Use of Teeth as a Compensatory Strategy in Unilateral Upper Limb Amputation: A Global Descriptive Case Study

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Background

Individuals with upper limb amputation or limb difference frequently adopt compensatory strategies for activities of daily living (ADLs). One under-recognised strategy is the use of teeth as functional tools. Repeated use exposes individuals to parafunctional loading, tooth wear, fractures, oral pain, temporomandibular dysfunction, and hygiene challenges.

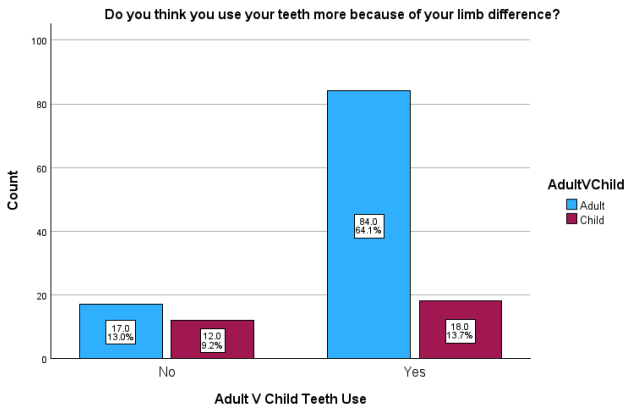
Aim

To describe the prevalence and nature of compensatory teeth use in individuals with unilateral upper limb amputation or limb difference, associated oral health impacts, and receipt of oral health advice.

Method

- Global mixed-methods descriptive case study
- Online Qualtrics survey distributed internationally
- Participants: unilateral upper limb difference/ amputation (children and adults)
- 131 complete responses analysed
- Descriptive statistics and chi-square analysis performed.

Key Findings



- 86.1% of adults used teeth for ADLs
- 58.1% of children used teeth for ADLs
- 42.6% of adults reported tooth damage
- 97% of participants received no oral-health advice
- Many participants described pain, wear, cracking, and infection concerns

Upper limb amputees are *4.26 times* more at risk of tooth damage than the general population

Participants Told Us..

Clinical Implications

- Oral health should be embedded into rehabilitation pathways
- Rehabilitation professionals should recognise risky compensatory strategies
- Dental professionals should contribute to multidisciplinary rehabilitation
- Adaptive tools and one-handed techniques should be promoted

Conclusions

Compensatory teeth use is highly prevalent among individuals with upper limb amputation and is associated with significant oral health risks. Oral health remains overlooked in rehabilitation pathways and requires interdisciplinary awareness, prevention strategies, and patient-centred education.

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