Learning from Quitting: Student engagement in an interprofessional student-led smoking cessation program enhances communication and collaboration.

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Abstract

We teach pharmacy in an Atlantic Canadian university. We developed an intervention to facilitate learning through interprofessional education. Fourteen second to fourth year pharmacy students and five psychiatry residents, PGY4 and 5, co-led a real-world smoking cessation clinic. Pharmacy students had between four and 24 weeks of structured practice experience in direct patient care and many worked part-time in community pharmacies. The residents had five to six years of direct patient care experience. Few had assessed smoking status or provided support beyond advice to quit. None had delivered a smoking cessation program. Participation in the study was voluntary, requiring a half day service, weekly. Some students and residents were completing practice experiences but took time to participate in the study. Because participation was voluntary, their learning was not formally assessed as part of the curriculum. Interprofessional education is often delivered in classroom settings, sometimes using simulated patient scenarios, but providing few activities involving real patients. We aimed to engage students/residents in learning through a collaborative pedagogy that emphasized communication. We used a qualitative methodology to develop, analyze, and explain their learning. Data included self-reflections, drawings, and interview transcripts. Our results showed that students and residents learned to help clients quit smoking, how to collaborate in interprofessional teams, and how to communicate effectively with diverse clients and other professionals. They felt engaged in their learning with each other and clients. They thought that learning in a real-world setting surpassed what they could have learned in a classroom setting or simulated experience.

Introduction

Interprofessional education (IPE) involves the purposeful and respectful interaction between two or more healthcare professional students with the intent of learning together how to optimize patient-centred care (Drynan & Murphy, 2012; McKinlay et al., 2018; Mishoe et al., 2018). The primary goal of IPE is to impart the knowledge, skills, and attitudes that students need to become collaborative practitioners who work together effectively to improve the quality of care (Harden, 1998; Oandasan et al., 2005). Barr

(1988) highlighted collaboration as a fundamental building block of IPE, which has become an emphasized goal in many educational programs, including health professional education in Canada and other jurisdictions (e.g., AFPC 2017; Frank et al., 2015; Medina et al., 2013).

In 2014, education and research experts from six health professions examined evidence measuring the impact of IPE on individual and population health outcomes. While proof of a firm relationship between IPE and these more distal outcomes was difficult to establish, the committee found sufficient evidence to reach consensus on the value of both collaboration and IPE (Brashers et al., 2015; Cox et al. 2016). Further, Semple and Currie (2022) promote collaborative pedagogies, such as IPE, as not only improving learning, but also promoting student interaction, teamwork, and engagement in learning.

Knowles' theory of adult learning (1980) suggests students learn better and feel more engaged when provided with learning experiences they feel are relevant. There is a positive correlation between IPE experiences that students can directly relate to their chosen careers and their attitude towards and motivation to engage in IPE (e.g., Parsell & Bligh, 1998; Pirrie et al., 1998). Conte et al. (2015) reported that the interactions among students, clinical teachers, health care staff, patients, and family members in an intensive care setting played a significant role in developing the students' professional identity and sense of preparedness for practice.

It has been suggested that the primary focus of IPE should be within experiential education settings (e.g., Anderson, 2010; MacKenzie et al., 2007; Wang & Zorek, 2016), and that IPE and experiential education complement each other. This viewpoint is supported by the World Health Organization (WHO), in which their Framework for Action on Interprofessional Education and Collaborative Practice (2010) states that "collaborative practice strengthens health systems and improves health outcomes" (p. 7). The WHO promotes the idea that interprofessional education is more effective when "learning methods reflect the real world practice experiences of students... interaction occurs" (p. 24), and that a high level of student engagement is evident during IPE. Despite these recommendations, IPE is often taught in classroom environments rather than real-world settings (Almendingen et al., 2021: Jones et al., 2022; Lee et al., 2018; McKinlay et al., 2018).

In this study, we explored interprofessional learning between students and residents from two different disciplines in an experiential setting. Pharmacy students and psychiatry residents, with very different learning levels and learning types, worked together in pairs to provide a smoking cessation service in a medication therapy clinic, situated within a university pharmacy school. There is need for pharmacists and psychiatrists to be well versed in smoking cessation. Pharmacists in most provinces can prescribe for smoking cessation, and several medical residency programs across Canada have flagged that knowledge in smoking cessation needs improvement (Morra et al., 2012). Almost half of all cigarettes in North America are consumed by persons with mental illnesses, and while the rate of smoking has declined, the prevalence in persons with mental disorders has not changed (Lasser et al., 2000; Prochuska et al., 2017). We anticipated that pharmacy

students knowledgeable in pharmacotherapy and psychiatry residents experienced in mental health would be an asset to smokers wishing to quit and to each other. The purpose of our study was to explore how learning in this real-life setting provided opportunities for diverse learners to learn from and engage with each other as interprofessional teams, focusing on collaboration and communication. We used a qualitative methodology to come to an understanding of these learnings and how they occurred.

Interprofessional Education

Interprofessional healthcare teams, also referred to as interprofessional collaborations, may facilitate positive health care experiences for patients, improve population health, and reduce overall health care costs (Berwick et al., 2008; Girard, 2019; Reeves et al., 2008). Interprofessional teams are a viable strategy to manage a healthcare system strained by an aging population with complex health needs, a shortage of resources, and expanding technologies and costs (Wang & Zorek, 2016). For example, Korner et al. (2016), in a systematic review, found that interprofessional collaboration resulted in better patient care and outcomes for people with chronic illnesses.

Interprofessional education is an important pedagogical approach intended to strengthen interprofessional healthcare (Almendingen, 2021; Barr et al., 2017; Jones et al., 2022). IPE is also referred to as interprofessional learning (Almendingen, 2021; Barr et al., 2017; Hammer & Vasset, 2019), with the two terms being interchangeable. With interprofessional learning, knowledge is thought to be "appropriated through social interaction, involvement, collaboration, and active participation and as a cognitive and mental capacity" (Hammer & Vasset, 2019, p. 2).

According to Jones et al. (2022), there is evidence that many health professional graduates have had neither sufficient nor effective interprofessional education. For example, Thomson et al. (2015) found that pharmacy, medical, and nursing graduates lacked understanding and appreciation of each other's roles, which negatively affected their communication and interprofessional collaboration. This, in turn, negatively affected patient care.

Clark (2006) problematized interprofessional collaboration with the statement that "health care providers have all been socialized to adopt the health care worldview characteristic of their profession" (p. 578), and further, they did not see the world, or the patient, through the eyes of healthcare workers outside their specific disciplines. More recent studies (e.g., Thomson et al. 2015; Jones et al., 2022), are an indication that this problem still exists. For our work, which was centred in collaboration and communication, we had hope that as the students and residents became engaged in their roles as an interprofessional team they would come to learn more about each other's strengths and use this understanding to positively contribute to patient care.

Experiential Learning

We contend that interprofessional education or interprofessional learning are optimized when part of experiential learning. According to Kolb and Kolb (2005), experiential learning is student-centered and hands-on, while occurring in "learning spaces that promote growth-producing experiences for learners" (p. 205). Learners bring their prior experiences and knowledge to the learning space where they begin to construct new knowledge and understandings based on their experiences in these spaces. In our study, this learning space was a student-led smoking cessation clinic that was part of our pharmacy school.

Kolb and Kolb (2005), and others (e.g., Bransford, Brown, & Cocking 2000; Piaget, 1977; Vygotsky, 1978) maintain that learners need to acknowledge and respect difference to enhance and deepen their learnings. Conversation amongst learners is also encouraged in this experiential learning environment as this provides opportunity for reflection. Another aspect of experiential learning that was essential to our study was the space for the students and residents to take control of their learning as they became more independent. This approach to learning was foundational to pharmacy students and psychiatry residents from two different health disciplines growing their understandings and expertise together as part of interprofessional learning.

Method

Design

We used a qualitative methodology where we employed an intervention, collected written and visual data, and conducted interviews. This triangulation of data, as well as multiple researchers conducting analysis, strengthened the validity of our interpretations. We obtained institutional ethics approval from the Newfoundland and Labrador Health Ethics Review Board and received funding from a Teaching and Learning Framework grant from our university.

We conducted an intervention with pharmacy students and psychiatry residents working together to learn to deliver a student-led smoking cessation program to adult smokers. We deemed a smoking cessation practice to be an ideal setting for this study as tobacco use is the leading preventable cause of morbidity and mortality in Canada, and Newfoundland and Labrador has the highest provincial smoking rate (Statistics Canada & SC, 2020). We used purposive, criterion sampling (Creswell, 2015) to recruit students and residents. Our university's pharmacy school has provided a pharmacist-led smoking cessation program in its Medication Therapy Services Clinic (MTS Clinic) since 2016. Most smokers spend about 12 weeks in the program. In this study, two teams with each comprising a student and a resident, ran a weekly, half-day clinic over an eight-month period. Team membership did not remain consistent as students and residents were participating as part of their experiential training. Students generally participated for 4-6 weeks, while residents were typically present for 8-12 weeks. This amount of time

allowed for consistency and continuity of care within the teams, as the swapping out of students and residents was staggered throughout. At no point did both team members change at the same time (i.e., clients were never confronted with an entirely new team). All teams had exposure to clients who were at different stages in their quitting journey, whether just starting, in the process of quitting, or having already quit and looking to maintain this accomplishment.

Participants

Fourteen students and five residents (see Table 1) worked with 26 clients. Throughout the paper, the terms "client" and "patient" will be used synonymously, as both terms were used by the participants. Client data have not been included for confidentiality reasons. All participants chose pseudonyms, which have been used in this paper for anonymity purposes.

Table 1 *Resident and Student Information*

	Number	Year of Program
Psychiatry residents	4	PGY4[a]
	1	PGY5
Pharmacy students	5	Year2
	5	Year 3
	4	Year 4[b]

[a]Psychiatry residency year 4

[b]Pharmacy program year 4

Intervention: Smoking cessation program

All students and residents were required to complete an orientation session prior to interacting with clients. This one-day session was coordinated and delivered by research team members and included an overview of the study, followed by in-depth instruction on providing smoking cessation. This session was repeated during the study to accommodate students and residents who joined the program at later dates.

Following the orientation session, students and residents began providing service in the smoking cessation program under the supervision of a pharmacist trained in smoking cessation. The pharmacist used scaffolding to help teams work through tasks, using a graduated level of learner independence. Conte et al. (2015) also used an experiential setting and guided participation, and reported on the important role played by supervisors in scaffolding to facilitate student ownership of learning. For each team's first clinic day, the supervising pharmacist lead the session for the first client visit, co-led the sessions during the second and third visits, and observed and provided oral feedback for the final visit. The same process was followed in a subsequent clinic such that the teams had

opportunity to experience scaffolding in both pre-quit (preparing clients to reduce/quit) and post-quit (supporting the reduction/quit attempt) sessions. For all subsequent client visits, the student-led teams assumed full responsibility for the sessions, with the supervising pharmacist on stand-by. Teams conferred with the pharmacist if they required advice and prior to recommending quit medications. If the resident was not licensed to prescribe, the supervising pharmacist assumed this responsibility. The pharmacist was also available for any urgent client support needs occurring outside the regular clinic hours. When there was a switch in one of the team members, the remaining student or resident led the scaffolding process if he or she felt confident; otherwise the supervising pharmacist stepped in.

Data

At the beginning of Orientation Day, residents and students wrote self-reflections on their understanding of smoking cessation, personal goals, and feelings about participating in the smoking cessation program. They then complemented their writing by drawing a metaphorical representation. At the end of Orientation Day, participants wrote a second self-reflection about what they had learned during the orientation. Self-reflections and visual representations were completed again at the end of each person's participation in the study. In addition to these reflections, the students and residents took part in individual semi-structured interviews to discuss their experiences during the study.

Data include 382 minutes of interview audio-recordings for students and residents with 266 pages of transcription. There are also 87 pages of written reflections and 41 visual representations.

Analysis

We conducted analysis on written and visual self-reflections and interview data. We used coding that was concept driven by the literature on interprofessional and adult learning, and coding that was data driven to develop explanations of how and what students and residents learned, and how they felt about participating in the program (Brinkman & Kvale, 2015). For first cycle coding, we used descriptive and process coding that was based on the reflection prompts and interview questions to describe segments of the data, resulting in categories (Saldana, 2016). For second cycle coding we used pattern coding (Saldana, 2016) to develop themes and then elaborated on these themes for descriptive and explanatory purposes. For purposes of triangulation, two people independently analyzed the data, and three people discussed the inferences and achieved consensus.

Results

The first set of themes indicates how students and residents felt and thought before the intervention. The second set represents their thoughts and feelings at the end of the study.

Pre-Intervention

Theme 1. Students and residents had positive feelings about their upcoming participation in the smoking cessation program. Following orientation, both groups indicated interest, eagerness, and excitement about beginning the program. This was a common finding among the participants, and we present three examples to illustrate this predominant feeling. Sushi Lover (resident) expressed, "I'm thankful for the opportunity to learn about this and put it into practice during my training"! Chip (student) wrote, "I am excited to get started and can't wait to learn more". And Pocoyo (resident) stated she was looking forward to working in an interprofessional relationship, as these are "symbiotic in the real world".

Theme 2. Students and residents had doubts about their abilities to conduct smoking cessation successfully. Only five of the fourteen participants indicated they had no concerns starting the program. Nine worried that their lack of smoking cessation knowledge and inexperience might negatively affect client outcomes. They expressed thoughts about saying the wrong thing, feeling awkward in the client interviews, being perfectionists, not being able to motivate clients, and not feeling confident. Cinderella (student) wrote,

> *I'm worried the patients may feel I am wasting their time, as I only finished my second year of pharmacy and do not feel confident in my knowledge.*

However, by the end of the orientation, many thought like Cinderella, "my comfort should improve with time".

Eight expressed concerns about the interprofessional teams possibly not working well together, as this type of collaboration was a new experience for most and not something they had undertaken in a real-world clinical setting. For example, Sushi Lover (resident) worried that students would have "an expectation that I would have some background knowledge that I didn't". She was also concerned about the "potential of looking silly in front of the pharmacy students". And Pocoyo, another resident, worried that "other team members may disagree with me in techniques and management".

On the other hand, some students worried that the residents might take control and see the students in a lesser role. We present four examples of this concern, Quitmaster wrote about possibly not receiving respect from the residents. And Chip wrote, "initially I may struggle participating and collaborating effectively if my partner decides to take charge". X-ray Gamma wrote about the "potential for role conflict with the psychiatry resident if they or I overstep or understep". Thus, there were acknowledged concerns from students and residents about "finding the right role on the team" (Cinderella), which were unresolved by the end of Orientation Day.

Post-Intervention

Theme 1. Working collaboratively in an interprofessional team contributed to students and residents feeling engaged in learning. By the end of the study, no students or residents expressed the concerns they had on Orientation Day about working together. For example, Sushi Lover (resident) who had initially worried about this said,

> *I very quickly realised afterwards that it was my own fear and not the actual expectation of the students.*

Amoxi (student) wrote,

> *Interacting with another professional outside my own area was incredibly beneficial. It was really helpful to see how another professional would interact with a patient.*

Pocoyo (resident) wrote similarly,

> *I think working with someone that's not in your discipline for this type of purpose was really, really helpful, because if we had two of the same, then it might not have the same effect on patients.*

Students and residents learned from and with each other. It was acknowledged by most that combining pharmacy and psychiatry allowed for different skill sets, from which clients, students, and residents benefited. As Ned Stark (resident) wrote, "we all have excellent experiences from our own education and we like to share these points", and Julien E, another resident, commented, "I felt we were able to help each other to help clients". Tim Hortons (student) elaborated on these points,

> *Having different knowledge we were able to work together and communicate effectively in working towards a common goal. With one patient, I was able to provide information about the specific medication while the other team member provided information about non-pharm techniques to overcome cravings. Through this collaboration we were able to provide the patient with the resources and tools necessary to follow through with their quit plan and therefore be successful.*

In addition, Sushi Lover enthusiastically shared, "My favorite part was having a partner (i.e., not having to have all the answers myself)" and being able to "stay within your scope and let the experts talk (i.e., know my limitations)".

Students and residents sometimes had different thoughts or approaches when working together, but this did not become a problem. Valeur (student) explained,

> *I think we were pretty good at trading ideas and coming to consensus. There were times where we might have had differences of opinion, but it never came to a conflict. It was just "I think this might be how we should do" it versus the other person's, and we came to consensus and just went with the consensus typically.*

And Karkar (resident) added,

> *I think we were both really respectful of each other's expertise… no problems, we were working pretty well together and didn't have any issues like that.*

In conclusion, according to Cookies (student)

> *It was definitely nice knowing that if I was to miss something or if she was to miss something or not feel comfortable talking about something, there was someone there that could help.*

All the students and residents valued and felt engaged with this collaborative pedagogy.

Theme 2. Students learned from the residents and improved their communication skills. The students thought they were not as skilled with communication as the residents when they first started this experiential learning. Many students remarked how they learned about communication and patient interviewing from working with the residents.The following examples reflect the learning of the students.Amoxi (student) commented, "I learned a lot of new techniques for patient interviewing", and Xray Gamma, another student, wrote

> *She had a different approach to interviewing than I did. She was especially good at using open ended questions to provoke information that I never would have thought to probe for.*

Several students specifically mentioned learning to listen to the patients, such as Betty White maintaining,

> *The most important thing I learned about interacting with the psychiatry resident was to listen. She has extensive training and excellent communication and motivational interviewing skills that I can now incorporate into my practice.*

Betty White provided an example of how the resident communicated with a patient who had a cognitive impairment. The resident asked "simple" questions and provided "ample" time for the patient to respond. Betty White wrote,

> *From my training, I would try re-phrasing the question in case the patient didn't understand, but now I feel that would be like jumping down their throat. I have learned to become comfortable with silence.*

Cookies reinforced how she learned from observing her resident partner,

> *I went through the checklist but I talked fast and maybe they might have felt a bit rushed and not given as much information. Whereas Julien E was very relaxed and went through it slowly and took his time with it.*

Cookies then began to work on taking her time when interacting with the patients.

Another student, Old Trout, who was enthusiastic in his demeanour, discussed that learning to tone down his approach appeared to work better for one patient,

> *I found a better rapport with him…I speak really slow and quiet, just like he's speaking and then it works better for him.*

Also, Cookies learned how to encourage without being too forceful, and got a quiet patient to open-up,

> *She didn't speak much and a lot of times when we'd be asking questions, she'd give a yes or no answer or no answer at all. So then trying to find things that she liked talking about—her husband for example—she'd smile or laugh and say that he's really supportive and doesn't smoke.*

The students and residents also improved communication with each other. As Cookies described,

> *If one of us kind of hesitated then the other one could jump in, depending what the topic was. I mean, when Karkar was talking about medications and she wasn't comfortable then I helped her. And at the same time, you know, when we were talking about some medical conditions and I was the one talking about them, she jumped in cos' she has more experience with that and talked about it a bit.*

Cookies concluded with this thought, "overall, I think communication and respect is key for any collaborative practice and in this program it worked out well". Thus, the students learned different aspects of communication, including communicating with patients and other interprofessionals.

Theme 3. Residents learned from the students and improved their drug therapy knowledge. Many residents realized their lack of drug therapy knowledge and discussed how the students provided necessary drug information they did not have, as in,

> *I had pharmacy students that I could refer to in terms of, what was the dose on that again, what are the side effects of this again.*

Pocoyo reinforced this notion,

> *It was comforting to know there was an expert in medications. Whenever I was not comfortable with a medication question I could easily ask the student. It showed how necessary it is for our two professions to work together.*

The residents also talked about how the students having medication knowledge was a complement to the team. Karkar specifically mentioned this,

> *Pharmacy students know more about the medications, so they can do that bit of the interviewing report, that type of thing. So I found that we complemented each other.*

Other residents discussed how the students filled a vital gap. Sushi Lover showed her appreciation,

> *I think sometimes I wish I had done a little bit more, I guess, background knowledge like on the actual medications themselves, and there were questions sometimes I couldn't answer.*

Pocoyo alluded to earlier feelings of insecurity about medication knowledge by saying there was a

> *little bit of anxious feelings initially because I'm not really familiar with the medication piece, but I felt reassured that I had pharmacy students I could refer to, what was the dose on that, what are the side effects of this.*

Ned Stark remarked that,

> *Sometimes when we're going over side effects and medication, the pharmacy student would chime in and kind of go over that.*

Residents appreciated the merits of working with the pharmacy students which would hopefully strengthen the smoking cessation experiences for the patients.

Theme 4. Students and residents thought they were given an opportunity for learning that went beyond classroom experiences. Learning by doing was mentioned repeatedly throughout the reflections and interviews—learning to apply their knowledge and then learning more knowledge through doing. Julien E (resident) reinforced this thought when he wrote,

> *The practical experience of sitting down with patients and providing them with education, advice, and support was key in solidifying my knowledge.*

Tim Hortons (student) wrote,

> *In school we learn about various medications but we don't always get to have 'real life' experiences in applying the information.*

And, Valeur (student) wrote it was "the practical clinical experience that best facilitated my learning".

Orange (student) compared how these experiences offered more learning than their objective structured clinical evaluations (OSCE). In OSCEs they use checklists, but now they were hearing people's stories,

> *In our OSCEs the patients tend to all be very similar…they don't have a lot of personality, they're just asking a question and we answer it. It was nice seeing a variety of people with personalities and stories specific to their quitting that we could use to help them quit again.*

Another student commented, "I learned skills to tailor therapy to a patient's needs by listening to their stories".

Students and residents discussed how involving clients in care plans is not something they do in simulated experiences. Tim Hortons (student) wrote, "my favourite part of this experience was working with the patients to develop a quit plan". A resident thought real clients were

> *more autonomous…[they] come in with their own ideas. We present all the options to them. Sometimes they've already made up their mind that they don't want to choose A and B and they'd rather go with C…even if you think something is the best option, it's not going to be the best option for that patient.*

Valeur (student) felt strongly that,

> *These real interactions with patients were my favourite part of the experience. These interactions really challenged me as a developing healthcare provider and made me think critically about every aspect of the interaction, which I really enjoyed.*

Valeur emphatically stated,

> *Definitely very different, if a standardized patient said some of the things that the patients in here said, I think my class would have a heart attack and they wouldn't know what to do. So that's good, because the standardized patients are very 'by the books' and you can expect what they're saying, whereas when you're walking into that room, God only knows, which is cool, I like that, that's practice, so it's interesting.*

He was passionate about working in a real-life clinic with real patients. Students and residents agreed that the value of experiential learning went beyond what they could accomplish solely through classroom learning.

Theme 5. Students and residents gained an appreciation for the diversity of clients and how this diversity affects providing effective smoking cessation. Most of their classroom learning, even their OSCEs, was based on simpler rather than more complex patient scenarios. The personal characteristics of patients was not usually a consideration in classroom learning. Chip (student) wrote,

> *The most important thing I have learned is how important it is to individualize treatment for each patient based on their specific needs. Everyone is so diverse.*

Old Trout (student) specifically linked patient differences to communication, giving this example,

> *One of my patients was very upbeat and easy for me to talk to because I am much the same. Another patient was very quiet and my original approach seemed to make it difficult to talk to him. I tried to relax my tone to his level and was much more successful.*

Another aspect of diversity discussed by student Orange was that,

> *Everyone has a bigger story, it's not as simple as just quitting… These patients have so many dynamics to consider when providing care.*

Student Valeur took this concept even deeper and discussed the "value of getting to know and understand your patient" and of how this knowledge

> *gives you the ability to know when to stop and listen to a patient and let them guide the interaction and also when to push and guide the interaction yourself*,

and of gaining the ability to "truly tailor care to each individual".

Sushi Lover (resident) emphasized that not only is everyone different, but a "plan can change from one day to the next". She further added this point,

> *I may think I know what the 'right' plan is for a patient, but if it doesn't fit with their worldview it's not going to work.*

Students and residents learned the importance of the individual, not just in terms of their smoking habits, but also how personal attributes contribute to smoking and quitting smoking.

Discussion

Our results support the stance that in interprofessional practice settings, students have "opportunities to develop collegial relationships, understand the complementary roles of the various professions, and practise collaborative competencies like communication, conflict resolution, and shared decision-making" (Holmqvist et al., 2012). The concerns expressed by Clark (2006) around graduates of the health professions not understanding the different perspectives or appreciating the abilities of graduates of health professions different from their own were addressed naturally throughout this collaborative interprofessional learning experience.

In our study, students and residents learned to help clients quit smoking, how to collaborate as members of interprofessional teams, and how to communicate effectively with diverse clients and other professionals. Students and residents learned with and from each other by creating mini communities of practice through which they gained appreciation for the diversity of expertise and perspectives of others and how that enhances patient care. Their participation in shared decision making and problem solving fostered respect of others' contributions, and engaged them in resolving conflicts and building consensus. Working with each other and with clients they had opportunities to develop active listening and effective communication skills as they supported each other in establishing client goals and care plans.

Student and resident learnings relate back to Kolb and Kolb (2005), whose theoretical framework for experiential learning settings was actualized in our study. The students and residents thought their learning was distinctive from classroom and simulated learning experiences, and were able to articulate how. They learned to apply their previous learnings in a real-world setting, while having the opportunity to receive constructive feedback. Hood et al.(2014) commented on the contributions of learning and working together in clinical settings to also facilitate professional identity by allowing "students to consider and to test the 'ought' self (who they think they are expected to be); the possible self (who they might be); and the desired self (who they would like to be)". Students in our study initially expressed doubts about their knowledge and ability to help smokers

quit, looking silly in front of the other as a result, and finding their roles in the collaboration without overstepping perceived boundaries. At the end of their participation they saw the value of working as a team, gained knowledge and communication skills from each other, and felt more confident in their own contributions. They had been actively engaged in learning and could better envision what their future career as an interprofessional might look like.

Real-life clinical placements allow for the practical application of theoretical knowledge. Direct patient care also helps learners value the unique contributions and expertise of others and develop a deeper appreciation for their own professional roles. Learners will have to pivot frequently between theory and practice in order to provide patient-centred care to unique individuals with diverse backgrounds and values. Experiential learning cultivates a humanistic approach to healthcare in which patients may be viewed as active partners in their care. By engaging directly with patients, learners assume a sense of responsibility for their care and learn to prioritise the patient's well-being, autonomy, and preferences.

Limitations

A limitation of this study is not having the clients' perspectives on how the inter-professional teams worked together, if the teams were effective in providing care, or if a team was even necessary. Future research can incorporate the clients' perspectives on this.

Conclusion

In this study students and residents realized that being an active part of patient success was an effective and practical way to improve their learning. They engaged with each other, with themselves as learners, and with clients who relied on them to quit smoking. The students and residents indicated that learning in a real-world setting surpassed what they could have learned in a classroom setting or simulated experience. A resident wrote about her sense of accomplishment, "to be part of something bigger and to actually see people succeed was just really thrilling because this is such a major part of people's lives".

We make no attempt to generalize from a qualitative study. Our results reflect this particular group of pharmacy students and psychiatry residents. Repeating this study with another group, with the same protocols, in this particular setting might yield more and perhaps some different or nuanced results. In our study we started with a few different feelings from the participants, such as some worrying over possible difficulties, but our findings were all positive. Also, repeating this study at another site might increase the transferability of our results. Too, for those who think more quantitatively, repeating this study with a comparison group of uni-professional teams, such as two pharmacy students or two psychiatry residents might add to the literature on the strengths and needs of uni-professional versus inter-professional learning.

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