Original Research Paper

Contextual factors in US-Mexico border health professions education

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Abstract

Background: The aim of our study was to identify the significant factors that must be addressed in health professions education to prepare students for contextually responsive practice. **Methods:** We conducted in-depth, semi-structured interviews with 18 participants: five teaching faculty, nine who served in leadership roles in higher education, and four community practitioners. The participants identified contextual factors that need to be addressed for contextually responsive practice. **Results:** Health care professionals must be cognizant of cultural factors that limit cross-cultural communication and trust between providers and patients, as well as understand the structural and systemic factors that impact health such as income, employment, lack of insurance, lack of transportation, the role of social determinants of health, and the lack of healthcare access.

Keywords: contextual factors, health professions education, cross-cultural communication, health disparities, barriers to health care access, US-Mexico border

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Introduction

Healthcare professionals must be equipped to work within diverse communities to identify and address health disparities. Patients' race, ethnicity, gender, language, education, and age lead to implicit bias and differential treatment in clinical practice, thereby contributing to existing health inequities.[1-3] Each healthcare seeker is situated in a unique context, which includes cultural and socioeconomic conditions.[4] The cultural dimension determines the values, customs, religious beliefs, and individual or collective identities, which in turn shape the individual and community-level healthcare experience. Failure by a healthcare provider to recognize these factors can affect communication and decision-making, leading to low quality of care, poor treatment adherence, patient dissatisfaction, and thereby health disparities.[5-7]

The U.S.–Mexico border is one of the fastest growing regions in the nation. The region under consideration is situated on the U.S.–Mexico border and is one of the largest international border metroplexes in the world. In addition to the cultural dimension, structural and systemic factors such as unequal access to education, low-income status, high rates of unemployment, high percentage of uninsured population, and limited resources are contextual realities that act as barriers to healthcare access and exacerbate the health disparities in the region.[8-12] Due to their unique social determinants of health (SDOH), healthcare seekers in the border region, especially underserved groups, are at a greater risk of facing discrimination. Therefore, the health professionals practicing in the region need to be sufficiently prepared to provide contextually responsive care to meet the needs of local populations. Contextually responsive practice considers the social, cultural, institutional, temporal, economic, geopolitical, spiritual, and historical elements that impact the health of patients.[13]

Effective health professions education must address the local context, including socioeconomic, geopolitical, and historical factors. However, there is little research on how educators prepare students to engage in contextually responsive practice, and even fewer studies specific to the U.S.–Mexico border region.[14-16] This gap creates a challenge for health profession educators in the region. The aim of our study was to identify the factors to be addressed in health professions education in the region to support contextually responsive practice.

Methods

Study Design

We used a phenomenological design to explore the perspectives of educators, leaders in academia in one of the participating institutions, and community practitioners as they prepared health professions students (referred to as students here on) to engage in contextually responsive practice.[17] The educators and leaders were affiliated with the two leading academic institutions in the study region. We used purposive and snowball sampling until we reached data saturation. Of the 18 participants interviewed, five were teaching faculty, nine served in leadership roles in higher education, and four were community practitioners. The study was approved by the institutional review board of both institutions.

Context

This study was completed in a U.S. city located on the U.S.–Mexico border. The region in the study (population of 865,000) and its sister city in Mexico (population 1.5 million) creates one of the largest international border metroplexes in the world.[18] According to the U.S. Census Bureau, the region in the study is 82.9% Hispanic or Latino, 4% Black or African American, 1.1% American Indian or Alaska Native, 1.4% Asian, 0.2% Native Hawaiian or other Pacific Islander, and 11.6% White, and 68.3% speak a language other than English at home.[19] About 42% of the residents are uninsured.[20]

Data Collection

In-depth semi-structured interviews ranging from 30 minutes to 1 hour were conducted by the researchers to identify participant perspectives on preparing students for contextually responsive practice. Follow-up interviews were held for clarification. After interviewing all participants, we conducted a preliminary analysis of the data. To allow for in-depth analysis of the data and to ensure data congruency, we held two focus groups to share the preliminary results and gather participant feedback. All interviews were conducted over teleconference applications such as Zoom and were audio recorded. We used professional transcription services to transcribe the recordings.

Data Analysis

We conducted a thematic analysis as described by Braun and Clark to examine the transcriptions of the interviews and focus group.[21] At least two researchers read all transcripts and open-coded the transcripts using an inductive approach, assigning categories to the transcript text by reviewing line by line. All researchers then compared codes and created an initial codebook containing codes and definitions. This process was repeated iteratively to create an updated codebook. The codes from the codebook were used to elicit emerging themes. To establish an audit trail, each researcher kept a log documenting analytical questions and potential themes throughout the process. The team also kept a research journal to document group decisions and to aid reflexivity.

Results

Role of Local Contextual Factors in Contextually Responsive Care

Many participants agreed that part of the mission to educate students in the region should include preparing students to serve the region's unique population. They emphasized that students need to have a broad understanding of the local context and culture to practice effectively in the region. According to one participant, a prerequisite to providing contextually responsive care in the region is a willingness to listen to patients and their stories with empathy.

The researchers categorized the identified contextual factors into two categories: 1. Cultural or linguistic factors that limit cross-cultural communication and trust between providers and patients. 2. Structural and systemic factors such as socio-economic status (SES) or SDOH such as employment status, lack of insurance or challenges with transportation that can affect access to timely and quality healthcare.

Cultural and Linguistic Factors

Participants identified several cultural and linguistic factors that students must understand to be contextually responsive practitioners. These factors include understanding the unique demographics of the region, language barriers, preferred use of

alternate medicine, the role of the family in healthcare decisions, trust in healthcare providers, and cross-border healthcare use.

A Unique Bi-National Community

Although participants acknowledged the population as majority Hispanic and Spanish-speaking, they discussed the need for students to understand the diversity and cultural nuances within the Hispanic population and the presence of other cultural groups in the region. Participants emphasized that the term "Hispanic" may not necessarily mean Mexican American and could include African American Hispanics, or South or Central American Hispanics. One participant commented, "Every person who self-identifies as Latinx or Hispanic can be very different, depending on where they are from, how long they've been in this country, and how they have or have not assimilated." The participants acknowledged the presence of other distinct groups in the region, including the Native American tribes, the LGBTQ+ population, and people with disabilities. The region, one of the most militarized borders in the world, attracts military communities, refugees, and asylum applicants. The academic and research institutions in the region attract an international population of students and skilled immigrant workers. Participants noted that students should be able to identify how immigrant generation status (first-generation, second-generation, and so on) influences attitudes related to health behaviors.

Language Barriers

Nearly all participants mentioned that students must appreciate the importance of conversing with the patients in their native language to provide contextually responsive care. Knowing Spanish was seen as key to connecting with patients in a region with limited availability of certified translators. Participants recalled how a Spanish curriculum designed for the medical school was supported by several faculty members, including the previous director of the psychiatry program. One educator stated, "I always remind the students to have the patient paraphrase what they heard, especially when you're giving them very serious news – to make sure that they understand." This stresses that it is not enough to communicate with the patients, but it is more important to make sure the conveyed message is well-received by them. Some educators stated that students must learn the importance of using translators as a means of ethical practice in the border region, especially when many students may not be fluent Spanish speakers.

Use of Alternative Medicine

Participants recognized that the use of alternative medicine is popular among the local population in the region. For example, homeopathic remedies like *el cono*, or ear candling, may be used for an earache, "herbal supplements and teas [may be used] rather than taking ibuprofen or acetaminophen," or "arnica ointment as an anti-inflammatory". Patients in the region may first approach a native healer (*curandera/o)* before visiting a formal healthcare setting. Rather than being dismissive of patient preferences, participants recommended that students should be aware of alternative medicine use as a supplemental option, so they can better help their patients.

Role of Family

Most participants mentioned that students must understand that family plays an important role in medical decision-making since many patients in the region live in multigenerational households. Multiple members of the family are involved in the patient's care, including patients' access to care and their adherence to medical recommendations. If there is a language barrier, there may be "one designated person that needs to go in to ask all the questions and get an understanding of everything, to then disseminate the information to the rest of the family." One participant highlighted how this can affect the architectural design of examination and consultation rooms:

> In pediatrics, you're not just going to see *parte de la famili*a such as the mother and the child. You're going to see the mother, the child, the grandmother, sometimes the adopted auntie …; examination rooms [in the region] are designed to be much larger than the architectural standards.

Participants illustrated how while family can be of support, they can also hinder efficient patient care:

> Most discussions will go back to a family setting to discuss the pros and cons of the treatment. [The patient] will tell you that their son, daughter, or sister heard from a church member or the internet that Metformin can affect your liver or kidney and told them to stop taking it, and so they

> chose to stop taking it because they got scared.

Trust in Healthcare Providers and Cross-Border Healthcare Use

Patient–provider trust affects quality of care and health outcomes. For some patients, feeling comfortable and having a good relationship with a provider could be more meaningful than the perceived competency of the provider. In the case of mistrust, patients may initially agree to a certain treatment plan but then reach out to community workers or spiritual leaders whom they trust to find alternatives. To quote a participant:

> Trust is a huge thing with communities of color. Trust and rapport building, just being aware of that, makes us more grounded. We strive to make sure that our patients feel safe, that they leave with an understanding of their plan of care, what's to come next, that aids in that trust factor and they want to come back.

Participants mentioned that some residents have the unique opportunity to access and utilize health systems both in the U.S. and Mexico, owing to their proximity to the border. Patients may use healthcare systems in Mexico because of the low cost of prescriptions, less wait time to see physicians, and perceived comfort with healthcare delivery due to cultural appropriateness. One participant mentioned that mere access to the two health systems may increase the likelihood of accessing care on both sides:

> When the pandemic is not present, many of our patients receive primary care across the border. It's cheaper, we can get prescriptions for much less. The language is spoken easier. It's much more culturally appropriate. Hours are more convenient, say the doctor is next door at 8:00 p.m. [Patients] could be more comfortable with the way care is delivered in Mexico.

Structural and Systemic Factors

Participants identified several structural and systemic barriers, such as SDOH and low socioeconomic status (SES), as the potential reasons for the health disparities in the region. Health disparities and associated variation in disease burden in the border region were acknowledged by participants:

> Certain health disparities and health conditions are more prevalent than others in the Hispanic population. It can also be not only Latinos but also border county residents versus non-border county residents. We see that even among non-Hispanic whites residing in the region.

There was recognition among participants that students need to understand how an individual's SDOH, such as economic stability, education status, healthcare access, neighborhood, and built environment influence health outcomes. Patients with economic challenges may have competing needs that affect their health-seeking behaviors. Participants discussed how understanding such socioeconomic factors helps the future providers´ approach, to understand their patients' needs, provide better resources, and even change the care plan:

> We know junk food is a lot cheaper than organic or anything healthy. I hear a lot of providers tell their patients: "I realize you can't afford going to the gym, but I want you to be physically active, go outside, just walk around your neighborhood." But some areas might not have sidewalks. There might be a lot of stray dogs and crime.

This example illustrated the need for students to understand structural and systemic barriers to health that may not be immediately apparent. Another participant mentioned:

> Your zip code is more important than your genetic code, and you have to learn both; you have to learn a little bit about the zip codes, where our patients are coming from, about epidemiology and the concept of prevalence and incidence [of disease in a population].

Employment Status and Income

Participants wanted future professionals practicing in the region to understand the "tremendous impact of limited infrastructure and poverty on people's health, lives and the pursuit of health". They emphasized that the practitioners in the region should recognize that patients who may be missing appointments or lab work may not necessarily be non-compliant but were more "likely to be involved

in hard laborious work, prioritizing putting food on the table or purchasing a medication."

One of the participants explained how they would appropriately approach patients to understand why a patient might not be taking a medication:

> If you are in any place where people tend to be of lower socioeconomic status, it's something that you must consistently think about when you are prescribing medications. If I know a patient cannot afford a medication, I won't mention that medication to the patient. Especially if I have effective alternatives for managing their disease.

Insurance Status

Immigration is a defining feature of the region under consideration, and participants acknowledged the large population who are uninsured, under-insured, or undocumented, resulting in longer wait time to access healthcare. One participant shared an example of how the under-insured face financial barriers and why students must understand that insurance coverage can be the limiting factor in patient access to care:

> Sometimes people think that when they're insured their healthcare is taken care of, but they might have a $10,000 deductible. So, patients don't understand it and there's sticker shock realizing that every time they must come to see [the practitioner], they have to pay $25.... And so now you're going to have an issue of compliance if patients can't afford to come to see you.

Transportation

Community practitioners interviewed in the study mentioned transportation as a barrier to accessing care, especially with the elderly population who depend on others to make it to their appointments. "While individuals want to be able to come to the clinic, they're not able to because of transportation issues. …There's a higher rate of cancellations of appointments because of transportation issues." One creative way community practitioners have worked around this issue, especially during the pandemic period, is to take their services out into the community. One practitioner explained, "So, we're taking the team that we developed to administer [COVID-19] vaccines, to Dollar Generals, to flea markets, to Food City."

Lack of Access to Healthcare

Shortages of service availability and healthcare providers were mentioned as barriers to healthcare access. One participant described the region as a health professional shortage area where patients may not have access to specialty care. When patients need specialized care not provided within the region, they have to travel to other cities several hours away. Another participant expressed his concern regarding the lack of primary care providers available for the total population of the region:

> Even if people take agency in taking care of their health, there are challenges in being able to [reach] providers. The region is always ranked the top five most underserved for medical care in the nation.

Discussion

In the current study, healthcare practitioners, educators, and leaders from two higher education institutions in the US–Mexico border region identified factors required for contextually responsive practice. According to them knowledge of cultural factors that affect healthcare as well as the structural and systemic factors that impact health, such as income, employment, lack of insurance, lack of transportation, the role of SDOH, and the lack of healthcare access are all of importance.

Participants in this study stressed the importance of speaking their patients' language in a community where a majority of patients speak Spanish and the need to work collaboratively with an interpreter if required.[22] Communication barriers in the region, as illustrated in this study, however, are not limited to language and can lead to disparities in care.[7,23] Cultural factors like *confianza*, or trust, in the relationship with the provider and the use of alternative or traditional medicine contribute to the population's experience of health.[24,25]

When providers fail to take sociocultural factors into account, they may stereotype their patients, which can affect their behavior and clinical decision-making. Limitations in effective communication and trust between providers and patients can lead to patient dissatisfaction, compromised comprehension and adherence to medications, and poor health outcomes.[26-28] Proximity to the U.S.–Mexico border enables some patients to be more actively engaged in their care and is a complicating factor for healthcare providers. Previous studies have shown that healthcare seekers go to Mexico to supplement their care to achieve what they believe to be optimal care results.[29-32] Patients may seek care in Mexico if they are dissatisfied with initial care in the U.S. Some

patients choose the location of care based on the type of healthcare needed, seeking Mexican specialists when U.S. doctors fail to refer to specialists or prescribe certain pharmaceuticals.

Therefore, practitioners in the region should be familiar with the health practices and beliefs of different communities, demonstrate respect for these beliefs, and model effective cross-cultural communication and negotiation. History taking should not be limited to medical history but should span cultural and social factors, including the patient's health beliefs, to ensure effective shared decision-making. Despite its importance, health professions education programs still lack curricula to address cultural differences between patients and practitioners.[33-35] Awareness of the cultural preferences of local communities is a prerequisite to informed intercultural interactions and the delivery of culturally safe health services.

Structural and systemic factors such as low household income, unemployment, limited access to resources including healthcare or higher education, and immigration and insurance status exacerbate health disparities.[8-11,31,36-40] Possessing an understanding related to the SDOH and SES of patients is of vital importance for practitioners in the U.S.–Mexico border, a multi-cultural region influenced by the health policies of governments in two countries. Participants recognized that people in this community experience increased disease burden. Previous studies suggest that the border region is associated with a lower likelihood of healthcare access.[41,42] For example, Hispanic residents in the U.S.–Mexico border are known to have less access to healthcare than their inland counterparts and significantly lower odds of having health insurance.[8] Findings highlight the need for policies and initiatives to improve minority healthcare access in the region. A Cross-Border Utilization of Healthcare Survey suggested that immigrants were more likely to be uninsured than native-born counterparts, and adults without health insurance coverage are more likely to access cross-border healthcare, purchase medications, or visit physicians in Mexico compared to insured adults.[38]

Several environmental factors, in addition to structural factors, could affect health equity, including the prevalence of communicable and non-communicable diseases such as tuberculosis, HIV/AIDS, and diabetes among certain populations.[43] This suggests that health professionals practicing in the region should be aware of the structural and systemic issues that contribute to the high prevalence of health disparities inherent to the region. They must be able to use epidemiological principles to assess and evaluate the distribution and determinants of disease. They should be able to recognize the impact of environmental and behavioral factors on the health of individuals and populations and apply epigenetic principles for reducing health disparities.

Knowledge of the structures behind the identified local contextual factors is essential for understanding health disparities.[44-46] It can inform the medical management of vulnerable patients by helping practitioners to recognize structures and to learn to plan and propose suitable interventions by collaborating with multiple stakeholders.

The findings of this study emphasize the necessity to develop skill sets to recognize and respond to such structures. Themes of this study, such as seeking cross-border health care, the effect of insurance status, and transportation on patients' health-seeking behaviors, suggest that practitioners should be equipped to recognize the effect of socio-political or economic factors on health care. Several issues related to SDOH and SES brought up by the participants in the study, such as unsafe neighborhood, food security, transportation, immigration, or insurance status, require collaborative work between health professionals, such as doctors, nurses, pharmacists, social workers, rehabilitation professionals, public health professionals, and policymakers. Interprofessional collaboration among health professionals, social anthropologists, sociologists, urban planners, economists, etc., may be required for proposing solutions for problems where structural violence and vulnerability influence medical decision-making and the resulting quality and access to healthcare.

Limitations

The participants in this study were limited to educators, education leaders, and community practitioners from a specific U.S.–Mexico border region and therefore, may not be generalized, but can be transferrable to other similar contexts. In the future, a more collaborative partnership among underrepresented populations from the community and health professions students as participants in the study would be desirable.

Conclusion and Future Directions

The findings of this study point to the need for contextually responsive practitioners considering the disparate impact of health conditions and social determinants on underserved communities on the U.S.–Mexico border. Co-creating curricular interventions informed by culturally diverse perspectives is known to ensure sustainability.[34,47] Given the results, we will design and evaluate the

effectiveness of a curriculum to address the contextual factors identified in this study, including the cultural, linguistic, structural and systemic factors. We will explore the best pedagogical strategies to effectively implement such a curriculum.

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