Abstract:

Optometry, as well as other healthcare professions recognizes a need for greater racial and ethnic diversity in professional schools and the workforce. For decades, the enrollment of underrepresented minority (URM) groups in professional schools has remained low. With the U.S. minority population steadily increasing, optometry is seeking to expand its efforts toward diversifying its schools and profession, respectively. These efforts parallel with the accelerating cultural changes in the U.S and prepares optometry students to practice in diverse pluralistic environments. This literature review provides an overview of the cultural diversity enrollment issue in optometry schools and discusses efforts to work toward sustainable solutions.

Keywords: optometry, cultural diversity, enrollment, underrepresented minority, eye care, URM, optometry schools
Introduction

Low representation of minorities in health professions and educational programs such as medicine, pharmacy, and dentistry, has been a recurring issue for years (Gurin et al, 2003; Grumbach & Mendosa, 2008). This includes optometry, which has shown a significantly low presence of underrepresented minorities (URM) within its schools and eye care workforce (Chu, 2017; ASCO, 2018). The number of URM groups, including African American/Black, Hispanic/Latino, Alaskan Native/American Indians, and Hawaiian/Pacific Islander, enrolled in optometry schools and colleges of optometry does not mirror the increasing minority population in the U.S. (Chu, 2017). Educators and professionals in higher education, including optometry, have agreed that a diverse academic environment adds positive benefits to the academic and social experiences of all students enrolled in various respective institutions (Gurin et al, 2003; Chu, 2017). In order to diversify optometry schools and the eye care profession, we must analyze all aspects that impact this enrollment disparity of minority groups. I am interested in exploring the lack of racial and cultural diversity in professional schools and colleges of optometry. The purpose of this paper is to discuss advantages of a diverse student body in optometric institutions and address recruitment and admissions of URM students.

Annually, the American Schools and Colleges of Optometry (ASCO) collect data from all optometry schools in the U.S. including Puerto Rico (ASCO, 2018). In 2008, 5,595 full time students were enrolled in optometry schools. By 2017, the total number of enrolled students had grown to 7,124. In the 2018 Student Annual Data Report by ASCO, it was reported that the overall number of full time students enrolled in the twenty three (23) optometry institutions increased by 1.4% since 2017 and by 8.7% since 2012, likely due to the opening of newer
schools. The report showed that while the total number of students admitted into optometry schools rose over the years, the number of URM students remained stagnant. The largest percentages of the student body in optometry schools each year are ethnically identified as White and Asian groups. Whereas, most URM student enrollment into optometry school was reported less than 3% (ASCO, 2018).

The Importance of Cultural Diversity in Education and Workforce

Multiculturalism in the profession of optometry and its educational institutions is a growing necessity (Arnett, 2012 & Chu, 2017). During an interview with Primary Care Optometry News, Dr. Hector Santiago, dean of the college of optometry at the Inter-American University of Puerto Rico, spoke in favor of the importance of diversifying the profession. He stated “We have to prepare ourselves as optometrists to handle the new face of America”. He continued “The more we understand the people we serve, the better we can serve them and the better we understand their needs”. His statements, like many others, suggest that diversity plays an essential role in achieving goals within higher professional education and beyond (…..).

Cultural diversity in educational environments provides the groundwork for increasing cultural and self-identity awareness (Betancourt, 2003) It also allows students to become sensitive to cultural differences and backgrounds they encounter during their curriculum and upon graduation as practicing optometric physicians. Having a multicultural campus climate offers students numerous opportunities to engage in social interactions and learn from diverse groups which prepare students for future career engagements and successes that they will utilize in their respective fields. Cultural diversity creates an avenue to initiate discussion and provide
multiple perspectives and knowledge to expand our views on certain issues impacting society which result in positive solutions and change (Betancourt, 2003). Our world and nation are changing; therefore, our optometric institutions should embrace this trend of cultural diversity.

Similar to optometry schools, the eye care workforce does not reflect the changing minority population trends. According to the Bureau of Health Workforce of the U.S. Health Resources and Services, more than seventy percent of all healthcare specialties are comprised of White professionals, including optometry (Chu, 2017). Upon completion of optometric educational training, students will go out into different types of healthcare settings to serve as optometric physicians and eye care providers. This migration of doctors into communities aids in increasing healthcare accessibility and awareness to health stricken areas (Betancourt, 2003; Xierali, 2016). The Institute of Medicine (IOM) recommends increasing the presence of URM professionals in healthcare as a method to combat health disparities (IOM, 2003). Research has also shown that professionals from minority descent are more likely to provide health care in underserved communities (Chu, 2017).

The upward increase in diversity in the U.S. signals a need for the presence of minority leaders in various fields (Arnett, 2012). Patients from different social and ethnic backgrounds need healthcare and the presence of diversity is critically important (Arnett, 2012 & Betancourt, 2003; Grumbach & Mendosa, 2008). Patient compliance to healthcare treatment and management improves when patients are able to relate to their doctors especially when cultural and language barriers are present (Chu, 2017). By increasing URM presence in optometry and other healthcare professions, this may be a key strategy to dismantle cultural barriers and work toward lowering the incidences and prevalence of public health issues such as diabetes,
hypertension, and heart disease, which are all common in minority populations (Valentine, 2016). Diversity in education and the workforce aids in cultural competency, allowing healthcare practitioners to recognize and appreciate cultural differences and uniqueness to provide effective care for better outcomes (Cooper, 2014).

**Addressing the Problem through a Different Lens**

In order to understand the problem within optometry, we have to take a step back and change our perspective on this staggering issue, taking a systems thinking approach (Peters, 2014). While promoting a culturally diverse student body is the task at hand, investigating only the superficial levels will only provide temporary solutions. The problem of low enrollment of URM students into optometry school occurs long before the application cycle. ASCO reported fewer than 4% of URM candidates applied for optometry school and under 7% for Hispanic/Latino students for 2017-18 academic year (ASCO, 2018). All applicant and enrollment values within the URM have remained relatively stable for years with no increases over ten percent since the inception of optometry schools (Chu, 2017). White and Asian groups are traditionally the largest percentage racial group of applicants and enrolled students each application cycle (ASCO, 2018).

Research has shown that racial diversification of the undergraduate college population has grown significantly over the decades amongst URMs (Arnett, 2012). While undergraduate college enrollment numbers of minority groups are on the rise, professional and optometry programs lack the same diversification inflow of students (Chu, 2017). Data studies indicate that URM students are not declaring STEM collegiate studies and pursuing related careers compared
to White and Asian students (Chu, 2017; Lightfoote, 2016) Optometry school enrollment is highly dependent on college graduation rates and the course of study chosen by the students (SUNY, 2018). The college pipeline into optometry school is valuable. Knowing this, high schools and undergraduate universities must take the lead in creating STEM programs, especially targeting minority students to stimulate further interest, ultimately resulting in more future professionals in healthcare and applied sciences. URM students may be unaware of the optometric profession resulting in fewer potential and qualified applicants (SUNY, 2018). Unlike medicine and dentistry programs, optometry schools are not heavily promoted in pre-health undergraduate programs. Therefore, the college to optometry school pipeline needs to be strengthened to foster positive, communicating relationships with pre-health advisors and pre-optometry clubs to promote the profession, optometry schools, local optometric events, and recruitment programs offered at various schools (SUNY, 2018).

Gaining admission into optometry programs is very competitive and a rigorous process. The admissions criteria of all 23 optometric programs require multiple prerequisite college level courses with the majority being science concentrated. In conjunction, the Optometry Admissions Test (OAT), a computer based standardized test is required which is used to evaluate scientific knowledge and competency of applicants. According to OAT data, URMs perform lower and are less academically prepared compared to their White and Asian peers (SUNY, 2018). Consequently, this results in an even smaller culturally diverse applicant pool of candidates to draw from for admission into optometry schools. In hopes of increasing minority enrollment, ASCO along with some colleges and schools of optometry have proposed expanding the admissions criteria by allowing for substitute standardized professional-level tests, such as the
GRE and MCAT. Post baccalaureate programs can be an academic supportive effort to help URM students, who have a strong commitment to a career in optometry and passion to serve diverse patient populations, to become competitive optometry school applicants.

An exploration of mission statements of the profession and optometry schools is important. These purpose statements not only reflect the fundamental beliefs of the educational system but should embrace multiculturalism and prepare all its students to practice in diverse environments. Mission statements design and gives way to curricula formation and leadership structure (Arnett, 2012). To expand educational efforts of diversity, cultural competency courses and training should be included in the curriculum, taken by students, faculty and staff, to further understand cultural differences and awareness. In optometry schools, collaborative interprofessional education is an action plan to reinforce diversity and cultural competency in patient care (Brienza, 2014). There is no racial quota to meet; however, cultural diversification in optometry schools is an initial step in moving the profession forward to address educational and eye care needs. Culturally diverse representation is a goal not only for students to achieve but the profession as a whole. This starts with increasing URM presence in professional and educational leadership on admissions committees, school trustee boards, professional organizations, and academic faculty (Arnett, 2012). Having a diverse groups of individuals with different perspectives, backgrounds, and identities can help usher in effective solutions to societal problems.

Educational pipeline strategies and recruitment initiatives should be explored and implemented possibly sooner than undergraduate years. Most healthcare professions begin recruiting potential students as early as high school (SUNY, 2018). Whereas, ASCO has
proposed the idea of initiating these recruiting programs even earlier and in partnership with state optometric associations and local organizations to introduce young aspiring URM, financially disadvantaged and first-generation college students to the profession of optometry (SUNY, 2018). The Ohio State University (OSU) College of Optometry has a three day residency program called “I DOC- Improving Diversity in Optometry Careers” aimed at cultivating the interest of minority students by introducing them to optometry through hands on labs, campus tours, peer engagement with current students, and exploration of the application process and curriculum (OSU, 2018). To encourage more URMs optometric students and leaders, there must be commitment by optometric educational programs to recruit, enroll, and attain minority students through the development of programs similar to OSU and many other schools. ASCO created the Developing a Diverse Applicant Pool in Optometric Education Mini-Grant Program to aid in optometry schools in funding URM recruitment projects and activities (SUNY, 2018). To further achieve diversity goals in optometry, ASCO created a Diversity and Cultural Competency Committee to improve curriculum guidelines, create newer URM targeted programs, and work toward active, sustainable solutions.

**Conclusion**

While low minority representation in optometry has been an issue, ASCO and optometric educational institutions are working to address this problem with active solutions. With the U.S. minority population increasing, educators and professionals in optometry are aware of the need of minority inclusion in healthcare and its impact on patient care. To continue to move toward positive, sustainable solutions, early educational pipelines, in middle, high, and post-secondary
school years, should be closely analyzed and used as opportunities to recruit STEM courses, optometry school, and career benefits of optometry.

Future research can explore the impact of geographical location on optometry schools and eye care accessibility. With optometry schools expanding their admissions criteria by including more standardized tests options, future research can also analyze and compare academic performances of optometry students who used substitute tests over the OAT. Recruitment and outreach programs are also other efforts to increase awareness of optometry and enrollment of minorities. Although the cultural diversity issue in optometry involves array of contributing factors, there is no single solution that will address them but we will continue to work in order to achieve the goal.
References


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