Qualitative Research

Developing Research-Informed Guidance on Preparing Pharmacy Students to Care for Diverse Populations

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ABSTRACT

Objective: The purpose of this study was to develop research-informed guidance on how to better prepare students for working with diverse populations through exposure to diversity representation within case-based learning materials.

Methods: This was a qualitative interpretive phenomenological study using audio-recorded semi-structured interviews for data collection. Interviews were conducted virtually with 15 recent program alumni from Dalhousie University and 15 members from underrepresented communities in Nova Scotia, Canada. Audio-recordings were transcribed verbatim and framework analysis was used to code and categorize data. Themes were interpreted from categorized data and a conceptual model was developed based on the results.

Results: The conceptual model highlighted that awareness of diversity and health equity paired with practice and application of learning were perceived to be important for preparing graduates for practice. It was found that awareness could be best achieved through exposure to diversity within cases. To effectively expose students, programs must deliberately identify diverse populations to include, seek perspectives and engagement from those populations when writing cases, ensure conscientious representation of diversity without reinforcing stereotypes, and provide resources for discussion and further learning.

Conclusion: Through the development of a conceptual model, this study provided research-informed guidance representing diversity within case-based learning materials. Findings support the notion that representation of diversity must be deliberate, conscientious, and collaborative with those offering diverse perspectives and lived experiences.

1. Introduction

There are urgent calls for the pharmacy profession to dismantle systemic oppression across all sectors.\textsuperscript{1} Pharmacy education, where pharmacists learn their foundational skills, is no exception to these calls, and yet there is little research guiding possible interventions to reduce systemic oppression within pharmacy programs.\textsuperscript{2,3} Butler and colleagues.\textsuperscript{4} have proposed a framework to address health equity and racism within pharmacy education. The framework (Rx-HEART) suggests 5 phases (inventory, elective, mandatory, integration, and application) for the progressive incorporation of health equity concepts within a program. As per Okoro and colleagues,\textsuperscript{5} including diversity representation within learning materials may offer the opportunity to stimulate discussions about health equity and systemic oppression as a whole. If done effectively, this may help to satisfy phases 3 (mandatory) and 4 (integration) of the Rx-HEART framework by threading diversity exposure throughout a curriculum and therefore providing frequent opportunities for health equity discussions and learning.\textsuperscript{6} However, little research to date has aimed to develop guidance on successfully incorporating diversity within learning materials.

As per the Rx-HEART framework, the first phase of incorporating health equity learning into programs is to take an inventory.\textsuperscript{4} Two recently published studies from different programs have exposed the lack of representation within written case materials for student learning.\textsuperscript{6,7}
Both studies found case data was largely undefined across many categories, including race, gender, relationship status, sexual orientation, and disability status. When case data were defined, it was found to mostly align with dominant population characteristics (i.e., implied to be White, cis-gendered, heterosexual, traditional relationship status, and free from disabilities) and was perceived to reinforce biases and stereotyping when diversity was present. The authors speculated that this might lead to a ‘hidden curriculum’ that inadvertently prepares graduates to be ‘problem-focused’ when encountering diverse populations in practice. For example, a graduate may fixate on a gay man’s sexual health or HIV status if it was only these cases where gay men were written into across the program’s learning materials. Although programs may have the best intentions of using undefined cases to teach clinical content, there is enough evidence supporting that one’s social and cultural determinants of health must be recognized alongside pathophysiology to ensure all patients’ needs are addressed. 3

Okoro and colleagues, 7 state that representing diversity within cases may be useful but must be done carefully to avoid perpetuating stereotypes. The authors also note that complete exclusion of race may unintentionally perpetuate whiteness as the norm, and result in missed opportunities to educate students on systemic factors that contribute to systemic oppression and health disparities. Given the overarching calls to dismantle systemic oppression within pharmacy and the advice being provided for increasing diversity representation within case-based learning materials, it is essential for the Academy to seek perspective and guidance on how to achieve this appropriately and effectively. Therefore, the purpose of this study was to develop research-informed guidance on how to better prepare students for working with diverse populations through exposure to diversity representation within case-based learning materials.

This study aimed to answer 2 research questions: (1) How can pharmacy programs effectively prepare students to care for a diverse population? and (2) How can pharmacy programs conscientiously expose students to diversity within case-based learning?

2. Methods

This was a qualitative interpretive phenomenological study using semi-structured interviews for data collection. 8 The study was conducted at the College of Pharmacy, Faculty of Health, Dalhousie University in Nova Scotia, Canada. Graduates study 4 years of an entry-to-practice program after completing the required prerequisites. The program recently shifted from a Bachelor of Science in Pharmacy to a doctor of pharmacy (PharmD) program and will graduate the first PharmD students in 2024. The research team brought a variety of identities and perspectives to this study. Team members were both internal and external to the pharmacy program and included current students, alumni, faculty members, and international collaborators. The team represented diversity through the lenses of race, gender identity, immigration status, sexual orientation, and experience caring for those with disabilities. This diversity was deemed important to ensure data was interpreted through lenses that represented all target populations of this study and were not skewed toward one population or another. Approval was obtained from the Dalhousie University Health Sciences Research Ethics Board (#2021–5852).

A sample size of 30 participants was predetermined for this study based on guidance papers for qualitative research. 9 Fifteen participants were recruited as program alumni (graduated within the previous 5 years), and 10 were recruited as members of underrepresented communities living in the Canadian maritime provinces (Nova Scotia, New Brunswick, Prince Edward Island). Underrepresented community members invited to participate (≥ 18 years old) were those identifying as racially diverse, sexually or gender diverse, or those living with or caring for someone with an invisible or visible disability. Participants were recruited using convenience sampling. Investigators shared advertisements via social media or email within their networks. All recruitment occurred electronically via social media or email. Interested participants were instructed to contact a study investigator. After the initial contact, a member of the team provided participants with a consent form and an interview scheduling form. Investigators monitored the recruitment of underrepresented participants to ensure at least 2 participants represented each target group (as stated above). Completed written signed consent forms were obtained prior to the conduction of the scheduled interview by email to the lead investigator or the interviewing investigators.

Discussion guides for both groups were developed by study investigators based on the research questions and informed by existing literature. 4,5 Discussion guides included prompts to elicit demographic questions, including target group identification for the underrepresented group and practice area for alumni. Discussion guides were slightly different for both groups, as some questions were targeted to practicing pharmacists for alumni. The questions were reviewed by team members representing all target diverse populations for feedback. The guide was piloted with 1 final-year pharmacy student (not included in the analysis). Two research students (KB, BL) were trained and observed on interviewing by 2 senior investigators (VA, KW). A focused training session was conducted using the dark room methodology created by 1 of the investigators (VA) to critically examine researcher bias, explore implicit biases and self-awareness, and engage in cultural humility to frame questions and discussion prompts for the qualitative interviews. 10,11 The session was aimed at setting up the researchers (KB, BL, KW) to engage in an iterative process and reflect on their own experiences and perspectives to create a brave space for critical examination and depth of conversation that supports nuance.

A total of 28 interviews were conducted virtually using Microsoft Teams with 1 or 2 investigators present (KB, BL, or both). Two investigators were present whenever possible. Interviews were audio-recorded but not video-recorded. Two brief interviews were conducted in person by the primary investigator (KW) for participants with intellectual disabilities with community center staff present. These interviews were recorded using a digital recording device. The transcription function was activated for the interviews conducted via Microsoft Teams. Interviews lasted between 30 min and 1 h, except for the 2 in-person interviews (10–15 min each). Upon completion of the interview, transcripts were produced from Microsoft Teams. One investigator then listened to the interview and corrected the produced verbatim transcript for errors. Transcripts for the interviews conducted in person were done manually.

Transcripts were independently coded (open, inductive coding) by 2 investigators (KB, BL). 12 These investigators met with the primary investigator (KW) on 2 occasions to review initial codes after coding the first and the first 3 transcripts. Coders developed a codebook that was maintained throughout all coding procedures. Coders read transcripts and then coded specific segments (words, sentences, phrases) deemed relevant to the research questions. Coded transcripts were re-reviewed as coding progressed to ensure codes were consistent across transcripts. Discrepancies in coding between the 2 coders were reconciled by the primary investigator (KW). These 3 investigators met multiple times throughout this process to discuss coding results and to clarify the meaning of codes. Once initial coding was complete, these 3 investigators met to review codes and identify a preliminary list of themes using a framework approach. 13 Briefly, themes were placed as columns in a table and participant data that matched each theme was placed in the rows. This allowed investigators to identify patterns within the data and confirm themes. These themes were then organized into a conceptual model to represent the relationship between themes and shared with the full study team. Coders (KB, BL) and the primary investigator (KW) reviewed feedback from all investigators and searched for confirming and refuting evidence for each theme. The final themes and organization of the conceptual model were agreed upon by all team members.
Thirty participants (15 individuals identifying with an underrepresented community and 15 Dalhousie College of Pharmacy alumni) completed the interview (Table 1). The participants were interviewed in sessions that lasted between 15 and 60 min, and everyone was asked what population(s) they identified with (underrepresented) or what their current practice setting was (alumni). The underrepresented participants identified either as gender diverse, sexually diverse, disabled, or racially/culturally diverse (Jewish, Southeast Asian, East Asian, Middle Eastern, Black, Indigenous, or Acadian). There was also significant intersectionality among these participants, as many individuals identified with 2 or more of the demographics mentioned above. The alumni participants identified their current practice settings as either hospital or community practice (urban or rural), and 4 of them identified as part of an underrepresented population (provided without prompting). Upon discussion of the results, a conceptual model was developed to connect the identified themes (Fig. 1).

The first research question aimed to explore how a pharmacy program can best prepare students to confidently help all individuals who come into the pharmacy, specifically diverse populations. While analyzing the data from the participants, 2 main themes were identified: “awareness” and “practice/application”. These themes were identified using pooled data from both groups.

Awareness was identified as exposing students through learning material and other curricula to become more aware of diversity. When students are exposed to different populations, they become more aware of the social determinants of health and how they disproportionately affect some populations. One individual stated that “if you’re not exposed to underrepresented populations’ problems, issues, that sort of thing, then you don’t learn until you’re kind of thrown into it” (Alumni 5), demonstrating the need to expose students to diverse populations and their specific needs. Multiple alumni referred to the phrase “you don’t know what you don’t know,” highlighting the need to bring awareness through exposure in pharmacy curricula. Students need to be more aware of the different challenges that diverse populations face to learn how to best support all individuals.

‘Practice and application’ was identified as a second theme of this research question. It is essential that the topics discussed in the classroom are also practiced by the student to be best prepared to assess similar situations that arise in their practice. One alumnus stated, “I’m very worried about offending someone or making a mistake because I had had no experience with that at all” (Alumni 14). Outlining the need to allow space in the curricula and case-based learning to discuss difficult topics and provide students with the opportunity to practice them. An individual from the underrepresented group indicated that the curriculum should “include different types of people, different backgrounds, and especially in the use of cases. That will definitely give you more practice about how to deal with it in a real-life situation” (Underrepresented 14).

The second research question aimed to determine how a pharmacy program can conscientiously expose students to diversity within case-based learning. Four themes were identified when analyzing the data through this lens: Deliberate Identification, Perspectives and Engagement, Conscious Representation, and Resources.

Deliberate identification was defined as purposefully identifying diverse groups in cases to represent and reflect the diversity within the community. This identification must be done in a way that reflects the diversity within our societies. One underrepresented community member stated, “I feel like (cases) should represent how a pharmacist would deal with a patient on a normal day with different types of people from all different backgrounds” (Underrepresented 14).

The theme of Perspectives and Engagement prompts case writers to engage with, and obtain perspectives from, diverse populations with lived experiences, including members of the community, students, and faculty/staff. Engaging members of underrepresented communities when including them in cases can help lead to more accurate representation. One alumnus stated that “if (the case writers) are not of a minority, I think they should be consulting a minority for those conversations” (Alumni 1), emphasizing the need to engage directly with underrepresented communities to avoid misrepresentation in written cases. A community member stated that “there should be at least more than 1 mind that is contributing to the case creation and (they) should be from a diverse group of people to offer different perspectives” (Underrepresented 11).

Conscious Representation was the third theme identified for this research question. Representation of diversity in case-based materials must be conscious to avoid perpetuating harmful stereotypes for underrepresented populations. Cases must not only represent minorities if it points to “something” wrong with them as this can encourage students to take a problem-seeking approach to care and suggests an
association between underrepresented groups and poor health. One alumnus recalled the impact of this selective inclusion and said that “in the (problem-based learning) case, everyone is like oh, you know, digging for that reason, do we need to adjust drugs differently or do we need to use a different therapy because of (patient demographics)” (Alumni 6). This points to the need for intentional inclusion of diversity within cases that also ensures diverse populations are represented as a whole, instead of focusing on specific disparities. One underrepresented community member emphasized the need for conscious representation to expose students to the diversity of communities by stating, “any information you could get about (the patient) without asking them probably should be in the cases because that’s information that you’re going to be processing either implicitly or explicitly when you encounter them anyway” (Underrepresented 4).

The final theme identified was Resources. Identifying Resources for cultural awareness within case discussions and future practice was valued by recent graduates as a support tool to help them maximize their learning from the cases. This theme was present across numerous alumni interviews, as many recent graduates felt that they lacked the resources needed to confidently care for diverse populations. One alumnus shared, “I wish I had more information or more knowledge about how to be sensitive to more cultural healing techniques and such because it’s something I’m just not super in tune with” (Alumni 6). Others commonly mentioned the need for the inclusion of resources for both cultural sensitivity and therapeutics, as topics such as gender affirmation therapy were not addressed in the current curriculum. One underrepresented community member with an intellectual disability highlighted the need for effective communication and resources for students by stating, “So, like, what is (the medication) doing to me? You know, cause even people with learning disabilities still want to know what goes on with their bodies” (Underrepresented 8).

4. Discussion

This study aimed to produce research-informed guidance for incorporating diversity within learning materials across PharmD programs. Through interviews involving underrepresented populations as well as recent pharmacy alumni, themes were identified according to the 2 main research questions: ‘How can a pharmacy program effectively prepare students to care for a diverse population?’ and ‘How can a pharmacy program conscientiously expose students to diversity within case-based learning?’ Based on these findings, a conceptual model was produced that shows how conscientious exposure through well-developed cases can lead to awareness and further preparation for caring for diverse populations in practice (Fig. 1).

A key finding of this study was that perceived preparedness for providing care to diverse populations is fostered through awareness and practice. These findings directly align with the Rx-HEART framework proposed to address health equity and racism within pharmacy education. Ensuring students become aware of health equity and racism through deliberate exposure and integration throughout curricular components may facilitate the discussions necessary to stimulate learning and better prepare students to address health equity in practice. The results of this study therefore provide empirical evidence supporting the Rx-HEART framework and offer practical strategies to ensure curricular content is developed free from stereotyping and bias.

Building on the findings from the first research question, a second key finding was the identification of strategies that may promote conscientious exposure to health equity concepts through representation of diversity within learning materials. As per Figure, programs must first deliberate identify which populations (including intersectionality between populations) to represent within the program. This finding aligns with previous research that calls for programs to have an overarching and coordinated plan to ensure diversity is well represented across courses and teaching sessions. Identification may be supported by community engagement (as per below), but also through monitoring population-level data within society and staying connected to research on diverse populations and health disparities that exist within one’s specific setting. When designing cases and identifying populations to represent, instructors should engage with community members and seek diverse perspectives to ensure representation is appropriate and avoids perpetuating harmful stereotypes. Programs should seek to develop relationships with university or community organizations to ensure diverse perspectives can be consulted prior to representation within case material. Forming an advisory board or steering committee may be a favored approach. Programs should also begin to learn about the different populations that exist in their communities and make efforts to upskill themselves on concepts relating to health equity. Although addressing stereotypical conditions or lifestyle habits may need to occur, instructors must ensure that these are minimized, and students are exposed to the full diversity within a population by being conscientious of representation across all curricular materials. As per Okoro and colleagues, this should help to reduce the ‘problem-seeking’ approach that can be fostered when students believe the inclusion of diversity has been done purposely to represent a deficit or disparity to be addressed. Instructors may facilitate this by prompting students with guiding questions or discussion points aimed to have students think critically about the case and recognize if the social or historical contexts of the patient being presented may be relevant for their care, rather than simply focusing on the patient’s diversity as a ‘problem’ to solve. Furthermore, the finding that resources should be provided to students to facilitate learning on health equity supports the ‘growth-based’ approach suggested by Okoro and colleagues that promotes the learner to listen, understand, and learn, rather than simply searching for problems to address. Using these approaches when designing cases may lead to the exposure necessary for ensuring students become aware of health equity concepts and can apply their learning when encountering patients in practice.

This study has implications for both practice and future research. In terms of practice, as part of an overarching plan, instructors can use the strategies identified to create case material while aiming to avoid perpetuating harmful stereotypes. As described above, programs should be continually aware of populations that exist within their settings and the healthcare needs of underrepresented people. Although engaging with specific communities can be difficult and time-consuming, programs may be able to link with university organizations and student societies to help facilitate this process. In terms of future research, the model developed from this study needs to be evaluated and refined. There may also be other strategies that could be identified and added to ensure students are exposed to and become aware of health equity and diversity within pharmacy practice. Furthermore, evaluating the impact of these approaches on students’ knowledge, attitudes, and skills should be a priority.

This study has some limitations that should be addressed. First, the convenience sampling strategy included recruitment within investigators’ networks. This may have skewed the sample to ‘think similar’ to investigators and not represent a full range of ideas or opinions. However, the study was exploratory in nature and recruitment of diverse populations is challenging. The investigator team was formed with these considerations in mind to ensure broad representation existed across many populations. Secondly, the concept of intersectionality was beyond the scope of this study and not addressed within recruitment or interpretation of data. Intersectionality refers to the interconnected nature of social categories (eg, race, gender, sexuality, etc.) that may lead to overlapping and interdependent systems of disadvantage. Although recruitment naturally identified participants identifying as multiple diverse groups, future research should be designed to guide programs to address intersectionality of these identities within their learning materials. Finally, the study was single-centered and largely focused on 3 Canadian provinces. Although the themes identified should be transferrable to other programs in other settings, it must be recognized that each geographical location has its own demographics and unique needs with respect to health equity.
5. Conclusion

Pharmacy programs must begin to critically reflect on their learning materials and the role that they have in addressing health equity in pharmacy practice. This study provides research-informed guidance representing diversity within case-based learning materials. Findings support the notion that representation of diversity must be deliberate, conscientious, and collaborative with those offering diverse perspectives and lived experiences. Further work must be undertaken to help the Academy better understand how to foster students’ awareness of health equity to ultimately better prepare them to care for all populations.

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Author Contributions

BL collected data, analyzed data, and drafted the manuscript. KB collected data, analyzed data, and drafted the manuscript. VA conceived the idea, trained the data collectors, analyzed data, and edited the manuscript. EB conceived the idea, analyzed data, and edited the manuscript. AG designed data collection tools, analyzed data, and edited the manuscript. JG assisted with recruitment, analyzed data, and edited the manuscript. KW conceived the idea, led the project, oversaw data collection and analysis, drafted the manuscript, and managed the study budget.

Declaration of Competing Interests

None declared.

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