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Evaluating Cultural Competence Attitudes to Mitigate Healthcare Disparities among Healthcare Workers: A Strategic Approach to Enhancing Medical Education.

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Abstract

Background:

Healthcare disparity refers to the unequal burden of diseases, disability, injury, or mortality that certain groups experience compared to others. Healthcare providers must stay informed about the segments of society affected by specific health disparities. This study aimed to evaluate cultural competence attitudes to mitigate Healthcare Disparities among healthcare workers in the Aljouf region, KSA; we strive to enhance medical education.

Methodology:

An analytical cross-sectional study was conducted with 307 healthcare workers from various categories and sectors. A bilingual, standardised, and validated tool was used to evaluate three domains of healthcare disparity: Domain I - Cultural Competence Rationale, Context, and Definition; Domain II - Key Aspects of Cultural Competence; and Domain III - Impact of Stereotyping on Medical Decision-Making. Appropriate statistical tests, including the Mann-Whitney U test, Kruskal-Wallis test, and Spearman's rank correlation, were employed to examine relationships between domains and participants' sociodemographic characteristics.

Results:

Less than 50% agreement was noted in most items across the three domains. The lack of attendance at social justice courses significantly correlated with Domain II ($p = 0.004$) and Domain III ($p = 0.001$). Positive correlations were observed between the domains: Domain I and Domain II ($\rho = 0.642$, $p < 0.001$), Domain I and Domain III ($\rho = 0.674$, $p < 0.001$), and Domain II and Domain III ($\rho = 0.823$, $p < 0.001$).

Conclusion:

This study assessed northern Saudi healthcare workers' attitudes towards cultural competence to reduce healthcare disparities, finding that less than half supported items in all three domains. Notably, lack of attendance at social justice courses affected Domains II and III attitudes. The study recommends integrating targeted training on cultural competence into curricula and continuing education. A multicenter prospective study on qualitative aspects of these attitudes and disparities is also suggested.

Keywords:

Healthcare, Cultural, Competences, Disparities, Attitude, Behaviours, Domain, Saudi Arabia.

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Introduction:

Healthcare disparity indicates a higher burden of diseases, disability, injury, or mortality a group suffers than others. The difference in the health outcome of specific population groups exists due to the discrepancy in access to health services, insurance coverage, use, and quality of Care. Additionally, the differences in patients' preferences, health needs, and treatment recommendations are closely linked with environmental, social, and economic disadvantages. (1)&(2).

The status of health disparity or progress on eliminating disparity can be measured through incidence and prevalence from morbidity and mortality indicators. For example, when one group of the population has a higher case of the disease, shorter survival following diagnosis or a high mortality rate, it constitutes health disparity. (1)&(3).

The International Agency for Healthcare Research and Quality, responsible for promoting health equity, has determined four principles for measuring disparity in providing quality health services. 1). Safety is intended to avoid harming patients by using Care to help them. 2). Effectiveness is ensured by delivering Care based on scientific standards and procedures to every patient regardless of race, religion, and colour. 3). Patient-centred care focuses on individual preference and should be provided with dignity 4). Timebound Care is intended to reduce undue waiting time in documentation and care provision. (4)

The previous studies reported mainly on ethical and racial disparities impacting healthcare service delivery systems (3,) (5) &(6). The healthcare system in Saudi Arabia has advanced healthcare facilities equipped with up-to-date technologies, assets, and pharmacotherapeutics, like many other developed countries. However, equal access to this health service to all segments of society remains a big challenge for healthcare authorities (7) & (9). Additionally, these healthcare resources align to different beliefs of social justice, quality of life, and opportunity for the patients, societies, and the nation. A widely held concern in health service delivery is the state's economic stability, which is both indirectly and directly aligned to the health indicators of the people in general and vulnerable populations in particular. Consequently, inaccessible, insufficient, and poor health services increase broad healthcare expenditure. (10)

Healthcare providers must update their knowledge regarding the section of society affected by the type of health disparity at a given point in time. Though not all causes of Cultural Competence Attitudes to Mitigate Healthcare Disparities among Healthcare Workers are in healthcare providers' hands, medical practitioners have a significant responsibility to play in abolishing inequality in health service delivery.

Several countries have formed medical professional associations that have formed a commission to end disparities in healthcare settings. This commission aims to increase physicians' involvement in addressing disparities in the health

system. Nevertheless, no monitoring mechanism has been established to track its progress.

Saudi Arabia has a sizeable population of non-Saudi workers. The General Authority for Statistics (GASTAT) indicates that 13.3 million (38.3%) people represent various nationalities. (11). The non-Saudi inhabitants have different socioeconomic, demographic, and racial characteristics that influence the quality of healthcare service, response to treatment, and disease outcomes, possibly varying in these people compared to the Saudi national population. (7) The Al-Jouf province is the northern province of Saudi Arabia. Its total population is 520,737, of which 26% (134074) are non-Saudi inhabitants. The province has four administrative units: 1) Sakaka, 2) Qurayyat, 3) Duma al-Jandal, and 4) Tabarjal.

Few studies have investigated the healthcare providers' knowledge and beliefs concerning Cultural Competence Attitudes to Mitigate Healthcare Disparities among Healthcare Workers. Nonetheless, the conceptual framework that drove these studies was missing, nor was any study validation reflected in the studies (7), (12) & (13). In conclusion, the studies highlighted physician engagement without a robust methodology. Hence, to the best of our knowledge, we couldn't find any comprehensive literature study focusing on healthcare providers' understanding of health disparity versus practice. Thus, engaging the healthcare providers' community in our study will help decision-makers bridge the gap between knowledge and practice regarding health disparity and can engage the healthcare providers at the local, regional, and national levels.

USA-based studies have revealed a wide range of disparities in the healthcare system, primarily based on racial and socioeconomic factors. After adjusting for community and individual characteristics in a longitudinal survey of healthcare providers, ethnicity-related disparities persist in COVID-19 outcomes. Moreover, Black and Asian respondents were less likely to report more than three daily emotional and burnout impacts due to the COVID-19 (14). Another USA-based study identified the effect of behavioral and educational interventions on postgraduate trainee doctors' knowledge, attitudes, and practice regarding health care disparities. The behavioral and emotional interventions were found to significantly impact resident knowledge, attitudes, and behavior regarding health care disparities. (12)

Among different sociodemographic clusters, variations in morbidity and mortality are a greatly stubborn phenomenon. Some countries have devised and improved health policies to address later issue. A European-based study revealed that some countries, even with financial issues in European states, have recently witnessed an improvement in public health. Alternatively, this was opposite in Eastern Europe. The economic situation in Western Europe was not significantly associated with widening health disparities. This study suggests that with robust public health policy, the Western European states have effectively averted an aggravation in health disparities (15).



The Saudi Arabian constitution states that every resident's health is a basic right. The 2016 Saudi Vision 2030 underlined health improvement as one of the main concerns of the KSA government. A KSA-based study examined the similarities and differences concerning the treatment and clinical outcomes between Saudi nationals and non-Saudi patients. The study results showed disparities in healthcare facilities between non-Saudi and Saudi patients. Also, non-Saudi patients indicated poor health outcomes, suggesting disproportionate health access and coverage among foreigners. (16)

1) Our study hypothesised that healthcare providers' cultural competence attitude varies among healthcare workers.

Aim:

This study aims to evaluate cultural competence attitudes to mitigate healthcare disparities among healthcare workers in the Aljouf region, KSA; we strive to enhance medical education.

Objectives:

To assess the attitudes of HCWs regarding cultural competencies to mitigate healthcare disparities among healthcare workers.

2) To find the correlation between three domains of cultural competencies.

Methodology:

1. Study Design:

An analytical cross-sectional study was conducted from November 2022 to May 2023.

2. Study Settings:

The study was conducted in the hospitals of the Al-Jouf region located in the northern province of Saudi Arabia. According to Al-Jouf Health Affairs, over the first quarter of 2024, its affiliate hospitals (totalling 9) served 172,338 patients, with 53,662 outpatients and 21,822 inpatients. (17) The province has a total population of 520,737, out of which 26% (134074) are non-Saudi inhabitants. The province has four administrative units: 1) Sakaka 2) Qurayyat 3) Duma al-Jandal 4) Tabarjal.

3. Sample Size:

The sample size was calculated using OpenEpi (18) Standard software ($n = P(1-P)Z^2 / d^2$), for prevalence, we could not find any local study. Therefore, we estimate the sample size based on a pilot study in which 28% of healthcare providers had adequate knowledge of Cultural Competence Attitudes to Mitigate Healthcare Disparities among Healthcare Workers.

(12), confidence level = 95%, margin of error = 5%, $Z = 1.96$, $d = 0.05$, while power of the study 80%. The sample size estimated was 307 participants.

4. Sampling Technique:

Multi-stage Cluster sampling, a type of random sampling, was used to select healthcare works from the Al-Jouf region. Each hospital's required sample of resident healthcare workers was chosen randomly.

5. Selection Criteria:

The World Health Organization (WHO) defines healthcare workers as "all people engaged in actions whose primary intent is to enhance health." This broad definition includes professionals such as doctors, nurses, midwives, pharmacists, laboratory technicians, community health workers, and support staff involved in the healthcare system, such as hospital administrators and auxiliary staff. (19) The healthcare workers working in the Al Jouf region were recruited to complete the form. Their selection criteria are as follows:

Inclusion Criteria: The healthcare workers defined according to the WHO criteria were deemed relevant study subjects. The healthcare workers selected were those who had served at least one year in that hospital understudy.

Exclusion Criteria: The respondents who did not voluntarily consent to participate or did not meet the above criteria were excluded from the study.

6. Data Collection Tool or Questionnaire:

A comprehensive literature review reviewed the studies on healthcare providers' engagement in addressing cultural competence attitudes among healthcare workers. We searched relevant papers in standard research databases such as PubMed, Science Direct, and Google Scholar (searching for "Healthcare providers in cultural competence attitudes and addressing health disparities" we yielded zero results. However, our search yielded three papers with the keyword "physician engagement," and we found a somehow relevant study conducted in the USA (12). A structured questionnaire, the **Tool for Assessing Cultural Competence Training (TACCT)***, was developed by Jernigan et al. (2016) to evaluate cultural competence training within U.S. medical education. The TACCT, as outlined in *Journal of Health Disparities*, served as the framework for assessing cultural competence training programs. (20) The questionnaire was validated, pre-tested, and piloted before data collection. The pilot study participants indicated all the items were clear and concise. Each person's duration took an average of about 10 minutes. The Cronbach alpha value for the data collection tool was 0.83, 0.79, and 0.91 for the Domain I, Domain II, and Domain III, respectively. The questionnaire was in both languages English and Arabic. The questionnaire includes sociodemographic data (name, age, sex, nationality, location,



and income), disease, and disparities in knowledge, attitude, and behaviour. Questionnaire Tool for Assessing Cultural Competence Training (TACCT) II (a). Specific Components (Knowledge=K, Skills=S, Attitudes=A) evaluated three domains of healthcare disparity: Domain I Cultural Competence Rationale, Context, and Definition. Domain II-Key Aspects of Cultural Competence and Domain III – Impact of Stereotyping on Medical Decision-Making. The questionnaire was executed online through Google Forms. (21) The investigator was responsible for data collection and ensuring quality in the online data collection process, such as data entry by appropriate respondents and storage in the data cloud in the online server. Proper entry in the server. The data retrieved from the server was analysed using SPSS version 24. Descriptive statistics is used to describe variables. Initially, we performed Shapiro-Wilk's test to assess the distribution of collected data. Since the data did not meet the normality assumption, we executed non-parametric tests to identify the

Results:

relationship between sociodemographic characteristics and each domain's score. Regarding non-parametric tests, we applied Mann Whitney u test for dichotomous variables, Kruskal-wallis test for categorical variables, and Spearman's correlation test for continuous data. Significant differences is considered when the p-values are less than 0.05.

Ethical Consideration:

Ethical approval was obtained from the Institutional Review Board (IRB) of the Ministry of Health, Qurayyt Health Affair, Al-Jouf (H.13.S-071)). The respondents were provided information regarding the purpose and outcome of the study. Informed written consent was obtained before filling out the questionnaire. All the participants enrolled in the study were voluntary. The participants were allowed to withdraw from the study at any stage without explaining the reason.

Table 1: Background characteristics of study participants (n = 307)

Characteristics	Frequency (n)	Proportion (%)
Age group		
< 30	32	10.4
31 – 40	159	51.8
41 – 50	70	22.8
51 – 60	25	8.1
> 60	21	6.8
Gender		
Male	220	71.7
Female	87	28.3
Nationality		
Saudi	212	69.1
Non-Saudi	95	30.9
Education status		
Paramedical graduates	95	30.9
Medical and dental graduates	75	24.4
Postgraduates	137	44.6
Profession		
Physicians	130	42.3
Nurses and midwives	126	41.0
Physician associates	28	9.1
Therapist	14	4.6
Administrative and managerial position	9	2.9
Have you attended a social justice course?		
No	206	67.1
Yes	101	32.9
Work experience in years within Saudi Arabia (mean ± SD)	10.15 ± 6.37	
Work experience in years outside Saudi Arabia (mean ± SD)	3.42 ± 6.67	



Table 1 shows that 307 healthcare workers were studied; the majority were aged 31–40 years (51.8%), male (71.7%), and Saudi nationals (69.1%). Nearly half (44.6%) had postgraduate

qualifications, with an average work experience in Saudi Arabia of 10.15 ± 6.37 years. Notably, 67.1% of participants had never attended any courses related to social justice.

Table 2: The distribution of healthcare workers according to hospitals.

Profession	Sakaka hospitals N (%)	Qurayyat hospitals N (%)	Duma Al-Jandal Hospitals N (%)	Tabarjal Hospitals N (%)
Physicians	75 (24.42%)	30 (9.77%)	20 (6.51%)	5 (1.62%)
Nurses and midwives	49 (15.96%)	32 (10.42%)	25 (8.14%)	20 (6.52%)
Physician associates	11 (3.58%)	7 (2.28%)	7 (2.28%)	3 (0.98%)
Therapist	6 (1.95%)	5 (1.63%)	2 (0.65%)	1 (0.32%)
Administrative and managerial position	6 (1.95%)	2 (0.66%)	1 (0.32%)	0 (0.00%)
Total 307 (100%)	147 (47.90%)	76 (24.75%)	55 (17.91%)	29 (9.44%)

Table 2 displays the distribution of healthcare workers across hospitals in Sakaka, Qurayyat, Duma Al-Jandal, and Tabarjal. Physicians and nurses constitute the majority across all

locations, with Sakaka hospitals hosting the most significant proportion of healthcare professionals (47.90%).

Table 3: Healthcare workers' response to Domain I - Cultural Competence Rationale, Context, and Definition.

Items	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	n (%)	n (%)	n (%)	n (%)	n (%)
"Define race, ethnicity, and culture."	83 (27.0)	35 (11.4)	74 (24.1)	94 (30.6)	21 (6.8)
"Identify how race and culture relate to health."	67 (21.8)	50 (16.3)	74 (24.1)	72 (23.5)	44 (14.3)
"Identify patterns of national data on disparities."	88 (28.7)	32 (10.4)	98 (31.9)	72 (23.5)	17 (5.5)
"Describe health data with immigration context."	59 (19.2)	67 (21.8)	100 (32.6)	64 (20.8)	17 (5.5)
"Discuss race and culture in the medical interview."	49 (16.0)	40 (13.0)	108(35.2)	83 (27.0)	27 (8.8)
"Use physician assessment tools."	54 (17.6)	36 (11.7)	95 (30.9)	82 (26.7)	40 (13.0)
"Concretive epidemiology of disparities."	76 (24.8)	35 (11.4)	91 (29.6)	94 (30.6)	11 (3.6)

In Domain I – Cultural Competence Rationale, Context, and Definition, the highest levels of agreement were for the statements: “Describe health data with immigration context”

(41.0%), “Identify patterns of national data on disparities” (39.1%), and “Discuss race and culture in the medical interview” (39.0%). The lowest agreement was for “Use physician assessment tool” (29.3%).

**Table 4: Healthcare workers' (HCW) response to Domain II – Key Aspects of Cultural Competence.**

Items	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	n (%)	n (%)	n (%)	n (%)	n (%)
"Describe historical models of health beliefs."	53 (17.3)	59 (19.2)	61 (19.9)	96 (31.3)	38 (12.4)
"Recognize patients' healing traditions & belief ."	27 (8.8)	66 (21.5)	55 (17.9)	107 (34.9)	52 (16.9)
"Describe cross-cult. Communication challenges."	30 (9.8)	43 (14.0)	81 (26.4)	116 (37.8)	37 (12.1)
"Demonstrate knowledge of epidemiology ."	47 (15.3)	60 (19.5)	46 (15.0)	105 (34.2)	49 (16.0)
"Describe population health variability factors ."	48 (15.6)	49 (16.0)	64 (20.8)	95 (30.9)	51 (16.6)
"Outline a framework to assess communities."	47 (15.3)	47 (15.3)	75 (24.4)	88 (28.7)	50 (16.3)
"Ask questions to elicit patient preferences."	51 (16.6)	57 (18.6)	57 (18.6)	88 (28.7)	54 (17.6)
"Elicit information in family-centered context."	36 (11.7)	57 (18.6)	73 (23.8)	105 (34.2)	36 (11.7)
"Collaborate with communities to address needs."	54 (17.6)	26 (8.5)	71 (23.1)	101 (32.9)	55 (17.9)
"Recognize institutional cultural issues."	75 (24.4)	33 (10.7)	62 (20.2)	87 (28.3)	50 (16.3)
"Exhibit comfort when discussing cultural issues."	69 (22.5)	32 (10.4)	65 (21.2)	95 (10.9)	46 (15.0)
"Listen nonjudgmentally to health beliefs."	12 (3.9)	85 (27.7)	81 (26.4)	83 (27.0)	46 (15.0)
"Value and address social determinants."	38 (12.4)	45 (14.7)	92 (30.0)	86 (28.0)	46 (15.0)

In Domain II – Key Aspects of Cultural Competence, the highest agreement was for “Describe historical models of health beliefs” (36.5%), followed by “Ask questions to elicit

patient preferences” (35.2%) and “Recognize institutional, cultural issues” (35.1%). The lowest agreement was for “Describe cross-cultural communication challenges” (23.8%) and “Collaborate with communities to address needs” (26.1%).

**Table 5: Healthcare workers (HCW) response to Domain III – Impact of Stereotyping on Medical Decision-Making.**

Items	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	n (%)	n (%)	n (%)	n (%)	n (%)
"Describe social cognitive factors."	71 (23.2)	33 (10.7)	86 (28.0)	96 (31.3)	21 (6.8)
"Identify physician bias and stereotypingv"	54 (17.6)	70 (22.8)	86 (28.0)	83 (27.0)	14 (4.6)
"Recognize physicians' own potential for biases."	72 (23.8)	32 (10.4)	87 (28.3)	94 (30.6)	21 (6.8)
"Describe the physician-patient power imbalance."	46 (15.0)	48 (15.6)	81 (26.4)	90 (29.3)	42 (13.7)
"Describe physician effect on health disparities."	68 (22.1)	27 (8.8)	62 (20.2)	110 (35.8)	40 (13.0)
"Describe community partnering strategies."	65 (21.2)	26 (8.5)	83 (27.0)	95 (30.0)	38 (12.4)
"Demonstrate strategies to address/reduce bias."	65 (21.2)	19 (6.2)	74 (24.1)	104 (33.9)	45 (14.7)
"Describe strategies to reduce physician biases."	52 (16.9)	36 (11.7)	90 (29.3)	99 (32.2)	30 (9.8)
"Show strategies to address bias in others."	54 (17.6)	30 (9.8)	78 (25.4)	104 (33.9)	41 (13.4)
"Engage in reflection about own beliefs."	78 (25.4)	17 (5.5)	78 (25.4)	99 (32.2)	35 (11.4)
"Use reflective practices when in patient care."	68 (22.1)	28 (9.1)	82 (26.7)	109 (35.5)	20 (6.5)
"Gather and use local data."	67 (21.8)	17 (5.5)	69 (22.5)	115 (37.5)	39 (12.7)
"Identify physician biases that affect clinical care."	49 (16.0)	36 (11.7)	75 (24.4)	102 (33.2)	45 (14.7)
"Recognize how physician biases impact care."	67 (21.8)	23 (7.5)	78 (25.4)	93 (30.3)	46 (15.0)
"Describe potential ways to address bias."	50 16.3()	34 (11.1)	73 (23.8)	108 (35.2)	42 (13.7)
"Value the importance of bias on decision-making."	73 (23.8)	31 (10.1)	94 (30.6)	80 (26.1)	29 (9.4)
"Value the need to address personal bias."	48 (15.6)	41 (13.4)	69 (22.5)	109 (35.5)	40 (13.0)

In Domain III – Impact of Stereotyping on Medical Decision-Making, the highest agreement among healthcare workers was for "Identify physician bias and stereotyping" (40.4%),

followed by "Recognize physicians' own potential for biases" (34.2%), "Value the importance of bias on decision-making" (33.9%), and "Describe social cognitive factors" (33.9%).

**Table 6: Association between participants' background characteristics and total scores of each domain.**

Characteristics	Domain I		Domain II		Domain III	
	Mean Rank	p-value	Mean Rank	p-value	Mean Rank	p-value
Age group						
< 30	95.67		73.05		114.13	
31 – 40	140.50	0.001	150.36	0.013	143.46	0.134
41 – 50	158.87		165.40		151.47	
51 – 60	237.24		181.36		234.52	
> 60	229.76		234.31		207.14	
Gender						
		0.864		0.015		0.006
Male	153.46		161.75		162.65	
Female	155.37		134.40		132.12	
Nationality						
Saudi	133.32	<0.001	148.93	0.133	145.71	0.014
Non-Saudi	200.16		165.32		172.51	
Education status						
Paramedical graduates	149.06	<0.001	192.21	0.031	187.88	0.071
Medical and dental graduates	121.35		108.61		110.43	
Postgraduates	175.30		152.35		152.35	
Profession						
Physicians	152.22		164.87		163.38	
Nurses and midwives	146.68	0.189	199.66	0.004	167.61	0.247
Physician associates	170.29		132.50		118.32	
Therapist	160.03		136.26		146.61	
Administrative and managerial position	89.22		149.56		142.56	
Have you attended a social justice course?						
		0.064		0.004		0.001
No	161.06		164.21		166.22	
Yes	139.59		133.17		129.07	
Work experience in years within Saudi Arabia (mean ± SD)	0.181/0.001		0.362/0.001		0.236/0.001	
Work experience in years outside Saudi Arabia (mean ± SD)	0.278/<0.001		0.009/0.873		0.042/0.462	

Significant findings revealed that Domain I was significantly associated with age group ($p = 0.001$), nationality ($p < 0.001$), education status ($p < 0.001$), and work experience both within ($p < 0.001$) and outside ($p < 0.001$) Saudi Arabia. For Domain II, significant associations were found with age group ($p =$

0.013), gender ($p = 0.015$), and work experience within Saudi Arabia ($p = 0.001$). In Domain III, significant associations were observed with gender ($p = 0.006$) and nationality ($p = 0.017$). Additionally, not attending a social justice course was significantly associated with Domain II ($p = 0.004$) and Domain III ($p = 0.001$).

Table 7: Correlation between three domains assessed by the Spearman's correlation test.

Domains	Spearman's rho value	p-value
Domain I – Domain II	0.642	<0.001
Domain I – Domain III	0.674	<0.001
Domain II – Domain III	0.823	<0.001

The Spearman's correlation test revealed a positive correlation between Domain I – Domain II ($\rho = 0.642$, $p < 0.001$),

Domain I – Domain III ($\rho = 0.674$, $p < 0.001$), and Domain II – Domain III ($\rho = 0.823$, $p < 0.001$) (Table 6).



Discussion:

Globally, cultural competence attitudes and healthcare disparities among healthcare workers are significant indicators of required healthcare delivery. The mix of policies and implementation can improve healthcare equities in a country. Healthcare workers play an important role in implementing the health equity policies implemented by the concerned authorities. (22), (23) Hence, it is essential to assess the healthcare workers' attitudes regarding this critical issue.

The present study explored the highest level of agreement was observed for the statement, "Describe health data with immigration context (41.0)", followed by "Identify patterns of national data on disparities (39.1%) and "Discuss race and culture in the medical interview (39.0)". The lowest level of agreement for Domain I was observed in "Use physician assessment tool (29.3%)". These findings indicate that Saudi healthcare workers' knowledge in this domain is moderate and that there is a need for policy change, highlighting the importance for healthcare providers to understand the cultural and social factors that may influence the health outcomes of the expatriate population. By understanding the unique challenges that immigrant communities face, healthcare providers can better tailor their services and provide more effective care (24), (25). Similar to the present study, a study done by Albougami et al. reported that Filipino expatriate nurses showed greater cultural competencies during healthcare delivery (26). However, their findings are limited to nurses and single-centre findings. The present study explored findings from all the healthcare workers from different centres.

Regarding the factors associated with Domain I, we found a significant association with age group, nationality, and work experience within Saudi Arabia. A study from New Zealand by Te M et al. reported that self-perceived competencies were significantly lower among fourth-year students than first year and second-year students. (27), and Albougami et al. reported a significant difference between nationality (26).

Like Domain I, the healthcare workers' agreement for several aspects of Domain II and Domain III was lower-level agreement on the importance of historical models of health beliefs, asking questions to elicit patient preferences, and recognizing institutional and cultural issues. However, they disagree on the significance of describing cross-cultural communication challenges and collaborating with communities to address needs. A positive health belief model is essential for healthcare workers to go through necessary preventive actions. (28)

There are several possible explanations for these findings. First, healthcare workers in Saudi Arabia may be more familiar with historical health belief models and ask questions to elicit patient preferences because these topics are often covered in their training. (29) Second, they may be more likely to recognize institutional and cultural issues because they are often more visible in the healthcare system. Third, they may be

less familiar with describing cross-cultural communication challenges and collaborating with communities to address needs because their training often does not cover these topics. (30),(31) The study's findings have several implications for healthcare workers in Saudi Arabia. First, they should continue to learn about historical models of health beliefs, ask questions to elicit patient preferences and recognise institutional and cultural issues. Second, they should seek opportunities to learn about describing cross-cultural communication challenges and collaborating with communities to address needs. Third, they should work to improve their skills in these areas to provide the best possible care to their patients.

Regarding attending social justice courses, nearly two-thirds (67.1%) of the participants never participated in any courses related to social justice. This indicates that the policy of recruiting healthcare system workers must be changed, as all healthcare workers must participate and get competent certificates before they join the healthcare system. The present study findings support this statement as not attending the social justice course is significantly associated with Domain II and Domain III.

Finally, the present study findings indicate a strong positive correlation between all three domains, indicating the necessity of social justice courses and competence training for all HCWs.

The study's findings also have implications for healthcare policymakers in Saudi Arabia. They should consider incorporating training on these topics into the curriculum for healthcare workers. They should also provide opportunities for healthcare workers to learn about these topics through continuing education programs. By doing so, they can help to ensure that healthcare workers in Saudi Arabia have the skills they need to provide high-quality care to all patients.

Strengths and limitations:

The present study is the first of its kind done in the northern regions of Saudi Arabia, where the multicultural work environment is still high. Secondly, to our knowledge, our study is done across different healthcare settings and healthcare workers using a standard and validated tool. However, some limitations and constraints cannot be excluded. Firstly, we explored the aspects of Cultural Competence Attitudes among Healthcare Workers using a cross-sectional study design. Hence, we examined the association, not the causation and temporal relationship, aspects of Cultural Competence Attitudes among Healthcare Workers. Furthermore, we cannot exclude the possibility of bias related to recall, exaggeration, and self-selection.



Conclusion:

This study examined the attitudes of northern Saudi healthcare workers regarding Cultural Competence Attitudes to mitigate healthcare disparities among healthcare workers. Less than half of the participants agreed with items across all three domains. A significant factor influencing Domain II and Domain III was the lack of attendance at social justice courses. The study recommends that authorities implement targeted training programs, incorporating these topics into the curriculum and offering continuing education opportunities to equip healthcare workers with the skills needed to provide equitable care. Additionally, a multicenter prospective study on qualitative aspects of Cultural Competence Attitudes and healthcare disparities among healthcare workers is suggested.

Conflict of Interest:

The authors have no conflicts of interest to declare.

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Authors contributions:

The first author selected the research area, formulated the research questions and objectives, developed the methodology, and obtained ethical approval from the IPR. The second author developed the survey using Google Forms, distributed it, ensured participant collaboration, and conducted data analysis. Both authors contributed to writing the manuscript and revising the paper.

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