Racial Disparities in Oral Health Care in The United States

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Abstract

The racial and ethnic disparities in oral healthcare outcomes and services continue to persist in the United States, reflecting larger systemic challenges associated with healthcare access and delivery. This honors thesis aims to investigate and analyze the racial and ethnic health disparities in oral health care and outcomes in the United States through an in-depth investigation and analysis of these disparities using insights gained from a review of 21 research articles covering different aspects of oral healthcare across different racial and ethnic groups. This research focuses on investigating and comparing oral healthcare outcomes and services among non-Hispanic white, black, Hispanic, and Asian patients in the United States. This research considers multiple intersecting factors such as gender, sex, class, age, citizenship nationality, geographic location language to offer a comprehensive examination of oral healthcare disparities. The thesis outlines the historical context and systemic factors contributing to disparities, emphasizing the critical need for targeted interventions and preventative measures. Through multidimensional exploration, this thesis addresses the disparities in dental care utilization, oral health status, access to orthodontic services, perceived discrimination's effect on dental care provision as well as surgical recommendations for oral/oropharyngeal cancer treatments.

Key findings of the literature review included persistent disparities in dental care utilization by minority and underserved populations, due to factors such as socioeconomic status, insurance coverage, perceived discrimination, and structural barriers within healthcare systems. Additionally, access issues to orthodontic services highlighted systemic challenges in providing essential dental care across different racial and ethnic groups underscoring the need for inclusive healthcare practices.

Additionally, the thesis delves into how policy interventions such as Medicaid expansions affect narrowing racial and ethnic disparities in dental service utilization, providing insights into effective strategies for fostering health equity. Dental therapists emerge as transformative solutions for addressing workforce shortages, expanding access to care, and alleviating financial barriers for vulnerable communities.

Utilizing research findings, this thesis offers actionable recommendations to policymakers, healthcare providers, and community stakeholders for reducing racial and ethnic inequities in oral healthcare delivery. These interventions include improving cultural competency during dental care delivery; expanding access to preventive services; advocating workforce diversity initiatives; and advocating policy reforms to ensure equitable oral health outcomes among populations.

Overall, this thesis contributes to ongoing conversations regarding health equity and social justice in oral healthcare by advocating for comprehensive approaches that target systemic barriers while incorporating inclusive practices to increase oral health outcomes across diverse racial and ethnic groups in the US.

Introduction

This thesis delves deeply into one of the nation's pressing issues: racial and ethnic disparities in oral healthcare and outcomes. While inequities among different racial groups have long been recognized, pinpointing all of the contributing factors and devising effective interventions remain complex challenges. Through extensive investigations and analyses conducted within specific population contexts, this research seeks to illuminate both extent and underlying determinants.

Key research questions will serve as the framework of this thesis paper. First, this thesis will investigate disparities in oral health outcomes across racial groups by exploring variations in prevalence rates of oral diseases and conditions. Second, it will explore the complex interplay of socioeconomic, cultural, and systemic factors contributing to such disparities; access to dental care, hygiene practices, and awareness will all be closely examined to gauge their differential impact across races. Lastly, potential interventions or policy changes that mitigate such disparities and promote greater equity will be investigated in depth. Racial disparities in oral health align perfectly with the Medicine, Health, and Society (MHS) program. The MHS program explores the complex relationships among medicine, health, and society. Racial disparities in oral health fit perfectly within this interdisciplinary approach as it encompasses not only medical aspects but also cultural, societal, and economic influences that contribute to disparities. Furthermore, this topic allows an examination of how social structures and inequalities impact health outcomes.

By exploring these issues, this thesis seeks to contribute to the ongoing dialogue regarding oral health disparities in the United States and provide insights that may inform evidence-based interventions and policies aimed at creating oral health equity for all.

Methodology

To address the research questions presented in this thesis, a mixed-methods approach was taken. This consisted of using existing oral health data as quantitative analyses while simultaneously gathering qualitative insights from scholarly literature and peer-reviewed journals as qualitative insights. The methodology encompassed several steps:

Data Collection:

All 21 sources were obtained from the Vanderbilt Jean and Alexander Heard Library database. Reliable sources, including national health surveys or dental health organizations, provided quantitative data that provided insight into oral health outcomes, access to dental care, oral hygiene practices, socioeconomic factors among different racial groups within the US, socioeconomic factors associated with each race within these populations as well as socioeconomic aspects within society in general.

Quantitative Analysis: Several references used quantitative analyses conducted using statistical software to examine disparities in oral health outcomes across race/ethnic groups. Descriptive statistics were employed to quantify prevalence rates of various oral conditions among different racial groups, while inferential statistics such as chi-square tests or regression analyses were utilized to detect significant differences and trends among oral health outcomes across racial groups. Subgroup analyses were also employed to explore variations based on socioeconomic status, geographic location, or other relevant variables.

To gain insights into the socioeconomic, cultural, and systemic influences that contribute to oral health disparities by race/ethnicity in America, Vanderbilt University library database articles, studies, and journals were examined for themes, theoretical frameworks, and empirical findings relevant to my research questions. The literature review summarizes and analyzes these references.

Integration of Findings: This process involved combining quantitative and qualitative findings to gain an in-depth knowledge of racial disparities in oral healthcare in the United States, through triangulating data from multiple sources for increased validity and reliability of study findings. Synthesized results were utilized to address research questions as well as develop interventions or policy changes to promote oral health equity. By adopting a mixed-methods approach, this

study generated robust evidence to support efforts to address racial disparities in oral healthcare and promote health equity across the US.

Data

1.) The journal "Racial Inequalities in Oral Health" by J.L. Bastos, R.K. Celeste, and Y.C. Paradies is a journal article that evaluates existing knowledge and literature related to race and oral health relationships. By answering three guiding questions related to disparities in oral health based on race: (1) What concepts and ideas relate to race within dentistry (2) What can be learned and what gaps remain from existing literature (3) How can research/policy on inequalities improve for better oral health outcomes. The authors begin by providing a historical background of race in dentistry dating back to the mid-19th century. They then analyze trends in research publications related to race, racial discrimination, and racism within dentistry - with more studies focused on race than on discrimination or racism; further categorizing literature studies by orofacial development/morphology or health outcomes. Race has long been used as a distinguishing factor when studying orofacial development/morphology studies, providing an important way of categorizing groups under analysis and making comparisons between them. Early publications from the 19th century focused on anatomical differences among various racial groups to perpetuate stereotypes of superiority or inferiority between them; more modern studies continue using race as the main category for analysis - considering it an essential aspect of personalized dental care services. Studies on oral health outcomes reveal racial disparities in oral health outcomes, with underprivileged groups bearing the brunt of negative oral health results. These disparities have been attributed to a variety of factors including structural (e.g. living conditions), cultural traits (such as dental care practices), and individual-level socioeconomic

status (SES). However, the authors note a dearth of research into larger sociohistorical processes, such as systemic racism, and their effects on oral health disparities. Furthermore, they argue that literature often ignores or overlooks racism's role in shaping oral health outcomes while focusing exclusively on individual-level factors. This article presents recent research addressing discrimination as a psychosocial stressor that contributes to oral health disparities. These studies theorize discrimination as one factor contributing to inequalities in oral health outcomes despite individual SES consideration. They outline policy considerations to address racial inequalities in oral health, emphasizing the need to broaden conceptions of race beyond narrow categories and incorporate systemic racism into research and policy frameworks. Addressing systemic racism is paramount for decreasing disparities in oral health as well as improving overall health outcomes for disadvantaged groups.

2.) Boehmer et al.'s study, entitled "Dental Care in an Equal Access System Valuing Equity: Are There Racial Disparities?" explores patterns of dental care utilization and any racial disparities in root canal therapy (RCT) usage among veterans of Veterans Health Administration dental care systems. Their analyses focused on factors like preventive visits, prior dental procedures performed, severity of tooth disease severity demographic characteristics as well as access to dental care for their large sample of patients. The results reveal that patients who received preventive dental care during the previous fiscal year were more likely to undergo RCT, while those without dental treatment had less chance of doing so. Patients who had prior RCTs were also more likely to undergo it at their initial visit than those without, while prior tooth extractions made patients less likely. Additionally, the severity of tooth disease played an essential role in receiving RCT; those with less severe diseases were less likely to do so compared with those

suffering more serious conditions. Racial disparities were also apparent with African American patients having a lower probability of receiving RCT than their white counterparts even after accounting for other factors; on the contrary, Asians had a greater likelihood of receiving it than white patients. Access to dental care was another factor, with patients who qualified for comprehensive or ongoing dental coverage being more likely to qualify for RCT than those only eligible for emergency dental treatment or with other forms of eligibility. Boehmer et al. continue their exploration of disparities in dental care utilization by exploring factors affecting access to RCT among VA dental care system patients. Their multifaceted approach takes into account several demographic and clinical variables as well as patient access. Analysis by their team revealed persistent racial disparities in receiving RCT, with African American patients consistently having lower probabilities than white patients of receiving RCT treatment. Even after controlling for access to dental care and other confounding factors, these disparities remained. Asian patients were found to have a higher likelihood of receiving RCT when accessing dental care was more limited - an indication of the complex interplay of factors leading to disparate use of dental services, including race, severity of tooth disease, and accessibility of care. The study underscores the necessity of targeted interventions to address racial disparities comprehensively, beyond generic quality improvement efforts. By identifying factors contributing to disparities such as access and severity of tooth disease, such as access and severity levels of dental care provision; policymakers and healthcare providers seeking equity improvements will gain valuable insights.

3.) Natalia I. Chalmers' article entitled, "Racial Disparities in Emergency Department Utilization for Dental/Oral Health-Related Conditions in Maryland from 2010 to 2013", investigates racial

disparities in emergency department (ED) visits for dental conditions in Maryland from 2010 to 2013. Her goal was to discover their causes and the resulting public health consequences, by looking at trends among various racial groups for ED discharges for dental conditions as well as factors like age, gender, income location payer comorbidities access, and availability to dental care to understand what led her down this path of research. Analyzing data from the Maryland State Emergency Department Data, this analysis calculates rates per 100,000 population and estimates costs associated with dental/oral health-related conditions (DOHRC). Furthermore, this research identified racial disparities in emergency department (ED) utilization; specifically Black females aged 25-34 had higher proportions of total discharges and DOHRC population rates than other groups despite representing only 30% of Maryland's population (despite accounting for 52% of DOHRC costs in 2013); Hispanics and individuals of other races had lower discharge rates due to DOHRC conditions than Black females did (despite only representing 30%). Regression analysis suggests that Black individuals' high proportion of DOHRC discharges may be attributable to factors like their concentration in low-income central cities with limited access to dental care services. This research underlines the significance of targeting policy solutions towards those affected populations most severely affected, combining community and state efforts in an attempt to eliminate oral health disparities. This article presents an in-depth investigation of racial disparities in emergency department utilization for dental conditions among minority groups, while also exploring socioeconomic and geographical influences that are responsible. Furthermore, effective policy interventions must be implemented to increase access to dental care while decreasing healthcare costs and providing more appropriate settings for treating dental ailments among disadvantaged populations.

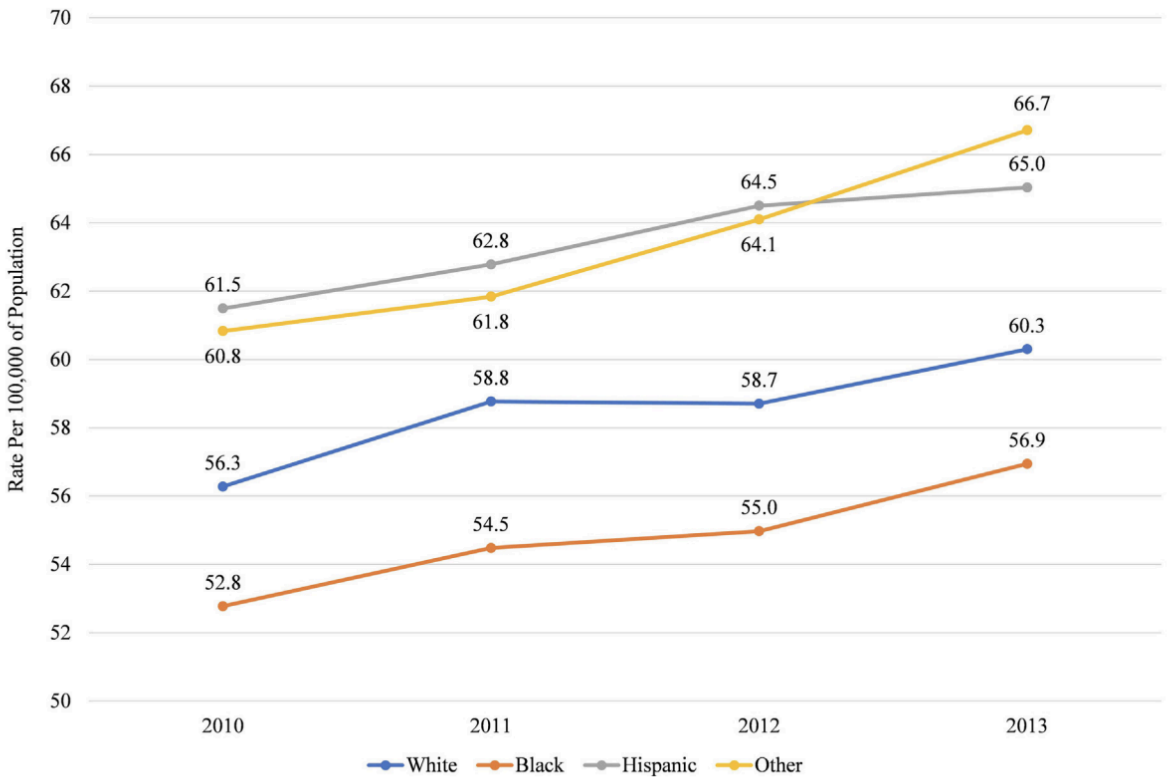

Figure 1: Median rate of dentists per 100,000 of the population in the county by race in Maryland 2010-2013. Data from Chalmers, N. I. (2017).

4.) The study results published in "Racial and Socioeconomic Disparities in Oral Disadvantage, a Measure of Oral Health-Related Quality of Life: 24-Month Incidence," led by L. Scott Chavers, MPH; Gregg H. Gilbert DDS MBA and Brent J Shelton Ph.D, investigated oral disadvantage and its associated factors over 24 months. This study investigated the incidence of oral disadvantage in various domains and determined that per 1,000 person-intervals, the overall incidence rates were 101 for oral disadvantage due to function; 51 for disease/tissue damage; and 27 for pain. Researchers observed disparities based on approaches to dental care, race/sex/age/education level/financial circumstances/place of residence. Problem-oriented dental attendees had higher incidences across all domains compared to regular attendees; African American individuals and

those facing financial challenges showed higher rates of oral disadvantage compared to non-Hispanic whites or financially secure individuals. Females were found to have higher incidences of oral disadvantage due to tissue disease/damage and function issues compared with males, particularly among those not graduating high school and living rurally; those without graduating also displayed more rates of oral disadvantage due to pain issues. This research conducted multivariable analyses to ascertain independent predictors of oral disadvantage. Dental care approach and financial circumstances were among the primary predictors, with regular dental attendance leading to lower rates of oral disadvantage while individuals facing financial challenges are more likely to encounter them. The analysis also identified differential associations with each domain of oral disadvantage, suggesting that certain factors were more strongly tied to certain forms of oral disadvantage. Problem-oriented attendees were more likely to report disadvantage due to disease/tissue damage while African Americans reported it more frequently due to function. This research concluded that interventions targeting disparities in access, financial assistance, and education for dental care could greatly enhance oral health-related quality of life while decreasing disparities among different demographic and socioeconomic groups.

5.)Deborah L. Huang and Mijung Park's study "Socioeconomic and Racial/Ethnic Oral Health Disparities among US Elder Adults: Oral Health Quality of Life and Dentition", explores discrepancies in oral health outcomes among older (65 years and greater) Americans by socioeconomic status and ethnic background, specifically poverty and minority racial/ethnic groups which may be associated with poorer OHQOL scores and decreased permanent teeth counts among participants analyzed from 2005-2008 in NHANES survey data collected through

NHANES from 2005-2008 comprising 2,745 community-dwelling adults aged 65 years or over who provided complete data sets from 2005-2008 NHANES survey were utilized. Results indicated significant correlations between poverty, minority race/ethnicity, and poor oral health outcomes. People living in poverty or belonging to minority racial/ethnic groups experienced worse oral health quality of life and had fewer permanent teeth; scores for various OHQOL domains varied depending on racial/ethnic group; with black and Hispanic adults ≥65 years old showing significantly worse self-rated oral health than white older adults compared concerning self-rated oral health measures such as functional limitation, physical pain handicap. Finally, poverty was significantly associated with worse OHQOL measures as well as having less permanent teeth. Analyses revealed that Hispanic older adults reported worse OHQOL and oral health-related physical pain than white older adults, while black older adults possessed significantly fewer permanent teeth than their white counterparts - evidence of persistent disparities in oral health outcomes among older adults living in poverty or belonging to minority racial/ethnic groups. The study also underscored the need for targeted interventions to address disparities and enhance oral health among vulnerable populations. Gaining insight into factors contributing to these disparities - such as social determinants of health - is integral in creating effective public health initiatives and initiatives designed to combat disparities. The research highlighted the significance of integrating oral health into medical care and expanding dental insurance coverage to mitigate disparities among older adults. However, the study had several limitations, such as its cross-sectional design and inability to account for factors like dental care access and oral hygiene habits. Despite these drawbacks, its findings still provide valuable insight into oral health disparities among older adults in the US, highlighting their urgent need to be addressed through comprehensive public health strategies.

6.) The journal article entitled "Racial and Ethnic Disparities in Children's Oral Health: The National Survey of Children's Health" by Dietrich, Thomas, Culler, Corinna, Garcia, Raul I, and Henshaw Michelle M provides a thorough investigation of oral health disparities among American children. It focuses on methodology and data collection procedures using data from the National Survey of Children's Health (NSCH), employing weighted analyses for population estimates as well as logistic regression models to assess associations between various factors and dental outcomes. Then they present findings and interpretations derived from the data analysis of results. The journal provides insight into the demographic characteristics of the study population. They reveal significant discrepancies among racial/ethnic groups, with Hispanics showing lower education levels and poverty rates than non-Hispanic whites and non-Hispanic black individuals; such differences create the framework for understanding disparate oral health outcomes in the future. The study uncovers significant variations in parental ratings of their children's oral health by race/ethnicity, with Hispanic children more likely than non-Hispanic counterparts to be judged as having fair or poor dental health despite similar prevalence rates of specific dental problems such as cavities and crookedness across groups; yet disparities remain when rating children's oral health ratings. Marked disparities exist between different racial/ethnic groups when it comes to dental visit frequency and receipt of preventive care, with Hispanic children being the least likely to visit a dentist or receive preventive services; this indicates significant barriers preventing their access. The lack of adequate dental services for Hispanic families often stems from cost considerations and insurance gaps, underscoring socioeconomic disparities alongside race/ethnic differences. The study sheds light on parental attitudes toward preventive care, with Hispanic parents more likely than non-Hispanic white parents to have negative views

toward preventive measures than non-Hispanic white parents; however, when adjusted for socioeconomic variables the difference in preventive-care attitudes among racial/ethnic groups decreases significantly suggesting socioeconomic factors play a key role in shaping parental behaviors related to oral health care.

7.)Fisher-Owens et al's journal article titled, "An Examination of Racial/Ethnic Disparities in Children's Oral Health in the United States", examines disparities in oral health outcomes for US children with regards to race or ethnicity differences. This study employs multivariable models to examine the association between race/ethnicity and oral health outcomes while accounting for various factors such as poverty status, insurance status, and individual, family, neighborhood, and state-level variables. Analysis primarily centers around Hispanic and non-Hispanic Black children compared with non-Hispanic White children. The goal is to explore underlying factors contributing to disparities, as well as propose interventions designed to overcome them. This journal presents bivariate results (Model 1) for race/ethnicity regarding three oral health outcomes: fair or poor oral health status, no preventive care in the past year, and delayed care or unmet needs in the past year. Unadjusted odds ratios (ORs), using non-Hispanic White as the reference group, reveal substantial disparities among children of Hispanic origin and non-Hispanic Black origin. This analysis utilizes multivariable models (Models 2-5) to explore the impact of adjusting for poverty status, health insurance status, and additional individual, family, and community-level factors on observed disparities. Results show that when these factors are taken into account, race/ethnicity effect sizes decline, suggesting their role in creating oral health disparities among children. Furthermore, this study emphasizes the significance of socioeconomic factors like family income and insurance status in reducing racial and ethnic

disparities in children's oral health outcomes. Interventions targeting these factors, combined with broad community initiatives and health promotion efforts, could help decrease disparities and promote oral health equity among children. Though limited by cross-sectional data and subjective measures reported by parents, the analysis provides useful insights into the complex interactions among factors impacting children's oral health. It highlights the need for comprehensive approaches to address disparities in this domain.

8.) Glenn Flores and Hua Lin's journal article titled, "Trends in Racial/Ethnic Disparities in Medical, Oral Health Care Access and Use among US Children: Has Anything Changed Over Time?," provides an examination of racial/ethnic disparities among children's health and healthcare in the US. Using data from both the 2003 and 2007 National Surveys of Children's Health they explored 34 indicators of disparity across six racial/ethnic groups such as white, African American/Latino/Latino Asian/Pacific Islander American Indian/Alaska Native, and multiracial children. These findings show that, despite attempts to reduce disparities, minority children still face multiple barriers when it comes to medical and oral health services as well as healthcare access. Urgent policy interventions must be implemented to address these persistent disparities - including improved data collection methods, annual monitoring systems, and research-based solutions. This study highlights striking disparities in health status, access, and utilization across racial and ethnic groups. Minority children tend to live in lower-income households and experience suboptimal health conditions like obesity, behavior problems, and oral health concerns more frequently than their counterparts from higher-income households. Access to healthcare varies substantially across racial and ethnic groups, with minority children more likely than their counterparts to be uninsured and have unmet medical and dental needs.

Disparities exist regarding access to primary care providers and specialty care - further complicating equitable healthcare delivery. Notably, while some progress was seen between 2003 and 2007 in terms of reducing certain disparities - for instance, increases in insurance coverage for African-American children - the overall number of disparities remained mostly the same, which underlines the necessity for sustained efforts to address structural inequities within healthcare. This study emphasizes the significance of diversifying the healthcare workforce to better serve diverse populations, calling for increased research funding and innovative interventions to address disparities. Furthermore, the authors advocate for collecting racial/ethnic data within healthcare settings as well as monitoring disparities to inform policy and practice decisions.

9.) In the article "Differences in 25-hydroxyvitamin D concentrations and sugar consumption may help explain socioeconomic and racial/ethnic oral health disparities among US adults ≥65 years of age", William B. Grant addresses socioeconomic and racial/ethnic disparities in oral health among older adults in the US as revealed in Huang et al's paper, suggesting that differences in 25-hydroxyvitamin D concentration and sugar consumption might help explain these discrepancies in oral health status among older adults in America. He suggests that differences in 25-hydroxyvitamin D concentration could also explain some of these disparities in health status among older adults in this nation. Grant begins his talk by outlining the significance of vitamin D for oral health, noting its risk factors associated with dental caries and periodontal disease. Vitamin D helps create cathelicidins and defensins which contain antibacterial properties as well as reduce inflammation while improving calcium absorption and metabolism. Furthermore, Black and Hispanic Americans typically have lower concentrations of

25-hydroxyvitamin D when compared with White Americans due to variations in skin pigmentation which limit their ability to synthesize this vitamin from sunlight; such variations in vitamin D levels may contribute to health disparities among groups. Grant then shifts the conversation toward diet, specifically added sugar consumption which has been linked with an increase in dental caries and periodontal disease risk. He notes that African Americans have higher rates of added sugar consumption compared to White and Hispanic Americans who consume less added sugar; Grant attributes this difference to economic factors as foods high in added sugar are often cheaper and hence consumed by those from lower socioeconomic statuses more frequently. He further cites health implications associated with decreasing sugar consumption including decreased cardiovascular disease risk. Grant suggests that lower levels of 25-hydroxyvitamin D and increased consumption of added sugars could be contributing factors for poorer oral health outcomes among Black individuals and those from lower socioeconomic groups, with Hispanic Americans potentially affected to lesser degrees. He urges further studies to investigate their roles in oral health disparities.

10.) Carol Cristina Guarnizo-Herreno, DDS, MPH, and George L. Wehby's research article titled "Explaining Racial/Ethnic Disparities in Children's Dental Health: A Decomposition Analysis" explores factors contributing to disparities in children's dental health across racial/ethnic lines. The study explores differences in explanatory variables by race/ethnicity using data from the National Survey of Children's Health 2007. As evidenced in this research study, White children had an 82 percent rate of married mothers while Black children's rate was 41%, and fair or poor maternal health was more commonly experienced among Hispanics (21%) and Black individuals (19%) compared to Whites (8%). Socioeconomic indicators varied, with Hispanics experiencing

both the highest poverty level and lowest employment rate. The study focused on decomposing disparities in dental health outcomes by attributing percentages of gaps to various explanatory variables. Low household socioeconomic status, particularly lower maternal education levels and an increase in poverty levels are major contributors to these disparities. Socioeconomic status was responsible for 30.9% of the disparity in fair or poor dental health ratings between White and Black children. Neighborhood characteristics, such as safety, also play a key role, with lower neighborhood safety accounting for 14.2% of the gap in dental health problems between Black and White children. This study emphasizes the significance of addressing socioeconomic disparities in children's dental health by suggesting interventions designed to increase household socioeconomic status and enhance neighborhood quality to minimize these disparities effectively.

11.) Chengming Han's article entitled, "Oral Health Disparities: Racial, Language, and Nativity Effects" examines oral health disparities across non-Hispanic Whites, non-Hispanic Black people, and Hispanics in the US with particular attention paid to language and nativity effects. Utilizing data from the National Health and Nutrition Examination Survey (NHANES) 2011-2016 this research study analyzes self-rated oral health measures; frequency of dentist visits; and number of missing teeth among adults aged 20+ while exposures such as education; family income; foreign-born status; citizenship etc act as exposures while age gender marital status all act as covariates or covariates This study revealed significant disparities in oral health outcomes across various racial and language groups. Spanish-speaking Hispanics showed the lowest social gradients and worst oral health outcomes when compared to non-Hispanic whites; non-Hispanic Black individuals and English-speaking Hispanics followed suit when compared to Whites. Foreign-born status, higher education levels, and family income can play an indirect

protective role while citizenship status increases the risk of fair/poor oral health and irregular dentist visits. Race/ethnicity emerges as an important determinant of oral health disparities, with African Americans and Hispanics facing more difficulties accessing dental care than non-Hispanic whites, leading them to experience worse oral health outcomes compared to Whites. Language also plays a significant role, with non-English speakers encountering various barriers that impede their oral health care access; length of stay in the U.S., age at immigration, and country of birth being linked with oral disease prevalence - further compounding disparities. Hypotheses in this study are put through various tests using ordered logistic regression models for irregular dentist visits and self-rated oral health ratings as well as negative binomial regression models for missing teeth counts. Results demonstrate that social gradients significantly impact irregular visits to dentists as well as self-rated oral health across all races and languages, with older respondents tending to visit regularly more than younger ones; higher education levels as well as family income predicting better oral health outcomes for these outcomes. Analysis shows that nationality plays a major role in oral health disparities, with foreign-born respondents experiencing better oral health results in some instances than native-born respondents. Therefore, this research underscores the need to address disparities related to race, language, and nationality through targeted interventions that increase access to dental care while simultaneously addressing socioeconomic determinants of oral health status.

12.) Herndon and Ojha's article titled, "Racial and Ethnic Disparities in Oral Healthcare Quality among Children Enrolled in Medicaid and CHIP," explores disparities in oral healthcare quality among public health insurance program children aged 21 years. Using Dental Quality Alliance measures - usage of services, oral evaluation, and topical fluoride application among others - the

study finds significant variations between measure scores across race/ethnic groups and states with over two-thirds lacking sufficient data for reliable reporting. Research emphasizes the significance of health equity, underscoring its need to address disparities in healthcare access, quality, and outcomes. While systematic quality measurement in dentistry is relatively recent, standard measures present an opportunity to detect and address disparities in care. Three Dental Quality Assessment (DQA) measures were employed to examine disparities in oral healthcare quality between race and ethnicity among low-income children enrolled in Medicaid and CHIP, such as topical fluoride for caries prevention, as well as periodical or comprehensive oral evaluation by dental providers. Data from the Transformed Medicaid Statistical Information System (T-MSIS) for the calendar year 2018 is utilized, with analyses stratified according to various population characteristics, including race, age, sex, geographic location, and primary language spoken at home. Bivariate logistic regression is utilized to identify differences in measure performance across subpopulations. This study revealed racial and ethnic disparities in oral healthcare quality, with measure scores differing across states and races/ethnic groups. Non-Hispanic black children typically exhibit lower scores compared to their white peers while Asian non-Hispanic children performed better across measures and states; Hispanic children consistently demonstrated higher measure scores. Differences were also observed by age, geographic location, and primary language spoken at home; almost half of children enrolled in Medicaid and CHIP did not receive oral evaluations and the majority did not take advantage of receiving recommended topical fluoride applications. Improving data collection and reporting on beneficiary characteristics is identified as essential for understanding and addressing disparities in care quality. The article stresses the need for coordinated efforts to strengthen data

infrastructure and set national reporting standards. Strategies for collecting race and ethnicity data vary across state Medicaid programs, necessitating tailored approaches.

13.) ISONG, Inyang A et al's article entitled "Racial Disparity Trends in Children's Dental Visits: US National Health Interview Survey 1964-20" examines racial disparities in children's dental care utilization from 1964 through 2010. Their research employed data from the National Health Interview Survey (NHIS) to examine changes and disparities among children aged 2-17 years who sought care at dentist offices across America between 1964 and 2010. They identified numerous historical policies designed to increase healthcare access for low and moderate-income groups, such as Medicaid, the Early Periodic Screening Diagnosis, and Treatment (EPSDT) program, and the Children's Health Insurance Program (CHIP). While these initiatives were intended to mitigate health disparities - specifically dental care disparities - their full effects remain unknown. Researchers conducted their analysis to ascertain whether racial disparities in children's dental care had changed significantly from 1964 to 2010 and to identify potential contributing factors. They used multiple regression analyses and the Aday and Andersen model on data from 1989, 1999, and 2010 collected through NHIS; taking into account child age, gender, the overall health status of parent education family structure, and region of residence variables as possible contributing factors. Findings revealed a significant decrease in the percentage of African American and white children without dental visits within a year, from 52.4% in 1964 to 21.7% in 2010, with children never visiting a dentist decreasing from 33.6% in 1964 to 10.6% during that same timeframe. Notably, disparities observed in 1964 had diminished significantly and become statistically nonsignificant by 2010. The study also highlighted the role that public health insurance expansions, especially Medicaid and CHIP, have played in

narrowing racial disparities in accessing dental care over time. By 2010, African American children were nearly three times as likely to receive public coverage primarily through Medicaid or CHIP compared with white counterparts; yet despite improvements in dental care utilization rates and reductions in disparities, persistent oral health disparities among minority children persisted despite these advances due to socioeconomic factors, cultural influences, and accessing resources. This study provides insights into the evolution of racial disparities in children's dental care utilization over five decades; however, it identifies several limitations, such as its reliance on parental self-reported data and inability to differentiate types of dental visits. Still, its findings provide a baseline for assessing future healthcare policy changes on these disparities and access/use.

14.) May Lau, Hua Lin, and Glenn Flores' research article entitled "Racial/Ethnic Disparities in Health Care among U.S. Adolescents" delves deep into the complex landscape of healthcare inequalities among adolescents across different races and ethnic groups in the U.S. By using data from the 2003 National Survey of Children's Health to conduct their analysis, these authors shed light on disparities related to medical and oral health status, access to care, and utilization among adolescents aged 10-17; therefore underscoring their urgent need for targeted interventions and ongoing monitoring to address effectively these disparities effectively.

One of the strengths of this study lies in its rigorous methodology, which employs bivariate and multivariable analyses to examine health measures across different racial and ethnic groups. By looking at white, African American, Latino, Asian/Pacific Islander, American Indian/Alaskan Native, multiracial adolescents as well as white adolescents of mixed race/ethnic origin as groups separately analyzed; data analysis for white adolescents; African Americans, Latino adolescents;

white/African American, Latino adolescents; multiracial adolescents as individuals gives a nuanced understanding of disparities among particular groups while simultaneously drawing attention to overall issues associated with disparities racial/ethnic disparities while simultaneously acknowledging and addressing particular challenges faced by different communities - two important approaches in research design that enhance both strategies of understanding racial disparities as well as their challenges faced.

The findings of this study highlight several critical disparities that warrant attention and intervention, such as Latino adolescents' suboptimal health status and their inability to access comprehensive healthcare, along with African American adolescents facing disparities in oral health and medication access that may have long-term ramifications on their well-being. Furthermore, Asian/Pacific Islander adolescents lack physician visits or mental health services indicating potential gaps in accessing essential services.

Furthermore, this research highlights disparities in insurance coverage between Latino and American Indian/Alaskan Native adolescents as compared to their white peers; Latino and AAIN adolescents are more likely to remain uninsured due to accessing routine preventive healthcare as well as challenges associated with treating underlying health issues effectively. By highlighting such disparities across multiple dimensions of healthcare delivery systems, this research emphasizes the interconnectivity of barriers faced by adolescents from different racial and ethnic backgrounds.

Importantly, this study stresses the need for ongoing monitoring and interventions to address disparities comprehensively. By calling for ongoing identification and targeted interventions to combat disparities comprehensively, public health and healthcare policy initiatives that promote health equity for diverse populations are supported through tailored approaches that take into

account cultural, social, and structural influences influencing healthcare access and outcomes among adolescents.

This study significantly increases our knowledge of healthcare disparities among adolescents. With its careful analysis and detailed findings, this research not only quantifies disparities but also highlights their severity - underscoring the need to take concerted steps to rectify them. As such, future policy initiatives, healthcare practices, or community interventions informed by such research could play an invaluable role in providing equitable healthcare access and improving health outcomes across all ethnic lines.

15.) Liang, Wu, Plassman, Bennett, and Beck's study "Racial Disparities in Trajectories of Dental Caries Experience" sought to investigate differences in levels and rates of change of dental caries experience among older Americans from 1988-1994 using data from Piedmont Dental Study (PDS), comprising 810 dentate subjects who underwent up to four repeated observations over this timeframe. Hierarchical linear models were utilized to analyze intrapersonal and interpersonal differences in dental caries experience. This study discovered distinct trajectories for different measures of dental caries outcomes over five years. On average, decayed teeth decreased while missing ones increased over time and filled ones remained stable; race disparities were evident with older black Americans having more decayed and missing but fewer filled teeth than their white counterparts, although no significant rate differences existed except when considering missing tooth cases. Even after accounting for demographic and socioeconomic attributes, racial variations in dental caries experience were significant. Older age was linked with more missing teeth over time while men generally had more decayed ones. Socioeconomic status such as education and household income helped moderate disparities but

disparities persisted; those who dropped out during the study period showed greater instances of dental caries damage, suggesting bias in attrition rates. White Americans had slightly fewer decayed teeth than black Americans over time, with this disparity remaining stable over time. Meanwhile, missing tooth rates rose overall among both groups, though whites experienced lower rates of increase than their black counterparts. Filled tooth rates decreased slightly over time with whites having more filled than black counterparts remaining steady over time. This study found that racial disparities in dental caries trajectories among older Americans remain even after taking into account socioeconomic factors and future interventions to minimize such variations are necessary. Nonetheless, its authors acknowledged several limitations including its focus on older adults alone and additional research regarding other possible influences of oral health disparities.

16.) Luo et al's study entitled, "Racial/Ethnic Disparities in Preventive Dental Service Use and Dental Caries among Children," examines the relationship between race/ethnicity, utilization of preventive dental services, and prevalence of dental caries in children using data from National Health and Nutrition Examination Survey (NHANES) to analyze disparities. The authors uncovered significant disparities in the utilization of preventive dental services among different racial/ethnic groups. Based on data analysis, non-Hispanic white children were more likely to receive preventive dental care than Hispanic or non-Hispanic black children - specifically 67.2% had visited a dentist within the last year for preventive purposes versus only 55.1% for Hispanics and 44.6% for non-Hispanic black individuals respectively. Furthermore, this study explored the prevalence of dental caries among children of various races/ethnic groups. Results revealed that non-Hispanic black children had the highest prevalence rate with 52.7% affected; Hispanic

children came second at 44.1% followed by non-Hispanic white children at 37.9%. Notably, the authors also investigated the relationship between the use of preventive dental services and the prevalence of dental caries in children. Their analysis demonstrated that those who visited their dentist for preventive care in the past year were significantly less likely to have dental caries compared with those who didn't receive such assistance (36.5% prevalence vs 52.3% for those receiving preventive dental services). The conclusions of this research demonstrate significant racial/ethnic disparities in utilization and prevalence rates of preventive dental services among children. Non-Hispanic white children were more likely to utilize preventive dental services and had lower dental caries rates when compared with Hispanic and non-Hispanic black children, further emphasizing the significance of removing barriers preventing minority groups from accessing dental care for better oral health outcomes.

17.) The journal "Racial/Ethnic Disparities in Self-Reported Pediatric Orthodontic Visits in the United States" by Christopher Okunseri et al. explores an understudied yet vital component of orthodontic care: racial/ethnic disparities in pediatric orthodontic visits in the US. Using data from 1996-2004 MEPS surveys (Medical Expenditure Panel Survey), they investigate race/ethnicity and socioeconomic factors on orthodontic service utilization among children aged 9-18 years in America. Their analytical approach helps illuminate access to care - something often neglected because clinical techniques take priority over epidemiological considerations. Orthodontic treatment is often perceived as cosmetic care, targeting deviations from normative dental alignment rather than pathological conditions. Yet neglecting moderate to severe malocclusions can result in functional impairments and psychosocial challenges which seriously diminish an individual's quality of life. This study highlights the integral role played by

orthodontic care in maintaining optimal oral function and psychosocial well-being - aspects often ignored when research only considers clinical interventions.

MEPS data enabled researchers to accurately capture trends in orthodontic visits among different racial/ethnic groups and socioeconomic strata. Their findings revealed persistent racial/ethnic disparities for Black and Hispanic children despite accounting for income, insurance status, and parental education as covariates; Asian children did not exhibit significantly different orthodontic visit rates when compared with White ones, suggesting potential cultural nuances impacting care utilization.

Regression analyses in this study highlighted several disparities: Black and Hispanic children had lower odds of orthodontic visits compared to White children; low-income families and those covered by Medicaid/public/no insurance had fewer visits for orthodontic services; these results demonstrate systemic barriers which contribute to unequal access and utilization among minority groups and underserved populations.

This research goes far beyond orthodontics, illuminating wider challenges associated with attaining equitable dental and healthcare access. With changing demographics across the United States, understanding and addressing disparities becomes even more crucial in order to promote oral health equity. Strategies such as targeted outreach, culturally sensitive care, and policy interventions to increase access and affordability are integral in mitigating racial/ethnic disparities in orthodontic and overall dental care utilization. This study serves as an impetus to promote inclusivity and equity in dental healthcare delivery so that every child has access to essential orthodontic services regardless of race, ethnicity, socioeconomic status, or disability status.

18.) Singhal and Jackson's journal "Perceived Racial Discrimination Partially Mediates racial‐ethnic Disparities in Dental Utilization and Oral Health" explores the complex dynamics underlying disparities in dental care utilization and oral health outcomes across races in the United States. Published in Journal of Public Health Dentistry, their aim was to understand how perceived discrimination played a part in these differences by using data from four states' Behavioral Risk Factor Surveillance Systems for 2014 across Arizona, Minnesota, Mississippi and New Mexico Behavioral Risk Factor Surveillance System data as Behavioral Risk Factor Surveillance System 2014 data to analyze relationships among perceived discrimination levels, dental visits frequency, tooth loss among Hispanic adults as well as non-Hispanic Black adults and non-Hispanic White adults based on BRFSS data collected throughout 2014.

This study offers an in-depth and insightful examination of all of the complex factors contributing to disparate oral health outcomes between different racial-ethnic groups within the US. By carefully analyzing data from the Behavioral Risk Factor Surveillance System (BRFSS) and employing rigorous statistical techniques, this study sheds light on perceived racial discrimination within healthcare settings as one of the primary contributors to disparities. These findings illustrate the ongoing difficulty Hispanic and non-Hispanic Black populations face in accessing dental care and experiencing tooth loss compared to non-Hispanic Whites, even after accounting for various sociodemographic and health-related confounders.

One of the strengths of the study lies in its methodological approach, such as its use of risk ratios, adjustments for confounding variables, and exploration of mediation effects to understand the impact of discrimination on dental outcomes. By elucidating perceived discrimination's differential impacts across racial-ethnic groups on dental care utilization and tooth loss rates - such as dental care utilization rates and tooth loss rates - this study provides nuanced insights

into disparate mechanisms driving disparities. Although cross-sectional analyses provide insights, its limitations cannot establish causal relationships or dive deeper into temporal dynamics between discrimination and oral health outcomes - something this study acknowledges well by acknowledging its limitations while acknowledging its limitations by calling for longitudinal research to establish causal links and examine temporal dynamics more thoroughly between discrimination and oral health outcomes.

From a literary perspective, this study can be read as a narrative that unpacks the complex interweave of social determinants influencing oral health disparities. It touches upon issues like access to healthcare, systemic racism, and implicit bias within healthcare settings as well as the interplay between individual experiences and structural factors. Finally, its conclusion resonates as an appeal to take holistic measures against discrimination and racism within healthcare environments - advocating holistic interventions beyond individual-level interventions that address larger societal concerns like racism in healthcare.

As part of a thesis paper, this study serves as a piece of foundational literature that enhances discussions on health equity, social justice, and healthcare disparities. It offers an accessible framework for framing research questions, designing interventions, and advocating policy changes designed to reduce racial-ethnic disparities in oral health and promote inclusive healthcare practices. Overall, the study contributes significantly to ongoing discussions surrounding disparities while emphasizing the necessity of taking comprehensive approaches toward reaching health equity for all populations.

19.) The journal "Racial And Ethnic Disparities In Dental Services Use Declined After Medicaid Adult Dental Coverage Expansions." by Wehby, Lyu, and Shane provides a thorough

examination of how Medicaid expansion has affected dental access and utilization among low-income adults from 2011-2018, paying particular attention to disparities by race or ethnicity. The authors explore how different Medicaid expansions with differing degrees of dental benefits affect nonelderly adults from different races/ethnic backgrounds who fall within low-income brackets using data from the Medical Expenditure Panel Survey from 2011-2018.

This study fills a key void in health policy by exploring access to dental care, an often neglected but crucial element in overall healthcare outcomes. By delving into nuanced differences between dental service utilization among various racial and ethnic groups post-Medicaid expansion, they shed light on how policy interventions affect healthcare disparities.

One of the major findings of this research was a significant narrowing in racial and ethnic disparities in dental service use among newly eligible low-income adults after Medicaid expansion combined with expanded dental benefits. Evidence indicates that non-Hispanic Black and Hispanic adults in expansion states were more likely than non-Hispanic White adults to visit dentists for visits indicating positive results of policy changes on reducing disparities.

However, this study highlights persistent challenges and disparities in dental care utilization among Hispanic adults and non-Hispanic Black adults; specifically in regards to preventive and treatment services for both groups. This highlights access barriers that go beyond insurance coverage alone such as provider availability or unwillingness to serve Medicaid enrollees.

This study underscores the significance of policy interventions in addressing healthcare disparities; however, it also emphasizes holistic solutions beyond insurance coverage alone. Factors like workforce policies, reimbursement rates for providers, and structural barriers within healthcare systems all have a substantial effect on accessing dental care for marginalized populations. Overall, this study adds significantly to the healthcare disparities literature by

providing empirical evidence of how Medicaid expansion affected access and utilization of dental care across racial and ethnic groups. Furthermore, it advocates for continued efforts in policy design and implementation that ensure equitable access to quality dental care for low-income adults regardless of race or ethnic background.

20.) The journal by Yanqiu Weng and Jeffrey E. Korte "Racial disparities in being recommended to surgery for oral and oropharyngeal cancer in the United States," delves deep into issues of race inequality in healthcare access and treatment recommendations. Their data analysis draws heavily from the Surveillance Epidemiology End Results (SEER) database covering cases of oral and oropharyngeal cancer from 1988-2005 is comprehensively explored for analysis, as is how race intersects with demographic, socioeconomic, and clinical factors that impact the likelihood that patients be recommended surgery or not being recommended surgery by physicians.
This study revealed significant racial disparities in surgery recommendations, with black patients less likely than their white counterparts to receive surgery for oral and oropharyngeal cancer than was recommended by healthcare providers. These results highlight an underlying problem in healthcare access and delivery that reflects broader systemic issues; by drawing attention to such disparities, this research contributes to ongoing discussions of equity within healthcare provision. One noteworthy element of the analysis is its stratification by demographic and clinical variables such as age, geography, tumor subsite, and rural/urban status. This unique approach exposes different magnitudes of racial disparity across subgroups; specifically among rural patients who had specific cancer subsites; this shows how race intersects with location when it comes to healthcare outcomes.

Furthermore, this research examines socioeconomic factors and their effect on treatment recommendations. It found that patients from low-income areas are at higher odds of not being recommended for surgery due to structural barriers preventing access. This aligns with previous findings which demonstrate how socioeconomic status, race, and healthcare outcomes interact in complex ways.

The authors' focus on physician biases related to patients' sociodemographic characteristics is crucial. By drawing attention to potential biases in treatment recommendations, this research encourages individuals and institutions to work toward providing impartial healthcare delivery systems - with particular consideration paid to improving access for minorities and underserved populations living in rural areas. However, the study recognizes its limitations: specifically a lack of individual-level socioeconomic data and concomitant disease data from patients. These shortcomings provide avenues for future research that will deepen our understanding of racial disparities in healthcare delivery.

Weng and Korte's study provides valuable insight into the complex dynamics of racial disparities in healthcare delivery, specifically regarding surgery recommendations for oral and oropharyngeal cancer. Their findings and methodological approach provide essential perspectives in discussions of health equity while calling for targeted interventions that eliminate systemic biases in healthcare provision.

21.) The article “How Dental Therapists Can Address the Social and Racial Disparities in Access to Care” by Yee, A., McGlaston, K., and Restuccia, R. makes an argument in favor of dental therapy as an alternative model of care delivery to address pervasive racial and social disparities in accessing oral health services. The authors undertake a critical exploration of systemic barriers

preventing vulnerable, underserved communities of color from accessing dental care despite its obvious relationship to overall well-being.

This study effectively positions access to oral health care as an issue of race and social justice, providing data illustrating disparate rates of dental care access among different racial and ethnic groups. Citing reports from authoritative bodies like the Government Accountability Office and National Health Examination Nutrition Survey as sources for their arguments, emphasizing their need for comprehensive solutions tailored specifically for each community need.

One of the study's major contributions lies in its analysis of the shortage of dental providers and the projected exacerbation of this shortage, especially among vulnerable populations. By projecting a national shortage of dentists and noting difficulties faced by Medicaid enrollees in finding providers, the authors emphasize the urgency of adopting innovative solutions such as dental therapists to bridge this gap.

The study comprehensively details the role of dental therapists as early intervention and prevention professionals uniquely qualified to provide underserved areas with timely access to care. By outlining their education pathway and effectiveness across Alaska and Minnesota states, the authors offer states and policymakers an outline for addressing workforce shortages while increasing access to care.

Furthermore, this study investigates the economic viability and cost-effectiveness of employing dental therapists, providing reports and case studies demonstrating tangible benefits such as direct cost savings, reduced wait times, and increased access for underserved populations as tangible advantages to employing them. Such findings bolster dental therapy programs while at the same time showing how their implementation could alleviate financial pressures on dental practices serving vulnerable communities.

The research proposes a paradigm shift in dental care delivery by calling for widespread adoption of dental therapy programs to promote equity in oral health services. By providing empirical evidence, workforce projections, economic analyses, and real-world case studies as evidence supporting dental therapists as a transformative solution against social, racial, economic, and geographic barriers hindering access to oral healthcare services, this paper makes an outstanding case for their inclusion as transformative solutions.

Literature Review

The literature on racial and ethnic disparities in oral healthcare offers valuable insights into the complex interplay of factors affecting access to care, treatment outcomes, and overall oral health status in different populations in the US. This review synthesizes findings from the 21 scholarly sources to identify trends, challenges, and potential interventions aimed at eliminating oral health disparities across diverse racial and ethnic groups.

1. Historical Context and Conceptual Framework: An understanding of race disparities in dentistry requires an examination of its historical context, according to Bastos et al.'s work. Source 1 provides a thorough review, outlining how race has been categorized in dental research and practice from the 19th century to the present day. Their research highlights how race has been used both as a categorization tool in dental studies and as an influential social construct that affects oral health outcomes. Research by ISONG, Inyang A et al. is highly pertinent here. (Source 13) delves deeply into the history of healthcare policies such as Medicaid, EPSDT, and CHIP to understand their influence on dental care utilization among children over time. While

Medicaid expansions have narrowed disparities somewhat, challenges still remain to ensure equitable access to comprehensive care for marginalized and low-income populations.

2. Access and Utilization Patterns: Studies such as Boehmer et al. and Chalmers (Source 2) examine access barriers and utilization patterns impacting dental care among minority populations. Boehmer et al. 's work documents disparities in root canal therapy utilization among veterans, emphasizing its significance for treatment outcomes; while Chalmers' findings point out systemic challenges faced when accessing timely, suitable oral healthcare.

3. Socioeconomic and Structural Determinants:

Socioeconomic and structural determinants play an integral part in creating oral health disparities, as evidenced in Grant (Source 9) discussing differences in 25-hydroxyvitamin D concentration and sugar consumption contribute to oral health gaps across racial and socioeconomic groups. Guarnizo-Herreno and Wehby (Source 10) perform a decomposition analysis attributing disparities to household socioeconomic status and neighborhood characteristics as the source, emphasizing the need for multifaceted interventions. Structural disparities such as those seen in school zoning illustrate how systemic inequities can perpetuate inequality. For instance, many regions fund school districts through local property taxes alone. Neighborhoods with higher property values generate more funds for schools while lower-income areas with lower property values may struggle to fund their schools effectively. Schools in wealthier neighborhoods typically benefit from more resources, including newer facilities, experienced teachers, and access to advanced educational programs; schools located in poorer areas may experience overcrowding, outdated facilities, and fewer educational opportunities.

School funding disparity perpetuates an unequal system, as students from wealthier neighborhoods benefit from more educational resources and opportunities, leading to higher academic achievements and increasing chances of success. Lower-income neighborhoods may present additional obstacles to academic success due to limited resources and support systems. This example illustrates how structural disparities, such as unequal school funding based on neighborhood property values, contribute to systemic inequalities in education that have lasting consequences on individuals and communities. Furthermore, systemic disparities such as unequal distribution of resources or access to care can cause differential health outcomes depending on socioeconomic status, race/ethnicity/other factors.

4. Policies Interventions and Healthcare Systems:

Policies and interventions play an essential role in addressing disparities. Flores and Lin (Source 8) explore trends of racial/ethnic disparities in children's health access, advocating for policy changes, workforce diversification, and improved data collection to address systemic inequities. Wehby et al (Source 19) underline how expanded Medicaid benefits have helped decrease disparities, underlining the significance of equitable healthcare coverage.

5. Healthcare Utilization and Quality of Life:

Two studies by Fisher-Owens et al. (7) and Huang and Park (5) explore disparities in dental health outcomes and oral health-related quality of life among children and older adults, respectively. Their analyses reveal complex interactions among race, socioeconomic status, access to preventive care services, oral health outcomes, and overall quality of life.

6. Cultural Competence and Patient Perspectives:

Han (11) investigates oral health disparities across race and language groups, emphasizing language barriers, cultural perceptions, and healthcare access as key contributors. Understanding patient perspectives and cultural nuances is integral for providing culturally competent care, thereby improving health outcomes and increasing health equity.

1. Establishing Disparities in Oral Healthcare:

Studies by Herndon and Ojha (12) and Singhal and Jackson (18) shed light on the multidimensionality of disparities in oral healthcare quality and utilization, manifesting themselves across different racial and ethnic groups, impacting preventive services, treatment recommendations, and oral health outcomes as well as perceived discrimination that impacts access to care decisions - underscoring the necessity of addressing systemic biases within healthcare settings. Systemic inequities in dental care refer to structural and institutional barriers embedded within healthcare delivery that disproportionately disadvantage certain groups based on factors like race, ethnicity, socioeconomic status, geography, or other social determinants of health. Systemic inequities manifest themselves through various means - limited access to preventive and treatment services, disparate oral health outcomes, unequal distribution of resources, and insufficient culturally competent care being just a few - all contributing to continuing disparate access, utilization, and outcomes among marginalized and underserved populations. Overall systemic inequities perpetuate these disparities within oral healthcare access utilization outcomes among marginalized and underserved populations.

3. Utilization of Preventive Services: Studies such as Luo et al. (16) and Weng and Korte (20) reveal disparities in the utilization of preventive dental services by children and adults from different racial/ethnic backgrounds, such as white individuals exhibiting higher rates of preventive care utilization than Hispanic or non-Hispanic black populations, leading to superior dental health outcomes compared to these groups.

4. Impact of Medicaid Expansion: Wehby, Lyu, and Shane's (19) work explores the effect of Medicaid expansion on dental service use among low-income adults, particularly with regard to racial and ethnic disparities. While expansions have had some positive influences on access to care, persistent gaps exist in accessing preventive and treatment services, especially among Hispanic and non-Hispanic black adults.

5. Role of Dental Therapists: Yee, McGlaston, and Restuccia (source 21) advocate dental therapy programs as innovative solutions to address workforce shortages and provide underserved communities access to oral healthcare services. Their economic viability and effectiveness as preventive services highlight innovative strategies for mitigating disparities.

These scholarly works demonstrate the pervasive disparities in oral healthcare access, utilization, and outcomes between races/ethnic groups. Systemic barriers, including perceived discrimination, limited access to preventive services, and unequal treatment recommendations continue to impede equitable oral health outcomes across diverse populations. Future interventions must focus on comprehensive policy measures, workforce diversification, targeted outreach programs, and culturally competent care to bridge oral health disparities for all

individuals regardless of race, ethnicity, or socioeconomic status. Research efforts should also prioritize longitudinal studies, intervention evaluations, and community-based participatory research to inform evidence-based strategies and track progress towards eliminating oral health disparities.

Implications

This thesis' findings, drawn from an in-depth examination of 21 scholarly sources, hold significant ramifications for addressing the racial and ethnic disparities in oral healthcare. These implications span multiple realms such as public policy, clinical practice, education, and research, underscoring the need for multifaceted approaches that promote health equity while mitigating these disparities.

1. Public Policy:

Policies such as Medicaid expansions with enhanced dental benefits have shown great promise in narrowing racial and ethnic disparities in dental service utilization, thus emphasizing the significance of strengthening healthcare coverage, particularly among underserved populations. Medicaid expansions with enhanced dental benefits have shown considerable promise in narrowing racial and ethnic disparities in dental service utilization, underscoring the important role that public policy can play in combating healthcare inequities. Medicaid expansions that provide comprehensive dental coverage can significantly increase access to essential oral health services for low-income individuals and families, including underserved populations. These policies offer financial support while simultaneously encouraging preventive care and early intervention measures to address oral health disparities. By strengthening healthcare coverage

and prioritizing dental services within public insurance programs, policymakers can more effectively overcome systemic barriers that impede equitable access to oral healthcare across racial and ethnic groups.

2. Clinical Practice:

Healthcare providers play an essential role in addressing racial and ethnic disparities in oral healthcare through culturally competent care delivery practices. Such care acknowledges and respects patients' diverse backgrounds, beliefs, languages, and experiences while meeting patients where they are. Culturally competent care requires an understanding of the social determinants that impact oral health outcomes in various communities. Trust-building, effective communication, and increasing patient participation are hallmarks of culturally competent care. By customizing treatment plans to the specific needs and preferences of patients from diverse racial and ethnic backgrounds, healthcare providers can effectively close access and quality gaps, ultimately leading to improved oral health outcomes and decreased disparities. Introducing a medical model approach to dental care involves deploring dental providers in rural communities where access to oral healthcare is limited and providing them with financial incentives in exchange for their service. This intervention seeks to address geographical barriers that often prevent individuals living in low-income rural and low-income communities from accessing necessary dental care; by placing providers directly within these communities and offering financial support directly into these locations this model increases access to essential oral healthcare services more readily, increasing availability where it's most needed and thus ultimately leading to improved oral health outcomes among underserved populations.

As well as taking an approach based on medical models, outreach programs through dental schools may provide mobile dentistry services in rural and low-income areas. Dental students and faculty would travel directly to these communities in order to offer preventive and treatment services directly to residents who may face difficulty accessing traditional clinics. Establishing a learning collaborative among dental schools could amplify the success of outreach programs by sharing best practices, resources, and experiences for addressing oral health disparities in rural and underserved communities. By encouraging cooperation and innovation among dental schools, this intervention has the potential to expand access to dental care for individuals living in geographically isolated or economically disadvantaged regions and improve oral health outcomes for these populations.

3. Education:

Dental education programs should include comprehensive instruction in social determinants of health, health equity, and disparities in oral healthcare. Dental education programs play a critical role in cultivating future healthcare professionals who are equipped to address racial and ethnic disparities in oral healthcare. Students should receive training on social determinants of health, health equity, and disparities within dental healthcare in the form of comprehensive instruction on these subjects within dental curricula. By teaching students about the root causes of disparities that impact patient outcomes as well as advocating for equity within communities, future dentists will become advocates for equity within the communities they serve. Education plays an essential part in combating racial and ethnic disparities in oral healthcare, so mandating comprehensive instruction on diversity, equity, and inclusion (DEI) within dental education programs is an essential intervention strategy. Implementing DEI education into dental school

curricula provides future healthcare professionals with an increased awareness of social determinants of health and systemic inequities that contribute to oral health disparities. This education equips students with the knowledge and skills necessary to advocate for equity within the communities they serve. Cultural competence training and discussions of implicit biases within healthcare settings are integral parts of DEI education, supporting the creation of an inclusive workforce capable of providing equitable oral healthcare to individuals regardless of race, ethnicity, or socioeconomic status.

4. Research:

Research is vital to deepening our understanding of racial and ethnic disparities in oral healthcare and designing effective interventions. Studies should employ rigorous methodologies, incorporate diverse perspectives, prioritize community-engaged approaches, and use community partnerships for maximum relevance and impact. Research efforts must identify social, economic, cultural, and systemic factors contributing to disparities; through partnerships with communities, collecting robust data sets, and implementing evidence-based practices researchers can significantly contribute to decreasing oral health disparities while creating health equity among all people regardless of race or ethnic background.

The implications derived from this thesis illustrate the critical need to address racial and ethnic disparities in oral healthcare through collaborative efforts across multiple sectors. By prioritizing equity in policy, practice, education, and research efforts by various stakeholders toward reaching the shared goal of providing all individuals equal access to high-quality oral health services regardless of race, ethnicity, or socioeconomic status.

Conclusion

In conclusion, this thesis examines the racial and ethnic disparities in oral healthcare in the United States through a comprehensive and in-depth analysis of 21 academic sources. The findings illuminate pervasive challenges experienced by various racial and ethnic groups while also illuminating systemic barriers that contribute to unequal access and outcomes in oral health. Through multidimensional exploration encompassing public policy, clinical practice, education, and research this thesis underscores the necessity of multifaceted interventions aimed at increasing health equity while decreasing disparities. Examining public policy interventions reveals their transformative potential, such as Medicaid expansions with expanded dental benefits in narrowing disparities. Strengthening healthcare coverage and prioritizing dental services within public insurance programs also prove pivotal strategies in breaking down systemic barriers that limit access to essential oral health services among underserved populations. Healthcare providers play a pivotal role in mitigating disparities through culturally competent care delivery, building trust, improving communication, and tailoring treatment plans to diverse patient backgrounds. Integrating comprehensive instruction on social determinants of health and disparities in oral healthcare into dental curricula equips future dentists to advocate for equitable change within their communities. Research efforts are key in developing an in-depth understanding of disparities and creating evidence-based interventions. Rigorous methodologies, diverse perspectives, and community engagement efforts form part of research endeavors aiming to reduce oral health inequities and advance inclusive healthcare practices. By drawing insights from policy interventions, clinical practice strategies, education initiatives, and research advancements, this thesis advocates for collaborative efforts across sectors to achieve

health equity for all individuals regardless of race or ethnic background. Through these targeted interventions that increase cultural competence, workforce diversity, community engagement initiatives, and advocacy activities stakeholders can work to eliminate systemic barriers to ensure oral healthcare is available, accessible, equitable, and high quality for everyone living in the United States.

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