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Letter to Editor

Alarming Status of the Decayed, Missing, and Filled teeth (DMFT) Index in Iran: Challenges and Solutions

Sanaz Amiri[1], Seyed Parsa Dehghani[2], Habibollah Azarbakhsh[3*]

[1]Student Research Committee, Shiraz University of Medical Sciences, Shiraz, Iran
[2]School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran
[3]Department of Community Medicine, School of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

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Dear Editor

Oral health is a vital component of overall health and has a direct impact on individual well-being.[1] Poor oral health adversely affects the quality of life and general well-being.[2] The DMFT index is one of the practical indices for assessing oral health, which includes the number of Decayed, Missing, and Filled Teeth in an individual.[3] While global prevalence rates of DMFT are estimated at 46.2%, recent national data from Iran indicate a DMFT prevalence of 53.8%.[4] This comparison highlights that Iran bears a greater burden than the global average, emphasizing the necessity for targeted national strategies and increased awareness.

The indicator affects individuals across all age groups, with studies reporting concerning levels in both younger and older populations.

Iran continues to face a troubling oral health burden, with DMFT scores among children and adults remaining above global targets. Recent national data show that the average DMFT score for 12-year-olds exceeds 3.0, and adult populations report even higher levels—reflecting persistent gaps in prevention, access, and policy implementation.[5] Approximately 22% of Iranian children's primary teeth were affected by dental caries in 1990, of which over 83% were decayed [3.64] and fewer than 7% were filled. Between 1990 and 2017, the DMFT index increased by more than 15%.[6] Among Iranians aged 15 to 40 years, the average numbers of decayed teeth (DT), missing teeth (MT), and filled teeth (FT) were estimated at 2.58 ± 1.70, 1.84 ± 1.15, and 1.7 ± 3.35, respectively. The overall average DMFT index was estimated at 7.33.[7] For individuals aged 40 to 70 years, the mean and standard deviation of the DMFT index were reported as 18.06 ± 8.70.[8]

Moreover, between 1990 and 2017 based on literature search, the average DMFT index across all age groups increased by approximately 58% (from 6.8 in 1990 to 10.8 in 2017). During this period, decayed teeth (DT) and missing teeth (MT) increased by 84.5% and 31.6%, respectively. Filled teeth (FT) increased by nearly 2.6 times, from 0.6 in 1990 to 1.7 (95% UI, 0.6–2.8) in 2017. The DT-to-FT ratio continuously increased in both genders. In 2017, the highest DT, MT, and FT values were observed in the 25–29 (4.9), 60 + (21.5), and 35–39 (2.6) age groups, respectively.[9] Hence, permanent tooth decay imposes an increasing burden on the Iranian population. The high prevalence and experience of dental caries in Iran appears to indicate ineffective national preventive programs in the field of oral health and lack of educational measures.

Despite the availability of national oral health guidelines, Iran lacks a coordinated implementation strategy, particularly in underserved regions. The absence of school-based preventive programs and limited access to fluoride interventions contribute to the persistently high DMFT scores.[10] To reduce this burden, several solutions can be proposed, broadly categorized into individual/behavioral and health system interventions.

Individual and Behavioral Interventions, Raising Public Awareness

Launching educational campaigns about oral hygiene in schools, media, and health centers.[11] Maintaining oral hygiene: Brushing at least twice daily with fluoride toothpaste and using dental floss daily.[12] Using fluoride mouthwashes: To strengthen enamel and reduce bacterial activity. Regular dental check-ups: Periodic visits for early detection and preventive care.[13]

Health System Interventions

Community fluoride therapy

Adding fluoride to drinking water in deficient areas or providing fluoride mouthwashes in schools. Studies have shown that the amount of fluoride in water in most

*Corresponding Author: Habibollah Azarbakhsh, Email: azarbakhshhabibollah@gamil.com

regions of Iran is less than the required amount.[14]

Free or subsidized preventive services

Such as dental sealants for children and adolescents at health centers.

Training for dentists and healthcare providers

Emphasizing prevention over mere treatment.

Monitoring and recording epidemiological data

To identify high-risk areas and allocate targeted resources. Insurance coverage for dental services. As there is a greater focus on the use of dental services among households with higher socioeconomic status in Iran, inequality favors the wealthy in the use of dental services.[15]

Authors' Contribution

Conceptualization: Habibollah Azarbakhsh, Sanaz Amiri.
Investigation: Habibollah Azarbakhsh, Sanaz Amiri.
Supervision: Habibollah Azarbakhsh, Sanaz Amiri.
Validation: Habibollah Azarbakhsh, Sanaz Amiri.
Visualization: Habibollah Azarbakhsh, Sanaz Amiri and Seyed Parsa Dehghani.
Writing—Original Draft: Habibollah Azarbakhsh, Sanaz Amiri and Seyed Parsa Dehghani.
Writing—Review & Editing: Habibollah Azarbakhsh, Sanaz Amiri and Seyed Parsa Dehghani.

Competing Interests

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Ethical Approval

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