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Letter to Editor (Pages: 11-14)

The State of Oral Health in Developing Countries: Challenges, Solutions, and Future Directions

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Dear Editor-in-Chief,

Oral health is a critical and vital component of overall well-being, yet it remains a significant challenge in developing countries. Despite its importance, oral health issues often receive less attention compared to other health concerns. This oversight is particularly concerning in regions where limited resources, inadequate healthcare infrastructure, and socio-economic disparities exacerbate the burden of oral diseases (1). Addressing these challenges requires innovative and multifaceted solutions that can improve access to care, reduce health inequalities, and enhance overall health outcomes. This discussion aims to synthesize insights from existing research to explore the complexities of oral health problems in developing countries and identify potential solutions that can improve oral health services and outcomes.

Key Words: Challenges, Developing Countries, Oral Health, Solutions.

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A. Oral Health Problems in Developing Countries

1. Prevalence of Oral Diseases: Dental caries and periodontal diseases are major oral health issues in developing countries. The prevalence of these conditions is exacerbated by factors such as poor access to dental care, inadequate nutrition, and socio-economic disparities (1).

- **Dental Caries**: Dental caries is the most common non-communicable disease affecting children globally. Approximately 2.3 billion people suffer from tooth decay in permanent teeth, and 514 million children have caries in primary teeth (2). The prevalence of dental caries is high across all income groups, with children in developing countries being particularly vulnerable due to poor access to dental care, inadequate nutrition, and socio-economic disparities (1, 3).
- **Periodontal Disease**: Severe periodontal disease is prevalent among adults, often leading to tooth loss and impacting overall health. This condition affects a significant portion of the global population, with higher prevalence in certain regions due to socio-economic factors and lifestyle choices (4).
- **Oral Cancer**: Oral cancer is a significant health challenge, often linked to tobacco use and exacerbated by cultural practices such as betel quid chewing. The incidence and mortality rates of oral cancer are particularly high in regions like South-East Asia (5).

2. Global Burden of Oral Diseases:

Approximately 3.5 billion people worldwide suffer from oral diseases, with low- and middle-income countries bearing the highest burden. Oral diseases are among the most prevalent non-communicable diseases globally, affecting nearly 50% of the population (2, 4). The burden is disproportionately distributed, affecting disadvantaged and marginalized populations more severely due to limited access to oral health services and socio-economic disparities (6, 7).

3. Limited Access to Oral Health Services:

Access to oral health services is hindered by cost, availability, and cultural barriers. The lack of trained dental professionals and inadequate funding for oral health programs further exacerbate these challenges (6, 7).

4. Socio-Economic and Cultural Factors

Socio-economic disparities and cultural practices contribute to oral health inequalities. For example, tobacco use and betel quid consumption are linked to oral cancer in some regions (8, 9).

B. Solutions to Oral Health Problems in Developing Countries

1. Integrating Oral Health into Universal Health Coverage (UHC): Integrating oral health into UHC frameworks can improve access to affordable and equitable oral health services. This approach has been successfully implemented in countries like Sri Lanka, where public sector oral health services are provided free of charge (1, 10). Strengthening primary care services is essential to reduce the burden of oral diseases by focusing on preventive and primary care rather than tertiary care alone (10).

2. Task-Shifting and Community-Based Interventions: Task-shifting, where mid-level workers are trained to provide basic oral health services, has shown promise in addressing workforce shortages. Mobile dental units and school-based oral health programs are effective in reaching underserved populations (7, 9). Community-based preventive interventions, such as fluoride application and oral health education, can significantly reduce the prevalence of dental caries and other oral diseases (1, 8).

3. Strengthening Oral Health Workforce and Research Capacity: There is a global shortage of dentist-scientists, particularly in developing countries. Research training programs can build regional oral health research capabilities and improve clinical practice (11). Dental education programs and

continuous professional development for primary health care staff are critical to addressing the oral health workforce crisis in Africa and other low-income regions (7, 9).

4. Addressing Socio-Economic and Cultural Barriers: Public health campaigns to reduce the consumption of sugary foods, tobacco, and alcohol can prevent oral diseases. These campaigns should be culturally tailored to address local practices and beliefs (1, 8). Improving access to oral health services in rural and remote areas requires innovative solutions, such as tele-dentistry and partnerships with local health workers (6, 7).

5. Policy and Advocacy: Oral health must be prioritized in national health policies and universal health coverage frameworks. The Africa Centers for Disease Control and Prevention (Africa CDC) plays a crucial role in strengthening health systems and promoting oral health interventions in Africa (7, 9). Global health organizations, such as the WHO, should advocate for increased funding and resource allocation for oral health programs in developing countries (4, 9).

C. Future Directions

The solutions outlined above underscore the need for a multifaceted approach to addressing oral health challenges in developing countries. Key areas for future focus include:

1. Research and Data Collection: Longitudinal studies are crucial to understanding the causal relationship between oral health and nutritional status in children. Robust data collection systems are essential for monitoring oral health trends and evaluating the impact of interventions (3, 7). The World Health Organization's efforts to enhance data collection and analysis can support these initiatives.

2. Policy Dialogue and Advocacy: Oral health must be integrated into global health policy agendas to ensure equitable access to care. Advocacy efforts should emphasize the importance of preventive care and the cost-effectiveness of early intervention (4, 10). The WHO's global oral health action plan highlights the need for national leadership and policy frameworks to support these efforts.

3. Community Engagement and Education: Empowering communities through oral health education can reduce the burden of preventable oral diseases. Cultural sensitivity and local partnerships are critical to the success of these initiatives (1, 8). Community-based interventions should be tailored to address local needs and practices.

4. Sustainable Development and Funding: Sustainable funding mechanisms and international collaborations are necessary to support oral health programs in low-income countries. Public-private partnerships and community-based initiatives can help bridge the gap in resources (7, 11). The WHO's emphasis on sustainable partnerships and resource mobilization can facilitate these efforts (12).

By addressing these challenges and leveraging the opportunities outlined, developing countries can make significant progress in improving oral health outcomes and reducing health inequalities (10, 13).

CONCLUSION

In conclusion, developing countries face substantial oral health challenges, including dental caries, periodontal diseases, and oral cancer, which are exacerbated by limited access to care and socio-economic disparities. To address these issues, integrating oral health into universal health coverage, implementing task-shifting and community-based interventions, and advocating for supportive policies are crucial. Looking ahead, robust research, policy integration, community engagement, and sustainable funding will be essential. Ultimately, a collaborative effort involving governments, global health organizations, and local communities is necessary to improve oral health outcomes and promote overall well-being.

CONFLICT OF INTEREST: None.

REFERENCES

1. Basnayake, O., Perera, I. Oral Health: A Review through Eyes of Sri Lanka International Journal of Scientific and Research Publications, 2021;11(4):508–11. https://doi.org/10.29322/IJSRP.11.04.2021.P11268.

2. World Health Organization (WHO). Global Oral Health Status Report: Towards Universal Health Coverage for Oral Health by 2030. Geneva: World Health Organization, 2022. Available from: https://iris.who.int/bitstream/handle/10665/364454/9789240061569-eng.pdf.

3. Putriyani, Y., Shaluhiyah, Z., Winarni, S. Oral health and nutritional status of children in developing countries: A scoping review. JKKI: Jurnal Kedokteran Dan Kesehatan Indonesia, 2024; 381–93. https://doi.org/10.20885/jkki.vol15.iss3.art12.

4. Benzian H, Listl S. Globale Mundgesundheit im internationalen gesundheitspolitischen Rampenlicht – Herausforderungen und neue Chancen für nachhaltige Verbesserungen [Global oral health in the international health policy spotlight-challenges and new opportunities for sustainable improvement]. Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz. 2021 Jul;64(7):871-878. German. doi: 10.1007/s00103-021-03353-6. Epub 2021 Jun 8. PMID: 34100957; PMCID: PMC8185487.

5. Xie L, Shang Z. Burden of oral cancer in Asia from 1990 to 2019: Estimates from the Global Burden of Disease 2019 study. PLoS One. 2022 Mar 24;17(3):e0265950. doi: 10.1371/journal.pone.0265950.

6. Obehi. O. Osadolor. Dental caries and access to oral health services among children and adolescents. Janaki Medical College J of Medical Sciences, 2022;10(2):64-70. https://doi.org/10.3126/jmcjms.v10i03.55556.

7. Foláyan, M. O., Ishola, A. G., Bhayat, A., El Tantawi, M., Ndembi, N. Strengthening health systems to tackle oral diseases in Africa: Africa centers for disease control and prevention's role. Frontiers in Public Health, 2025. https://doi.org/10.3389/fpubh.2025.1539805.

8. Hobdell, M. H., Durward, C., Chher, T. Oral Health and Disease in the Tropics, 2020; pp. 127–32. Content Repository Only. https://doi.org/10.1016/B978-0-323-55512-8.00015-6.

9. Josefczyk, M. E. The State of Oral Health on the African Continent, 2015. Available from: https://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=1578&context=honors.

10. Purohit, B., Kharbanda, O. P., Priya, H. Universal oral health coverage - Perspectives from a developing country. International Journal of Health Planning and Management, 2021. https://doi.org/10.1002/HPM.3361.

11. Seminario, A. L., DeRouen, T. A., Cholera, M., Liu, J., Phantumvanit, P., Kemoli, A., et al. Mitigating Global Oral Health Inequalities: Research Training Programs in Low- and Middle-Income Countries. Annals of Global Health, 2020;86(1): 141. https://doi.org/10.5334/AOGH.3134.

12. World Health Organization, 2023. Draft Global Oral Health Action Plan (2023–2030). Available from: https://cdn.who.int/media/docs/default-source/ncds/mnd/oral-health/eb152-draft-global-oral-health-action-plan-2023-2030-en.pdf?sfvrsn=2f348123_11&download=true.

13. Pack AR. Dental services and needs in developing countries. Int Dent J. 1998 Jun;48(3 Suppl 1):239-47. doi: 10.1111/j.1875-595x.1998.tb00712.x.