ENRICHING THE SCOPE OF CULTURAL PERCEPTIONS: INTEGRATING DIVERSITY AND INCLUSION IN DENTAL HYGIENE EDUCATION

An Undergraduate Research Scholars Thesis

by

FLOR EGUIA, ASHLEY HEIM, AND SHERMY THOMAS

Submitted to the LAUNCH: Undergraduate Research office at Texas A&M University in partial fulfillment of requirements for the designation as an

UNDERGRADUATE RESEARCH SCHOLAR

Approved by Faculty Research Advisors:

Faizan Kabani, BSDH, MHA, MBA, PhD, FAADH Eric Fox, BSDH, MS

May 2021

Majors:

Dental Hygiene, B.S.

Copyright © 2021. Flor Eguia, Ashley Heim, and Shermy Thomas.

RESEARCH COMPLIANCE CERTIFICATION

Research activities involving the use of human subjects, vertebrate animals, and/or biohazards must be reviewed and approved by the appropriate Texas A&M University regulatory research committee (i.e., IRB, IACUC, IBC) before the activity can commence. This requirement applies to activities conducted at Texas A&M and to activities conducted at non-Texas A&M facilities or institutions. In both cases, students are responsible for working with the relevant Texas A&M research compliance program to ensure and document that all Texas A&M compliance obligations are met before the study begins.

We, Flor Eguia, Ashley Heim, and Shermy Thomas, certify that all research compliance requirements related to this Undergraduate Research Scholars thesis have been addressed with my Research Faculty Advisors prior to the collection of any data used in this final thesis submission.

This project did not require approval from the Texas A&M University Research Compliance & Biosafety office.

TABLE OF CONTENTS

ABS	STRACT	1	
DEI	DICATION	3	
ACI	KNOWLEDGEMENTS	4	
INT	INTRODUCTION		
SECTIONS			
1. ′	THE ADMISSIONS PROCESS OF DENTAL HYGIENE PROGRAMS	7	
2.	CULTURAL COMPETENCY IN DENTAL HYGIENE CURRICULUM 1	0	
	INSTITUTIONAL COMMITMENT TOWARDS DIVERSITY, INCLUSION, AND BELONGING	4	
CONCLUSION 18			
REF	REFERENCES		

ABSTRACT

Enriching the Scope of Cultural Perceptions: Integrating Diversity and Inclusion in Dental Hygiene Education

> Flor Eguia, Ashley Heim, and Shermy Thomas Caruth School of Dental Hygiene, College of Dentistry Texas A&M University

Research Faculty Advisor: Faizan Kabani, BSDH, MHA, MBA, PhD, FAADH Caruth School of Dental Hygiene, College of Dentistry Texas A&M University

> Research Faculty Advisor: Eric Fox, BSDH, MS Caruth School of Dental Hygiene, College of Dentistry Texas A&M University

Diversity and inclusion continue to be a systemic issue among people of color within the educational system. Understanding the importance of diversity within specific educational programs is essential to promoting access to care, particularly given the increasing growth of minority populations in the US. The first Surgeon General's Report on Oral Health in America in 2000 identifies that in the future, the primary method of reaching the underserved population will be through the education of racially and ethnically diverse oral healthcare professionals. Therefore, dental hygiene programs should select culturally competent students and develop pipeline programs to promote a diverse student population. Pipeline programs aid to support students of URM status by increasing their opportunity in advancing their careers. Cultural competency training is exceptional in aiding health care workers to provide the most pertinent

care for minority groups. Although professional healthcare education programs endorse cultural competency education in their curriculum, data suggests further studies are needed to determine if students are successfully retaining and implementing cultural competency education into their clinical practice. Due to the barriers that hinder underrepresented students' abilities to succeed in the educational setting, diversity and inclusion is essential in higher education. Pipeline programs within dental hygiene are insufficient compared to dental and medical schools who have increased the number of underrepresented students through pipeline program implementation. In order to produce dental hygiene clinicians that are equipped to reach a culturally diverse population, the experiences of students should be enhanced with clarity and emphasis on diversity and inclusion within their educational endeavors.

DEDICATION

The authors would like to dedicate this thesis to their mentors, Faizan Kabani, BSDH, MHA, MBA, PhD, FAADH, Eric Fox, BSDH, MS, and professors, Leigh Ann Wyatt, BSDH, MS, Lavern J. Holyfield, DDS, and Patricia Simons, DDS. These mentors provided us with encouragement, guidance, and knowledge to embark on a new journey that furthered our aspirations within our research.

ACKNOWLEDGEMENTS

Contributors

The authors would like to express their sincere gratitude to Faizan Kabani, BSDH, MHA, MBA, PhD, FAADH and Eric Fox, BSDH, MS, for their guidance and support throughout the course of this research. Thank you to Texas A&M College of Dentistry for providing an inclusive environment and being a source of inspiration for our research.

Funding Sources

The authors received no specific funding for this work.

INTRODUCTION

An essential focal point of today's climate is acknowledging the differences of humanity and the embodiment of diversity within our world. With respect to the history of racial injustice and prejudice that many have endured in the years past, the value of cultural competence within the current and future generations of students is vital to advocate for those that are marginalized. Civil rights campaigns, such as the Black Lives Matter movement, women's rights, civil rights, LGBTQ rights, and Dreamers in the United States to name a few, have inspired change around the world. Advocating for diversity and inclusion is a necessity to open pathways of success for future generations. The unique characteristics of an individual should not be considered as a hindrance to the purpose that they bring to the world. Understanding the importance of diversity within specific educational programs, is essential to promote access to care with the increasing growth of minority populations in our nation. Within the scope of dental hygiene, diversity and inclusion in educational systems has been and continues to be a cultural climate issue.¹ The discrepancy in the enrollment of underrepresented minorities compared to Caucasians in dental hygiene programs is creating a false reality of the diversification in society. Despite current cultural competency education being taught in programs, there is still a deficiency observed regarding inclusivity.² Entering dental hygiene students should not only be culturally competent to succeed within the program, but also appreciate the value of diversity among their peers.

Research on this topic supports the current NDHRA priority area of Professional Development – Evaluation, due to the need for assessment of diversity and inclusion among educational programs in dental hygiene. The purpose of this narrative review aims to discuss the importance of diversity and inclusion in the admissions process as well as display the

institutional level of commitment. In addition, by acknowledging how curriculum and clinical requirements align with diversity and inclusion, this narrative review will play a profound role in addressing the disparities against persons of color within the dental hygiene educational system. Implementing a culture of inclusion and belonging in dental hygiene programs will improve the quality of education and result in the optimal care for patients.

1. THE ADMISSIONS PROCESS OF DENTAL HYGIENE PROGRAMS

Administrative boards of dental hygiene programs have an essential responsibility to select culturally sensitive students into their institutions. By recognizing diversity and inclusion as a vital prerequisite among other factors such as GPA or SAT/ACT scores, programs can foster an educational environment that prepares an oral health care professional for a diverse world.¹ The demographics of America are continually changing and by the year 2050, it is projected that the number of ethnic minorities will outnumber the Caucasian population.³ According to the first Surgeon General's Report on Oral Health in America in 2000, the primary method of reaching the underserved population will essentially be through the education of racial and ethnically diverse oral healthcare professionals.³ However, within the scope of dental hygiene, a significant disparity is reported nationwide on the percentage of students that are accepted when comparing underrepresented minority groups (URM) to their Caucasian peers.¹ Underrepresented minority students consist of individuals from population groups of African American, Hispanic/Latino(a), American Indian, and Asian American.¹ Therefore, with the evidence of a growing minority population, it is necessary to recruit, educate, and equip current and future dental hygiene students who recognize and embody diversity and inclusion as essential characteristics.

Program directors and admissions committee members should take the initiative to prioritize cultural competence as a vital characteristic within students during the recruitment process. In 2015, Hunter et al. conducted a national survey to evaluate how program directors of undergraduate dental hygiene programs recruited students (n=56).¹ Approximately 35% (n=19.6) of program directors considered accepting students from URM groups as an essential factor, compared to 85% (n=47.6) of program directors who considered GPA to be one of the greatest

importance in admissions.¹ The results of this study are significant in that programs that valued having higher SAT/ACT scores were less likely to prioritize special events for recruiting minority students (p<0.05).¹ To create a more diverse and inclusive experience, the priority of characteristics when recruiting students is necessary to be addressed. Students with URM status should be an essential admissions factor when selecting between candidates for admission who have comparable academic credentials.

Furthermore, to cultivate an oral health care community that promotes inclusivity, the admissions committee should assess student's interests, motivations, and obstacles encountered when applying for dental hygiene programs. In 2013, Sandino et al. conducted a cross-sectional study of 84 students from underrepresented racial and ethnic groups (UREG), which consisted of populations from African American, Hispanic/Latino(a), and American Indian/Alaska Native descent.⁴Researchers discovered that the majority of UREG students participating in this study (57%) experienced barriers related to application and enrollment in dental hygiene programs compared to those who did not experience any barriers (43%).⁴ Costs associated with the program (57%), cost of living (35%) and lack of role models in their race/ethnicity (29%) accounted for the top three barriers.⁴ Obstacles that prevent students, especially those of UREG status, from applying to dental hygiene programs lead to a significant disparity among the number of minority students that are enrolled. Moreover, the low number of role models for UREG students is another critical barrier that could be overcome by educating individuals that advocate for a more inclusive world. Developing racial and ethnic diversity within programs is an essential step to enhance the educational environment and the cultural competence of all students, irrespective of their racial background.

Additionally, with the increasing awareness of the value that diversity and inclusion brings to the cultural climate of the educational setting, it is essential to acknowledge the effectiveness of certain admissions practices. Moreover, it is necessary to identify improvements or initiatives that can be taken to increase the diversity of dental hygiene schools and create an inclusive admissions criterion. In 2002, a cross-sectional study conducted by Helm et al. observed how Northern Arizona University's (NAU) Dental Hygiene Program enhanced their admissions process through the introduction of six life performance questions as a method of measuring candidate's strengths and weaknesses among their personal characteristics.⁵ For example, students were asked a variety of questions such as describing how they have handled racism and social bias and how they seek emotional support during stressful times.⁵ Asking students such questions, allowed program directors to better understand the student's character, regardless of their cultural background. The traditional admissions criteria without life performance questions yielded 6.7% URM (n=4) students among the 60 candidates that were accepted into the program.⁵ However, when life performance questions were incorporated as an alternative admissions criterion, 21% (n=13) URM students were accepted among 60 candidates into the NAU DH Program during the spring of 2001 and 2002.⁵ This indicates that by examining student's personal characteristics, programs are able to diversify their student population.⁵ With a mindset of inclusivity, program directors are able to integrate a more comprehensive system of acceptance and identify individuals who incorporate values of respect, unity, and an appreciation of all human beings in society.

2. CULTURAL COMPETENCY IN DENTAL HYGIENE CURRICULUM

Dental hygiene program curricula is an essential, key avenue in delivering cultural competency education (CCE) to prospective dental hygienists. The American Dental Education Association values diversity in the respect and appreciation of an individual's race, color, ethnic origin, age, religion, disability, gender, and sexual orientation, to name a few.⁶ In addition, the ADEA also values inclusivity as collectively utilizing the unique talents and perspectives from these diverse individuals.⁶ According to the Office of Minority Health, cultural competency is described as an appropriate service that is respectful of and sensitive to the health beliefs, practices, and needs of diverse patients.⁷ Cultural competency training is exceptional in aiding health care workers to provide the most appropriate care for minority groups within our communities. Amidst growing minority populations, higher education programs should educate their students to exhibit cultural sensitivity. According to data from the U.S. Census Bureau in 2020, about one-third of the U.S. population accounted for ethnic minorities.⁸ Ethnic minorities will be expected to make up 54% of the total U.S. population by 2050.⁸ One of the core components of cultural competency is to focus on the necessities of a diverse society and reduce health disparities in diverse populations.⁹ Oral health care professionals can receive cultural competency through an accredited higher educational institution. The majority of dental hygiene programs in the United States indicate that they are using methodologies to incorporate cultural competency education into their curricula.⁸ However, many programs do not indicate a clear method involving assessment for each student's increased/decreased knowledge on cultural competency. Demonstrating cultural competency is a CODA requirement in the extent of dental

hygienists being able to recognize the cultural influences that impact the delivery of services to the respective individual or community.⁹ In order to ensure the retainment of education being implemented, it is imperative to evaluate the results. Thus, implementing cultural competency education without assessing the outcomes suggests incomplete training and evaluation. Dental hygiene programs should ensure that students are familiarizing themselves with the information being taught so that they can successfully care for their culturally diverse patient population.

Although many educational programs are taking measures to implement cultural competency education in their curriculum, data suggests further studies are needed to determine if students are developing successful retainment and implementation of cultural competency education into their clinical practice. More conclusive data is crucial to recognize the level of success among cultural competency education. A study involving all 334 U.S. dental hygiene program directors, with only a 27% response rate, indicated a 92% report of accurate implementation of cultural competency through organized curriculum; however, further studies are needed in order to determine the value and effectiveness of these programs achieving cultural competency in their students.² As an oral health profession, it is imperative for programs to broaden the curriculum in terms of implementing CCE as well as assess the students to determine the retention of the respective material. As minority populations continue to grow and expand throughout the United States, health professions should be mindful of the public health needs of these diverse groups in order to provide the best care. Education and evaluation are constituents of the overall success in implementation of cultural competency in dental hygiene education and clinical practice. Not only will these integrations allow for cultural awareness among clinicians, but it will also help close the cultural gap that exists in society. The essential goal of oral health care professionals is to enhance the quality of life for the public.

Dental hygiene programs have applied numerous criteria into their curriculum in order to increase diversity and inclusion practices among dental hygiene students. Moreover, through the use of online training modules, clinic interactions with differing populations, and through selfassessment questionnaires, students have the opportunity to increase their cultural competence awareness. Research has indicated that the type of community rotations and the amount of time spent in these rotations, has demonstrated to be beneficial in the development of culturally competent dental hygiene professionals.² A study conducted with second year dental hygiene students among the twenty-six dental hygiene schools in Texas, evaluated the effectiveness in the participation of varying community rotations.² The rotations took place in jails, public clinics, schools, hospitals, and nursing homes; albeit the majority of time spent was in public clinics.² In result, Chi-Square analyses using Statistics Package for the Social Sciences (SPSS) version 22 (IBM Corporation, 2011) was conducted on 2 questions to determine if a correlation existed between variables and dental hygiene programs whose goal is to provide CCE and the learning objectives pertaining to them.² Although, many options are provided for student trainings and clinic experiences among diverse populations, evidence suggests a necessity for further improvement in the implementation of diversity awareness.² Lastly, an association between the participating community rotations and the rising increase in knowledge of diversity and inclusion suggests an effectiveness in strategies utilized to facilitate continued change.

The Commission on Dental Accreditation (CODA) plays an active role in developing and implementing accreditation standards for dental education programs. In addition, CODA publishes a document named Accreditation Standards for Dental Hygiene Education Programs, which signifies the educational standards dental hygiene programs must follow in order to provide accredited education. Clinician's should maintain cultural competency education in

order to provide the necessary quality of care to patients of a diverse community. One of the few CODA requirements for dental hygiene education indicates that to provide safe and effective provision to diverse populations, oral health care providers must sustain the ability to communicate verbally and in written forms.¹¹

3. INSTITUTIONAL COMMITMENT TOWARDS DIVERSITY, INCLUSION, AND BELONGING

The Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) position statement indicates that diversity is embodied within institutions, specifically student groups, and is reflected in the staff, administrators, faculty, trustees, and other stakeholder groups.¹¹ By introducing students to a multitude of cultural backgrounds, the quality of teaching and learning experiences becomes enhanced.¹¹ Diversity and inclusion is an essential element in higher education due to the barriers underrepresented students experience hindering their abilities to succeed in the educational setting. Institutions integrate commitments that necessitate students gain the knowledge and skills to successfully interact and engage in the large, global society.¹¹ Therefore, enabling students to acknowledge the importance of their potential and value as individuals.¹¹ Conversely, creating an unpleasant environment may result in negatively affecting a student's psychological health and their academic performances.¹²

Furthermore, the Texas A&M College of Dentistry (TAMCOD) maintains a longstanding commitment to facilitate an inclusive institutional climate through a pipeline outreach initiative, Bridge to Dentistry, which recently received the 2020 Health Professions Higher Education Excellence in Diversity Award from INSIGHT Into Diversity magazine.¹³ The Bridge to Dentistry Programs are provided by the Center for Excellence and the Office of Student Development.¹³ In particular, the year-long Post-Baccalaureate Program (PBP) at TAMCOD offers students a Baccalaureate degree to secure admission into the dental program upon successful completion.¹³ The program aims to enable students from underserved and disadvantaged populations to enhance their skills and adapt effective learning strategies.¹³

Additionally, the curriculum offers students 30 hours of upper-division science courses, a Dental Admission Test (DAT) preparation course, a pre-clinical dentistry course, and a cultural competence course seminar.¹³ Moreover, due to the insufficient number of underrepresented health professionals, the UConn School of Medicine within the Aetna Health Profession Partnership Initiative Pipeline created an educational organization comprised of fourteen distinct programs to enhance the recruitment of diverse, first generation, and disadvantaged students.¹⁴ The Health Disparities Clinical Summer Research Fellowship Program (HDCSRFF) was designed to increase the underrepresented student population.¹⁴ The seven week research residential program guides students in addressing the disparities in health care and to provide students preparation for admission into graduate and professional level programs.¹⁴ Overall, the HDCSRFP in conjunction with the health professions pipeline aims to promote the number of underrepresented students in the enrollment process of dental, medical, and graduate health programs, increase the awareness of health disparities, and to develop a form of health equity.¹⁴

In dental hygiene programs, efforts are needed to diversify the future generation of health care providers. By explicitly discussing the importance of integrating diversity practices in classrooms and patient care, it will allow for fruitful conversations to arise among students and faculty regarding these topics. Additionally, an approach to improve the inclusion and equity in the institutional level is needed to cultivate a diverse community. Such efforts may include, retaining diverse academic faculty, organizing pipeline programs for disadvantaged populations, and fostering an inclusive environment. Health professional programs have a responsibility to promote an inclusive educational setting that may require dedicated administrative staff, time, financial resources, and a level of commitment. Despite the barriers underrepresented minorities

are faced with, pipeline programs enable students to overcome challenges faced and result in a diverse student population within health professional programs.

The Boston University Goldman School of Dental Medicine (GSDM), in collaboration with Boston University Medicine, introduced an Oral Health Sciences pipeline program, which provides underrepresented minority groups academic guidance to pursue dental school.¹⁵ The program was developed to enhance the diversity among dental students and increase the retention and recruitment of underrepresented applicants.¹⁵ Schools in the U.S have also implemented the institution-based pipeline programs, including Baylor University, University of California, San Francisco, Howard University, and University of South Carolina.¹⁵ Moreover, these programs have delineated a positive impact in the number of underrepresented dental applicants.¹⁵ However, there is still an evident low number of underrepresented dental students and practioners.¹⁵ According to Sandino and Rowe, a lack of dental hygiene pipeline programs is present compared to dental and medical schools who have increased the number of underrepresented students through pipeline program implementation.⁴ Additional outreach programs are needed in the dental hygiene field to provide students from disadvantaged backgrounds the opportunity to fulfill a dental hygiene career and surpass the barriers often faced.

In 2015, Vu et al. conducted a cross-sectional study on 239 students from five Southwest Dental Colleges analyzing their cultural climate perceptions, which consisted of senior year dental hygiene students and fourth year dental students.¹² The study utilized the Cultural Attitudes and Climate Questionnaire, developed and validated by Helm et al. in 1998, which focused on campus experiences, diversity awareness, fair treatment, and racial pressures experienced.¹² Researchers determined that students reported fair treatment from classroom

faculty (90%, n=216), respect by faculty for students of different racial and ethnic groups (91%, n=215), and students indicated that they were comfortable treating patients of different ethnicities (88 to 91%, n=206 to 214).¹² Additionally, students' contentment with the educational environment correlated significantly (p<0.001) with respect for other cultures and fair treatment.¹² The importance of utilizing pipeline programs is due to the lack of opportunities and the barriers underrepresented students may face hindering their potential success. Providing students with the opportunity to educate themselves concerning appropriate cultural interactions and increasing their cultural competence, has resulted in positive effects among the cultural climate in the educational setting.¹² The implementation of a diverse academic environment is essential to facilitate the growth of students, especially in dental hygiene programs.

CONCLUSION

The current cultural disposition of the world requires more efforts that increase appreciation and awareness of diversity and inclusion. Consequently, to produce dental hygiene clinicians that are well equipped to reach the growing culturally diverse population, the experiences of dental hygiene students should be enhanced with more clarity and emphasis on diversity and inclusion within their educational endeavors. It is vital that programs acknowledge this need and evaluate their admissions process, curriculum competencies, and overall, propose recommendations to implement diversity and inclusion within their respective programs. Moreover, further research on diversity and inclusion practices within dental hygiene programs is needed to further strengthen curriculum and experiences. Prioritizing inclusivity within educational systems contributes to preventing stereotypical preconceptions and eliminates barriers that have hindered opportunities for generations of people of color. It is imperative to educate culturally competent health care practitioners that will not tolerate acts of discrimination, racial profiling, or injustice and become an integral part of a more diverse society.

REFERENCES

- 1. Hunter JM, Kinney JS, Inglehart MR. Recruitment of dental hygiene students from underrepresented minority groups: a national survey of U.S. dental hygiene programs. J Dent Educ. 2015;79(10):1167-1176
- 2. Ocegueda DR, Van Ness CJ, Hanson CL, Holt LA. Cultural competency in dental hygiene curricula. J Dent Hyg. 2016 June;90 Suppl 1:5-14.
- U.S. Department of Health and Human Services. Oral Health in America: A Report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000. nidcr.nih.gov. https://www.nidcr.nih.gov/research/data-statistics/surgeon-general. Accessed October 5, 2020.
- 4. Sandino AH, Rowe DJ. Students from underrepresented racial and ethnic groups entering the dental hygiene profession. J Dent Educ. 2014;78(3):465-472.
- Helm DM, Grabarek ES, Reveal M. Increasing dental hygiene student diversity: lifeperformance questions as alternative admissions criteria. J Allied Health. 2003;32(4):279-284.
- Statement of ADEA policy on diversity and inclusion. ADEA.org. https://www.adea.org/policy_advocacy/diversity_equity/Pages/DiversityandInclusion.asp x#:~:text=ADEA%2C%20in%20its%20leadership%20role,model%20of%20diversity%2 0and%20inclusion.&text=Thus%2C%20ADEA%20believes%20that%20the,in%20which %20they%20will%20serve. Published September 29, 2006. Accessed November 7, 2020.
- What is cultural and linguistic competency? Minorityhealth.hhs.gov. https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=1&lvlid=6. Accessed November 7, 2020.
- Alrqiq HM, Scott TE, Mascarenhas AK. Evaluating a cultural competency curriculum: changes in dental students' perceived awareness, knowledge, and skills. J Dent Educ. 2015 Sep;79(9):1009-15.

- Accreditation Standards for Dental Hygiene Education Programs. ADA.org. https://www.ada.org/~/media/CODA/Files/2020_dental_hygiene_standards.pdf?la=en. Published January 1, 2013. Updated August 2019. Accessed August 25, 2020.
- 10. Classe-Cutrone RA, McCann AL, Campbell PR, DeWald JP, Schneirderman ED. The impact of community rotations on the cultural competence of dental hygiene students in the state of Texas. J Dent Hyg. 2017;91(3):22-30.
- Diversity, A Position Statement. Southern Association of College and Schools Commission on Colleges website. Published 2019. Accessed November 7th, 2020. https://sacscoc.org/app/uploads/2019/08/DiversityStatement.pdf
- Vu MT, McCann A, Schneidermann E, DeWalkd J, Campbell P, Miller B. The cultural climate of southwest dental colleges: dentistry and dental hygiene. J Dent Hyg. 2015;89(1):34-45
- 13. Post Baccalaureate Program. Texas A&M College of Dentistry website. Accessed December 10, 2020. https://dentistry.tamu.edu/student-development/pbp-program.html
- 14. Stewart KA, Brown SL, Wrensford G, Hurley MM. Creating a comprehensive approach to exposing underrepresented pre-health professions students to clinical medicine and health research. J Natl Med Assoc. 2020;112(1):36-43.
- 15. Davies TA, Kaye E, Stahlberger M, et al. Improving diversity of dental students through the Boston university masters of oral health sciences post baccalaureate program. J Dent Educ. 2019;83(3):287-295.