What can an Interprofessional Global Health Course with a Focus on Decolonization Bring to Students? A Qualitative Study

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Abstract

Many voices have called for dismantling the colonial legacies that permeate healthcare systems. McGill’s Interprofessional Global Health Course 2021 online edition adopted the theme of decolonizing global health. This study aimed to understand the perspectives of students enrolled in this course on a) colonial patterns embedded in global health, and b) future actions that students can take to decolonize global health. A qualitative descriptive methodology was employed. The study population included students who completed the course during the Winter 2021 semester. Following the last session, students were asked to answer four open-ended questions. The answers were analyzed thematically using inductive and deductive coding. Eighty-one of the 105 students registered for the course answered the questions and data saturation was reached after analyzing 24 answer sheets. Two themes emerged: the course informed students about the role of colonial legacies in shaping global health systems and the course helped students understand global health decolonization and plan to take relevant actions. To promote global health decolonization, future healthcare workers need to be sensitized to the ongoing impacts of colonialism. Healthcare education can serve this function through the examination and modification of curricula, but also through the employment of innovative educational approaches that help students reflect on their professional roles and responsibilities towards global health decolonization.

Keywords: decolonization, global health, health education, colonial practices

Introduction

Colonial and imperial relationships between regions and people have had lasting structural, social, and psychological impacts (1, 2). Colonial patterns continue to perpetuate power asymmetries that benefit certain groups, areas, and countries over others (3, 4). These colonial patterns even operate in subtle ways that divide the world when engaging in global health research and practice (5-7).

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To decolonize global health is “to remove all forms of supremacy within all spaces of global health practice, within countries, between countries, and at the global level” (8 p.1627). As such, global health decolonization calls for dismantling policies and structures that favor certain populations, areas, and countries over others (e.g., Global North over Global South) (9). This includes acknowledging and battling the lingering impact of colonial concepts that have shaped global health systems, namely settler colonial privilege, eurocentrism, and white supremacy (10).

While the literature on global health decolonization goes back to the 1970s (10, 11), such discussions did not figure prominently in scholarship or public discourse (12, 13). This situation has changed, particularly in the past five years. Scholarship has pointed to the ongoing problems of health disparity and the types of international responses to health emergencies. The COVID-19 pandemic has shed further light on power asymmetries stemming from colonialism that dominate all aspects of resource distribution (e.g., vaccines), as well as inequitable and discriminatory governance practices (13-15).

As such, several global health researchers and educators have called for decolonization in the education of health professionals, arguing that this would positively challenge the current depoliticized and historical approaches of teaching global health (16-20). In response, many health professional schools are working to decolonize global health curricula, employing “an interdisciplinary approach to revealing, analyzing and responding to the legacies of imperialism that permeate the healthcare system and create health inequities” (18 p.2). Similarly, the McGill Interprofessional Global Health Course (IPGHC) was offered with a focus on decolonization for the first time for the course’s 14th edition in the winter of 2021 (21).

To expand our understanding of postcolonialism in global health education, our team examined the perspectives of students enrolled in the 2021 IPGHC on: a) colonial patterns embedded in global health, and b) how the course might have informed actions students can take to decolonize global health.

**Interprofessional Global Health Course (IPGHC)**

The IPGHC is an interdisciplinary student-led initiative by McGill’s Global Health Programs in the Faculty of Medicine and Health Sciences, initiated to expand global health content across programs in the faculty. The course is open to students in different healthcare fields, such as dentistry, medicine, nursing, and physical and occupational therapy, as well as students in other faculties. The Winter 2021 edition of the course ran from January 12th to April 30th, 2021, on a virtual platform and was comprised of ten two-hour lectures given by experts in their fields. Topics discussed were introduction to global health; racism in health; health politics and policy making; global oral health; reproductive, maternal, and child health; Indigenous health; environmental health; global mental health; humanitarian health; and advocacy and global health. Speakers were asked to use a decolonizing lens when presenting their content. Students also had the opportunity to discuss, reflect, and share with their peers via activities during lectures. The course objectives were:

1. To increase student awareness of the global burden of diseases and the geopolitics of global health.
2. To increase student awareness of colonial patterns in global health systems, practices, and education
3. To expose students to the realities and challenges of decolonization that health professionals face in a global and local context.
4. To provide a framework for students to approach global health decolonization.
5. To encourage interprofessionalism by facilitating collaboration and communication amongst students.

**Methods**

**Study design**

We conducted a qualitative descriptive study to explore students’ understanding of concepts related to global health colonialism and decolonization. This exploratory methodology allows researchers to remain close to
the data and avoid “reading into, between, and over” the participants’ words as it seeks to understand and describe the meanings that participants attribute to an event or phenomenon and provide a comprehensive and coherent summary (22, 23).

**Participants and setting**

Eligibility criteria for participation in the study included 1) McGill students who were registered for the course, 2) who attended at least 8 out of 10 sessions of the course, and 3) who answered the question guide distributed at the end of the course as part of the course assignment.

**Data collection**

Ethics approval was provided by the Institutional Review Board (IRB) of McGill University (A12-E99-09B). Students provided written responses to questions informed by the literature on global health decolonization (6, 12, 13, 15) and relevant to the course’s objectives:

1. In what ways did this course enhance your knowledge of colonial practices in global health?
2. Based on your learnings through this course, what does decolonizing global health mean to you?
3. How did this course help you develop skills required for global health decolonization?
4. How do you see yourself integrating global health and its decolonization in your future practice?

Upon registering for the course, students were informed that answering surveys and questions would be part of the course assignments and that their answers might be anonymized and used for research purposes following McGill IRB guidelines and standards. We suggested a word limit of 200 words for each question but encouraged students to elaborate on their perspectives as desired.

**Data analysis**

We used a maximum variation sampling strategy which entails choosing heterogenous participants in terms of background and characteristics. This strategy increases the likelihood of covering the most diverse range of perspectives found in the larger population – an ideal in qualitative research (22, 24). As such, we consulted the answer sheets of students of various genders, educational fields, and study levels (see Table 1). Analysis was stopped once we reached data saturation, which is the point when new data does not generate new codes or themes (17).

We performed a thematic content analysis of students’ answers to the questions with the help of MaxQDA software. The analysis was guided by the World Health Organization (WHO)’s “Framework for tackling social determinants of health inequities”, which informs public health professionals’ actions on four levels: micro level (individual), meso level (community and institution), macro level (society and public policies), and globalization environment (global and international level) (25). Accordingly, we categorized students’ perspectives and suggestions for global health decolonization into four similar levels.

The analytic process included a combination of deductive and inductive coding of the transcripts (26, 27). We first drew codes from concepts related to the WHO’s “Framework for tackling social determinants of health inequities” (deductive coding) (28). Then, we generated codes during data interpretation, “without trying to fit the data to pre-existing concepts or ideas from theory” (inductive coding) (24 p.252).

To ensure the trustworthiness of results, we used triangulation, a “validity procedure where researchers search for convergence among multiple and different sources of information to form themes or categories in a study” (29 p.126). As such, our authors analyzed the same 24 answer sheets separately and later compared their codes and themes. This allowed us to examine data through different lenses and unify the results through discussions and consensus. We also held debriefing sessions with the faculty supervisors to improve the credibility of results and validate the codes and coding process (19).
Results

Of the 105 students enrolled in the course, 81 met the eligibility criteria. Analysis was performed on 24 answer sheets. There was an almost equal number of male and female students’ answer sheets analyzed, from the following healthcare fields: nursing, medicine, dentistry, physical and occupational therapy, and dietetics and human nutrition. Most students (20) were doing their undergraduate studies while a minority (four) were attending graduate programs.

We identified two themes after analyzing the data: the course informed students about the role of colonial legacies in shaping global health systems and the course helped students understand global health decolonization and helped inform future planned actions towards decolonization.

The course informed students about the role of colonial legacies in shaping global health systems

The students stated that the course helped them realize the extent to which colonial legacies shape and influence current health systems and the mechanisms through which colonial ideals permeate these systems on local and global scales. The students also learned about white supremacy and saviorism, male dominance, and Eurocentrism, which still favor and maintain colonialism and dominate local and global health systems, structures, and practices.

This course has significantly enhanced my knowledge of colonial practices in global health. It has made me understand that the entire field has originated from Tropical Health which was mediated by wealthy countries to provide medical attention to their troops in the colonies. (Student 7)

The course also helped students understand the role of colonialism in shaping global health agendas and policies. For instance, they reported learning that global health stakeholders have historically favored the Global North over the Global South, attributing more resources to the former while disregarding the latter’s expertise.

Table 1. Demographic characteristics of participants.

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<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>11 (45.83)</td>
</tr>
<tr>
<td>Female</td>
<td>13 (54.17)</td>
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<tr>
<td>Educational Field</td>
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<tr>
<td>Nursing</td>
<td>6 (25.00)</td>
</tr>
<tr>
<td>Medicine*</td>
<td>6 (25.00)</td>
</tr>
<tr>
<td>Dentistry</td>
<td>4 (16.67)</td>
</tr>
<tr>
<td>Dietetics and Human Nutrition</td>
<td>2 (8.33)</td>
</tr>
<tr>
<td>Physical or Occupational Therapy</td>
<td>6 (25.00)</td>
</tr>
<tr>
<td>Study Level</td>
<td></td>
</tr>
<tr>
<td>Undergraduate studies</td>
<td>20 (83.33)</td>
</tr>
<tr>
<td>Graduate studies (MSc/PhD)</td>
<td>4 (16.67)</td>
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* This included students enrolled in the medicine, family medicine, and medical preparatory programs.

Previously, I thought that the presence of practitioners from high-income countries is vital. However, I learnt that local practitioners have a better understanding of local diseases and their treatment. There shouldn’t be any systems of supremacy present because both the low/middle-income country healthcare professionals and the high-income country health care professionals have their expertise to bring to the table. (Student 2)

Furthermore, the students stated that the course allowed them to think about colonialism as a structural determinant of health and recognize its health impacts on marginalized groups such as BIPOC (Black, Indigenous, and other People(s) of Colour), and LGBTQ+ (Lesbian, Gay, Bisexual, Transgender, Queer +) communities. Students also recognized the direct health impacts (e.g.,

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</tbody>
</table>

* This included students enrolled in the medicine, family medicine, and medical preparatory programs.
racial stressors or intergenerational trauma) and health inequalities these groups face due to colonialism.

*Through this course I learned that the health inequities that we see today within Black and Indigenous communities stem from decades of slavery and sidelining that have kept those communities disadvantaged.* (Student 3)

In summary, students expressed that the course fostered reflection on the interwoven patterns of colonialism in global health and its impact on marginalized populations and the Global South. They noted that the lectures challenged the assumptions of current global health policies and programs, particularly their potential to achieve health equity for all.

*[…] options that are offered to us (healthcare professionals or students) as global health opportunities (e.g. humanitarian aid trips and volunteerism) are not necessarily the best way to make a real change towards justice and equality.* (Student 16)

The course helped students understand global health decolonization and informed future planned actions towards decolonization

The course deepened the students’ understanding of global health decolonization, which they perceived as a range of multi-agency actions that aim to dismantle the interwoven colonial patterns in global health systems, structures, and programs. Having the WHO’s “Framework for tackling social determinants of health inequities” in mind, we organized students’ perspectives regarding global health decolonization on four overlapping levels (see Figure 1): micro level (healthcare professionals’ direct actions); meso level (healthcare professionals’ community actions); macro level (actions aimed at changing the sociopolitical structures and healthcare systems); and global level (actions aimed at changing the global health structures and programs).

Most actions identified by students on the first two levels referred to the roles and responsibilities of healthcare professionals. On the next two levels, however, they shifted their focus towards other stakeholders. They held the local and societal leaders, healthcare educational bodies, and proximal global health units accountable for large-scale actions and structural changes.

1. Micro level (healthcare professionals’ direct actions)

The micro level represents the direct actions that healthcare professionals engage in for decolonizing their worldview and healthcare practice. On this level, students indicated that practitioners should self-reflect and identify their privileges and biases, which can foster humility and motivate them to act in solidarity with people from marginalized and diverse groups. It also enables practitioners to identify and address the potential power

![Figure 1. Students' perspectives regarding global health decolonization.](image-url)
imbalances that might affect their therapeutic alliance with patients.

Following these lectures that have opened my eyes to many issues, I will keep growing my awareness of these problems as to deconstruct any biases I might have and to advocate for those I care for in my future nursing practice. (Student 4)

Students identified that practitioners should provide patient-centered care by understanding the patient’s social determinants of health and how colonialism might have directly or indirectly impacted them. Items mentioned included learning about the impact of colonialism on marginalized and minority groups to avoid victim blaming. Students indicated that practitioners should foster an empathetic and culturally safe environment and engage patients in shared decision-making.

2. Meso level (healthcare professionals’ community actions)

On this level, students indicated that practitioners should first learn about the communities in which they practice, which includes understanding their cultures and knowledge systems while also understanding how these communities perceive concepts such as illness, health, and treatment. Students believed this would enable practitioners to better identify the community’s unique needs and expectations. It would also allow practitioners to decenter their practice from Western to local and provide community-based care.

Quality healthcare looks different from place to place, depending on the people, cultures, languages, values, etc. Ensuring that all who need it can receive quality healthcare affordably, and in a way that respects their beliefs, cultures, and choices, is part of decolonization. (Student 9)

Furthermore, students suggested that practitioners should identify and fight against the discriminatory patterns in their own communities. For instance, practitioners could collaborate with community leaders and organizations that promote equity and diversity and that support minority and marginalized groups. Students believed that this would provide a space for mutual exchange of knowledge amongst practitioners and community representatives; here, practitioners could voice their patients’ healthcare needs and advocate for including their perspectives in local plans. While this point was raised by multiple students, it was interesting to note that colonial patterns still at times tinted actions students envisioned would increase the involvement of local healthcare practitioners.

I would like to see more opportunities for marginalized and vulnerable groups to become involved in global health... We require these individuals to bring back the knowledge to their communities, rather than constantly having outsiders “colonize”, and speak on their behalf. (Student 5)

3. Macro level (actions aimed at changing the sociopolitical structures and healthcare systems)

The macro level represents the actions that one must take to decolonize health at a societal level, including within sociopolitical structures and healthcare systems. While some students explicitly referred to the roles and responsibilities of healthcare practitioners at this level, others highlighted the required actions without explicitly attributing the responsibility to a certain agency (healthcare professionals, community leaders, healthcare educational bodies, global health units, etc.).

On this level, students suggested that practitioners should understand and navigate the ways in which colonialism has shaped the socioeconomic structures and dominated policy-making processes, namely a lack of diversity among the key decision-makers, constantly favoring certain groups and populations over others, and discriminatory resource distribution. According to students, practitioners should also advocate for social and political changes geared towards decolonization, as this would positively affect communities’ social determinants of health and contribute to better healthcare access.
To me, decolonizing global health means to eradicate hegemonic power within health structures, and any other societal structure that may influence health such as social, political, judicial, and even religious structures. (Student 16)

Furthermore, students felt that practitioners should learn about colonial patterns that have historically shaped, and still dominate, the healthcare system, and advocate for inclusive health policies and practices. For instance, many referred to structural racism and sexism in healthcare centers, which manifests as discriminatory behaviors towards marginalized and minority groups. Students explained that such patterns could discourage these individuals from seeking help or result in the dismissal of their signs and symptoms as “pretentious” or “attention seeking”. They also highlighted that governments and healthcare units have a duty to systemically address these issues.

Students believed that practitioners should also reflect on their healthcare education and practice and engage in improvement where necessary. One participant argued that medical education does not equip students with the necessary knowledge and skills for treating People(s) of Colour as most guidelines regarding skin conditions are designed to assess and evaluate light-colored skin, while little to no information is provided on assessing skin conditions in People(s) of Colour.

Teaching material may unconsciously perpetuate colonialist education. For example, medical manuals may focus on White patients and omit important information about non-White individuals..., many research papers fail to incorporate minorities or marginalized communities into their work, reinforcing colonial practices. As science shapes the future of academia, it is essential to make it inclusive rather than exclusive. (Student 17)

According to the participants, healthcare practitioners should address this by advocating for changes in the medical curriculum. Students also felt that healthcare educational bodies have a duty to move towards more inclusive curricula and invite more students from marginalized and minority groups to pursue healthcare professions. Students mentioned one way to do this was to create a safer and more inclusive educational environment for these students.

As one of the students sitting on the McGill Medicine admissions board, I want to continue to contribute and work on the amazing initiative started by my fellow peers, which is to include a Black students’ admissions pathway. This will hopefully lead to more Black physicians in Canada, that can then advocate on behalf of their community in practice, rather than others who have not lived this experience... (Student 24)

4. Global level (actions aimed at changing the global health structures and programs)

The global level represents the decolonization actions that must be taken on an international level. Similar to the macro level, students elaborated on the actions needed for change but did not always specify which individuals or agencies should be held accountable for them.

On this level, students perceived that practitioners should learn about the impacts of colonialism in shaping global health structures, policies, and programs. For instance, they should learn about the key concepts that favor and maintain colonialism as well as “colonialism indicators” in the proximal global health units, as discussed before. Students indicated that gaining such insight would eventually motivate practitioners to advocate for dismantling colonial structures and developing inclusive policies and programs. Students elaborated that while these learnings could partly occur through self-directed learning, healthcare schools have a duty to address the existing curriculum gap in this regard.

This course has showed me that the first step in decolonizing global health is recognizing the implications of the structural legacies of colonialism. The awareness of the impact these have on inequalities can help encourage
discourse on colonialism as to be able to decolonize practices in health. (Student 12)

Furthermore, students highlighted that proximal global health units should reconsider and even reform their plans and programs. They explained that these health units should abolish any colonial structures that prevent equitable distribution of resources and the unequal favoring of certain populations/countries over others. According to the students, these proximal health units should also invite people from marginalized groups to be part of their decision-making committees and let the knowledge and expertise of each community/country lead the healthcare programs related to that region. Students particularly highlighted the need to reconsider programs that, intentionally or not, impose Eurocentric healthcare services on the Global South and are based on concepts such as “white saviorism”, namely some humanitarian aid missions.

Women of the global south must be the leaders of this movement. It is only when those that are affected most by global health inequities are at the forefront of leadership that decolonization can actually occur. (Student 4)

Discussion

In recent years, universities have increased the opportunities available to students to train in global health; however, very few offer a specific focus on decolonization. Many tend to focus on other ethical aspects such as the maintenance of long-term partnerships, the safety of practitioners, and conflict management, but never broach the concept of colonization and its importance in global health education (30, 31). Many others have advocated for the need to move further and include teaching about the history of colonial medicine and other aspects needed to encourage decolonizing global health (32, 33). Our findings show that McGill’s IPGHC 2021 addressed this issue by raising the students’ awareness of colonization in healthcare and sensitizing them to the impacts of colonialism on local and global healthcare structures, programs, and education. It also empowered students to envision health decolonization and relevant actions for abolishing colonial practices integrated into health. These learnings are in line with what several global health decolonization activists have advocated for in the literature (13, 34-37).

Unique insights on global health decolonization were identified through our study. Students expressed the importance of a range of multi-agency actions that aim to dismantle the interwoven colonial patterns in global health systems, structures, and programs. We found that the actions being identified could not be separated from the concept of decolonization itself. However, we also found that colonialist patterns are so deeply embedded in the thought process surrounding the delivery of global healthcare that certain actions students posited as decolonizing still maintained colonizing power dynamics. Inspired by the WHO’s “Framework for tackling social determinants of health inequities” (25), our findings illustrate a similar framework for decolonizing global health on the micro, meso, macro, and global levels. We found this to be a useful framework to organize the different approaches to global health decolonization.

Furthermore, our findings reveal that the healthcare students in our study tend to recognize their professional responsibilities towards health decolonization on the micro and meso level, including interactions with patients and community actions. However, they seem less certain about the macro and global levels and might shift the locus of responsibility towards other agencies such as educational systems, governments, and global health units. This is not surprising since there is debate in the literature about where clinicians’ social duties end and what can be expected from them in terms of public engagement (38, 39). However, recent emphasis on the structural, political, and commercial determinants of health might serve to expand the pathways to action to address decolonization of global health education. Educators can make concerted efforts to articulate the associations between colonial patterns and existing structural forms of governance that perpetuate disadvantages for certain regions and peoples. Scholars continue to make these associations (40, 41) and this literature will serve to expand the scope of consideration.
and action fostered in global health education.

Indeed, although the professional bodies of global health have a duty to address decolonization, there is general agreement on the relevance of engaging healthcare professionals in the process (42-44). As various authors have suggested (45, 46), healthcare professionals should identify colonialism among distal determinants of health, which are defined as “the causes of causes for unjust life situations for certain groups or people over others” (3 p.1).

A decolonizing approach to health professions education can prepare students to identify and dismantle colonial legacies interwoven in the healthcare systems. We believe that the importance of addressing decolonization at various points in healthcare curriculum lies in the demonstration that a single instance (such as our course) is not sufficient to begin to reimagine and reconstruct global health education. Innovative, engaging pedagogies such as “transformative learning approaches” (47) that allow students to become “critically conscious” about this topic through reflecting on their assumptions about colonial legacies in healthcare, analyzing the ways that these legacies influence health, and imagining actions for dismantling them can be interwoven in curricula.

Limitations

One of the limitations of this study was that the constraints of designing a data collection tool that fit within strict course requirements. Therefore, the assignment’s format did not allow for much depth and breadth in answers as the word limit (800 words) reduced the students’ ability to elaborate on their dissertations. Regardless, the questions’ open-ended nature and the high number of participants (48) allowed for appropriate data collection. A second limitation is that our findings are not necessarily generalizable as the research has been done in the specific setting of the McGill IPGHC. However, they can be translated to different contexts depending on their degree of similarity with our setting (22).

Conclusion

This study showed that a university interprofessional global health course with a focus on decolonization helped raise awareness among students in health-related fields about the impacts of colonialism on current healthcare systems. The course also enabled students to describe and identify actions required for global health decolonization at the micro and meso levels as well as attribute actions to global health actors. However, students had more difficulty identifying institutions or resources to act on the macro and global level.

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Data availability statement: The data that support the findings of this study are not openly available due to ethical considerations aligning with the instructions of the McGill Faculty of Medicine’s Institutional Review Board. However, multiple anonymized data segments have been added to the manuscript (see quotations in the findings section).

Conflict of interest: The authors certify that they have no affiliations with or involvement in any organization or entity with any financial or non-financial interest in the subject matter discussed in this manuscript.

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References


