

Dental Myths Across Cultures: A Mini-Review of Oral Health Beliefs, Global North–South Differences, and Implications for Dental Practice

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ABSTRACT

Dental myths and misconceptions are factors that shape oral hygiene routines, attitudes towards dental treatment, and the receptivity to scientifically grounded oral health care. In different social environments, they arise from traditional values, familial beliefs, health-related literacy rates, hazardous misinformation, and access to services. This paper aims to comment on prevalent dental myths and misconceptions and analyse the impact of cultural and socio-economic variables on the quality of oral health care in various regions. Misconceptions concerning tooth extraction and eyesight, dental treatment during pregnancy, primary teeth, bleeding gums, and sugar-related caries may delay preventive care or appropriate treatment. Although traditional beliefs are documented in diverse communities, their occurrence cannot be explained solely by national income or geographical location. The concepts of the Global North and Global South may help contextualise structural inequalities, but these categories can also reproduce misleading hierarchies if used uncritically. Evidence-based education, culturally responsive communication, and equitable access to dental services are essential for addressing misinformation. Dentistry should

approach cultural traditions and myths with caution, empathy, and a scientific mindset to provide each patient with comprehensive care. By recognising regional and social variations, oral health professionals can increase their ability to understand individual cases and promote equity in dental practice across different populations.

Keywords: Dental Myths; Oral Health Beliefs; Cultural Diversity; Global North; Global South; Dental Practice; Health Literacy.

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INTRODUCTION

Oral health is integral to general health, nutrition, communication, and quality of life. Despite this, oral diseases continue to be a significant global public health problem. According to the World Health Organization (WHO), nearly 3.5 billion people worldwide are suffering from oral diseases, and this calls for the provision of oral health care and prevention measures.^{1,2}

Dental myths refer to the beliefs that are incorrect or unsubstantiated about the etiology, prevention, progression, or treatment of oral diseases. Such beliefs may arise from domestic customs, neighborhood lore, personal experience, and social media or a lack of access to relevant scientific information. Although domestic customs may promote oral health, some of them are associated with the use of toxic substances or neglect of appropriate treatment.^{3,4} Such misconceptions can influence decisions about tooth extraction, pregnancy-related dental care, childhood caries, periodontal health, and preventive visits. Their interpretation requires attention to cultural context and healthcare inequalities rather than assumptions about the scientific knowledge of particular populations.

COMMON DENTAL MYTHS AND SCIENTIFIC EVIDENCE TOOTH EXTRACTION AFFECTS EYESIGHT

The belief that a tooth extraction can impair eyesight has been reported in dental health surveys. According to Khan et al., 47% of low-socioeconomic respondents in Karachi, Pakistan, believed that tooth extraction could affect eyesight.⁵

Scientific evidence

Routine dental extraction procedures do not cause visual impairment. While anatomically the oral cavity and orbit are related, a routine extraction procedure does not damage the visual pathway. Rare occurrences of damage to anatomically related structures must be separated from this general misconception. A dentist can address the concern by providing information on tooth extraction, including indication, procedure, and possible complications.³⁻⁵

DENTAL TREATMENT IS UNSAFE DURING PREGNANCY

Pregnancy-related myths include the beliefs that a developing foetus extracts calcium directly from maternal teeth that every

pregnancy causes tooth loss and that dental treatment may cause miscarriage.

A systematic review of 45 studies identified recurrent unfavourable beliefs regarding the safety of dental treatment, pregnancy-related oral changes and the necessity of oral hygiene during pregnancy.⁶

Scientific evidence

Pregnancy-related hormonal changes may increase gingival inflammation but tooth loss is not an inevitable consequence. Necessary preventive, restorative and periodontal care can generally be provided during pregnancy following clinical assessment and appropriate precautions. The American College of Obstetricians and Gynaecologists emphasises the importance of maintaining oral healthcare during pregnancy.⁷ Delaying necessary treatment may allow pain or infection to progress.

PRIMARY TEETH DO NOT REQUIRE TREATMENT

Some caregivers believe that primary teeth need little attention because they are eventually replaced by permanent teeth. This misconception may delay diagnosis and management of childhood caries

Scientific evidence

Primary teeth support mastication, speech development, maintenance of space for permanent teeth and normal oral development. Untreated caries may cause pain, infection disrupted eating and premature tooth loss. Early preventive care, supervised brushing with age-appropriate amounts of fluoridated toothpaste and timely dental assessment are therefore important.^{8,9}

BLEEDING GUMS ARE NORMAL

Bleeding during brushing is sometimes dismissed as an unavoidable occurrence or attributed solely to vigorous brushing

Scientific evidence

Gingival bleeding can indicate plaque-associated inflammation and may accompany periodontal disease. The international periodontal disease classification recognises gingivitis and periodontitis as distinct clinical conditions that require appropriate assessment and management.¹⁰ Persistent bleeding, swelling, recession or tooth mobility warrants professional evaluation. Patients should be advised on effective plaque control rather than simply discontinuing brushing.

DENTAL CARIES RESULTS ONLY FROM EATING SWEETS

Sugar consumption is an important risk factor for dental caries but it is not the sole determinant of disease. Caries develop through interactions among the dental biofilm, fermentable carbohydrates, acid production, tooth susceptibility saliva and protective factors.^{11,12}

Scientific evidence

Reducing free-sugar intake, maintaining effective oral hygiene and using fluoride toothpaste can reduce caries risk. Fluoride supports remineralisation and inhibits demineralisation, helping to prevent and arrest early lesions.^{12,13} Avoiding sweets alone is therefore insufficient for comprehensive caries prevention.

DENTAL VISITS ARE NECESSARY ONLY WHEN PAIN DEVELOPS

A symptom-driven approach may delay diagnosis because early caries and periodontal disease can progress without obvious pain

Scientific evidence

Preventive examinations, individual risk assessment, oral hygiene counselling and timely treatment can reduce avoidable complications. The frequency of dental visits should be appropriate to the patient's oral health status, disease risk and clinical requirements rather than being solely determined by symptoms.^{1,14}

TRADITIONAL REMEDIES ARE ALWAYS SAFE

Traditional oral hygiene practices, including chewing sticks and plant-based preparations, are important in many communities. Their effectiveness and safety depend on the substance, preparation and method of use

Scientific evidence

Traditional practices should be assessed individually rather than automatically accepted or rejected. Evidence concerning chewing sticks, for example indicates potential oral hygiene benefits, although effectiveness depends on appropriate use and technique.¹⁵

Applying irritating or untested substances to painful teeth may damage oral tissues or delay definitive treatment. Dentists should discuss traditional practices respectfully while explaining their known benefits, limitations and risks.

CULTURAL DIFFERENCES AND GLOBAL NORTH–SOUTH PERSPECTIVES

Cultural beliefs influence the interpretation of oral disease, perceptions of pain, treatment preferences, and interactions with dental professionals. However, the terminology used to compare countries also requires critical consideration.

Khan et al. argued that classifications such as “developed” and “developing” countries can reinforce hierarchical assumptions rooted in colonial histories and obscure the diversity, expertise, and contributions of different populations.¹⁶ Although the terms Global North and Global South are frequently used to discuss geopolitical and socioeconomic inequalities, they are not precise classifications of dental knowledge, culture, or healthcare quality. In some communities across South Asia, Africa, and other regions, family traditions, indigenous healing practices, limited preventive education, and geographical barriers may influence dental care-seeking behaviour. Studies have documented misconceptions concerning extraction and other oral health practices in particular populations.^{5,17} In resource-constrained settings, financial limitations, shortages of dental professionals, and inadequate service availability may compound the effects of misinformation.^{1,18}

In many high-income settings, preventive dental services and oral health technologies may be more accessible. Nevertheless, dental anxiety, cost, insurance limitations, misinformation, and unequal service utilisation continue to affect patients. The WHO recognises affordability, workforce distribution, and broader social determinants as important influences on oral health inequalities.^{1,2} These patterns should not be interpreted as a simple contrast between scientifically informed countries in the Global North and culturally traditional countries in the Global South. Significant differences exist within countries according to income, education, rurality, migration experiences, and healthcare policy. Likewise, knowledge and effective traditional practices can emerge from any region.

Culturally responsive dental practice requires clinicians to explore patients' beliefs without judgement, communicate in appropriate languages, and explain treatment options using accessible, evidence-based information. Community education, school programmes, collaboration with local health workers, and integration of oral health into primary healthcare may help address misconceptions while respecting cultural diversity.^{14,18,19}

STRATEGIES TO ADDRESS DENTAL MYTHS

A multifaceted approach is required to reduce the influence of dental misinformation:

- **Patient-Centred Communication:** Encourage patients to express their concerns and correct misconceptions respectfully.
- **Evidence-Based Education:** Integrate oral health education into schools, antenatal services, and community health programmes.
- **Culturally Appropriate Communication:** Adapt educational materials to local languages, literacy levels, and community needs.
- **Digital Health Literacy:** Encourage the use of reliable information from recognised public health organisations and professional dental associations.
- **Improved Access to Preventive Services:** Address affordability, geographical barriers, and workforce shortages.
- **Interprofessional Collaboration:** Strengthen coordination between dentists, physicians, obstetricians, paediatricians, and community health workers.

These approaches are consistent with broader strategies for addressing oral health inequalities and common risk factors.^{14,18,19}

CONCLUSION

Dental myths reflect the interaction of cultural traditions, personal experiences, misinformation, health literacy, and structural barriers to healthcare. Misconceptions concerning extraction, pregnancy, primary teeth, gingival bleeding, and preventive visits may contribute to delayed diagnosis and avoidable oral disease. Their occurrence is not confined to any particular geographical region or income category. Dentists should combine scientific accuracy with cultural sensitivity, respectful communication, and accessible preventive education. A critical understanding of Global North–South terminology can further encourage equitable collaboration and recognition of knowledge across diverse healthcare settings.

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