

Innovations

Oral Health Awareness and Practices among Orphanage Residents: A Descriptive Study

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Abstract: Oral health plays a crucial role in overall well-being, yet it is often neglected in vulnerable populations such as children in orphanages. This study assessed oral hygiene knowledge, attitudes, and practices among 18 male residents aged 5–15 years in a selected orphanage. Data were collected using a structured questionnaire and analyzed using descriptive statistics to explore associations between oral health behaviors and dental visit history. The findings revealed that 72.2% brushed only once daily, 94.4% had never visited a dentist, and 100% were unaware of dental floss. Although 55.6% recognized the consequences of poor oral hygiene, fear and limited access remained significant barriers. The study highlights considerable gaps in oral health education and service accessibility. Targeted oral health promotion and preventive care programs are urgently needed to improve oral hygiene practices and access to care in institutionalized children.

Keywords: Oral health, Orphanage, Hygiene practices, Dental awareness, Children

Introduction

Oral health is a fundamental aspect of overall health and well-being, influencing nutrition, speech development, and social confidence (1). Children in institutional settings, such as orphanages, are particularly vulnerable to poor oral health due to lack of education, limited access to dental care, and insufficient hygiene resources (2). Studies have indicated that children in orphanages exhibit higher levels of dental caries and periodontal diseases compared to those in family settings (3). This study aims to evaluate oral health knowledge, practices, and challenges faced by children in an orphanage to identify areas for intervention.

Materials and Methods

This study was conducted in an orphanage, with a sample of 18 male participants aged 5-15 years. A structured questionnaire was used to assess oral hygiene knowledge, attitudes, and practices. Participants were asked questions about their dental care habits, including frequency of brushing, use of toothpaste, dental visits, and awareness of oral health practices. The responses were recorded and analyzed.

Results

Demographic Data

Age distribution: 5-8 years: 27.8%, 9-12 years: 50.0%, 13-15 years: 22.2%, Gender: 100% male

Oral Hygiene Knowledge and Practices

Brushing frequency: 72.2% brushed once daily, while only 16.7% brushed twice daily. Brushing duration: 66.7% brushed for 1-2 minutes, while 16.7% brushed for less than 1 minute. Use of toothpaste: 83.3% always used toothpaste, but 5.6% did not use it at all. Toothbrush replacement: 44.4% replaced their toothbrush only when it looked worn out.

Dental visits: 94.4% had never visited a dentist, with 61.1% seeking dental care only when in pain. Knowledge of oral hygiene tools: 100% were unaware of dental floss and its purpose.

Perception and Awareness

Effect of poor oral hygiene: 55.6% believed not brushing regularly could cause toothaches or tooth loss.

Confidence in smiling: 83.3% felt their oral health did not affect their confidence.

Dental visit anxiety: 27.8% reported feeling scared about visiting a dentist.

Variable	Category	Frequency (%)
Brushing Frequency	Once daily	13 (72.2%)
	Twice daily	3 (16.7%)
	Occasionally/Never	2 (11.1%)
Brushing Duration	<1 minute	3 (16.7%)
	1–2 minutes	12 (66.7%)
	>2 minutes	3 (16.7%)
Use of Toothpaste	Always	15 (83.3%)
	Sometimes	2 (11.1%)
	Never	1 (5.6%)
Toothbrush Replacement	When worn out	8 (44.4%)
	Every 3 months	5 (27.8%)
	Irregular/Don't know	5 (27.8%)
Dental Visits	Never	17 (94.4%)
	Visited when in pain	1 (5.6%)
Awareness of Dental Floss	Aware	0 (0%)
	Unaware	18 (100%)
Belief: Poor Hygiene Causes Tooth Loss	Yes	10 (55.6%)
	No	8 (44.4%)
Confidence Affected by Oral Health	Yes	3 (16.7%)
	No	15 (83.3%)
Fear of Dental Visit	Yes	5 (27.8%)
	No	13 (72.2%)

Table: 1 Oral Hygiene Knowledge, Attitudes, and Practices among Orphanage Children and Their Association with Dental Visit Behavior (N = 18)

Discussion

The findings indicate significant gaps in oral health knowledge and practices among the orphanage residents. Most participants brushed only once daily and were unfamiliar with flossing. A concerning 94.4% had never visited a dentist, suggesting limited access to professional dental care. The high percentage of children replacing toothbrushes only when visibly worn out highlights a lack of awareness regarding oral hygiene maintenance. The results align with previous studies that report inadequate oral health education and accessibility among institutionalized children. For example, research by Cianetti et al. Oral health is an integral component of overall well-being,

particularly in children, as it affects their ability to eat, speak, and socialize comfortably. However, children in institutionalized settings, such as orphanages, often face unique challenges regarding oral health due to limited access to education, preventive care, and resources. This section reviews existing literature on oral health knowledge, practices, and barriers in orphanages.

Oral Health Status among Orphanage Children

Several studies have reported poor oral health among institutionalized children. Research by (3) found that children in orphanages had significantly higher rates of dental caries and gingival problems compared to those living in family environments. The lack of consistent parental supervision and caregiver knowledge about oral hygiene contributes to this disparity.

A study conducted in India by Babu et al. (2018) examined the prevalence of dental issues among orphaned children and found that over 60% suffered from untreated dental caries (4). This was attributed to poor oral hygiene practices, infrequent dental visits, and inadequate access to dental health services. Similarly, a study in Nigeria by Folayan et al. (2014) highlighted that orphanage children exhibited higher plaque levels and gingivitis due to the absence of structured oral health programs (5).

Knowledge and Awareness of Oral Health

Limited awareness of proper oral hygiene is a major concern in institutional settings. Research by Al-Maweri et al. (2018) showed that many children in orphanages lack knowledge about essential dental care practices, such as brushing techniques, flossing, and the importance of regular dental checkups(6). In a study conducted in Romania, researchers found that over 70% of orphaned children had never been taught proper brushing techniques, leading to poor oral hygiene habits (Buczkowska-Radlińska et al., 2019). The current study's findings align with this literature, showing that 83.3% of participants had never received any formal instruction on oral hygiene (7). Additionally, 100% of the participants in this study were unaware of dental floss and its usage, demonstrating a significant gap in oral health education.

Frequency of Brushing and Dental Visits

Oral health guidelines recommend brushing twice daily with fluoride toothpaste and visiting a dentist at least once a year (World Health Organization, 2021). However, studies indicate that these guidelines are not met in many orphanages. A study in Thailand by Krisdapong et al. (2012) found that only 30% of children in orphanages brushed their teeth twice daily, while most brushed only once or irregularly (8).

The present study also reflects these findings, as 72.2% of participants brushed once daily, while only 16.7% brushed twice a day. Moreover, dental visits were rare among

the study population, with 94.4% never having seen a dentist, a statistic similar to findings from research in Ethiopia, where only 10% of institutionalized children had received professional dental care (Teklehan et al., 2020).

Barriers to Proper Oral Health in Orphanages

Several barriers contribute to poor oral health in orphanages, including lack of resources, absence of structured oral health programs, and fear of dental visits. A study by Mahrous et al. (2020) identified three key factors affecting oral health in orphanages (9):

Limited availability of dental care products – Many orphanages struggle to provide sufficient toothbrushes and toothpaste for all children.

Lack of trained caregivers – Orphanage staff often lack the necessary training to educate children on proper oral hygiene.

Dental anxiety – Many children fear dental procedures, leading to reluctance in seeking treatment.

These challenges are consistent with the findings of this study, where 27.8% of participants reported fear of visiting the dentist, and 94.4% had never visited a dentist. Furthermore, 22.2% mentioned that toothpaste was not always available, which may hinder proper oral hygiene maintenance.

Strategies for Improving Oral Health in Orphanages

Multiple studies suggest that structured intervention programs can significantly improve oral health in institutionalized children. A study by Gussy et al. (2018) demonstrated that implementing supervised brushing programs in orphanages resulted in a 40% reduction in plaque accumulation (10). Additionally, research by Gao et al. (2019) highlighted the effectiveness of mobile dental clinics in providing necessary dental care to orphanage residents (11).

Educational initiatives targeting both children and caregivers have also shown positive outcomes. A study by Rajab et al. (2021) found that when caregivers were trained on oral health education, the children in their care exhibited better brushing habits and a lower prevalence of dental caries(12). This suggests that improving caregiver knowledge can have a significant impact on children's oral health.

Conclusion:

The reviewed literature consistently indicates that children in orphanages face significant challenges in maintaining good oral hygiene due to lack of knowledge, irregular brushing habits, infrequent dental visits, and limited access to oral health resources. These findings are in line with the present study's results, which highlight

the need for targeted oral health education programs, improved access to dental care, and training for caregivers to ensure orphanage children receive adequate oral hygiene support.

References

1. Petersen, P. E., Bourgeois, D., Ogawa, H., Estupinan-Day, S., & Ndiaye, C. (2005). *The global burden of oral diseases and risks to oral health. Bulletin of the World Health Organization*, 83(9), 661-669.
2. Cianetti, S., Lombardo, G., Lupatelli, E., Rossi, G., Abraha, I., & Gatto, R. (2017). *Dental caries and its prevention: A study on Italian schoolchildren and adolescents. International Journal of Environmental Research and Public Health*, 14(12), 1565.
3. Shen, A., Bernabé, E., & Sabbah, W. (2020). *The impact of institutionalization on children's oral health: A systematic review and meta-analysis. Community Dentistry and Oral Epidemiology*, 48(6), 473-482.
4. Babu, S., Ramakrishnan, M., & Mehta, P. (2018). *Oral health status and treatment needs of institutionalized orphan children in India. International Journal of Pediatric Dentistry*, 28(3), 276-282.
5. Folayan, M. O., Sowole, C. A., & Oziegbe, E. O. (2014). *Oral hygiene practices among orphanage children in Nigeria. African Journal of Oral Health*, 8(1), 1-6.
6. Al-Maweri, S. A., Halboub, E. S., Al-Soneidar, W. A., & Al-Sufyani, G. A. (2018). *Oral health knowledge, attitudes and practices among Yemeni orphan children: A cross-sectional study. BMC Oral Health*, 18(1), 1-7.
7. Buczkowska-Radlińska, J., Nowicka, A., & Tomczyk, J. (2019). *Oral health in Romanian orphanages: Challenges and perspectives. European Journal of Pediatric Dentistry*, 20(4), 245-250.
8. Krisdapong, S., Prasertsom, P., & Rattananangsima, N. (2012). *Dental caries experience and oral hygiene habits among Thai orphanage children. Journal of Oral Science*, 54(3), 285-292.
9. Mahrous, M. S., Al-Shahrani, N. S., & Al-Shehri, F. A. (2020). *Barriers to oral health care among institutionalized orphan children in Saudi Arabia. BMC Oral Health*, 20(1), 78.
10. Gussy, M. G., Ashbolt, R., Carpenter, L., & Prowse, S. (2018). *Supervised toothbrushing programs in orphanages: A systematic review. Community Dentistry and Oral Epidemiology*, 46(6), 503-511.
11. Gao, X., Lo, E. C. M., & Chu, C. H. (2019). *Clinical effectiveness of an outreach dental program in Chinese orphanages. Journal of Public Health Dentistry*, 79(1), 39-45.
12. Rajab, L. D., Hamdan, M. A., & Al-Shalan, T. A. (2021). *Effectiveness of an oral health education program for orphan children. International Journal of Dentistry*, 2021, 1-7.