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A MULTICULTURAL EXPERIENCE IN A CONFLICT ZONE: WHAT MEDICAL STUDENTS CAN LEARN

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Abstract: As globalization continues, medical educators must acknowledge the increasing need to create safe spaces for students to incorporate global citizen competencies. Short international experiences are a way in which students can acquire these features. The study aimed to evaluate cultural competency learning during an international activity situated in a conflict zone environment that embraces health innovation. The method approach was an explanatory sequential mixed method design. The quantitative instrument was a survey (Cronbach alpha 0.74) with 27 items with 5 Likert scale from totally agree to totally disagree, addressing the four dimensions of cultural competence: conflict resolution, peace appreciation, multiculturalism, and health innovation. The qualitative phase was implemented with individual interviews with participants. A total of 19 medical students from Monterrey and Mexico City with an average age of 22.73 (±3.42) participated in an immersive program for observation, active listening, and analysis of Israeli and Palestine narratives. Descriptive analysis indicated that the most impacted areas were health innovation (4.83 ± 0.032, $p<0.001$) and multiculturalism (4.80 ± 0.02, $p<0.001$). Interviews mostly drew positive impressions regarding the development of health innovation and multiculturalism skills. The participation of students in a short trip to a conflict zone conflict inspired them with multicultural skills and a broader perspective regarding innovative problem-solving strategies in healthcare systems.

Keywords: Multiculturalism, global citizen competencies, health innovation, conflict resolution, peace, global health, cultural competency

Introduction

As globalization continues spreading around the world, medical students require learning experiences to develop global citizenship competencies, to prepare them on their rights and responsibilities as a member of a multicultural society. The Association of American Medical Colleges (AAMC, 2005) denominates cultural competence as a set of behaviors, knowledge, attitudes, and policies that interact in a system, organization, or professionals to perform collaborative work in cross-cultural situations. According to Freitas-Junior *et al.* (2019) in health professions education, cultural competence addresses recognition from cultural and linguistic barriers to health care. With the intention of preparing undergraduate medical students, curricula should develop students' cultural awareness on issues regarding religion, ethnicity and healthcare disparities (Lypson *et. al* 2008). Conflict zones have geopolitical conditions, a history of confrontation, and other multicultural characteristics that represent destinations for acquiring this competence. Israel was selected as a destination for the

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international academic program to experience the positive results of geopolitical conflict resolution, relate with people affected by the situation in the zone, compare multicultural characteristics, and connect with advanced health innovation centers.

Educating health care professionals on cultural competence refers to developing a sensible, civic, inclusive, and empathetic human being aware of multicultural meanings for healthcare services to collaborate and innovate as a global citizen. Perkinson (2019) describes cultural competence as a multifactorial concept that integrates into a single process of developing cognitive, affective, and behavioral abilities. In the cognitive dimension, the individual gets to know his own and other cultures, in the affective domain, empathy plays a significant role, and in the behavioral domain, the individual knows how to interact in different cultural contexts. According to Deardorff (2009) it is not enough to send someone into another culture to study and expect him or her to return multiculturally competent; it is necessary to build relationships through observing, asking, and listening to people from different backgrounds.

Several medical schools around the world have incorporated international academic trips into their curriculum to promote cultural competence. International experiences may improve this competence through exposure to different health care systems and views of medicine (McKinley et al. 2008). Interest in global issues, multiculturalism, and innovation is increasing, and several academic tours or short-term medical mission trips are providing students opportunities to gain insight into different healthcare systems and other approaches to history, culture, and science.

Immersion experiences in global contexts are valuable since they provide significant personal growth impossible to reproduce in a regular classroom. Relationships based on respect and trust become essential building blocks in developing these authentic connections to learn from each other (Deardorff, 2009). Interprofessional capability requires sharing knowledge of different cultures' beliefs to promote good practices.

Students require enough cultural and biomedical background to interpret similarities and differences from their context. The international interactions in a conflict zone can address issues such as peace appreciation and conflict resolution. The proposed model for the present study declares four dimensions for developing cultural competence for health in a conflict zone: conflict resolution, peace appreciation, multiculturalism, and health innovation, as presented in figure 1.

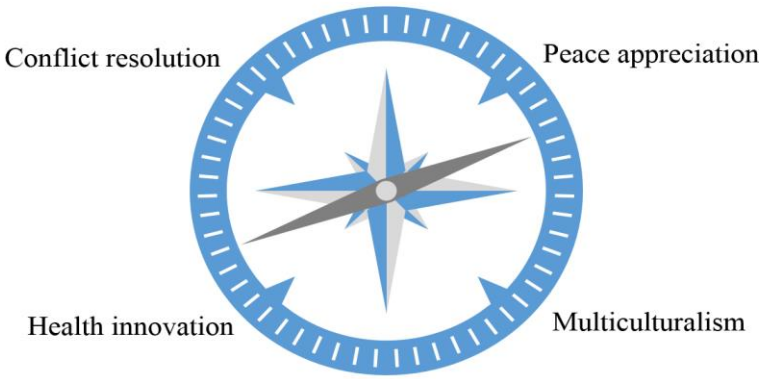

Figure 1: Dimensions of cultural competence for medical students in a conflict zone.

Conflict resolution refers to negotiation strategies to agree on mutually beneficial solutions between the contradicting parties. Developing intercultural conflict competence within the broader cultural competence is critical because conflict creates further perceptual distortions and emotional flooding in the encountering process (Deardorff, 2009). As an individual or as a community, the importance of sharpening the knowledge, mindfulness, and skills for intercultural conflict competence should be encouraged from healthcare education.

Peace appreciation refers to spiritual and religious values from cultures to engage in a humanitarian, peaceful, just, and equitable world. Understanding the importance and meaning of religion among cultures is an essential element of cultural competence. Injuries from violence and social life disruptions due to war are a main cause of death and disability in a big part of the world (WHO, 2014). To develop peace appreciation in young professionals, topics such as levels and types of violence, social determinants of health, human rights, international humanitarian law, reasons for violence and social conflict, non-violent communication, and empathic listening must be addressed (Chongsuvivatwong *et al*. 2014).

Multiculturalism is the ability to understand, communicate, and effectively interact with persons from different cultural backgrounds. International medical trips may increase the perception of cultural topics to students as social inequalities. Merkey and Palombi (2020) describe these experiences as positive for student's personal and professional growth since they are empowered to think critically about health disparities and social injustices in a health care context. For example, in a study involving U.S. dental students, Lambert (2018) explains how international trips helping underserved populations was one of the primary motivating factors to learn a global health inclusive perspective.

Health innovation refers to seeking new solutions for global health problems. The professional scenario is constantly changing with new challenges like new technologies, evolving health systems, and new paradigms in diagnosis and treatment. These novel situations need more than just a well-trained clinician. Innovation in health has quickly become a mandatory part of modern medical curricula, adopting new ways of training students in complex problem-solving (Niccum *et al*. 2017).

Methods

Academic international program description

The international academic program consisted in a series of activities to compare multicultural characteristics between Israeli and Palestine narratives. Students had several lectures about the conflict between Israel and Palestine, the operation of the Israeli health system, Latin American relations, among others given by faculty from the host institution. Students visited the most important medical centers in Israel, such as the Sheikh Jarrach Medical Center, Hadassah Medical Center, Galilee Medical Center among others, and had the opportunity to see some of their technological innovations. Participants reflected on the relevance that Israel gives to preventive medicine and the structure of the United Hatzalah, an emergency medical service held by volunteers. Finally, they were able to visit historical places in Jerusalem such as Yad Vashem, Temple Mount, The Western Wall, Via Dolorosa, Church of the Holy Sepulcher and other important places and cities for the Catholic religion such as Nazareth, Galilee, Capernaum.

Objective

This study aimed to evaluate cultural competency learning during an international activity situated in a conflict zone environment that embraces health innovation. This intervention included four dimensions: conflict resolution, peace appreciation, multiculturalism, and health innovation.

Method design

The method approach was an explanatory sequential mixed method design. According to Creswell & Plano (2011) a sequential explanatory design is used where it is intended that the qualitative data help explain the quantitative results to have a better interpretation.

Participants

Volunteers were enrolled in an academic program in collaboration with the Hebrew University of Jerusalem with a duration of seven days in Israel. A total of 19 medical students participated in the academic program. Participants had an average age of 22.73 (±3.42) years old. 68.4% of all volunteers were women. Most of the medical students involved were from Monterrey campus (68.4%) while the rest were enrolled in Mexico City campus. In terms of the level of progression across medical school, most of the participants were from the 7th year of medical school (26.3%), while only 10.5% of students were studying their second year of medical school. Additionally, when stratifying from pre-clinical years and clinical clerkships, most of the students were at the clinical stage of their medical training (57.8%). Interestingly, only 5.2% of the students that participated in this academic program had a previous international experience in the context of an area of conflict. Demographic information of these groups of students is summarized in Table 1.

Table 1: Demographic data from trained students.

Total of trained students	100%	19
Sex		
Men (%)	31.5%	6
Women (%)	68.4%	13
Age (±SD)	22.73	(±3.42)
Campus		
Mexico City	31.5%	6
Monterrey	68.4%	13
Medical year	10.5%	2
2nd year (%)	15.7%	3
3rd year (%)	15.7%	3
4th year (%)	31.5%	6
5th year (%)		
6th year (%)	0.0%	0
7th year (%)	26.3%	5
Previous international experience in conflict zone		
No (%)	94.7%	18
Yes (%)	5.2%	1

For the quantitative phase, the 100% of participants consented to participate in the study. For the qualitative phase 50% of participants were randomly selected to be interviewed regarding their impressions about the experience.

Instruments

To evaluate the impact of this academic program it was designed a survey that consisted of 27 items using a Likert scale with values from totally agree (5) to totally disagree (1). Items were classified by each of the dimensions of cultural competence for medical students in a conflict zone (Figure 1) as shown in Table 2. This instrument was previously validated by the medical education department of School of Medicine and Health Sciences, Tecnologico de Monterrey.

Table 2: Examples of items for each dimension

Dimension	Items
Conflict resolution	The trip improved my understanding of the Israel-Palestine conflict. I acquired useful skills to resolve conflicts in my personal context. I learned new ways to resolve conflicts.
Peace appreciation	Knowing the religious history of the geographic zone helped me to understand the complexity of finding peaceful solutions to a

	conflict. My appreciation for peace increased. My appreciation for the current peace situation in my context increased.
Multiculturalism	I learned from other cultures. I acquired knowledge about humanitarian aid. I learned about new ways to collect, manage, and distribute humanitarian aid. Knowing the geopolitical history of the geographic zone helped improve my understanding of the nature of the conflict.
Health innovation	I have a better insight into new solutions to health problems. I acquired new ideas transferable to my context to solve health problems. It positively changed my perception of the role of geographic/political/ economic challenges and barriers for innovation. The trip helped me to learn solutions for health care different from my context.
General cultural competence	After the trip, I acquired cultural competence (ability to understand, communicate, and interact effectively with people from different cultures). The trip improved my ability to collaborate with other cultures. The trip positively changed my stance on the coexistence and collaboration of different cultures. My perception of the importance of intercultural collaboration in health care improved.

Qualitative phase consisted of individual interviews as presented on Table 3. Interviews were face to face through a digital platform. A structured method was used with guiding questions.

Table 3: Questions from the interview regarding personal experience after the academic program

Items
1. Describe your general experience.
2. What concepts, skills or attitudes did you learn on each of the following dimensions: Conflict resolution Peace appreciation. Multiculturalism. Health innovation.
3. What are your thoughts on cultural competence as part of medical curricula?

Analysis and interpretation

For the quantitative phase, a descriptive analysis was conducted based on the answers given by volunteers. The calculated Cronbach alpha was 0.74. Data analysis calculated averages for each dimension plus a general section for the cultural competence. Statistical analysis was performed with the help of SPSS Software version 27 (IBM, United States 2019). Qualitative analysis was done with the help of the software MaxQDA Version 20.3 (VERBI, Berlin, Germany, 2020). Figures of this paper were designed with the software Prism 8 (GraphPad, United States, 2020). An explanatory sequential mixed method design was used. According to Creswell & Plano (2011), the intention of this design is to gather qualitative data to further explain and clarify the quantitative results. This allows for a better interpretation of results.

Results

Perception of skill's development after intervention

The results from the evaluation instrument are summarized in Table 4. Overall, these results show that students had a positive impact in the short-term from the international experience previously described. All dimensions evaluated in this instrument showed high average scores (>4.0) in the perception of skill's development after the intervention.

Table 4: Average score from students' perception

Dimension	Average (± SD)
Conflict resolution	4.59 (± 0.03)
Peace appreciation	4.78 (± 0.02)

Multiculturalism	4.80 (± 0.02)
Health innovation	4.83 (± 0.032)
General Cultural competence	4.79 (± 0.012)

Comparisons within these dimensions demonstrated that the most impacted areas were health innovation (4.83 ± 0.032, p<0.001) and multiculturalism (4.80 ± 0.02, p<0.001), respectively. On the other hand, the least impacted dimension of cultural competence was conflict resolution (4.59 ± 0.03, p<0.001) when compared with the other dimensions. These differences are shown in Figure 2.

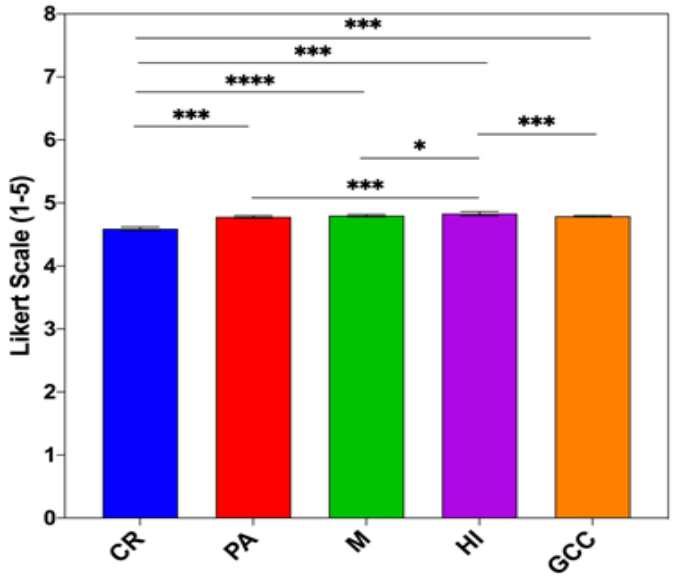

*Figure 2: Comparison between impact in dimensions of cultural competence for medical students in a conflict zone after the academic program intervention. * p <0.05, ***p < 0.001. Abbreviations: CR: Conflict resolution; PA: Peace appreciation; M: Multiculturalism; HI: Health innovation; GCC: General cultural competence. Results were analyzed with ANOVA with Tukey's test for multiple comparisons.*

Qualitative analysis from medical student perceptions

As part of the explanatory sequential, the highest scores were related with health innovation and multiculturalism. Some quotes to describe what was learned are presented on the following paragraphs.

Students showed a positive perception of this program considering health innovation. A student expressed during the interview: "I really liked the experience of being in a place where many contrasts can be found. But something I can remark is the organization of their health care system which allowed me to understand that even in difficult conditions in terms of access, most of the patients have good medical attention and receive high quality care". Similarly, another student denoted: "We must be able to have the humility to acknowledge that, as a country, we cannot do it alone, we need to see what other countries are doing, the reasons behind their success and failures and take all that knowledge, not to copy it but to adapt it to our culture and our economy. As soon to be

doctors, it is imperative we possess the abilities and critical thinking necessary to make an impact in a world of dubiety". Similarly in this setting, another student manifested: "We learned the importance that Israel gives preventive medicine and the incredible results that this position has given to the country".

In terms of multiculturalism skill's development, a student referred: "I was in shock to see how two different and contrasting cultures share themselves the same space and how they even collaborate. Israel is a multifaceted country that integrates a wide set of culture and traditions". Further comments by students pointed: "Jerusalem's old city represented the definition of multiculturalism for it showed our eyes the presence of four different cultures living in the same place: Jews, Christians, Muslims and Armenians. All of them living in peace, respecting each other and their own traditions. Outside Israel there might be war, inside hospitals there are only human beings, treating and helping each other". Also, regarding health innovation, a student expressed: "A program I really liked is the one of First Responders. It is a program where regular people commit to helping others. They put their cultural and religious beliefs apart and you may see a Muslim helping a Jew, or a Jew helping a Christian, everybody is committed to help".

As a result, from these interviews, a word cloud map was developed in which the most frequent phrases or words are pictured in increasing size, while the words in darker blue were expressed by the students more constantly in the same conversation as seen in figure 3.

Figure 3: Word cloud map of interviews to participant medical students.

During the interviews, the students expressed their overall impressions and key learnings from this academic program. One of the students commented: "This international experience allowed me to understand a clearly different health system in the context of conflict", while other medical student stated the following: "This international experience has led me to introduce myself in other areas of interest such as global health, this opportunity gave me a completely new concept of the needs that are required in a place in conflict situation, in which more than just only good practice of medicine is needed; a sense of empathy and the development of a constant emergent response is valuable in this region".

Discussion

According to Zanetti *et al*. increasing disparities across the globe has led to several educational initiatives. Each initiative is oriented to address the need to prepare students and healthcare providers to promote a more culturally competent healthcare system (Zanetti *et al*. 2014). In 2011 the Health and Human Service (HHS) agency in the United States defined clinical cultural competence as the "ability of healthcare professionals to provide high-quality care to patients from diverse sociocultural backgrounds." To eliminate healthcare disparities, it is suggested that medical schools should strengthen their "cultural competence" curriculum. While some studies have suggested no effect from multicultural education, more recent studies found differences between two groups of students indicating increased confidence in cultural competence from exposure to a specific multicultural program. (Zanetti *et al*. 2014).

Conflict zones have specific conditions that could facilitate the acquisition of cultural competency for medical students. For instance, conflict medicine is an area that specializes in delivering health care to conflict and war survivors. (Fares *et al*. 2019). To the extent of our knowledge there is scarce research regarding the evaluation of the effect of an international program for medical students in conflict zones. Only 5% of the participants of our study have been involved in an international experience.

This study demonstrated that students increased their multicultural and health innovation awareness after the international experience. Historical crises have generated innovative problem-solving strategies in healthcare systems and conflict resolution. An experience like this could help students increase their cultural awareness and appreciation for peace through personal reflection and new relationships. Consistently with this data Wolf *et al.,* found in a quasi-experimental study that students involved in academic exchange increase their intercultural identity reflection and intercultural competences. (Wolf *et al*. 2018).

Several initiatives have highlighted the relevance of healthcare improvement in times of conflict. According to Fares *et al.,* the current medical education systems in the Middle East guarantee medical graduates are competent in integrating a diagnosis and treatment. (Fares *et al*. 2020) However, there has not been enough emphasis on the importance of acquiring multicultural competencies to address the current situation. Fares *et al.,* suggest students should be educated on the organizational structure of their country's health system and be encouraged to express their ideas on how to solve the current inadequacies. Our study demonstrated the relevance of having an insight into new solutions to health problems and integrating "conflict medicine" as part of the medical students' curricula.

As previously stated, other authors have demonstrated positive impact on cultural competencies after international experience. However, there is scarce information regarding the effects of international experience in conflict resolution. Also, there is a need to strength and integrate these competencies in medical students' curricula. Given these issues, it could be inferred that the limited impact on the conflict resolution dimension evaluated in this study was due to the lack of expertise from students on these topics.

This study had three main limitations. First, the survey used is a self-perception questionnaire designed and validated by our institution. Second, the experience itself was limited due to the nature

of the conflict zone. Some sites or field trips were restricted, and others bounded by local authorities, slightly molding the experience to fit cultural and political boundaries. Another limitation is that this experience involves economical resources for students to participate. Even though financial aid was available through our institution, most of the students still had to cover certain personal and travel expenses, making it not available for every student and reducing the length of the academic program.

Further research should include the design of a standardized mixed questionnaire that recollects students' impressions and narratives apart from the gathered quantitative data. It can be achieved by asking students to have a journal or log where they record their experiences. This could enrich our current qualitative data. Further research should also contemplate visiting other conflict zones and have students contrast their experiences and learning.

Conclusion

This immersion experience in a conflict zone proved to be enriching and valuable for participating students. The study demonstrated that students increased their cultural awareness after the international experience. Academic programs for health care professionals should encourage the development of the cultural competence not only for academic purposes but for the formation of integral individuals. The results of this study can help reshape the current design and scope of international academic experiences. To enrich the results and have new findings, it is recommended to design a longitudinal study to evaluate the short team and long term of these academic programs. Global values such as innovation for health, peaceful conflict resolution, and multiculturalism are of paramount importance in modern society, and could be pivotal elements to develop through an international involvement such as the one described. New and innovative efforts to develop knowledge, skills, and attitudes regarding these values should be prioritized. Additionally, being exposed to a conflict zone could be of special interest for institutions looking to enrich their students' cultural competency portfolio.

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