in such activities. The project used a descriptive research design to survey pharmacists and draw conclusions about the wide variety of motivations that might inspire or inhibit action to undertake self-directed learning in continuing pharmacy education programs.

Introduction

Continuing education is intended to be an ongoing process to keep healthcare professionals current with advances in their practice areas. Patients have a right to expect that their care providers remain competent [1, 2]. For these reasons, it is important that pharmacists are motivated to be self-directed, lifelong learners. The United States based Accreditation Council for Pharmacy Education defines continuing pharmacy education as a structured educational activity designed to support the continuing development of pharmacists in maintaining and enhancing their abilities [3]. Continuing pharmacy education should promote problem-solving and critical-thinking skills. This article examines whether the current system of continuing pharmacy education is meeting these defined goals.

The Josiah Macy, Jr. Foundation conference report, Continuing Education in the Health Professions: Improving Healthcare Through Lifelong Learning [4], identifies serious flaws in the development and presentation of continuing education. The foundation's mission is dedicated to improving the education of health professionals. The report identified specific problems, including: excessive reliance on the lecture format; and measuring hours of learning rather than improved

performance. Insufficient attention to helping clinicians examine their own practice is an on-going issue. In addition, the Macy report identified a lack of high-quality scientific studies on continuing education.

The Institute of Medicine (IOM) issued a more recent report, *Redesigning Continuing Education in the Health Professions* [5], also noting that the research literature on learning effectiveness is sparse. The regulations governing accredited continuing education vary widely within and between healthcare professions and among state regulating authorities. These weaknesses in the educational practices of continuing education programs present significant threats to the safety and wellbeing of patients who trust the knowledge and skills of pharmacists and other healthcare professionals.

After graduation from pharmacy school, practitioners rely on continuing pharmacy education for their professional enrichment and development. In the U.S. there are two regulatory bodies that develop standards for, and legislate, continuing pharmacy education. The Accreditation Council for Pharmacy Education is the national accrediting organization for undergraduate and postgraduate programs in pharmacy education [3]. The agency develops educational standards in an attempt to assure quality in education across schools of pharmacy and continuing education providers.

In the U.S., the second regulatory body is each individual state's board of pharmacy. For example, the Board of Registration in Pharmacy in Massachusetts is a consumer-protection agency whose mission is to promote, preserve and protect public health and welfare. Boards of Registration in Pharmacy set regulations for continuing pharmacy education and monitor the re-licensure requirements for each state.

Since the main goal of continuing pharmacy education is maintaining and enhancing the competence of practitioners to improve their practice, this research explores the following questions: To what extent do specific intrinsic and extrinsic motivators affect pharmacists' perceptions of self-directed learning activities? And to what extent are specific obstacles keeping pharmacists from participating in self-directed learning activities for continuing pharmacy education?

Background

To answer these questions the researchers first looked to what is known about Andragogy, or adult learning theory, which, at its most basic level is defined as the art and science of helping adults learn [6]. According to Malcolm Knowles, considered by many to be the first to write about these theories, adults learn from and build upon prior knowledge and experience. As such, andragogy is based on the following assumptions or principles [7, 8, 9]:

- Adults want to learn; they want to know what and why it is important to learn.
- Adults are independent, self-directed and responsible for their own decisions.
- Adults have accumulated a great deal of prior knowledge and experience that is a rich resource for learning.
- Adults are ready to learn; they value learning that integrates into and is relevant to everyday life and work experiences.
- Adults are interested in immediate, problem-centered approaches rather than in subject-centered ones.
- Adults are motivated by internal (intrinsic) drives such as job satisfaction, doing the right thing, and self-esteem, rather than by external (extrinsic) drives such as higher pay or promotions.

The concept of self-directed learning itself is derived from a distinctly humanistic philosophy which promotes a belief that all types of education should center on the personal development of the individual [10]. In this context, motivational factors for self-development can be characterized two ways: intrinsic and extrinsic [11]. Examples of intrinsic motivational factors could include the desire to help others as well as to maintain and enhance professional skills and knowledge. An example of an extrinsic factor might be the need to fulfill mandated regulatory continuing education requirements for continuing licensure as pharmacists.

There is evidence that adult learning theory is not currently taken into consideration when planning programs for medical practitioners. Research by Goldman [12] makes the case that providers of medical continuing education have not spent the time and funds to create self-directed learning modules because of the steep start-up investment in devising assessment tools (e.g. electronic portfolios). Traditional lectures followed by evaluation measures such as multiple-choice questions have always been relied upon and provide easy

feedback. Staying with these more didactic models limits the instructors' role to merely a gatekeeping function. They allow the participants to simply pass or fail. The leaders in this context do not truly immerse themselves in the process with the learners. If this shift occurred, postgraduate education could be structured towards continuous improvement, rather than recording the ability to recall facts at a particular point in time. Along these lines of thought, additional authors have suggested that inspired leaders will need to step up and face the challenges of organizational inertia and the daunting number of hours required to bring forth true innovation in health care education [13].

Shifting the existing paradigm will not be easy from the perspective of the learners as well as the facilitators of learning. For an example of the magnitude of the challenge, researchers in nursing education have shown that both professors and students have difficulty when asked simply to provide a precise definition of self-directed learning. The term had an elusive quality when they asked their sample population to define it. Both educators and students had difficulty in describing the process. Additionally, there was split viewpoint with teachers seeing self-directed learning as a way of facilitating adult development, while at the same time, students saw it as an abdication of the duty to teach [14].

Complicating the issue of understanding the concept of self-directed learning is the fact that cultural background influences how individuals learn. The composition of the pharmacy workforce in the United States is shifting. In previous decades, most of the newly graduated pharmacists were brought up in the U.S. by parents who were also raised with North American values. That is no longer the case. For example, The American Society of Health-System Pharmacists task force on changing work force demographics documented the increase in Asian Americans earning degrees in pharmacy [15]. This is especially the case in urban areas where many of the pharmacy graduates or their parents recently immigrated from a Non-Western culture. In fact, a 2008 report from the University of California Center for the Health Professions estimated that about half of all practicing pharmacists in that state self-identified as Asian [16]. Therefore embracing the notion of the ideal self-directed learner might in fact be a Western concept that is more challenging for pharmacists influenced by cultural traditions wherein the teacher is always the ultimate authority figure [17].

Still, the calls for change in the status quo are not just limited to the limited to the United States. Health care

educators in Europe have also noted that providers need to be better equipped to meet the demands of changing systems and increased standards of practice. Some leaders make the distinction between training versus education. The latter connotes notions of personal growth and development while the former provides a narrow set of skills for a specific vocation. Champions of self-directed learning might push the concept to say that it denotes the ability to respond effectively to previously un-experienced challenges. Whereas training merely helps individuals to complete the expected, repetitive and routine tasks [13].

It appears that some of these obstacles to innovation in continuing pharmacy education might be almost universal. A study from the UK [18], reported that both the time required and a perceived lack of relevance of continuing pharmacy education were the main barriers to participation in programs. The lack of overall opportunities for continuing pharmacy education was also reported as a reason for low levels of participation [19]. Not surprisingly, a study [20] of Australian pharmacists also identified time, accessibility and relevance of material as barriers to their participation. Another U.S. study [21] looked at barriers to pharmacists' participation in life-long learning and found "job constraints" to be the greatest barrier. A decade later a follow-up study [22] confirmed that job constraints, as well as scheduling (location, distance, time) and family constraints were the top reasons for non-participation in the programs.

Traditionally, pharmacists are not compensated or otherwise recognized for the time they engage in self-directed learning activities [23]. Continuing pharmacy education credit has been based solely on traditional formats for continuing education. Other healthcare professionals, including physicians, physician assistants and nurse practitioners are compensated, recognized, and rewarded for the time spent on self-directed learning efforts [24]. Most states, including Massachusetts, require pharmacists to have a minimum of 15 hours of continuing pharmacy education annually or 30 hours in a two-year renewal period [23].

In contrast to the pharmacy profession, most state re-licensure requirements for physicians, physician assistants and nurse practitioners are a minimum of 50 hours of continuing medical education (CME) annually or 100 hours in a license renewal period (2 years). Of those 50 hours, 40% (20 hours) are from traditional formats (e.g. live seminars, home-study journals, webinars, online home study programs) while 60% or 30 hours are from self-directed learning activities [24]. Is the fact that there

are currently no continuing pharmacy education credits awarded for self-directed learning creating the biggest challenge to progress?

Methods

This research is grounded in the classic theories of adult learning that show that intrinsic and extrinsic motivators affect the educational process [7]. Extrinsic motivators might include continuing pharmacy education credit, increased pay and career advancement. When adult learners are encouraged to engage in their own learning process they grow as both self-directed and lifelong learners [25, 26]. Based on these viewpoints, several hypotheses emerged. First, it was speculated that the most frequent intrinsic motivator reported by pharmacists for participating in self-directed learning will be a personal desire to learn and, conversely, the most frequent extrinsic motivator reported by pharmacists for participating in self-directed learning will be continuing pharmacy education credit. Also, the assumption that pharmacists with a high intrinsic motivation to learn will be more interested in self-directed learning activities was tested. Additionally, this study looked at to what extent specific obstacles are keeping pharmacists from participating in self-directed learning activities.

A survey research approach was used to gather descriptive data on the feelings, attitudes and opinions of pharmacists toward what might motivate them to participate in self-directed continuing pharmacy education and what obstacles to self-directed learning they perceive.

The survey was administered to 3885 pharmacists in Massachusetts in the late Spring of 2011. Reminder emails were sent once a week for a period of one month (May to June) to increase the response rate. Question items were adapted from published, validated surveys from both nursing [27, 28] and pharmacy [21, 22]. Additional questions were added to gather pharmacists' attitudes about their willingness to participate in self-directed learning and to assess their opinion on the number of annual continuing education credits that were desirable.

Collection of data for this study was virtual. The online web-based survey system SurveyMonkey® was used to protect the confidentiality and anonymity of survey participants. The sample population was drawn from the database of registered pharmacists in Massachusetts (approximately 11,700 licensed in the state) who

voluntarily logged in and created an account on the continuing pharmacy education web site at Northeastern University, School of Pharmacy in Boston Massachusetts, USA. The database houses the e-mail addresses of more than 4,000 Massachusetts registered pharmacists. This database was used as the distribution channel for the survey.

The self-administered survey instrument was field-tested prior to administration. It consisted of approximately 35 questions with responses using Likert-type scales, multiple-choice answers, and yes or no responses. Data collected was safeguarded for confidentiality on a password-protected computer. To incentivize participants to respond to the survey and to possibly increase the response rate, a raffle consisting of four \$25.00 gift cards to Whole Foods grocery stores was utilized. Participants were asked to complete the online survey that contained the following sections: intrinsic and extrinsic motivators, obstacles and activities for self-directed learning. Basic demographic information was also collected. Approval of the study design was requested and received from the Institutional Review Board (IRB) of Northeastern University, USA.

Results

A total of 609 (16%) registered pharmacists responded out of the 3885 that were sent the survey. Of this group, 574 completed the entire survey for a 94% completion rate. Pharmacists in the 26 – 35 year age range had the largest return rate (26%). Half of the respondents had been in practice for 20 years or less (50%). The majority of the respondents were female (54%) and held a Doctor of Pharmacy degree (44%) as their highest degree. Pharmacists who practice within a hospital setting (38%) were the largest responding cohort. Included in this grouping were individuals working in hospital in-patient dispensing, outpatient dispensing, and clinical and administrative practitioners. Community pharmacists practicing in large pharmacy chains, supermarket and independent practice settings made up over a quarter of the respondents (26%). The majority of pharmacists (76%) work full time. Over three-quarters of the participants were married or partnered (77%) and 28% had children living at home under the age of 12 years old.

Most of the pharmacists (63%) considered self-directed learning a reasonable alternative for obtaining continuing education (CE) credit. The majority preferred a live CE learning forum (66%) while a third favored online (33%) formats and a fourth stated specifically that webinars

were a top choice (25%). Overall, 68% of the respondents were in support of having a 50/50 split option in traditional CE formats versus self-directed learning opportunities. They indicated a positive attitude towards their likelihood of participating in self-directed learning. The majority (93%) agreed that they would be willing to participate in self-directed learning if they were to receive continuing education credit for their efforts. At the same time, the majority of pharmacists (68%) believe that they already engage in self-directed learning. For example, planning specific medication therapy management strategies (94%) and reading clinical pharmacy journals (90%) were the top two choices for self-directed activities that interested pharmacists.

A full 100% endorsement was given to the ethos reflected in these statements: "I want to learn new information" and "I enjoy learning new information". These results support the speculation that pharmacists do have a personal desire to learn. However, they still feel some concern about what a change would mean for the total annual hours devoted to CE. When they were asked: "Would you be willing to support an increase in the amount of mandated CE required for re-licensure if you received credit for your self-directed learning activities?" less than half (39%) replied that they would support the additional hours.

The respondents stated that being able to care for patients effectively is a top priority (87%), and relevance to practice (81%) is also very high on the list of important factors to induce CE participation. Still, almost a quarter of the respondents (23%) indicated that the most frequent extrinsic motivator for participating in continuing education is the desire to pass a test to acquire credits to maintain licensure. A majority of the respondents cited the perennial concerns about having enough time to participate (89%), travel convenience to programs (83%) and obtaining annual credit hours (58%) as obstacles to transitioning to self-directed learning.

Discussion

The purpose of this study was to describe the motivation of pharmacists to participate in self-directed learning; identify obstacles pharmacists cite as barriers to self-directed learning; and document activities pharmacists prefer in self-directed learning formats. This research provided an opportunity for those who responded to share their attitudes, perceptions and preferences regarding continuing education and self-directed learning.

Previous research with pharmacists [26], nurses [27, 28] and physicians [29, 30] undergirded the study design. The results reported here echo the findings of previous studies focusing on pharmacists, which supports the validity of the survey design and documents the importance of self-directed learning to healthcare providers.

This research also identified factors that affect pharmacists' intrinsic and extrinsic motivations to engage in self-directed learning activities associated with continuing education. Pharmacists report openness to learning and confidence in their ability to learn. They have a strong desire to learn new information, enjoy learning and are decision makers about their learning. At the same time, pharmacists feel extrinsic motivational factors in relation to self-directed learning. They do not want to lose too much time away from family or money (hours away from work) to accomplish their espoused goal. Receiving mandatory continuing pharmacy education credits for re-licensure is still of primary importance to the participants and most showed that they appreciated the availability of online continuing education format.

However, it is vitally important that any web-based learning does not replicate the problems identified with traditional and passive learning methods. Research conducted with physicians' suggests that continuing medical education sessions that are highly interactive create change in practice whereas didactic sessions do not appear to be effective in changing physicians' behaviors. Obviously, knowledge is a necessary, but not sufficient, acquisition to change behavior [31]. Still, finding new ways to harness existing technologies might be a method to overcome some of the existing barriers. One relevant study [32] concluded that adult learners may actually prefer blended learning environments that combine face to face personal contact and interaction with internet-based learning. This is a format that was not specifically explored in this study, but continuing education directors might consider that offering more hybrid learning experiences would be one way to meet the growing demand by adult learners for a wider variety of learning format choices. This option also holds the potential to save both time and money.

There is a willingness and interest on the part of pharmacists to participate in self-directed learning, maybe in part due to the fact that they feel they already are engaged in such activities and just are not currently getting credit for their work. However, despite these seemingly positive responses, pharmacists still do not want to increase their workload. This is evident by the fact

that they were not in favor of an increase in the mandated amount of continuing education required for re-licensure even if it included receiving credit for the self-directed learning. Ultimately, the respondents consider themselves decision makers about the direction of their own education and they want a personal connection with their learning. Of particular interest are activities that were directly related to improving patient care. This is an enduring theme in light of previous studies evaluating pharmacists' participation in lifelong learning that show similar results.

This collection of data shows that pharmacists are open to novel ideas that might change their current practice. Still, most indicated an enduring preference for live, face-to-face programs. These venues are often more costly and require more time and effort on the part of the pharmacist to attend. Still, this preference for learning in collaboration with colleagues in face-to-face settings is a trait that might serve them well if they shift towards participating in self-directed learning activities.

The interpretation of results of this research should take into consideration the limitations of the study design. The survey was Internet based and distributed by email. Online surveys generally show a weaker response rate than telephone or face-to-face interview based surveys [33]. The overall effect non-responders had on the survey results is a question not easily answered. Responders may be more motivated to answer surveys for subject matters that interest them. In addition, the nature of self-report data can lead to providing more socially acceptable responses. The geographic distribution of the survey was to pharmacists across Massachusetts and analysis of response patterns by regions of the state (e.g. rural vs. urban) was not performed.

The majority of pharmacists surveyed are interested in pursuing non-traditional formats for self-directed learning. Most would pursue participation in self-directed learning if continuing pharmacy credit was available. When asked if they thought they already engaged in self-directed learning, about two-thirds of the pharmacists answered "yes". Obviously, this means that there are still some pharmacists who engage in hours of research and internet searches related to medication therapy and still do not recognize that they are already doing self-directed learning that is above and beyond the due diligence expected of them. This report attempts to create awareness and encourage pharmacists who may not currently completely understand the concept of self-directed learning.

However, it must be acknowledged that the concept of adult learning itself is based on the Western humanistic assumption that individuals are insightful in assessing their own learning needs and concerns. As mentioned in the background section of this article, there could be cultural template in use in pharmacists' thinking about this notion. Perhaps, a follow-on study could collect data on ethnicity or total number of years that the pharmacist's family of origin has spent assimilating to U.S. cultural norms. Although capturing data on racial inheritance can sometimes be controversial, in this particular instance, a study that assesses any potential relationship between cultural background and perceptions of self-directed learning would be illuminating. Also, some researchers have raised concerns that learners might actually just identify "wants" driven by personal interests rather than actual educational "needs" [13]. Future research could devise questions that clarify the subtle differences in the minds of respondents.

Medical educators have stated unequivocally that clinicians need self-directed learning skills to maintain their competency levels. And yet research has shown that physicians often misjudge their own knowledge levels and underestimate the existing weaknesses in their skill-sets. These physician-educators have claimed that recognition of these deficits elicits a strong emotional response in doctors (e.g. guilt and anxiety) that then turns into a major source of intrinsic motivation to acquire competence [34]. Pharmacists' may feel similarly to the doctors and this concept of emotion-based motivation would be a profitable direction for additional future research.

The Macy Foundation report [4] identified a lack of high-quality scientific studies on continuing education. This research begins to fill in that gap by assessing the current state of attitudes toward continuing pharmacy education. An option for a future study would be an evaluation of the behavior of pharmacy practitioners who are allowed to claim continuing pharmacy education credit for their participation in non-traditional formats. The assessment could be compared with pharmacists that are only participating in the traditional formats. Another direction would be to measure how a change in behavior to more self-directed learning correlates with increased professional satisfaction. Development of a self-reporting mechanism expanding the current continuing professional education monitoring system offered by the National Association of State Boards of Pharmacy may be a possibility. Traditional formats for continuing pharmacy education need to evolve to meet the needs of these practitioners and the patients they serve.

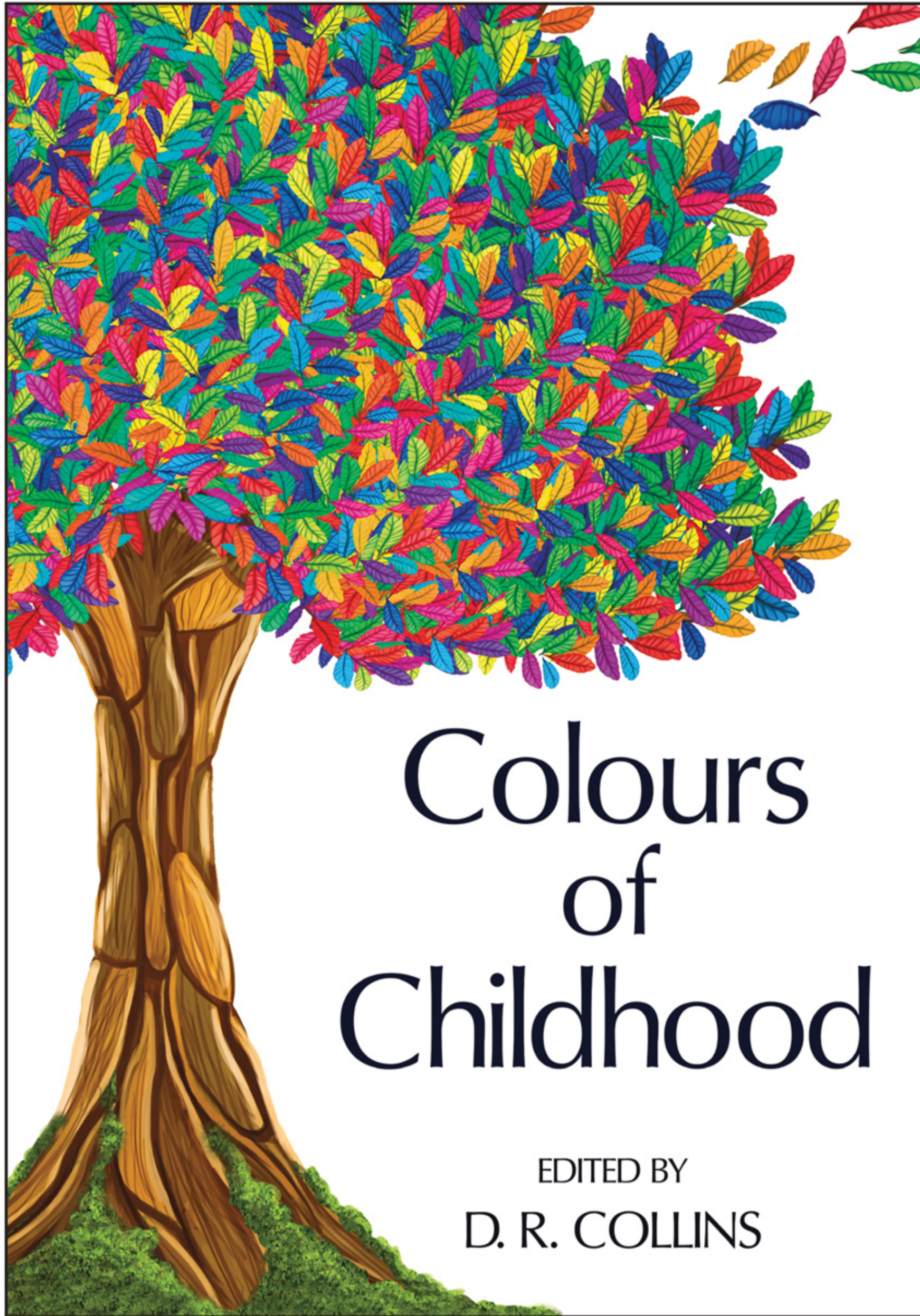
Self-directed learning allows professionals to engage in learning activities that are relevant and applicable to individual needs. The results of this research indicate that pharmacists are both intrinsically and extrinsically motivated to be self-directed learners. National accreditation standards and individual mandated Board of Registration in Pharmacy regulations regarding continuing pharmacy education should be modified in order to actively encourage pharmacists to invest time in being self-directed learners. All of the stakeholders in pharmacy education including the schools, societies, associations and other providers need to consider moving forward to revise the underlying structure of the continuing education experience. Recognizing the importance of these factors may further help pharmacy practitioners fulfill the mandated requirements for continuing pharmacy education while re-enforcing a commitment to lifelong learning as described in the Oath of the Pharmacist: *"I will accept the lifelong obligation to improve my professional knowledge and competence"* [35].

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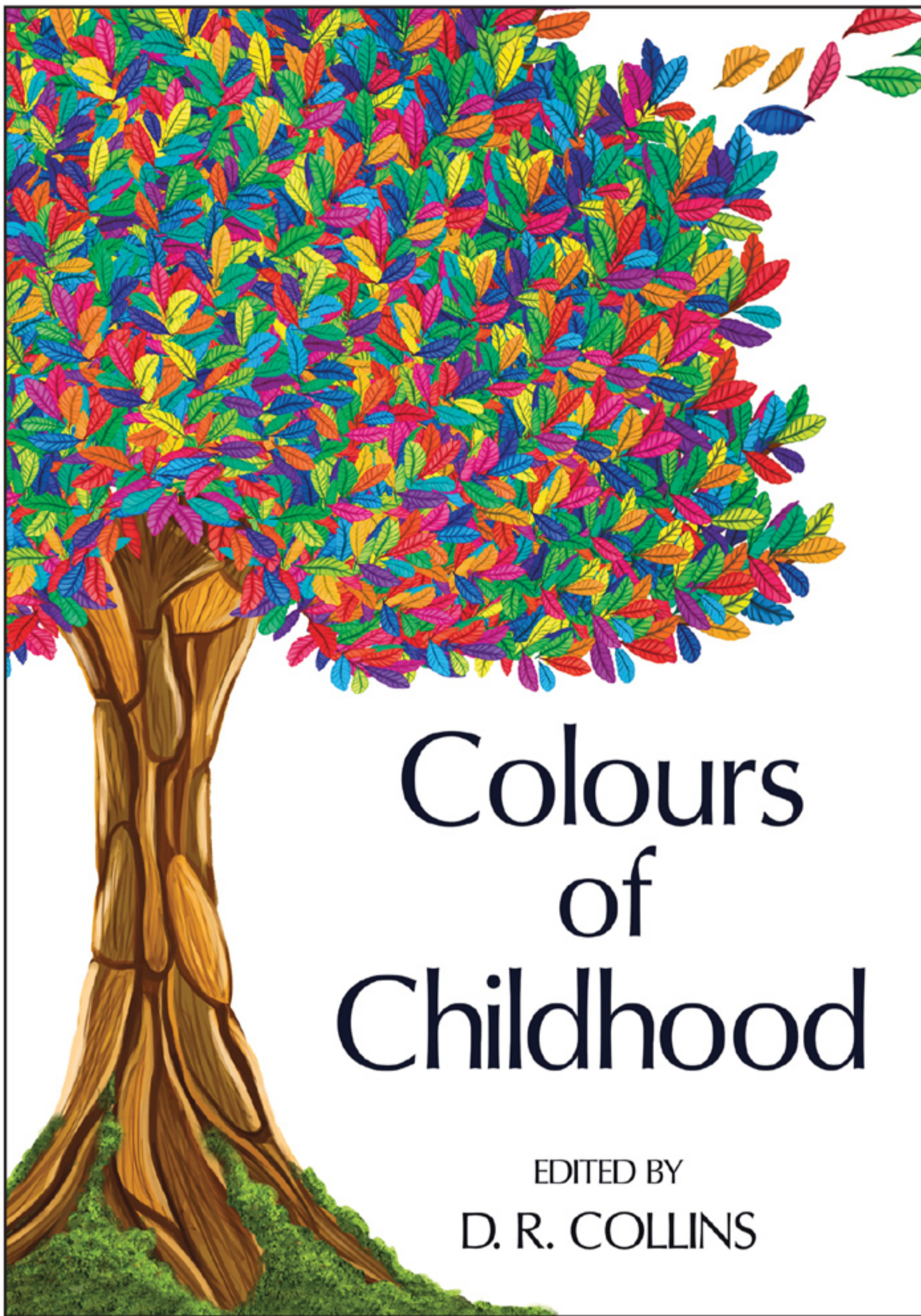
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