Cultural Competency: The Gap in Understanding of Indian Patients and How it Affects Quality Healthcare

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Abstract

This thesis will explore the gap in sociocultural understanding between Indian patients and American physicians, and primarily, how cultures play an important role within shared decisionmaking. The objective of this research is to make physicians more aware of their biases when it comes to patients of different racial and ethnic backgrounds and ensure that they take all factors surrounding patients' perspectives into account during shared decision-making. A pilot study was conducted by sending an anonymous survey to potential participants in Macomb and Oakland counties. The survey included questions asking Indian and non-Indian physicians about their cultural training, to rate their experiences with patients of different cultures, and short answer hypothetical case studies that allowed conclusions to be drawn of the treatment of Indian patients. Two-sample t-tests and Mann Whitney U tests were used to conduct statistical analyses of the collected data. It was found that those who were less prepared by their medical training showed higher comfort levels treating patients of different cultural backgrounds as themselves, which may indicate that those who were not trained in the importance of acknowledging unconscious biases may not take these factors into account when treating patients of different backgrounds. This may also be indicative of the necessity of medical training in foundational medical programs, as well as continuing education modules. It was concluded that cultural competency is an integrative component of healthcare, and its importance must be stressed on all levels of a healthcare system.

Keywords: misdiagnosis, cultural competence, healthcare, shared decision-making, Indian patients, medical school, foundational medical curriculum, continuing education

Cultural Competency: The Gap in Understanding of Indian Patients and How it Affects Quality Healthcare

With the growing multiculturalism in global society, healthcare has changed vastly to incorporate individuals of multiple cultural backgrounds in one given system. With this change comes a growing importance of ensuring that all healthcare professionals maintain a high standard of cultural competence. This thesis will focus on the importance of cultural competence for physicians and the role it plays in developing strong relationships with their patients.

Physician-patient relationships are characterized by many different factors, such as trust, mutual respect, decision-making and ethical considerations. However, one of the most important factors in physician-patient relationships is the acknowledgement of sociocultural differences between these two parties who may come from many different backgrounds. Sociocultural factors do not only include differences in race or ethnicity; socioeconomic status, education level, religious backgrounds, belief systems and attitudes towards different social constructs are all additional factors that can influence the relationship between a patient and a physician. They can impact the trust between these two parties, and hence influence effective shared decision-making regarding the patient's healthcare.

If a physician does not understand the perspectives a patient speaks from when divulging their health narrative, these sociocultural differences become barriers to effective treatment, and hence leave distrust and potentially blind the physician from seeing all the factors that influence their patient's health condition. This could lead to medical errors and misdiagnoses that could harm the patient's condition further (Riquelme et al., 2010).

Medical error is currently the third leading cause of death in the United States, and misdiagnoses are the leading cause of medical error (Pelaccia, Messman, & Kline, 2020).

Misdiagnosis is defined as the incorrect identification of a patient's disorder and can result from

a physician not understanding a patient's narration of their symptoms (e.g., language barriers) or non-specific symptoms. This can also come from incorrect attribution of a patient's racial and ethnic history to their condition. This can mean that a physician can jump to a diagnosis because of a patient's background, or they could fail to take into consideration certain diagnoses. For these reasons, it becomes imperative for physicians to be aware of their own unconscious biases and learn about the multiple factors that may not necessarily influence their own life but can impact their patients' lives and healthcare in a great way.

This principle forms the crux of cultural competence and gives the foundation to a succinct definition. Cultural competence, according to Young and Guo (2020), is broken down into two components as such:

"Culture" refers to integrated patterns of human behavior that include the language, thoughts, communications, actions, customs, beliefs, values, and institutions of racial, ethnic, religious, or social groups. "Competence" implies having the capacity to function effectively as an individual and an organization within the context of the cultural beliefs, behaviors, and needs presented by consumers and their communities. (para. 8)

In the context of this thesis, the consumers are the patients who are receiving a service from their physicians. The capacity of a physician to pay attention to all the cultural beliefs that their patients bring in makes them more competent at providing effective healthcare and reducing negative experiences with it.

Societies that were once segregated into separate belief systems are now integrating into one global system, made up by people from a multitude of cultural backgrounds. As a result, the medical field is expanding in a very similar way that integrates multiculturalism into the fabric of

healthcare. As a result, in response to this, there is a growing need for healthcare professionals to be culturally competent in order to reduce disparities in care and improve health outcomes.

Cultural competency in physicians manifests itself as knowledge of alternative medicine techniques, different core beliefs, religious values, and the idea that decision-making has to include a patient's perspective. Current research in this area focuses on cultural competence regarding mental disorders rather than physical ones, due to the high level of subjectivity in diagnosing mental disorders. The sociocultural stigma revolving around mental health make it the focus group on how being culturally incompetent can lead to misdiagnosis — and in many cases, overdiagnosis — of disorders, and mistreatment. Consequently, this thesis aims to discuss the importance of cultural competence under the umbrella of physical conditions and will also discuss the importance and effectiveness of cultural training as part of foundational medical programs. This thesis focuses on the role of sociocultural factors in physician-patient interactions by conducting a pilot study involving Indian patients and American physicians of either Indian or non-Indian backgrounds. The objective of this thesis is to make physicians aware of their biases when it comes to treating patients from different cultural backgrounds.

Cultural Competency Measures

Before expanding upon the different elements of this thesis, it is imperative to define cultural competence in terms of the strategies adopted by healthcare systems to make medical services more accessible for people of different backgrounds.

The first of these is interpreters. As mentioned above, there are many patients that present at a clinic with limited English proficiency or literacy, and many times, these patients bring a family member or a friend with them to assist. However, these people are often not medically trained, nor are they trained to interpret a patient's words to the healthcare provider. As a result,

there can be miscommunication that leads to negative clinical outcomes, and dissatisfaction with healthcare services. The risk of medical error is also significantly increased, as physicians receive more accurate information from medically trained interpreters than they do from laypeople. Providing quality interpreter services helps reduce the language barrier to effective healthcare and reduces the prevalence of health complications. One study found that patients with limited English proficiency who received adequate interpreter services presented to the clinics more, filed their prescriptions more regularly and adopted more recommended interventions than those who received inadequate or no interpreter services (Jacobs et al., 2004).

Further, hiring more staff from different communities can also help, as patients tend to feel more comfortable with healthcare professionals that are from similar backgrounds as them. A 2018 study conducted in Oakland, California sought to investigate this. They studied preventive care among African-American men in the context of cardiovascular screening and found that, compared to non-African-American male doctors, African-American doctors could reduce cardiovascular mortality rates significantly. Subjects were much more likely to talk to the doctors that came from the same racial background as they did, and they were more willing to accept preventive care from these doctors. Hence, there were higher positive healthcare outcomes, and better physician-patient relationships were established. Additionally, discriminatory effects on quality healthcare are reduced as compared to when African-American patients go to Caucasian doctors (Alsan et al., 2018).

Recruiting staff from different racial and ethnic backgrounds benefits the system as well, as more diverse people will bring a variety of strengths and perspectives that can balance potential weaknesses in other employees. Workforces with increased diversity also provide

grounds for more social equality, promoting higher generational mobility across a social class (Global Health Education, 2020).

Another component of cultural competency in healthcare systems is to be aware of alternative healing systems. Alternative medicine is a relatively new term used to denote medical treatments that are not necessarily tested or proven effective. Many of these treatments, such as Ayurveda, have roots in traditional healing systems, and many patients prefer to use alternative medicine as opposed to mainstream medicine (e.g., prescription drugs). Some examples of traditional medicine include Ayurveda and Oriental medicine. Many of these have been used in specific cultures for centuries before they were brought into a global context. For example, Ayurveda is a branch of medicine that focuses on the balance between body, mind, spirit, and the environment by using natural herbal medication to treat disorders. It is an officially recognized branch of medicine in India, where Ayurveda is said to have originated over 3,000 years ago (Sridharan et al., 2011). Oriental medicine, on the other hand, originates from China, and focuses on the balance of a body's energy (called qi). Acupuncture¹ and tai chi² are both popular forms of Oriental medicine in the Western world (Frantzis, 2019; Kim et al., 2015).

Many people come from cultures where more traditional methods of healing are used, and they may prefer these techniques to mainstream Western therapies. Many patients are not compliant with prescription medicines and interventions, and this is because of belief in alternate medication techniques (Shoaib & Khaliq, 2017). The importance of physicians understanding the root of these beliefs can go a long way in making sure that the patients do not feel like they are being dismissed when they present concerns. This can help develop a stronger physician-patient

¹ Acupuncture involves the insertion of very thin needles at specific points in the body and is used for pain and overall wellness. It can also be used to balance qi.

² Tai chi is a Chinese martial art that has roots in traditional Chinese medicine and uses graceful moments to serve as a form of physical therapy, while also balancing qi and promoting overall wellness.

relationship because patients feel more comfortable being honest about the alternative techniques they are using (Islahudin et al., 2017). Additionally, in the elderly, patient compliance to healthcare interventions can be affected by their preferences. Physicians can ensure better health outcomes by finding a balance between traditional healing and Western medicine that accommodates both the patient's beliefs, and also ensures that their health is not negatively impacted. Scheduling regular follow-up appointments can help physicians monitor their patients' compliance with their treatment routines. This can also help reduce negative patient outcomes, such as health complications (Tariq et al., 2018). In fact, one study found that osteopathic medicine students³ are likely to approach alternative medicine techniques with a positive attitude, and hence, are better served to interact with patients who make use of at least one alternative technique (Kanadiya et al., 2012).

Another facet of cultural competency is ensuring that medical access is available in areas disproportionately affected by disease. In the discussion of access, it is important to distinguish between the disparities in health care and health outcomes. Disparities in health care denotes the inequities in health care services such as interventions and therapies. Disparities in health outcomes are how the prevalence of a disease can be different depending on the conditions surrounding each patient, such as hereditary factors or racial disparities (Wheeler & Bryant, 2017). African-American and Latino communities in the United States are much more likely to be affected by chronic conditions such as cardiovascular disease, hypertension or diabetes compared to Caucasian communities. Unfortunately, these communities do not always have adequate access to healthcare resources and many of them are not aware of how their racial and ethnic background can genetically pre-dispose them to chronic conditions (Georgetown

³ Osteopathic medicine students are those pursuing a DO medical degree.

University McCourt School of Public Policy, 2019). This affects quality health care and positive health outcomes when patients from these communities do not receive quality, consistent medical care. Cultural competence in physicians can help reduce this gap and being aware of culture distances in the system can go a long way in reducing inequity regarding medical care.

In the discussion of health outcomes, it is imperative to discuss the reaction of patients to negative health outcomes. In minority communities, low socioeconomic status, and reduced access to medical care results in a higher level of medical avoidance, due to embarrassment or shame, from patients who have a negative experience with a healthcare provider. However, one study studied the behaviors associated with medical avoidance due to negative encounters, and found that in Latina women, those who believed their provider to be culturally competent were more likely to go back, regardless of a previous negative experience. The conclusion of the study stated that cultural competence in healthcare providers can reduce the consequences of negative health outcomes, as patients feel less embarrassed about their negative experience when faced with a provider that displays cultural competence (Flynn et al., 2020).

As seen above, there are many measures that go into ensuring healthcare providers and systems are culturally competent. To support the above points, the maternal mortality in African-American mothers will be discussed below before delving into the issue of cultural incompetence regarding the care of Indian patients.

Maternal Mortality in African-American Mothers

Pregnancy is a physically demanding time for mothers. Their bodies undergo many changes in order to accommodate the growth of a new life. These include hormonal changes to help the development of the fetus and to maintain the uterine lining to allow for transformation of a zygote into a full-term fetus. Pregnant women also undergo physical changes such as weight

gain, frequent urination, changing breast size to prepare for lactation, and changes in the pelvis in preparation for birth (Lay & Healthline Editorial Team, 2017). However, belonging to certain ethnic and racial backgrounds can put pregnant women through many more risks that greatly increase the risk of pregnancy complications, thus reducing the risk of survival of both mother and baby.

Racial and ethnic disparities in pregnancy include risk of cardiovascular conditions, infections, hypertension, and hemorrhage disorders. In African-American mothers, the risk of any of those conditions is significantly higher than in Caucasian women, and this impacts their pregnancy by putting them at risk for pregnancy-related complications such as preeclampsia⁴, infections, miscarriages, and stillbirth. Because of these comorbid conditions, African-American mothers are, on average, three to four times more likely to die of a pregnancy-related death within a year of pregnancy than Caucasian mothers. In many cases, these deaths are facilitated by the other conditions that they are at risk for (Petersen et al., 2019). These disparities suggest that it is vital for healthcare providers to accommodate the racial and ethnic background of their patient, and closely monitor pregnancies for the factors listed above.

Most of these pregnancy-related complications are entirely preventable by checking for warning signs, monitoring chronic conditions, and improving prenatal care quality. However, the prevention of high maternal mortality rates in African-American women must take place at all levels of a healthcare system: individuals, providers, hospitals and clinics, and states. Training all four of these groups to consider culturally relevant details is vital, as this competency will help them make more informed decisions when it comes to medications and interventions taken during pregnancy. Women and their families can look into family history to check for

⁴ Preeclampsia is a sudden spike in blood pressure after week 20 of pregnancy, usually in the third trimester.

complications experienced by other women in their family. They can also look into their cultural background to bring up the possibility of complications to their provider, who should be on the look-out for warning signs.

Hospitals, clinics, and other healthcare systems can contribute by identifying unconscious biases regarding their cultural competency, and work to implement training programs that bring awareness to providers about the risk factors in pregnancy across different racial and ethnic backgrounds. States can also contribute by setting up awareness programs that allow the general public to learn more about the risk factors associated with pregnancy complications and risk of maternal death in different communities (Office of Minority Health & Health Equity, 2020).

Cross-Cultural Gap in Understanding Indian Patients

This thesis aims to discuss the gap in understanding Indian patients, and how cultural competence can lead to quality healthcare and positive health outcomes. To do so, a pilot study was conducted. Surveys about experiences with cultural competence in medical school and during practice were sent to physicians and the results are summarized below.

Method

This study collected data through an anonymous survey. Participants for the survey were chosen using snowball sampling, in which initial clinics and healthcare practices were emailed the link to the survey and then asked to forward to further potential participants. There were two eligibility criteria for filling out the survey:

- The participants must be currently-practicing physicians, with either an MD or a DO medical degree.
- The participants must currently practice in Macomb and/or Oakland counties of Michigan.

As the research aimed to look at current cultural competence in physicians today, retired physicians were excluded from the study. Additionally, the two counties were chosen for their high immigrant populations⁵, although this thesis focuses primarily on the Indian sector of the South Asian diaspora.

The research proposal was first approved by the Institutional Review Board to ensure that all methods of the study were ethical and would not harm any participant. Then, potential participants were emailed with a link to a survey and a description of the study's aims and

⁵ Macomb County has 11.2% foreign-born population (United States Census Bureau, 2019a) while Oakland County has 13.0% foreign-born population (United States Census Bureau, 2019b).

objectives, along with an information sheet⁶. The information sheet was mandatory for all participants to read before filling out the survey, and hence was also used as the first question on the survey.

The survey⁷ included one mandatory screening question, after which, if the participants did not pass, the survey closed for them. If the eligibility criteria were met, the remaining survey consisted of one demographic question, three questions about cultural competency training received in medical school, and six questions asking them to rate various aspects of cultural competency on a scale of 1 to 10, 1 being the lowest score and 10 being the highest. Further, two hypothetical case studies were also provided for short answers, asking the participants what they would do in each situation. These case studies involved the treatment of Indian patients to test the physician-patient cultural gap. Further, most questions were made optional to ensure that participants would not have to disclose anything they did not wish to, whilst also facilitating higher response rates.

At the survey end date, 13 participants had submitted the survey. Four of these participants identified as non-Indian, while nine identified themselves as Indian or from Indian descent. To maintain anonymity and protect each participant, no names, locations, or IP addresses were collected from each respondent. This was accomplished by not asking participants any specific questions that could be traced back to them, and Google Forms, the survey software used, does not collect user data. No patient information was collected to avoid

⁶ Information sheet is attached in Appendix A

⁷ A full copy of the survey questions can be found in Appendix B, along with explanations of how it was meant to be filled out.

violating HIPAA⁸ regulations, and for ethical reasons. Both case studies were purely hypothetical and were not curated from any real study.

Results

The raw data was a combination of quantitative data in the form of rating scales, and qualitative data in the form of answers to the case studies. Each was analyzed differently to draw conclusions. Microsoft Excel was used for all statistical and graphical data.

The demographic of the participants was split unevenly, with four non-Indian physicians, and nine Indian physicians. Figure 1 is a representation of two questions on the survey that asked participants to rate how often they saw patients from either the same (Figure 1a) or from different (Figure 1b) cultural backgrounds as themselves.

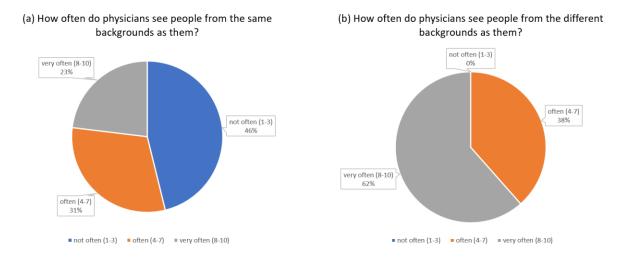


Figure 1: a) frequency of seeing patients of same backgrounds b) frequency of seeing patients of same backgrounds

Figure 1a shows that a large percentage of physicians (46%) do not often see patients from the same cultural background as them. Although in total, 54% of physicians did see patients

⁸ Health Insurance Portability and Accountability Act (HIPAA) protects sensitive patient health data from being shared without the patient's knowledge and consent. No survey question required the participant to disclose patient data to protect both physician and patient.

from the same cultural background frequently, there is still a large portion of the sample that mainly sees patients from different backgrounds, which is represented in Figure 1b.

Out of the total number of physicians, 62% saw people from different cultural backgrounds very often, while 38% said they saw them often. 0% of people answered "not often" (Figure 1b) to this question, indicating that it is not a rare occurrence to see patients of different backgrounds present at healthcare facilities. This emphasizes the need for cultural competency in medical training, as physicians frequently see patients from different racial and ethnic backgrounds to themselves.

The data was also visualized with a scatter plot to view the correlation between different data sets:

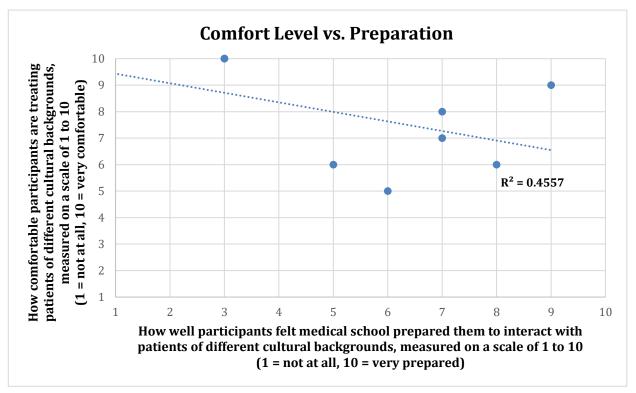


Figure 2: Graph showing correlation between preparation and comfort level

Figure 2 shows a scatter plot of the data from two questions of the survey to test how cultural competency preparation from medical school affects the physicians' comfort level in

treating patients from different backgrounds. As can be seen, the data points do not show a strong correlation. This is supported by the R-squared value being 0.4557. An R-squared value between 0.3 and 0.5 indicates a weak correlation between the two variables being compared and suggests that feeling prepared with the cultural competency training has very little to do with the comfort level required in treating patients from different cultural backgrounds.

Interestingly, there were five data points (not shown on graph) in which the participants rated their preparation as "0," and participants indicated that they were *not* offered cultural competency courses in medical school. They were all Indian participants and all five of these participants rated their comfort level treating patients at an average of 9.8 out of 10.

Additionally, there were two points where the participants rated their preparedness at 3 and had an average comfort level of 10 out of 10. This was interesting as the initial hypothesis was if physicians were provided with more training to prepare themselves to treat multicultural patients, then their comfort level would increase.

To further analyze the data in the context of this hypothesis, two-sample t-tests and Mann Whitney U-tests were used to test significance between two participant samples formed by the Likert scale data, using an alpha value of 0.05.

The two-sample t-test was used with a two-tailed hypothesis to test significance in either direction. The two independent sample groups were formed by splitting the Likert scale ordinal data. Sample 1 consisted of those who did not feel they were prepared well, or at all, rating 0 to 5 on the survey. Sample 2 consisted of those who felt they were prepared, rating 6 to 10 on the survey. There was significance found for preparedness, t(11) = 2.828, p = .0164. Those who did not feel they were prepared well (n = 8, M = 9.375, SD = 1.408) showed higher comfort levels treating patients of different cultural backgrounds as compared to those who were prepared well

(n = 5, M = 7, SD = 1.581). A Mann-Whitney U Test was also conducted with the same set of data to further test significance, as Mann-Whitney U tests are used for small sample sizes. The Mann-Whitney U Test also indicated that the sample population with lower preparation levels were more comfortable treating patients of different racial and ethnic backgrounds, U = 8, p = .465, and this value was significant.

The next hypothesis tested was if cultural competency training affected the participants' comfort level with treating patients of different cultural backgrounds. In this two-sample t-test with a two-tailed hypothesis, Sample 1 consisted of those who received no cultural competency training at all. Sample 2 consisted of participants who received at least one lecture or had cultural competency training integrated into their curriculum. Just like the previous hypothesis, those with no cultural competency education (n = 6, M = 9.833, SD = 0.408) were more comfortable than those with some form of education (n = 7, M = 7.286, SD = 1.799). The null hypothesis was rejected with these values, t(11) = 3.374, p = .0062. The Mann-Whitney U-test was also conducted with this sample, showing significance in the difference between sample means, U = 4, p = .0183.

The statistical significance of these two hypotheses suggests that perhaps those who are not versed in cultural competence are more comfortable treating patients from different cultural backgrounds because they are not fully aware of how unconscious biases can impact their decision-making. However, this can be dangerous as it can lead to more negative patient outcomes, and an impaired relationship between the physician and patient.

The physicians were also asked about their opinion on the need for continuing education regarding cultural competency. These can come in the form of classes, modules, workshops, or regular meetings to ensure that healthcare personnel remain up to date with their multicultural

training. It can also help regularly emphasize the importance of being cognizant of these differences that could impact their patients' health outcomes. Consequently, they were also asked how much they thought cultural barriers impacted effective diagnosis and treatment. The results of these two questions are summarized in Table 1:

	Average Rating (or	n a scale of 1 to 10)
	Do you think doctors should receive continuing education regarding different cultures?	To what extent do you feel languages and other cultural barriers impact effective diagnosis and treatment?
Indian $(n = 9)$	7.778	8.444
Non-Indian $(n = 4)$	8.250	7.750

Table 1: Table showing average rating of two questions

The Indian physicians, on average, rated higher on the impact of cultural barriers to effective diagnosis and treatment, but interestingly, rated lower on the need of continuing education. Non-Indian physicians showed an opposite trend, where they rated higher on the need for continuing education. This could be due to all the non-Indian physicians receiving cultural education in medical school, while five out of nine Indian participants said they did not receive any training. It may be that receiving more education lowers physicians' perceptions of the number of cultural barriers and simultaneously raises awareness of the need to continue cultural training. However, it is important to note in this analysis that the two sample sizes are uneven, with the number of physicians in the Indian category being more than double the number of non-Indian physicians and may therefore affect the values presented.

The qualitative data collected were in the form of two case studies. These were analyzed using key terms within the participants' answers, and common patterns were identified to assist in drawing conclusions. The first case study is as follows:

An Indian man comes into your clinic with no obvious physical injuries. His physical exam comes back with no abnormalities. He has very-limited English speaking skills, but he speaks Hindi, Urdu and Punjabi fluently. He is valiantly trying to explain where the pain is in limited English and what symptoms he's feeling. What would you do next? The purpose of this case study was to test the participants' methods when faced with patients that bring a language barrier to effective communication. Limited English-speaking skills meant that the patient would not be able to self-present a reliable narrative, because he might use the wrong words to describe something, which could over- or under-state the symptoms. As there are no physical abnormalities detected during the exam, the physician would not know what tests to assign either.

As most of the participants were physicians who identified as Indian, many of them stated that they would not do anything differently, as they also speak the languages the patient is fluent in (namely, Hindi, Urdu, and Punjabi, which are common languages of the Indian subcontinent). Some of the Indian participants also mentioned a language hotline to help interpret the symptoms or getting the family to translate for the patient. One participant did mention that "often family can be of help, but not always," perhaps speaking of family members who also show limited English proficiency, or family members who do not have a background in healthcare. In those cases, it is safe to assume that their narrative may also not be reliable.

In the non-Indian participants, all of the participants mentioned bringing in a translator.

One participant said that they would ask the patient if they were more comfortable with a doctor

that shared the same cultural background. Another participant brought up a very interesting point: "if it's an emergency, we don't have time to refer them to another doctor." This speaks of the importance of having interpreters on-hand and ready, especially in high-pace departments like the emergency room.

The second case study served to present a situation where a patient believed heavily in traditional medicine techniques and how it can affect their compliance to prescribed medication. The study is as follows:

An Indian woman comes into your clinic complaining of polydipsia and polyuria. She has a family history of hypertension, type 2 diabetes mellitus, and heart disease. After some tests, you find that her fasting plasma glucose and her HbA1C put her well into the diabetic category. You prescribe Metformin and a few lifestyle changes, and ask her to schedule a follow-up in three months. After three months, her HbA1C is still elevated despite the medication, and you find out from the pharmacy that she has not even filled her prescription. Upon questioning her about her non-compliance to take medication, she states that she only believes in Ayurvedic medicine, and refuses to take Metformin. What do you do next?

The answers to this case study were varied, but they all shared the same bottom line: educate the patient on why it is important that she comply with her prescribed medication, to help prevent a diabetic emergency. The Indian participants showed more understanding of the importance of Ayurveda, as some agreed to try non-pharmaceutical options and lifestyle changes in lieu of medication for some time. However, most participants showed a consensus on the short-term importance of bringing the patient's sugar level into control before they discussed alternative

techniques, to prevent further negative outcomes such as diabetic emergencies, or the development of other chronic conditions.

Interestingly, one of the non-Indian participants said that they would refer the patient to an Integrative Medicine physician, as they have more familiarity when it comes to alternative medical therapies. The reason for this was because they "don't want to risk aggravating the patient." This participant also said that they would research and try to find out more about Ayurveda to better assist the patient. This shows that there are physicians that are at least somewhat familiar when it comes to other medical therapies used in other cultures, and these physicians may even share the same cultural background as the origination of these therapies. This ensures that the physician and patient share a common link and can also lead to the patient being more comfortable confiding in their physician about their narratives and any previous interventions. This particular response also showed that physicians are willing to go an extra step to understand where their patients are coming from, which is a very positive ideal to hold as the world changes to become more inclusive.

Discussion

One of the aims for conducting this thesis was to discuss foundational medical programs and how they prepare medical students to be culturally competent as they learn the skills they will use as doctors. Out of thirteen total participants, six indicated that they had not been provided with any cultural competency training in medical school; all six of these participants identified as Indian. The remaining seven had some form of cultural training, whether it be integrated into their curriculum, or be at least one dedicated lecture. This disparity in responses may point towards a difference in where these participants attended medical school, though that was not a question asked in the survey.

Consequently, it was found that those who were less prepared by their medical training showed more confidence in treating patients of different cultural backgrounds. This indicates that perhaps these physicians are not wholly aware of their cultural biases because they have not been trained to look for them. This can be very dangerous, especially in a landscape that is slowly blurring the lines between different cultures. Physicians should be aware of all factors that play into patients' decisions on certain interventions, so they can further advise in a way that is empathetic and does not lead to the patient avoiding medical care. Medical training plays a large role in that, and this study could provide valuable input on the importance of ensuring foundation medicine curriculums include dedicated portions to multicultural skills training.

Additionally, 84.6% of physicians rated a score of 8-10 on the need for continuing education regarding cultural competency, which denotes that they are aware of the differing landscape regarding cultural diversity in the patient population and would like steps to be taken to ensure they keep pace with these changes. Education does not stop after graduation, and as physicians continually refresh their skills in other areas, this is also one area that could be paid regular attention. There are many different ways continuing education can be provided, such as monthly programs, or workshops that involve different simulations to test the biases a physician might have in the safety of a false situation. Beyond that, state awareness programs, pamphlets in multiple languages, and brochures can help patients look out for the warning signs indicated if they come from a certain racial or ethnic background. This may help bridge the gap between physician and patient, as patients are then aware of the factors to ask their doctors about.

The case studies served an important purpose in supplementing the aims of this thesis by providing hypothetical situations in which language barriers and alternative medicine barriers were tested. The answers to them indicated that there are already resources in place to help

physicians establish a productive relationship with their patient, such as translators.

Implementing quality resources can encourage patients to access regular medical care and keep in touch with their provider, particularly in the elderly who need closer monitoring. Further

studies can also be conducted to test the effectiveness of these resources, including what

patients' experiences with them are and how they can be improved.

Strengths and Limitations:

The initial methodology involved interviewing hand-selected physicians in person; however, due to the COVID-19 pandemic, the research was conducted through an anonymous survey. The research ensured it took appropriate measures to maintain anonymity using Google Forms, a digital questionnaire software that does not collect personal data. This strengthened the reliability of answers provided, as the participants could be honest. The snowball sampling method also allowed participants to reach out personally to potential participants without compromising their privacy, as emails and personal phone numbers are not public record. Additionally, no real patient information was collected at any point during the survey.

By allowing participants to skip questions they did not want to disclose answers to, their comfort level was also maintained. However, the participants could not be asked for clarification on any answers, and it had to be ensured that the survey was easy to fill out. This limited the types of questions that could be included. Moreover, due to the pandemic, many of the target participants were busy with hectic work schedules, so the survey was designed in such a way that it could be filled out in 20 minutes. Despite this, the number of people who had time to fill the survey out may still have been impacted.

Another strength of this study was that the wide breadth of cultural competency research was narrowed down to a specific culture and category of disorders, namely Indian patients and

physical conditions. Current research into cultural competency in healthcare focuses on the subjective interpretations of mental disorders and has a more general breadth regarding racial and ethnic backgrounds. The specificity of this pilot study allows additional research to be compounded upon these findings to draw more accurate and precise conclusions.

A third strength is that this survey took into account all possible factors when it comes to healthcare decisions. Physical conditions are often also treated with alternative medicine, and many other barriers may prevent patients from reaching out when they need medical assistance. In spite of this, there were some considerations that could not be controlled for due to the lack of demographic data, such as age, sex, or gender. Further research could divide data by these factors and investigate a correlation between demographics and patient healthcare experience.

To establish a relationship between physicians treating patients from different cultural backgrounds, non-Indian physicians were used in the context of the case studies which involved Indian patients. Indian physicians were used as a control in this regard, which allowed a comparative analysis of qualitative data. However, due to the specific eligibility conditions, the sample size was very small, and keeping only physicians as the participants did not allow for a patient comparative group. Further studies on a larger scale could be conducted to combat this and increase the generalizability of these conclusions.

Additionally, as no demographic data was collected, the non-Indian group could have been made of people from other countries in the Indian subcontinent, such as Pakistan, Nepal, Sri Lanka, or Bangladesh. This could impact the validity of the conclusions as people within this subcontinent share similar experiences, and any cultural barriers would be reduced when compared to people with an Eastern to Western cultural gap. Further, Macomb and Oakland

counties were specifically chosen for their high immigrant population, and hence this could also skew the results of the research by introducing a bias.

During the statistical analysis, the significance tests were dependent on the answers given on a Likert scale (rating on a scale). A scale from 1 to 10 was used to allow for more precise ratings, and to make it easy for the participants to fill out. However, interpretation of Likert scale data is arbitrary, as the representation of each number is not consistent among both participants and researchers. It is possible that the participants could have overestimated or underestimated their ratings. This limits the accuracy of the results.

Further, the populations formed during the t-squared tests and Mann Whitney U tests did not include a central portion to account for neutral answers. In other words, the data was spread across two extremes instead of multiple groups, which limited the significance of neutral answers.

Conclusion

Cultural competency is integral in ensuring positive health outcomes, especially in communities that are disproportionately affected by disease and ailments. It is not an isolated element of the healthcare field, as the chance of medical error can be reduced if physicians know what warning signs to look out for in each patient depending on their racial and ethnic background. It can also help them understand the stigma attached to certain medical conditions, or groups of conditions, and this can further assist them in ensuring that they approach the relevant topics with care. This care extends to understanding socioeconomic factors as well, such as access to insurance. Integrating more racial and ethnic groups into healthcare can contribute to a change in the system, and lead to better access for people of lower socioeconomic status and language limitations.

The results of this study showed, through the responses of the non-Indian participants, that there is a gap in understanding Indian patients. These gaps come from cultural and language barriers, and usually require an intermediate party to form a relationship between a physician and their patient. This intermediate party is usually a medically trained translator provided in hospitals for those who do not speak English, but can sometimes be family members. Other disparities can come from alternative medicine techniques; Western physicians may not be familiar with Eastern medical techniques, and this may result in the patient being referred to other physicians who do know of them.

Statistical analyses of the data showed that physicians frequently see patients from different cultural backgrounds as them, which emphasizes the need for cultural competency training in foundational medical programs. Physicians need to be prepared for patients of all racial and ethnic backgrounds, but interestingly, it was found that those who had less training and felt less prepared showed higher comfort levels treating patients of different cultural backgrounds. It was theorized that those who had less cultural competency training do not realize the extent to which these disparities significantly impact health outcomes. Further studies can be conducted to test this hypothesis.

This research can be extended to discuss patient experiences with physicians of similar and different cultural backgrounds as them. Trust between a patient and physician can be built if the physician is open to different cultural methods of healing, which allows the patient to be more forthcoming of any alternative medicine techniques used. In a world growing rapidly to accommodate a global society, it is imperative that medical schools and healthcare systems pay close attention to the cultural competence of their physicians; only then will they be able to establish fulfilling, trusting relationships with their patients.

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Appendix A

Information Sheet for Exempt Survey Research Cultural Competency Amongst Doctors

Introduction

You are being asked to be in a research study that is being conducted by Zainab Asif Khatri, a student of the Oakland University's Honors College, under the direction of Stephanie Mabry from the Oakland University Department of Clinical and Diagnostic Sciences.

Your decision to participate in this study is voluntary. You can choose to stop your participation at any time or skip any part of the study if you are not comfortable. Your decision will not affect your present or future relationship with Oakland University, the researcher, the Clinical and Diagnostic Studies Department, or with any hospitals and clinics that you may be working with.

What is the purpose of this study?

The purposes of this research study are:

- To determine the level of cultural competency taught to doctors in medical school
- To explore the gap in sociocultural understanding between Indian patients and American physicians
- To make physicians conscious of the decisions they make about patients from different backgrounds and belief systems
- To gauge whether a more varied level of cultural competence should be included in medical training or not

Who can participate in this study?

You are being asked to participate in the study because you are currently a practicing doctor within the multi-cultural communities of Oakland and Macomb counties, and hence, your experiences with patients of different communities will help provide an accurate assessment to meet the purposes of this study.

What do I have to do?

You will be asked to complete a 20-minute, online survey via Google Forms. The survey will include various types of questions, including a few multiple-choice questions, rating your experiences with cultural competency on a scale of 1 to 10, and 2 mini case studies requiring short answers. Please note that the mini case studies will involve two hypothetical situations with Indian patients, as one of the purposes of this study is to explore the gap in sociocultural understanding between Indian patients and American physicians.

Are there any risks to me?

For this study, as we are collecting completely anonymous data, there are no potential risks to you and your relationship with any employer, college, hospital, clinic or any other organization you may be a part of. Further, as the survey will be conducted through Google Forms, no traceable data (e.g. IP addresses and emails) will be collected, either.

Are there any benefits to me?

While this study may not directly benefit you, this research could serve as a foundation for further studies about cultural competency in the medical field. It can help improve multicultural understanding, and provide awareness amongst health professionals regarding potential cultural risk factors for disease. From this, patients will also benefit from having more culturally competent physicians.

Will I receive anything for participating?

You will not receive anything for participating in this study.

What if I want to stop participating in this study?

Should you want to stop participating, close your browser tab **before** submitting the form. If you submit the form, it will not be possible to stop participating. Additionally, as the survey is anonymous, we will not be able to delete your response manually.

Who can I contact if I have questions about this study?

Principal Investigator:

Zainab Asif Khatri
[EMAIL REDACTED]
[PHONE NUMBER REDACTED]

Faculty Advisor:

Stephanie Mabry
[EMAIL REDACTED]
[PHONE NUMBER REDACTED]

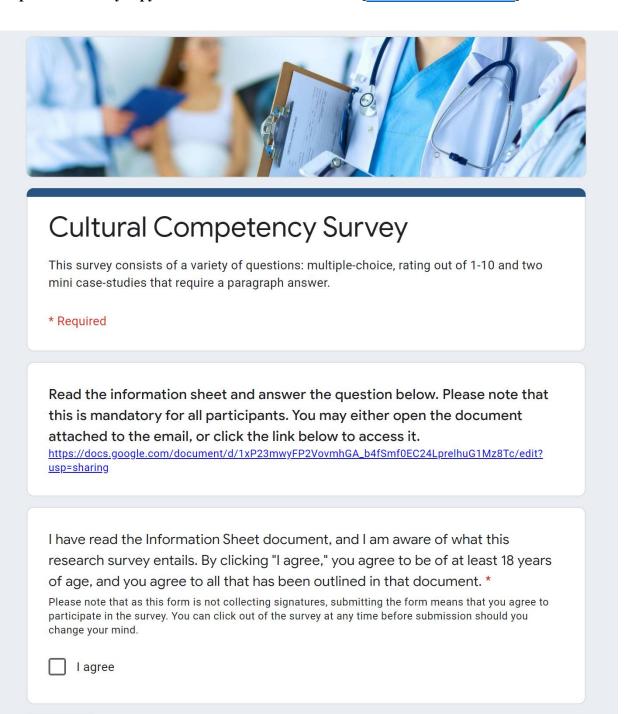
For questions regarding your rights as a participant in human subject research, you may contact the Oakland University Institutional Review Board, 248-370-4898.

^{*}Some information in this document has been redacted to protect the privacy of the researchers

Appendix B

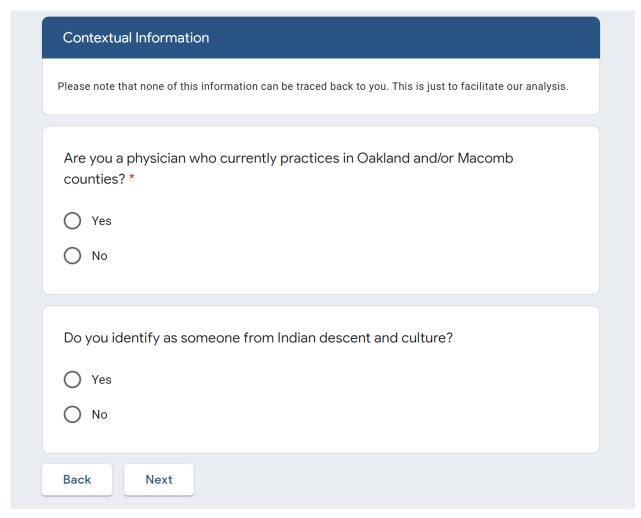
Zainab Khatri – Survey Question Document

Page 1 – All participants must read the information sheet. It will be attached to the email, but this link opens a view-only copy of the information sheet as well. [Information Sheet Link]



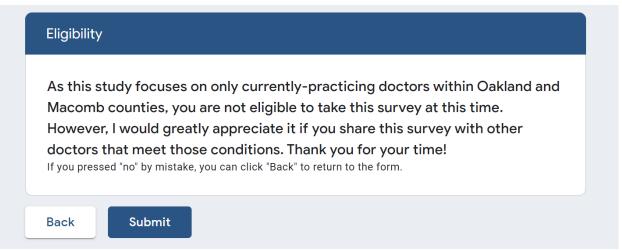
Next

Page 2 – These questions are contextual. The first question in this slide determines if they are eligible for the study or not, hence it is the last required question of the survey.



If they select "Yes" for question one (i.e. they <u>are</u> currently practicing physicians within Oakland and/or Macomb counties), they continue to the rest of the questions.

If they select "No" for question one (i.e. they are <u>not</u> currently practicing physicians within Oakland and/or Macomb counties), this message appears:



Page 3 – Remaining contextual information collected from <u>eligible</u> participants. All the questions from this point on are not required, hence allowing participants to skip questions if they feel the need to.

Coi	ntextual Information
Pleas	e note that none of this information can be traced back to you. This is just to facilitate our analysis.
	ring medical school, were you required to take a course on cultural mpetency?
	e: this question is asking if a cultural competency course was a REQUIREMENT.
0	Yes
0	No
-	ou were not required to take a cultural competency course, but your school ered it, did you take it?
0	Yes
0	No
0	It wasn't offered
Ho	w many lectures were dedicated to teaching cultural competence during your
	dical training?
0	There were none
0	One lecture
0	More than one lecture
0	Integrated within the curriculum

Page 4 – Rating – Each participant is to select the number that best represents their answer.

Rating											
How often do y	ou se	e pati	ents	from	the s	ame (cultur	al bac	kgro	und a	s you?
	1	2	3	4	5	6	7	8	9	10	
Not very often	0	0	0	0	0	0	0	0	0	0	Very often
How often do y	ou se	e pati	ents	from	a diff	erent	cultu	ıral ba	ackgr	ound	from you?
	1	2	3	4	5	6	7	8	9	10	
N - t	\bigcirc	\bigcirc	0	0	0	0	0	0	0	0	Very often
Not very often How well do you with patients of		k youi	r med	lical s					•		
How well do you with patients of Please note that the competency courses your answer	diffe "0" opt s in you	k youi rent b ion is fo r medic 0 1	r med packg or thos cal sch	dical s round se who ool cur	ds in a were n riculun	a cult ot offe n, but c	urally red a c lid not	compourse. feel pre	Deter oeter If you vepared,	vere off you ma	ner? ered cultural by enter "1" as
How well do you with patients of Please note that the competency courses	diffe "0" opt s in you	k youi rent b ion is fo r medic 0 1	r med packg or thos cal sch	dical s round se who ool cur	ds in a were n riculun	a cult ot offe n, but c	urally red a c lid not	compourse. feel pre	Deter oeter If you vepared,	vere off you ma	ner? ered cultural
How well do you with patients of Please note that the competency courses your answer	diffe "0" opt s in you	k your rent b ion is for r medic	r med packg or those cal sch	dical s round se who ool cur	ds in a were n riculum	e cult ot offe n, but c	urally red a call did not	r compourse. feel pre	poeter If you verpared,	vere off you ma	ered cultural by enter "1" as
How well do you with patients of Please note that the competency courses your answer Did not take cou	diffe "0" opt s in you	k your rent b ion is for r medica 0 1	r med packg or those cal sch	dical s round se who ool cur	ds in a were no riculum	a cult ot offe n, but c	urally red a collid not	r compourse. feel pre	poeter oeter If you ver pared,	vere off you ma	ered cultural by enter "1" as

Page 4 (cont.) – Rating Questions

			1 2	3	4	5	6 7	8	9	10	
Not very cor	mfortab	le () C	0	0	0 (0 0	0	0	0	Very comfortable
•	me ex	amp					•				ding different wice annual
		1	2	3	4	5 6	5 7	8	9	10	
Strongly Dis	agree	·					5 7 O O			10	Strongly Agree
	ent do	you t	feel lant?	O angua	O (and of	ther co	ultura	O Il bar	riers	impact effective
To what exte	ent do	you	feel lant?	O angua	O (and of	0	ultura	O Il bar	0	impact effectiv

Page 5 – Mini Case Studies. There are two completely hypothetical situations presented, and the participants are to answer with a short paragraph with how they would respond.

These are fictional situations crafted with the purpose of this research in mind. Neither of these situations have any relation to any person; all similarities are purely coincidental.

Mini Case-Studies

For each hypothetical situation, please answer with 3-4 sentences of what you would do. All responses will remain anonymous, so please be as honest as you can!

An Indian man comes into your clinic with no obvious physical injuries. His physical exam comes back with no abnormalities. He has very-limited English speaking skills, but he speaks Hindi, Urdu and Punjabi fluently. He is valiantly trying to explain where the pain is in limited English and what symptoms he's feeling. What would you do next?

Your answer

An Indian woman comes into your clinic complaining of polydipsia and polyuria. She has a family history of hypertension, type 2 diabetes mellitus, and heart disease. After some tests, you find that her fasting plasma glucose and her HbA1C put her well into the diabetic category. You prescribe Metformin and a few lifestyle changes, and ask her to schedule a follow-up in three months. After three months, her HbA1C is still elevated despite the medication, and you find out from the pharmacy that she has not even filled her prescription. Upon questioning her about her non-compliance to take medication, she states that she only believes in Ayurvedic medicine, and refuses to take Metformin. What do you do next?

Your answer

Page 6 – After they submit the survey, this message appears on their screen:

Cultural Competency Survey

Your response has been recorded. Thank you for filling out this survey for me! If possible, please do share the link with any other practicing doctors you may be in contact with. I appreciate your time!