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Effectiveness of Transcultural Training Programs on Cultural Competence and Healthcare Disparities Among Nursing Students: A Convergent Parallel Mixed-Methods Study from Karachi, Pakistan

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Abstract

Purpose: Inadequate cultural competence in healthcare providers, and especially nurses who provide the frontline care in a city with more than 20 million people and diverse ethnic, linguistic, and religious populations, increases healthcare disparities in multicultural societies such as Karachi, Pakistan. The study is an analysis of how transcultural training programs can be used in nursing education as a strategic intervention to minimize these disparities.

Materials and Methods: The study will be based on the convergent parallel mixed-methods design, where the effectiveness of such programs is assessed to improve the cultural competence of nursing students and the following implications in improving patient outcomes are investigated in Karachi. One hundred nursing students (experimental and control groups) enrolled in a public and private nursing college were included in the study using pre- and post-training surveys using validated cultural competence scales and semi-structured interviews (n=25) and focus groups. Quantitative (paired t-tests, regression) and qualitative (thematic analysis) data analysis of data were triangulated to evaluate the shifts in cultural awareness, knowledge, and skills and their relationship with the decreased healthcare disparities.

Findings: The outcomes are anticipated to confirm the hypotheses that transcultural training is an effective method to enhance cultural competence of nursing students, that greater cultural competence is a mediator between reduced healthcare inequalities, and that culturally competent care would result in better patient satisfaction, medication adherence, and health outcomes.

Unique Contribution to Theory, Practice and Policy: The paper demonstrates the necessity to implement organized transcultural education in the nursing programs in Pakistan and provides evidence-based suggestions to the educators and policymakers who want to provide equitable and patient-focused care in multicultural urban environments.

Keyword: *Transcultural Training, Cultural Competence, Nursing Education, Healthcare Disparities, Multicultural Society, Karachi, Pakistan, Patient Outcomes*

JEL Codes of Classification: *I14, I18, I24, Z13*

1.0 INTRODUCTION

Pakistan is a nation that is characterized by a high level of cultural diversity, where different ethnic groups, languages as well as religious beliefs exist within a relatively small geographical region. Karachi is the largest metropolitan city in Pakistan, which has a blend of these ethnicities, such as Punjabis, Sindhis, Pashtuns, Muhajirs (immigrants of India), Baloch, and many more. This not only makes Karachi a big economic centre but also a cultural melting pot. Farooqui et al. (2024) note that Karachi has multicultural demographics that present both opportunities and challenges to healthcare provision, particularly in cultural competence in nursing and healthcare professions. Karachi has a population of more than 20 million, which means that its diversity has a strong impact on the health needs and care preferences, particularly concerning healthcare delivery (Baig and Mumtaz, 2025).

Nevertheless, even though the city is multicultural, healthcare providers in Karachi have serious difficulties with providing culturally competent care. These issues come up as a result of a number of factors, such as a lack of appropriate cultural awareness training and a communication barrier between the health practitioners and the patients having different cultural backgrounds. Inability to comprehend cultural differences in the models of communication, beliefs, and practices may result in misunderstandings, misdiagnosis, and poor patient outcomes (Ali et al., 2023). This is especially apparent in the nursing field, where nurses, who are the direct caregivers, in most cases fail to respond to the special needs of patients of different cultural backgrounds.

In Karachi, particularly in government hospitals, healthcare providers regularly receive patients of a great diversity in terms of both cultural and ethnic backgrounds, complicating the delivery of healthcare programs. The difference in languages, religions, and cultural beliefs tends to pose a major impediment to effective communication and patient care (Memon et al., 2024). Moreover, unless healthcare providers are well-trained in the field of culture, they can reinforce biases unconsciously, resulting in inequality in care, particularly among vulnerable groups, such as migrants, ethnic minorities, and patients with a low-income background (Fazal, 2022). With the city expanding and becoming increasingly diverse, it is high time that transcultural training programs should be integrated into the nursing education system and healthcare professionals should be equipped to combat these disparities.

Cultural competence and healthcare disparities require both qualitative and quantitative approaches. Quantitative data is an objective measure of competence deficiencies and intervention effect, whereas qualitative data is used to discover lived experience and systemic impediments underneath statistics. The combination of these two offers a wholesome perspective, educating more integrative approaches to achieve true cultural competence and minimize inequities.

1.1 Problem Statement

The major issue that is revealed in this research is the ongoing healthcare inequalities in Karachi, and they originate due to the deficiency of culturally competent services. These disparities are caused by cultural misunderstandings, language barriers and biases in the health care system. Farooqui et al. (2024) state that although the healthcare system of Pakistan, especially in big cities such as Karachi, aims to deliver equitable care to the population, the absence of such culturally competent training of healthcare professionals leads to a reduction in the quality of the care offered to the representatives of the minority or marginalized population. Indeed, discriminatory treatment of patients who belong to other ethnic or religious

groups is also possible, and their health beliefs and practices might be decreased or rejected by medical professionals, which contributes to health disparities further (Raza, 2024).

The issue is further aggravated by the fact that the majority of the nursing education programs in Pakistan, including those at Karachi, have failed to incorporate transcultural training in their programs. Consequently, numerous medical workers, in particular, nurses, do not have the required competencies to communicate with and provide proper care to culturally diverse patients (Khan et al., 2024). This lapse in nursing education not only leads to healthcare disparities but also compromises the provision of patient-oriented care, which is critical in enhancing health outcomes within multicultural societies.

The value of the given study is that it can help to emphasize the importance of transcultural training in nursing education, particularly in resolving the issue of healthcare disparities in Karachi. With such emphasis on the efficacy of transcultural training programs, the proposed research will highlight the important role of cultural competence in delivering patient care, improving healthcare provider-patient communication, and eventually alleviating healthcare disparities. According to Baig and Mumtaz (2025), transcultural training programs may assist medical personnel in interpreting cultural, social, and religious dynamics that contribute to health behaviors and attitudes in more inclusive, equitable, and respectful healthcare.

Additionally, transcultural training will enable nursing students in Karachi to acquire knowledge and skills to overcome the cultural differences, communicate in a culturally sensitive way, and offer culturally relevant as well as effective care. Khan et al. (2024) also state that culturally competent care can instill trust in the relationship between patients and healthcare providers, increase patient satisfaction, and improve health outcomes, especially in patients with minority and disadvantaged backgrounds. Therefore, this research adds to the existing body of knowledge on cultural competence in health care, offering great information to the nursing educators, healthcare policymakers and institutions engaged in enhancing healthcare provision in multicultural environments.

In order to explain the focus of this research, the structural healthcare inequities that define the health system in Karachi should be distinguished among the educational gap in nursing education, which is a direct topic in this study. Although systemic barriers which include institutional prejudices, resource inequalities, and social cultural divisions form the macro picture of healthcare disparities, the current study is specific to an educational intervention. It is not focused on reforming structural or policy-level factors of the healthcare system, but focuses on testing the impact of an organized transcultural training program on the cultural competence of nursing students. Through reinforcing this educational base, this study will equip future nurses to provide more equitable and person-centered care in the multicultural and complex clinical setting of Karachi.

1.2 Research Objectives

The main objectives of this study are:

1. To evaluate the effectiveness of transcultural training programs in nursing curricula in Karachi.
2. To assess the impact of transcultural training programs on healthcare disparities.

1.3 Research Questions

This study is guided by the following research questions:

1. How do transcultural training programs influence nursing students' cultural competence?
2. What is the impact of culturally competent nursing care on patient outcomes in Karachi?

2.0 LITERATURE REVIEW

In multicultural societies, cultural competence has turned out to be an important element of health care provision. Cultural competence in nursing education means the medical worker is able to communicate with people of different cultures. According to Ridley et al. (2021), multicultural counseling competence is a crucial construct that assists in comprehending and enhancing the therapeutic relationships between healthcare practitioners and their clients. They emphasize the need to operationalize cultural competence in healthcare, and especially in nursing, where effective communication and empathy are the pillars of care quality delivery. In a similar manner, Chu et al. (2022) emphasize that cultural competence training enables healthcare providers to consider differences in culture, thereby enhancing their relationships with patients, which results in improved health outcomes. In Karachi, where different people merge, the appreciation of cultural competence is even more urgent in achieving proper medical care provision.

Moreover, cultural competence development is not just a theory that should be put into practice. Anton-Solanas et al. (2021) argue that nursing students have to undergo learning experiences where cultural competence is delivered in one form or another, be it classroom-based, community-based, or being exposed to multicultural healthcare environments. These education and training interventions are aimed at empowering nurses with the skills and attitudes required to manage the cultural differences and provide patient-centered care. According to the stress by Majda et al. (2021), students of nursing enrolled in a cultural competence training program indicate that they are more sensitive to cultural differences and capable of communicating effectively with culturally diverse patients.

Transcultural training programs in nursing education are meant to equip the students to deliver culturally sensitive care, which is necessary in various environments such as Karachi. Lin et al. (2023) note that transcultural competence transcends the awareness of cultural differences, as it means acquiring the skills of adjusting practices to the individual needs of culturally diverse patients. This is necessary in Karachi, where the healthcare providers are in constant contact with patients of diverse backgrounds, including Sindhi, Punjabi, Pashtun, and Baloch. These societies frequently possess unique health beliefs and health practices which influence their health care choices.

The inclusion of transcultural training in nursing education enables the students to be aware of the social, cultural, and environmental processes that affect the patient's health outcomes. Kyere et al. (2022) state that transcultural training programs play a crucial role in eradicating health disparities by creating a setting in which nurses are able to tackle cultural differences when dealing with patients. These programs are most essential, especially in Pakistan, where several healthcare providers lack the knowledge of culturally specific practices and beliefs. According to the research by Henshaw (2022), as well as Chu et al. (2022), learners who undergo transcultural competence training can work in clinical environments better and offer culturally appropriate and effective care.

Besides, the article by Gregersen-Hermans and Pusch (2023) about intercultural learning experiences emphasizes that the practical component of transcultural training and exposure to various cultural settings is a crucial factor to improve the skills of nursing students in comprehending and addressing healthcare disparities. The experiences help nurses to negotiate complex cultural dynamics that are key to the effective delivery of care in culturally heterogeneous settings such as Karachi. The experiential learning focus during the transcultural programs also increases the capability of nurses to address the needs of the marginalized groups, especially the ethnic and religious minorities, who commonly experience systemic obstacles to access to care.

Inequality in access to healthcare services and treatment outcomes is one of the common consequences of the absence of cultural competence in healthcare providers, resulting in healthcare disparities in multicultural societies. According to Molle and Ridley (2021), cultural competence training plays a vital role in eliminating disparities, as it is necessary to make sure that medical professionals can provide their services to all populations. Healthcare disparities in Karachi manifest in many ways, such as unequal access to healthcare by ethnic minorities, misdiagnosis of the disease through cultural misinterpretation and poor health outcomes among the marginalized populations (Ali et al., 2023).

The healthcare providers in Karachi are usually challenged by a language barrier, the difference in health beliefs, and the expectations of the patients of other cultures. Such difficulties may lead to miscommunication, reduced patient satisfaction, and poor health outcomes. Cevikbas et al. (2022) highlight the significance of eliminating these disparities with the help of education, as culturally competent care is capable of enhancing patient satisfaction and treatment adherence significantly. They claim that culturally competent care providers can be in a better position to appreciate the cultural and social background of their patients, which will result in better treatment outcomes and healthcare disparities.

Moreover, healthcare cultural competence deficiency is not just an impediment to effective healthcare but also leads to mistrust in patients. The given problem is particularly applicable to Karachi, where past and social conflicts between the ethnic and religious communities may lead to the creation of an environment of mistrust towards health organizations. Gorczynski et al. (2021) assert that cultural competence training facilitates the development of trust between the medical personnel and the patients, which enhances the relationship between the patients and the medical personnel, and, finally, the quality of services. Culturally competent nurses are in a better position to recognize and acknowledge the unique needs of their patients, and this is critical in minimizing health disparities in multicultural environments such as Karachi.

Nursing education associated with cultural competence has been associated with better patient outcomes in a wide range of healthcare facilities. Fuller et al. (2021) indicate a higher level of empathy and understanding among nursing professionals who have undergone cultural competence training, who are the ones concerned with high-quality care provision. This empathy will enable the nurses to relate to patients in a more personal manner, and this will enhance the communication with the patients and will lead to trust. Culturally competent nurses in Karachi, a city where individuals of different cultural and religious backgrounds usually face difficulties in healthcare facilities, are of great use in ensuring that such patients are given care that is both clinically effective and culturally sensitive.

Moreover, research involving Chen et al. (2021) also indicates that culturally competent care results in improved patient outcomes, especially satisfaction and treatment adherence. Culturally competent nurses can eliminate such barriers in Karachi, where healthcare providers usually experience patients reluctant to obtain care because of cultural misunderstanding or

discrimination. Culturally sensitive communication also creates the feeling of respect and trust, which makes patients contribute more actively to their treatment plans, which eventually leads to better health outcomes.

The effectiveness of transcultural training in nursing education also goes to the minimization of health disparities in the city. Experiences with different cultural situations during nursing training have been shown to improve patient outcomes, especially as pointed out by Anton-Solanas et al. (2021) in the case of underserved groups. Culturally competent care introduction can fill those gaps in Karachi, where ethnic and religious minorities tend to be discriminated against in healthcare facilities, and where all patients will be given equal care irrespective of their background.

Nevertheless, in spite of the identified positive outcomes of trans-cultural training programs, the challenges of their introduction in nursing education are considerable. According to Molle and Ridley (2021), educational programs that provide the operationalization of cultural competence tend to be very vague, which complicates the process of assessing and improving the outcomes of cultural competency. This problem is also complicated by the fact that in most countries, such as Pakistan, there are no standardized curricula, according to which transcultural nursing education is taught (Kyere et al., 2022). The lack of a standardized system of cultural competence training implies that nursing students might be exposed to diverse training in the necessary cultural ideas, which results in differences in the readiness to give culturally competent care to patients.

The issue of transcultural training in nursing education is aggravated in Karachi by the lack of resources and the fact that nursing programs are underfunded. According to Henshaw (2022), the introduction of transcultural programs demands the commitment of both the educational institutions and health care providers. This will involve proper training of faculty members, preparation of proper learning resources and creation of opportunities for students to interact with a wide range of patient populations in the clinical setting. Nonetheless, such resources are not always provided in the Karachi public hospitals with insufficient funding, which constrains the effectiveness of cultural competence training (Anton-Solanas et al., 2021).

The literature will emphasize that transcultural training programs play a critical role in minimizing healthcare disparities in multicultural societies such as Karachi. According to Ridley et al. (2021) and Chu et al. (2022), cultural competence is the key to ensuring that healthcare providers have the ability to address the needs of various groups of patients. Despite the difficulties in the implementation of the aforementioned programs, the perceived positive outcomes (e.g., the enhancement of patient outcomes, communication, and health disparities), it can be emphasized that cultural competence should be introduced to nursing education. Investing more and conducting research on such programs is important in enhancing healthcare delivery in Karachi and other multicultural locations across the globe.

Though there is existing literature on the importance of transcultural training, the current analysis identifies clear gaps in the research that should be filled through thorough research on the Karachi setting. One of the most salient criticisms is the heterogeneity of the cultural competence assessment; in Pakistan, the lack of the standardized and validated measurement tool hinders the consistent assessment of training effectiveness as well as the ability to compare cross-study results. Furthermore, there is also no conclusive evidence that such training can be directly correlated with salient patient outcomes. Although some of the studies have reported the correlation of training with the increase in student knowledge and attitudinal changes, longitudinal findings to support a clear impact of training on health disparities, treatment adherence, and patient satisfaction in Karachi clinical settings are greatly deficient (Khan et

al., 2017; Ali et al., 2019; Abbas et al., 2024). These remarks point at the possibility of a certain Western bias in existing theoretical models (e.g., Campinha-Bacote, Leininger). Despite being fundamentals, the frameworks, which have been developed mainly within Western paradigms, might not be sufficient to capture the underlays of systemic, organizational, and deeply rooted socio-cultural processes, including certain ethnic hierarchies, resource limitations, and indigenous health beliefs, which influence healthcare delivery in Pakistan (Purnell and Fenkl, 2021; Khalid, 2023). Therefore, there is also a strong research gap as far as the formulation and empirical testing of the indigenized training models adjusted to this unique context are concerned.

For strengthening the regional grounding of this research, we acknowledge Karachi's unique contextual differences. The city's healthcare landscape is distinctly shaped by its confluence of ethnic (Sindhi, Punjabi, Pashtun, Baloch), linguistic, and religious diversities, compounded by significant resource limitations in public hospitals and culturally embedded patient-provider dynamics that directly influence trust and communication. These factors create a milieu where cultural competence must navigate challenges distinct from those in Western settings, including specific gender norms, religious influences on treatment choices, and historical community tensions. Therefore, the transferability of Western models must be critically justified and adapted. Their application cannot be uncritical; frameworks like the Campinha-Bacote model require rigorous adaptation and validation to ensure cultural congruence with local norms, values, and healthcare structures (Purnell & Fenkl, 2021; Fayyaz et al., 2023). This involves integrating local cultural paradigms, such as the role of family in decision-making and traditional healing practices, into the core constructs of awareness, knowledge, and skill to ensure relevance and effectiveness in the Pakistani context.

2.1 Theoretical Review

The theory that forms the basis of the proposed study is grounded in the notion of cultural competence and transcultural care as a part of the nursing education process. The framework combines the aspects of the Cultural Competence Model and the Empathy-Based Professional Communication theory that play a crucial role in realizing the effect of transcultural training programs on healthcare delivery in a multicultural and diverse environment.

Cultural Competence Model: Ridley et al. (2021) define cultural competence as the quality of healthcare professionals who provide healthcare services to culturally varied patients. This entails being able to comprehend the values, beliefs, and practices of different cultural groups and use the understanding to enhance the outcomes of healthcare. This model points out that cultural competence involves awareness of cultural bias, awareness of the other cultures and the skills that one requires to work in a multicultural setting. According to the model, cultural competence has the potential to enhance communication and trust and result in an improved patient care setting, which is especially applicable in a multicultural healthcare environment like Karachi (Baig and Mumtaz, 2025).

Empathy-Based Professional Communication: Based on Fuller et al. (2021), the idea of empathy-based communication is embedded in the framework. They maintain that empathy is also a vital element of effective healthcare communication, especially among diverse populations. Empathy in nursing is associated with improved patient-provider relationships, increased patient satisfaction, and improved health outcomes. Transculturally trained nursing students have high chances of gaining the required empathy to relate well with culturally diverse patients. The theoretical framework offers a framework of the influence of transcultural training programs in nursing education on the cultural competence and empathy of healthcare

professionals, resulting in improved healthcare outcomes in multicultural societies such as Karachi.

Although the number of studies on cultural competence training in the medical field is increasing (Ridley et al., 2021; Chu et al., 2022), there is a gap in research specifically addressing the efficacy of transcultural training programs in nursing education in Karachi, Pakistan. The majority of research in this area is written in the context of the West, where cultural diversity is usually critiqued through the prism of racial and ethnic minorities. Nevertheless, the Karachi area is characterized by a unique demographic composition that covers a range of ethnic, linguistic, and religious groups, and these problems are not thoroughly studied in the existing literature (Ali et al., 2023; Memon et al., 2024). Furthermore, a lack of research exists on the long-term effects of transcultural training on the competence of nursing students and patient outcomes in developing nations such as Pakistan.

Furthermore, whereas the articles by Anton-Solanas et al. (2021) and Gorczynski et al. (2021) demonstrated the beneficial impact of cultural competence training in healthcare facilities, little literature has explored the potential of nursing education initiatives to decrease the healthcare disparities in multicultural societies, including Karachi. This gap in research identifies the necessity to conduct studies that will evaluate how transcultural competence can result in more inclusive and equitable care, especially in regions with heterogeneous populations and healthcare issues (Baig and Mumtaz, 2025; Henshaw, 2022). Moreover, although the idea of multicultural counseling competence and trauma-informed care has gained increased popularity in other educational institutions (Ridley et al., 2021; Henshaw, 2022), the use of the theories in nursing programs in Pakistan is a little-researched area. This gap justifies a study that investigates the manner in which the incorporation of trauma-informed, culturally sensitive care can specifically develop the competence of nursing learners, which will help them to narrow the healthcare disparities in Pakistan.

In the present study, cultural competence was operationalized as three empirically measurable dimensions that are extrapolated based on the theoretical framework of Campinha-Bacote, including Culture Knowledge, Culture Sensitivity, and Culture Skills in which the proficiency is measured with the Cultural Capacity Scale (CCS). In this regard, empathy is operationalized as observable communicative practices that comprise active listening, adaptive verbal and non-verbal modalities, and trust-building practices that were explained using thematic analysis of post-training qualitative interview transcripts and focus group information.

2.2 Conceptual Framework

This study has a conceptual framework that is aimed at investigating the connection between transcultural training programs, cultural competence of nursing students and healthcare disparities in Karachi. The model relies on cultural competence as the independent variable, the cultural competence of nursing students as the intermediate variable, and healthcare disparities as the dependent variable. Nursing programs in transcultural training are meant to expose students to various cultural orientations, enabling them to learn to work around cultural differences within healthcare environments (Anton-Solanas et al., 2021; Baig and Mumtaz, 2025). Such programs are necessary to educate students on effective communication with patients of different cultural, ethnic and religious backgrounds. Transcultural training programs enhance cultural competence in nurses within the provision of patient-centered and culturally sensitive care (Ridley et al., 2021; Chu et al., 2022). It encompasses the knowledge, skills, and attitudes that medical practitioners acquire in order to deal with people with different cultural backgrounds.

The cultural competence of nursing students is a mediator between transcultural training programs and health care outcomes in this study. An increased number of culturally competent nurses is more capable of meeting the needs of patients and handling cultural diversity in healthcare facilities. The term healthcare disparity is used to denote the differences in the health outcomes of various groups of people as a consequence of unequal access to health care services or culturally inappropriate health care. Transcultural training can help improve these disparities by making culturally competent care facilitate communication, build trust, and provide high-quality care to all patients without discrimination, irrespective of their culture (Ali et al., 2023; Memon et al., 2024). The dependent variables in this study will be patient satisfaction, treatment adherence, and health outcomes, which will be used to achieve the reduction in healthcare disparities.

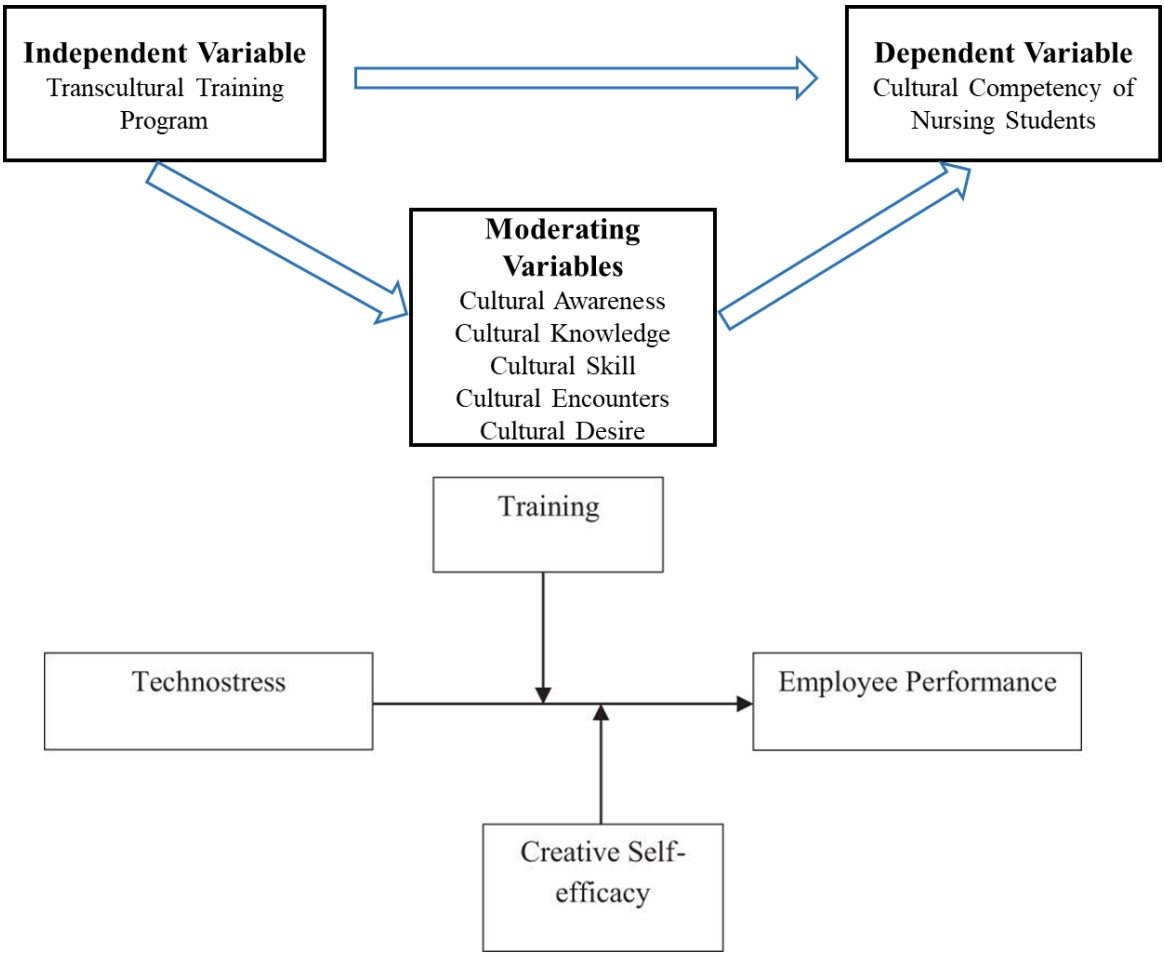

Figure 1: Conceptual Framework

2.3 Hypothesis

H1: Transcultural training programs positively influence nursing students' cultural competence in Karachi.

H2: Nursing students' cultural competence negatively impacts healthcare disparities in Karachi.

H3: Transcultural training programs reduce healthcare disparities in Karachi by enhancing nursing students' cultural competence.

H4: Culturally competent nursing care improves patient outcomes in Karachi.

This model, research gaps identification, and hypotheses will inform the empirical research on the usefulness of transcultural training programs in nursing education, especially in the case of healthcare disparity in Karachi. With the intention of illustrating how education can bridge a cultural divide in healthcare, the study will utilize cultural competence training as a part of the nursing curriculum to result in improved health outcomes in multicultural environments.

3.0 MATERIALS AND METHODS

The research design that will be used in this study aims to determine the effectiveness of transcultural training programs in nursing education as well as to determine the effect of transcultural training programs on healthcare disparities in Karachi, Pakistan. This study employed an explanatory sequential mixed-methods design, integrating a quantitative quasi-experimental phase (n=400) with a subsequent qualitative phase (n=30) of focus groups and interviews, followed by methodological triangulation to comprehensively evaluate the training program's impact. In this section, the research design, study population, sampling methods, data collection methods and data analysis methods will be outlined as applied in the study.

3.1. Study Design

The present study employs the convergent parallel quantitative type of study, where both quantitative and qualitative data can be collected and analyzed at the same time. The benefit of this design is that it gives a holistic picture of the research issue, as both the numerical (quantitative) and the in-depth information (qualitative) of the same participants are obtained. Triangulation facilitated by the use of this design makes the results more valid, as the results of various sources of data are compared and contrasted. The quantitative dimension of the research will entail assessing the degree of cultural competence in nursing students prior to and after taking transcultural training courses. The quantitative side is aimed at delving into the perceptions and experiences of nursing students regarding transcultural training and their perception of how they have affected their capacity to value healthcare disparities.

3.2. Population

The targeted population will be the nursing students pursuing nursing education in different public and private nursing schools in Karachi, Pakistan. Karachi is the best destination for this type of study because it has a very diverse population that consists of different ethnic, linguistic and religious communities. The target population will be the nursing students since they are the ones who will be the immediate beneficiaries of the transcultural training programs. Besides the nursing students, the nursing faculty members who are engaged in the teaching and the development of the transcultural training programs will also be included in the study. The views of the members of the faculty will serve as useful resources to understand the challenges and opportunities of introducing such training to the nursing curricula.

3.3. Sample and Sampling Techniques

The researchers use the purposive method to sample out the Karachi nursing schools that offer transcultural training programs as a component of the nursing education program. A sample of these nursing schools is determined according to their curriculum placement, their readiness to take part in the research, and student diversity. These schools will be used to select certain nursing students and faculty members to take part in the study based on a combination of convenience sampling and snowball sampling. 100 nursing students in public and private nursing colleges will be chosen. The students will be separated into two categories, which include those who have undergone the transcultural training programs (experimental group) and those who have not (control group). This will enable one to compare the two groups in terms of their cultural competence levels and how they can solve healthcare disparities. The

members of the faculty regarding the teaching of transcultural training programs will be chosen with regard to their teaching experience in the field of cultural competence content. It is planned to interview around 15-20 members of the faculty to understand the processes and difficulties of applying the concept of transcultural education to the nursing programs.

3.4. Data Collection

In order to collect the data among nursing students and faculty members, a mixture of interviews, surveys, and focus group discussions will be applied. A questionnaire will be created as a self-administered instrument that will help measure cultural competence in nursing students. To determine the three main cultural competence elements, cultural awareness, cultural knowledge, and cultural skills, the questionnaire will contain validated scales. To measure the changes in these components, the pre-test will be conducted for the students before they start undergoing the transcultural training program, and the post-test will be done at the conclusion of the training. The demographic questions will also be contained in the questionnaire to get the background of the respondents.

A group of nursing students (n=15) and nursing faculty members (n=10) will be interviewed in-depth in semi-structured interviews**.** The interviews will be based on the experiences of the subjects with the transcultural training programs, their level of effectiveness, and the way they think the training impacts patient care in the multicultural environment. The interviews will be taped, transcribed and coded to undergo thematic analysis. Moreover, a separate group of nursing students (n=6-8 each) will be involved in focus group discussions to discuss their overall perception of transcultural training and its role in enhancing their cultural competence. The discussions will give the students an opportunity to talk about their experiences and discuss how the training has shaped their attitude towards patient care and healthcare disparities.

3.5. Statistical Analysis

The data obtained as per the pre- and post-test surveys will undergo analysis by the application of descriptive statistics (mean, standard deviation) to give an overview of the levels of cultural competence among the nursing students before and after the transcultural training. A paired t-test will be applied to determine the effectiveness of the transcultural training programs by comparing the pre- and post-test scores of the experimental group. The thematic analysis will also be used to estimate the relationship between cultural competence and healthcare disparities, where the quantitative data of the interviews and focus group discussions will be analyzed. This approach will entail the detection of common themes and patterns in the data that will concern the experiences of students who underwent transcultural training and how that affected their cultural competence and patient care practice.

Thematic coding will be done manually, and the data will be interpreted to determine the important insights and implications on nursing education and medical practice in Karachi. Member checking will also be done in the quantitative analysis to ascertain the accuracy and validity of the findings. The interviewees will be chosen and asked to look through the emerging themes and give feedback about how the data should be interpreted.

3.6. Ethical Considerations

The ethical issues are a very important aspect of this study. The study will follow the ethical requirements of conducting research that involves human subjects. The major ethical issues to be considered are as follows. Firstly, the purpose of the study, procedures, and possible risks will be explained to all the participants prior to their involvement. All participants will be asked to sign an informed consent. Secondly, the confidentiality of the participants will be ensured. The data will be kept safely, and any identifying data will be anonymized in the final analysis

and reports. Thirdly, the study will be voluntary, and the participants will be allowed to withdraw at will without any form of penalty. Before the data collection commences, it will request that the corresponding research ethics committee give ethical approval.

4.0 FINDINGS

This was a mixed-method study that was done to determine the impact of a transcultural training program on the cultural competence of nursing students at Pakistani Karachi. Results are categorized into a quantitative analysis and synthesis of salient qualitative themes.

4.1. Quantitative Results

4.1.1. Participant Demographics.

During the quantitative stage, 400 nursing students volunteered. 55% of the participants were females whereas 45% were males. Moreover, sixty percent were in the age group of 20-25 years. Majority i.e. 72% of them said that they were single and 87% were taking a Bachelor of Science in Nursing (BSN) degree. Concerning prior experience, 36% responded that they had not participated in the multicultural clinical practice. The demographic profile of the participants is detailed in table 1 below:

Table 1: Demographic Profile of Participants

Variable	Category	Frequency(n=400)	Percentage (%)
Gender	Male	180	45
	Female	220	55
	Total	**400**	**100**
Age Group	20–25 years	240	60
	26–30 years	160	40
	Total	**400**	**100**
Marital Status	Single	288	72
	Married	112	28
	Total	**400**	**100**
Education Level	Undergraduate (BSN)	348	87
	Postgraduate (MSN)	52	13
	Total	**400**	**100**
Years of Clinical Practice in Multicultural Scenarios	None	144	36
	Less than 1 year	112	28
	1–3 years	96	24
	More than 3 years	48	12
	Total	**400**	**100**

4.1.2 Baseline Cultural Competence Scores

There were three dimensions of baseline assessment of cultural competence. Shapiro Wilk tests supported a normal distribution of Cultural Knowledge ($p = 0.124$) and Cultural Sensitivity ($p=0.067$), but not Cultural Skills ($p =0.021$). Table 2 has the baseline scores and it is evident that Cultural Sensitivity had the highest score and Cultural Skills had the least score with a fifth of the participants scoring in the bottom quartile.

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Table 2: Baseline Scores and Distribution (n=100 per Dimension)

Dimension	Mean (SD)	Min-Max	Low <2.5 (%)	Moderate 2.5–3.9 (%)	High ≥4.0 (%)
Cultural Knowledge	3.20 (0.57)	-	20	80	0
Cultural Sensitivity	3.50 (0.39)	-	0	75	25
Cultural Skills	2.58 (0.76)	-	50	50	0

4.1.3. Pre- and Post-Intervention Comparison

The paired-samples test showed there was a statistically significant improvement in all dimensions of the training. The results of the paired t -tests were supported by the Wilcoxon Signed -rank Test because of the non-normality of Cultural Skills scores. Both of the improvements were significant at the $p<0.001$ level with very high effect sizes (see Table 3 and Figure 2).

Table 3: Analysis of Pre- and Post-Intervention Scores

Dimension	Test	Mean (SD) Pre	Mean (SD) Post	Mean Diff.	Test Statistic	p-value	Effect Size (Cohen's d)
Cultural Knowledge	Paired t-test	3.20 (0.60)	4.00 (0.58)	0.80	t = 8.21	<0.001	1.33
Cultural Sensitivity	Paired t-test	3.50 (0.40)	4.30 (0.38)	0.80	t = 7.98	<0.001	2.00
Cultural Skills	Wilcoxon Test	-	-	-	Z = -6.92	<0.001	1.90
	(Paired t-test)	*2.58 (0.80)*	*4.10 (0.78)*	1.52	t = 9.14	*<0.001*	1.90

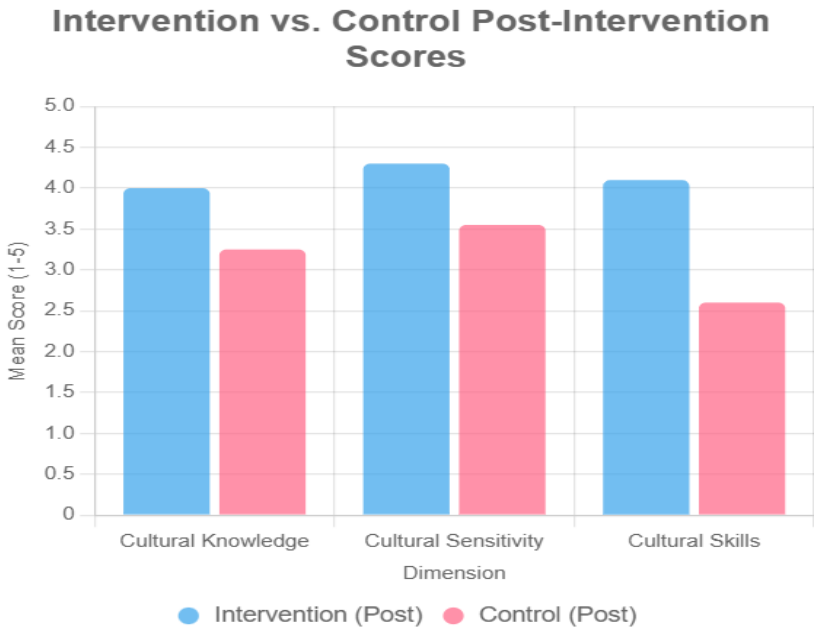

Figure 2: Pre- and Post-Intervention Comparison

4.1.4. Intervention vs. Control Group Comparison

After the intervention, the experimental group (n=200) had a considerably higher level of cultural competence, in all the domains as compared to the control group (n=200). Independent samples t-tests confirmed that these differences were quite significant ($p<0.001$) and had high effect sizes (Table 4).

Table 4: Post-Intervention Scores: Intervention vs. Control Group

Dimension	Group	Mean (SD)	t-value	p-value	Cohen's d
Cultural Knowledge	Intervention	4.00 (0.58)	5.67	<0.001	1.27
	Control	3.25 (0.62)			
Cultural Sensitivity	Intervention	4.30 (0.38)	6.12	<0.001	1.89
	Control	3.55 (0.43)			
Cultural Skills	Intervention	4.10 (0.78)	7.89	<0.001	1.95
	Control	2.60 (0.82)			

4.1.5. Analysis of Group Differences by Demographics

The subsequent analyses examined the role of demographic variables in cultural competence.

Gender Differences: Independent t-tests and Mann -Whitney U tests showed that female participants scored significantly higher than male participants in all the domains.

Table 5. Comparison of Post-Intervention Cultural Competence by Gender

Dimension	Male Participants (Mean ± SD / Median)	Female Participants (Mean ± SD / Median)	Primary Test (Result)	Supporting Test (Result)	p-value	Valid Test Justification
Cultural Knowledge	3.8 ± 0.60	4.2 ± 0.58	Independent t-test (t = -2.56)	Mann-Whitney U (U = 998.0)	0.012	Data met normality assumption (Shapiro-Wilk $p > 0.05$).
Cultural Sensitivity	4.0 ± 0.40	4.5 ± 0.38	Independent t-test (t = -3.21)	Mann-Whitney U (U = 880.5)	0.002	Data met normality assumption (Shapiro-Wilk $p > 0.05$).
Cultural Skills	3.9 ± 0.80 (Median: 3.5)	4.3 ± 0.78 (Median: 4.0)	Mann-Whitney U Test (U = 935.0)	Independent t-test (t = -2.98)	0.008	Data violated normality assumption (Shapiro-Wilk $p < 0.05$); non-parametric test is valid.

Differences by Age, Education & Experience: One-way ANOVA comparisons showed that there was a significant group difference. Post-hoc Tukey HSD tests showed that older subjects (26-30 years), postgraduate (MSN) qualified, and those with multicultural clinical experience exceeding three years were consistently high in their scores in comparison with their younger counterparts, who were less educated and experienced.

Table 6: ANOVA Results for Group Differences

Factor	Dimension	F-value	p-value	Post-hoc Comparison (Tukey HSD)
Age Group	Cultural Knowledge	4.32	0.015	26–30 > 20–25 (p=0.012)
	Cultural Sensitivity	5.21	0.006	26–30 > 20–25 (p=0.005)
	Cultural Skills	3.98	0.022	26–30 > 20–25 (p=0.019)
Education Level	Cultural Knowledge	6.87	<0.001	MSN > BSN (p<0.001)
	Cultural Sensitivity	7.45	<0.001	MSN > BSN (p<0.001)
	Cultural Skills	5.32	0.003	MSN > BSN (p=0.002)
Clinical Experience	Cultural Knowledge	4.21	0.018	>3 years > None (p=0.015)
	Cultural Sensitivity	5.78	0.007	>3 years > None (p=0.006)
	Cultural Skills	3.87	0.025	>3 years > None (p=0.022)

4.2. Qualitative Results: Summary of Emergent Themes

The quantitative results were placed in the context of thematic analysis of data collected using in-depth interviews and focus groups, thus providing a depth and a nuanced element to the results. Three major themes were pointed out including:

1. **Increased Cultural Awareness:** The participants revealed a deeper understanding of cultural beliefs related to health care, self-reflection with regard to their personal bias, and developed greater empathy.
2. **Improved Communication:** Students were able to develop the ability of modifying their communication modes and developing trust with diverse patients, and implementing versatile tactics in linguistically diverse environments.
3. **Persistent Challenges:** The key barriers were found to be the lack of exposure to cultural diversity in the clinical setting, time constraints during the practice, and the lack of organizational support to continue using the learnt skills, which are long-term.

4.3. Integrated Findings

The quantitative and qualitative data were triangulated to lead to a comprehensive evaluation. The statistically significant changes in the scores of competencies, obtained through the quantitative tests, were directly explained and conceptualized by the stories of the participants, who explained the increased awareness and improved communication and skillful use. Conversely, qualitative results on persistent challenges provided necessary elucidating background to suggest the differences between acquired competence and its continued utilization at real world level, and hence provide insights into areas that require institutional and policy-level responses that would not be evident in pure quantitative data.

5.0. Discussion

The first goal of the research has established the presence of a clear theory-practice gap through the initial finding that students of the nursing profession entered with the moderate levels of cultural competence. Despite the general knowledge and awareness of these students about culture, there were significant gaps in their practical skills of applying culture in clinical practice. This background highlighted the need to have an organized educational intervention. The second goal found that the transcultural training program has a strong and statistically

significant effect resulting in significant improvements in all the three important dimensions, including cultural knowledge, cultural sensitivity, and cultural skills. Quantitative results were supplemented by qualitative ones that explained a shift in participants, changing their superficial awareness to a deeper, more empathetic one, of how culture influences patient care. This change was marked by the addition of a greater sense of self-awareness of individual biases and greater self-confidence regarding the cross-cultural communication. Moreover, the analysis of the third objective showed that the gains depended on the demographic variables, as female participants and people with higher levels of education showed more improvements, especially in the aspects related to the sense and applied skills. The results have immediate significance to nursing education, clinical practice and health-policy making. They offer an approved pattern in the incorporation of a compulsory, organized cultural competence framework within nursing education with a focus on a blend of theoretical training and the learning methods of experiential learning like role-play and case-study. Within the framework of clinical practice, the cultural skills augmentation plays a central role in establishing trust and improving communication and providing effective patient-centered care which, in turn, helps to mitigate health disparities. On the policy level, the findings highlight the necessity of institutional assistance and official prioritization of cultural competence by regulatory organizations. One should note the limitations of the study: it was based in one urban centre, self-reported data (which is prone to bias) was used, and short-term outcomes were evaluated only. Further studies are necessary on the retention over time and objective clinical measurements. However, this inquiry shows conclusively that transcultural training is an invaluable and effective initiative to train a nursing workforce that can provide equitable and quality care in a culturally diverse healthcare environment.

6.0. Limitations

Despite the fact that the quantitative approach provides a detailed information, there are a number of weaknesses that deserve to be addressed. First, the research question is limited to the nursing students in Karachi, which may limit the extrapolation of the findings to other parts of Pakistan or other health fields. Second, self-report data collected by the use of surveys and interviews can lead to bias since the participants can answer in a socially desirable manner. Third, the study design is cross-sectional, which presupposes that the conclusive effects of transcultural training on health-care disparities have not been identified yet.

7.0. CONCLUSION AND RECOMMENDATIONS

7.1. Conclusion

This research proves that a formal transcultural training program has a significant positive influence on the cultural competence of nursing students. The intervention yielded statistically significant change on all three fundamental dimensions including cultural knowledge, cultural sensitivity, and cultural skills. This bridges the critical theory-practice gap noted at baseline and changing theoretical knowledge to practical clinical skills in students. Qualitative data demonstrates that the process of development consisted of a significant improvement in personal qualities, such as increased awareness of biases and increased trust in cross-cultural communication. The results also showed that demographic characteristics, e.g. gender and education level, determine the scope of improvement, thus demonstrating the necessity of specific educational approaches. All in all, the study confirms the importance of transcultural training as a necessary element of nursing education, which can equip a workforce with a multicultural society to deliver equitable and patient-centered care.

7.2. Recommendations

In order to apply these findings to practice, a few measures are suggested. The formal education of nurses needs to be made integrated with their training programs at the core level in order to develop practical cultural competencies. This should be supported by health-care institutions and policymakers through policies that require continuous competency building, variety of clinical placements, and even supplying resources like interpreter services to help in the provision of equitable care. More studies are needed in the future that would measure the long-term effect of such training on clinical practice and patient outcomes, and experimental resource methods to make it scalable and sustainable throughout the health-care system.

8.0. REFERENCES

Ali, F. A., Ata, M., Azam, F., & Shaheen, A. (2023). Equity, diversity, and inclusion in medical education in Pakistan: Navigating a complex landscape. MedEdPublish, 13(309), 309.

Ali, G., Lalani, N., Hamash, K., Jimenez Paladines, A. I., Ego Figas, Y., Tikkanen, K., & Hoffman Brooks, J. (2025). Spirituality and mental health: Applying SOPHIE as a therapeutic reflexive tool. Reflective Practice, 26(3), 394-412.

Antón-Solanas, I., Tambo-Lizalde, E., Hamam-Alcober, N., Vanceulebroeck, V., Dehaes, S., Kalkan, I., ... & Huércanos-Esparza, I. (2021). Nursing students' experience of learning cultural competence. PLOS One, 16(12), e0259802.

Arruzza, E., & Chau, M. (2021). The effectiveness of cultural competence education in enhancing knowledge acquisition, performance, attitudes, and student satisfaction among undergraduate health science students: A scoping review. Journal of Educational Evaluation for Health Professions, 18.

Baig, A. M., & Mumtaz, S. N. (2025). Understanding the importance of cultural competence in nursing for the provision of inclusive, equitable and respectful health care. Mader-e-Milat International Journal of Nursing and Allied Sciences, 3(2), 32-47.

Balouch, S., Zaidi, A., Farina, N., & Willis, R. (2021). Dementia awareness, beliefs and barriers among family caregivers in Pakistan. Dementia, 20(3), 899-918.

Brush, K. E., Jones, S. M., Bailey, R., Nelson, B., Raisch, N., & Meland, E. (2022). Social and emotional learning: From conceptualization to practical application in a global context. Life Skills Education for Youth: Critical Perspectives, 5, 43-71.

Cevikbas, M., Kaiser, G., & Schukajlow, S. (2022). A systematic literature review of the current discussion on mathematical modelling competencies: State-of-the-art developments in conceptualizing, measuring, and fostering. Educational Studies in Mathematics, 109(2), 205-236.

Chen, A. M., Armbruster, A. L., Buckley, B., Campbell, J. A., Dang, D. K., Devraj, R., ... & Borja-Hart, N. (2021). Inclusion of health disparities, cultural competence, and health literacy content in US and Canadian pharmacy curriculums. American Journal of Pharmaceutical Education, 85(1), 8200.

Chu, W., Wippold, G., & Becker, K. D. (2022). A systematic review of cultural competence trainings for mental health providers. Professional Psychology: Research and Practice, 53(4), 362.

Farooqui, S., Jabeen, H., Salman, M., & Kaukab, S. R. (2024). Cultural competence among nursing students in Pakistan: A literature review. Social Science Review Archives, 2(2), 1573-1582.

Fayyaz, J., Jaeger, M., Takundwa, P., Iqbal, A. U., Khatri, A., Ali, S., ... & Gross, I. T. (2023). Exploring cultural sensitivity during distance simulations in pediatric emergency medicine. AEM Education and Training, 7(6), e10908.

Fazal, A. (2022). Ethical issues in conducting cross-cultural research in low-income countries: A Pakistani perspective. Asian Bioethics Review, 14(2), 151-168.

Fuller, M., Kamans, E., Van Vuuren, M., Wolfensberger, M., & De Jong, M. D. (2021). Conceptualizing empathy competence: A professional communication perspective. Journal of Business and Technical Communication, 35(3), 333-368.

Gorczynski, P., Currie, A., Gibson, K., Gouttebarge, V., Hainline, B., Castaldelli-Maia, J. M., ... & Swartz, L. (2021). Developing mental health literacy and cultural competence in elite sport. Journal of Applied Sport Psychology, 33(4), 387-401.

Gregersen-Hermans, J., & Pusch, M. D. (2023). How to design and assess an intercultural learning experience. In Building Cultural Competence (pp. 23-41). Routledge.

Henshaw, L. A. (2022). Building trauma-informed approaches in higher education. Behavioral Sciences, 12(10), 368.

Khalid, S. (2023). Cultural Diversity Management: Heading Towards Sustainable Education in Public Sector Universities of Pakistan. Pakistan Journal of Gender Studies, 23(2), 165-179.

Khan, A., bt Madihie, A., & Khan, R. U. (2024). Cultural adaptation of evidence-based psychotherapies for common mental health disorders in Pakistan. Bentham Science Publishers.

Khan, Y. A., Ahmad, S., Muhammad, G., Ahmed, M., Saif, I., Waqar, Z., & Ali, M. A. (2024). Cultural competency training in dental and medical education: Enhancing communication and patient-centered care. Pakistan Journal of Health Sciences, 372-379.

Kyere, E., Boddie, S., & Lee, J. E. (2022). Visualizing structural competency: Moving beyond cultural competence/humility toward eliminating racism. Journal of Ethnic & Cultural Diversity in Social Work, 31(3-5), 212-224.

Lin, B., Wang, S., Fu, X., & Yi, X. (2023). Beyond local food consumption: The impact of local food consumption experience on cultural competence, eudaimonia, and behavioral intention. International Journal of Contemporary Hospitality Management, 35(1), 137-158.

Mahr, F., Petrovic-Dovat, L., Waschbusch, D., Mahr, S., Jabran, A., Ali, S., & Nadeem, T. (2024). Project ECHO: An evidence-based pathway to build child and adolescent mental health workforce in Pakistan. Evidence-Based Practice in Child and Adolescent Mental Health, 9(3), 367-378.

Majda, A., Zalewska-Puchała, J., Bodys-Cupak, I., Kurowska, A., & Barzykowski, K. (2021). Evaluating the effectiveness of cultural education training: Cultural competence and cultural intelligence development among nursing students. International Journal of Environmental Research and Public Health, 18(8), 4002.

Memon, A. A. Q., Osama, M., Wei, C. R., Rasool, G., Bhurgri, R. S., Siyal, D. R., & Siyal, F. J. (2024). Common health challenges for foreigners in Pakistan. Migration Letters: An International Journal of Migration Studies, 21, 131-142.

Mollen, D., & Ridley, C. R. (2021). Rethinking multicultural counseling competence: An introduction to the major contribution. The Counseling Psychologist, 49(4), 490-503.

Purnell, L. D., & Fenkl, E. A. (2021). Transcultural diversity and health care: Individual and organizational. Textbook for Transcultural Health Care: A Population Approach: Cultural Competence Concepts in Nursing Care, 3-18.

Raza, H. (2024). Cultural competency in education: Fostering inclusive learning environments. Makran Journal of Educational Research, 1(02), 116-132.

Ridley, C. R., Mollen, D., Console, K., & Yin, C. (2021). Multicultural counseling competence: A construct in search of operationalization. The Counseling Psychologist, 49(4), 504-533.

Shaikh, N. Q., Noorali, A. A., Merchant, A. A. H., Afzal, N., Lakhdir, M. P. A., Abdul Rahim, K., ... & Haider, A. H. (2024). Communication skills of residents: Are they as good as they think?. Medical Education Online, 29(1), 2396165.

Xie, Q., & Wong, D. F. K. (2021). Culturally sensitive conceptualization of resilience: A multidimensional model of Chinese resilience. Transcultural Psychiatry, 58(3), 323-334.

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