



Factors affecting oral hygiene among pupils aged 7-18 years attending Taibah international school-Bwebajja, Wakiso district-A cross-sectional study.

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Abstract

Background

In Uganda, untreated oral health issues are responsible for 25% of school absenteeism. This study aimed to assess the factors affecting oral hygiene among pupils aged 7–18 years attending Taibah International School in Bwebajja, Wakiso District.

Methodology

A descriptive cross-sectional study design was employed, utilizing a quantitative method of data collection. In 6 days, 52 pupils aged below 18 years were selected using a simple random sampling method. Structured questionnaires were used to collect data that was analyzed using Microsoft Excel 2013 and presented in the form of tables, pie charts, and graphs.

Results

Out of the 52 participants, nearly half (44%) were aged 11-14 years, and more than half (54%) had 5 siblings. Regarding individual factors, more than half (88%) do not know the proper techniques for brushing teeth, more than half (58%) rarely brush teeth, almost half (46%) do not use herbal remedies, and less than half (38%) mention fear was a hindrance. Concerning school-related factors, most (77%) schools do not provide oral hygiene lessons, 52(100%) schools do not facilitate access to oral health supplies, and a significant number (71%) of school canteens do not offer healthy food options. About socio-economic factors, more than half (58%) do not have access to their toothpaste and toothbrushes, most (81%) families do not have sufficient income to purchase oral health supplies regularly, and most (85%) never visit the dentist for professional oral care.

Conclusion

Poor oral hygiene among pupils was attributed to low knowledge, inadequate school support, and limited access to oral care supplies. Socio-economic constraints and fear of dental care also played a significant role.

Recommendation

Schools should integrate oral hygiene education into the curriculum and provide access to basic oral care supplies. Support parents and guardians through community health programs.

Keywords: Oral Hygiene, Pupils, Taibah International School-Bwebajja, Wakiso District.

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Background

Oral hygiene refers to the practices involved in maintaining clean teeth and gums to prevent dental diseases such as cavities, gum disease, and bad breath (Dhage & Chougule, 2019). It encompasses daily habits like brushing, flossing, and regular dental check-ups, which are critical for overall health and well-being (Igbinosa et al., 2023). Poor oral hygiene among children and adolescents is a growing concern, especially in

educational settings, as it impacts academic performance, self-esteem, and general health (Ruff et al., 2019).

Globally, the prevalence of poor oral hygiene among children and adolescents is alarmingly high, as about 45% of school-going children aged 7–14 years have some form of dental caries and nearly 30% experience bleeding gums due to poor oral hygiene practices (Mounica, 2019). Studies in Europe and North America report 63.1% improved oral hygiene behaviors due to better awareness and access to dental care (Graça et al., 2019). However, in



low-resource settings, challenges persist due to limited access to toothbrushes, toothpaste, and professional dental services (Palanisamy et al., 2023).

In Africa, oral hygiene among school-aged children is inadequately addressed, with approximately 65% of children aged 7–18 years suffering from dental caries and 50% experiencing symptoms of periodontal disease such as bleeding or swollen gums (Lebele, 2023). Factors such as low parental awareness, high consumption of sugary foods, and cultural misconceptions about dental care contribute to this problem (Poirier et al., 2021). In Nigeria, 75% of school children lack access to regular dental check-ups, leading to untreated oral health conditions (Osu et al., 2022).

In East Africa, the burden of poor oral hygiene is also significant, with reports showing that in Kenya, 60% of pupils aged 7–18 years have dental cavities while 40% report frequent toothaches that interfere with their daily school attendance (Wamiti, 2020). Studies show that children with untreated dental conditions are 50% more likely to miss school or work due to pain and discomfort (Lawal & Bankole, 2019).

In Uganda, untreated oral health issues are responsible for 25% of school absenteeism among children aged 12 years, emphasizing the urgent need for interventions to improve oral hygiene (Neves et al., 2021). A study in Kampala revealed that 71% of pupils do not brush their teeth twice daily, while 45% suffer from untreated dental caries (Wamiti, 2020). This is attributed to a lack of awareness, inadequate dental health education, and limited access to affordable oral health products (WHO, 2022).

At Taibah International School, located in Bwebajja, Wakiso District, records of 2023 indicate that approximately 68% of pupils aged 7–18 years exhibit signs of poor oral hygiene such as bad breath, discolored teeth, and gum disease. This trend not only affects their physical health but also has psychological and social implications, such as low self-confidence and poor academic performance. Factors such as irregular brushing, consumption of sugary snacks, and limited knowledge of proper oral hygiene practices are common for these students. This study aimed to assess the factors affecting oral hygiene among pupils aged 7–18 years attending Taibah International School, Bwebajja-Wakiso District.

Methodology

Study Design and Rationale

A descriptive cross-sectional study design employing quantitative methods was used to obtain data. The study was cross-sectional because it was carried out at one point in time without further follow-up. The design was chosen because it is cost-effective and easier to carry out in a shorter time.

Study Setting and Rationale

The study was conducted at Taibah International School located in Bwebajja, Wakiso District, and Central Uganda. This school is situated approximately 5 kilometers from Entebbe Town and about 20 kilometers from Kampala City, making it easily accessible to both urban and rural students. Taibah International School is a prominent educational institution in the area, offering a wide range of educational services for pupils aged 7–18 years. It is surrounded by other districts such as Kampala, Entebbe, and Mpigi, making it a hub for pupils from various regions. The school has a student population of approximately 1,200 pupils ranging from primary to secondary levels, with a staff of 60 teachers. The study's rationale was based on the growing concerns around poor oral hygiene habits among pupils and the school's diverse student population. This setting provides a valuable opportunity to assess factors influencing oral hygiene among pupils aged 7–18 years. The geographical coordinates of Taibah International School are approximately 00°12'45"N and 32°28'30"E.

Study Population

The study population included all caretakers of pupils aged below 18 Years and pupils who consented to attend Taibah International School, Bwebajja Wakiso District.

Sample Size Determination

The sample size determination followed the guidelines provided by Krejcie and Morgan's table of 1970. According to the Taibah International School register, there were over 1,000 pupils attending the school. Given this large population, Krejcie and Morgan's table was used to determine an appropriate and statistically valid sample size to ensure that the findings would be representative of the entire population. Based on the table, the researcher took the population size (N) to be 60, and

the corresponding sample size (S) was determined to be 52.

Sampling Procedure

A simple random sampling technique was used for this study. This ensured that the sample was randomly selected and helped reduce bias. The researcher prepared 104 papers of equal size and the same color; 52 papers were marked with "P" and the other 52 with "Q." All papers were placed in the same box and thoroughly mixed, after which each respondent picked one paper at a time without replacement. Only participants who picked a paper marked with "P" were included in the study. This process was conducted daily, sampling 10 pupils each day for 6 days, until 52 respondents were obtained to ensure the success of the study.

Selection Criteria

Inclusion Criteria

The study included all caretakers/pupils who provided informed consent to participate in the study.

Caretakers/pupils who were present at school during the time of data collection

Those in a healthy situation who could afford a response.

Exclusion Criteria

Pupils below 6 years and pupils above 18 years

Those in unhealthy situations who could afford a response

Those who were absent from school during the time of data collection

Study Variables

Dependent Variables

The dependent variables were oral hygiene

Independent Variables

The independent Variables were Individual factors, School-related factors, and Socio-economic factors affecting oral hygiene among pupils of 7-18 years.

Research Instruments

Structured questionnaires were used for this study, consisting of four sections: Section A obtained socio-demographic data; Section B focused on individual factors; Section C comprised school-related factors; and Section D addressed socio-economic factors. Each section contained closed-ended questions and was written in English to objectively assess pupils' responses.

Data Collection Procedure

After approval of the research proposal by the supervisor and the school institution research committee (IRC), an introductory letter from the Dean of the School of Nursing, Mildmay Uganda School of Nursing and Midwifery, was obtained. This letter was presented to the Director of Taibah International School to confirm approval and authenticity to carry out the study among caretakers/pupils aged 7–18 years. Data collection was carried out by sampling 10 respondents over six days to achieve the target sample size of 52 respondents, ensuring the success of the study. Before commencing the study, written consent was obtained from the respondents, and the researcher ensured confidentiality by using numeric codes or numbers instead of names. Participants were free to withdraw from the study at any time. The respondents' information was kept confidential.

Data Management and Analysis

Data Management

On each day of data collection, the completed questionnaires were checked for completeness and coded. The data collection tools were then stored in secure files in a locked private box, and electronic data was protected with a password for computer management to ensure safety and allow for future reference.

Data Analysis

The collected data were tallied manually and then entered into Microsoft Excel (version 2010), after which they were presented in the form of figures, pie charts, graphs, and tables.



Quality Assurance

Validity and Reliability

To ensure the accuracy, appropriateness, and comprehensiveness of the data collection tools, a pilot test was conducted before commencing the formal study. This pilot test involved a group of caretakers/pupils at Haven Educational Centre Bweya, a school with characteristics similar to those of Taibah International School. The purpose of the pilot test was to evaluate the effectiveness and suitability of the data collection tools. It also helped identify any ambiguities in the questionnaires. Based on the pilot test results, refinements and adjustments were made to ensure that the questions were clear, understandable, and relevant to the research objectives. This process helped ensure that the tools were well-designed, appropriate for the study, and capable of effectively capturing the required information.

Ethical Considerations

The study proposal was reviewed and approved by the Dean, School of Nursing, and the Mildmay Uganda School of Nursing and Midwifery Research Committee (IRC). The approved proposal was then presented to the Director of Taibah International School for authorization to carry out the study within the school. The Director referred the researcher to the Head Teacher, who in turn introduced the researcher to the Teacher on Duty. The researcher introduced himself and explained the purpose of the study. Written consent and assent were obtained from class teachers and pupils. To ensure confidentiality, numeric

codes were used instead of names, and participants were informed of their right to withdraw from the study at any time.

Results

Social demographic characteristics

From table 1, nearly half of the respondents, 23(44%) were aged 11-14 years, 15(29%) were aged 15-18 years while the minority, 14(27%) were aged 7-10 years. More than half of the respondents, 28(54%) were 5 and above siblings at home, 16(31%) were 3-4 children while the least, 8(15%) were 1-2 siblings. Nearly half of the respondents' parents, 22(42%) had attained higher education, 18(35%) were of secondary education level, the least, 12(23%) were of primary or less.

Individual factors affecting oral hygiene among pupils of 7-18 years attending Taibah International School Bwebajja, Wakiso District

Figure 1 shows that majority of the respondents, 46(88%) mentioned that they do not know the proper techniques for brushing their teeth while the minority, 6(12%) mentioned that they somewhat knew the techniques of brushing their teeth.

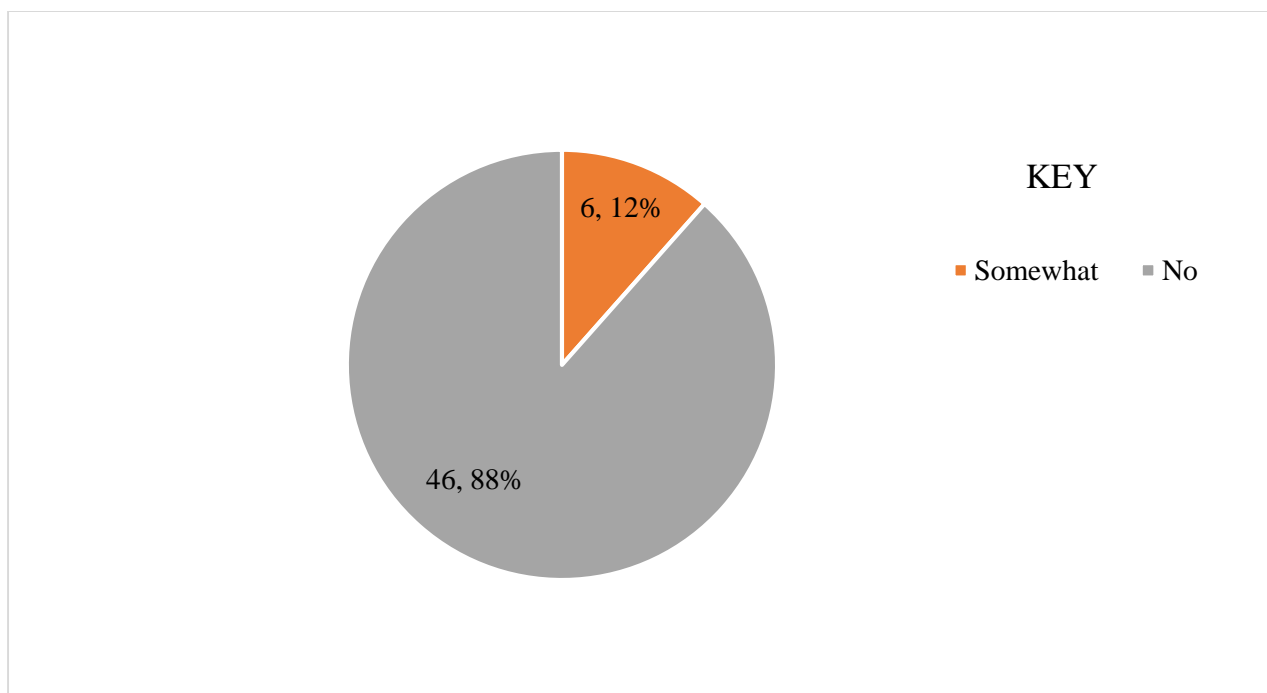
Table 1 shows the social demographic characteristics of the respondents

Variable	Category	Frequency(n=52)	Percentage (%)
Age	7-10 years	14	27
	11-14 years	23	44
	15-18 years	15	29
Number of children in the family	1-2	8	15
	3-4	16	31
	5 and above	28	54
Parents' education level	Primary or less	12	23
	Secondary	18	35
	Higher education	22	42

Source: Primary data (2025)

Figure 1 shows whether respondents know the proper techniques for brushing teeth

N=52



Source: Primary data (2025)

Table 2 shows whether respondents use traditional remedies like chewing sticks for oral hygiene and hindrance to attending oral health services

Variable	Frequency (n=52)	Percentage (%)
shows whether respondents use traditional remedies like chewing sticks for oral hygiene		
Yes, exclusively	10	19
Yes, along with toothpaste	18	35
No	24	46
Hindrance to attending oral health services		
Fear	20	38
Anxiety	19	37
I don't know its purpose	13	25

Source: Primary data (2025)

Table 2 shows that majority of the respondents, 24(46%) mentioned that they don't use herbal remedies like chewing sticks for oral health, 18(35%) agreed that they used traditional remedies along with toothpaste while minority, 10(19%) agreed that they exclusively used traditional remedies like chewing sticks for oral health. Majority of the respondents, 20(38%) mentioned fear as a hindrance to seeking oral health services, 19(37%) mentioned anxiety, while the minority, 13(11%) mentioned that they do not know its purpose.

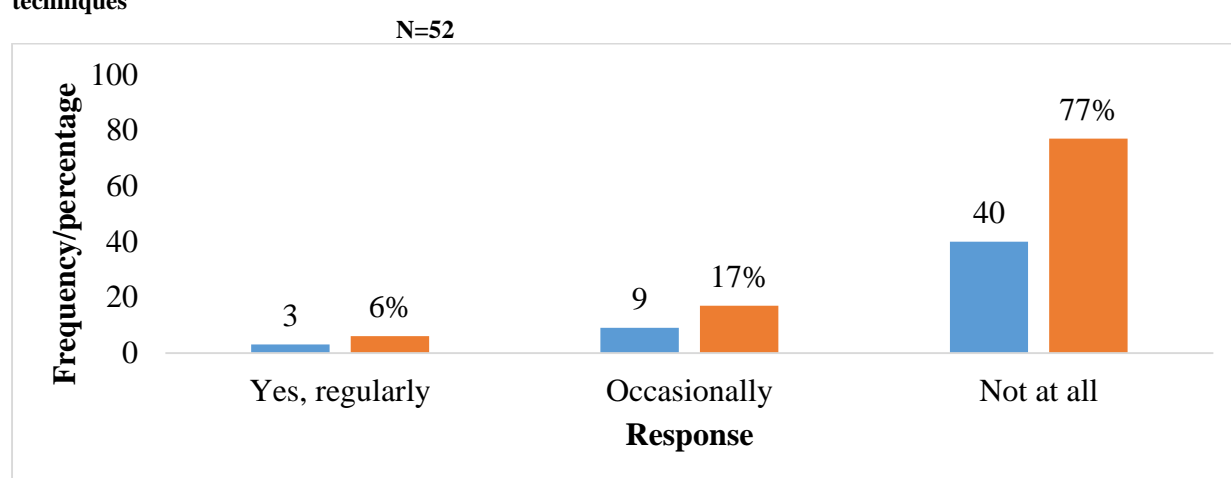
School-related factors affecting oral hygiene among pupils of 7-18 years attending Taibah International School Bwebajja, Wakiso District

From figure 2, majority of the respondents, 40(77%) mentioned that their school did not provide oral hygiene lessons at all, 9(17%) mentioned that the school occasionally provides lessons and the minority 3(6%) agreed that the school regularly provided oral hygiene lessons.

From table 3, more than half of the respondents, 32(62%) mentioned that the water supply and the handwashing facility to support oral health was always available at school while minority, 20(38%) mentioned that it was sometimes available. All the respondents, 52(100%)

mentioned that their school did not facilitate access to oral health supplies like toothpaste or toothbrushes. Most of the respondents 37(71%) disagreed that the school canteen did not offer healthy food options instead of sugary snacks and drinks while the least 15(29%) agreed.

Figure 2 shows whether the respondents' school provides oral hygiene lessons such as proper brushing or flossing techniques



Source: Primary data (2025)

Table 3 shows other School-related factors affecting oral hygiene among pupils of 7-18 years attending Taibah International School Bwebajja

Variable	Frequency(n=52)	Percentage (%)
Availability of water supply and handwashing facility		
Always available	32	62
Sometimes available	20	38
Rarely or never available	0	0
School facilitates access to oral health supplies like toothpaste or toothbrushes		
Yes	52	100
No	0	0
school canteen offers healthy food options instead of sugary snacks and drinks		
Yes	37	71
No	15	29

Source: Primary data (2025)

Table 4 shows the socio-economic factors.

Category	Variable	Frequency(n=52)	Percentage (%)
Whether respondents have access to their own toothbrush and toothpaste	Yes, always	7	13
	Sometimes	15	29
	No	30	58
Whether respondents' family has sufficient income to regularly purchase oral hygiene supplies	Yes	10	19
	No	42	81
Whether respondents' guardians are in stable employment	Yes, both are employed	6	12
	Only one is employed	38	73
	Neither is employed	8	15
Whether respondents share oral health supplies with family members due to family size	Yes	52	100
	No	0	0
Frequency of visiting the dentist for professional oral care	Regularly	0	0
	Rarely	8	15
	Never	44	85

Source: Primary data (2025)

Socio-economic factors affecting oral hygiene among pupils of 7-18 years attending Taibah International School Bwebajja, Wakiso District

From table 4, majority of the respondents, 30(58%) mentioned that they don't have access to their own toothpaste and toothbrush, 15(29%) mentioned that they sometimes had access while minority, 7(13%) agreed that they always had access. Majority of respondents, 42(81%) mentioned that their families did not have sufficient income to purchase oral health supplies regularly while the minority, 10(19%) agreed. Majority of respondents, 38(73%) mentioned that only one of their guardians was employed, 8(15%) mentioned that neither was employed while minority, 6(12%) mentioned that both were employed. All the respondents, 52(100%) agreed that they shared oral health supplies with family members due to family size. Majority of respondents, 44(85%) percent of respondents mentioned that they never visited the dentist for professional oral care while minority, 8(15%) mentioned that they rarely visited the dentist for professional oral care.

Discussion

Socio-demographic characteristics of the respondents.

Regarding respondents' age, the majority of the respondents, 23(44%), were aged 11-14 years. There could be higher chances that respondents above 10 years had better oral hygiene practices and were also expected to give proper responses as required in the study, compared to the younger respondents.

Additionally, most of the respondents, 28(54%), were 5 and above siblings at home. There could be a likelihood that families with more than 4 siblings had stiff competition for oral health supplies like toothpaste, which might have contributed to scarcity, leading to compromised oral health practices for the respondents.

Concerning their guardians, most of the respondents' parents, 22(42%), had attained higher education. There could be a likelihood that educated guardians of secondary level and above exhibited better practices of encouraging their children to maintain proper oral care compared to the less educated guardians. The findings of the study are supported by the study done by Ellakany et al. (2021) in Saudi Arabia, where findings showed that pupils with



parents who had primary education or less brushed irregularly.

Individual factors affecting oral hygiene among pupils of 7-18 years attending Taibah International School Bwebajja, Wakiso District

Regarding proper brushing techniques, the majority of the respondents, 46(88%), mentioned that they did not know the proper techniques for brushing their teeth. This might have contributed to compromised oral health, since respondents did not know the proper oral care practices. The findings of the study are in alignment with the study done in Saudi Arabia by Alshahrani et al. (2021), which mentioned that lack of knowledge about proper brushing techniques was a significant contributor to poor oral hygiene.

Furthermore, the majority of the respondents, 24(46%), mentioned that they do not use herbal remedies like chewing sticks for oral health. This could be because respondents lacked information on the use of herbal remedies for oral care. The findings of the study are contrary to the study done in Nigeria by Adam et al. (2021), where findings showed that pupils used herbal remedies like chewing sticks exclusively for oral health.

About seeking oral care, the majority of the respondents, 20(38%), mentioned fear as a hindrance to seeking oral health services, and 19(37%) mentioned anxiety. This could be because respondents thought that oral health services are painful. The findings of the study are in alignment with the study done in the United States by Warschat (2023), where findings showed that fear and anxiety about dental procedures discouraged pupils from seeking professional oral care.

School-related factors affecting oral hygiene among pupils of 7-18 years attending Taibah International School Bwebajja, Wakiso District

When they were asked, the majority of the respondents, 40(77%), mentioned that their school does not provide oral hygiene lessons at all. This could be because the school was struggling to finish the syllabus, which might have given them no opportunity to teach learners proper oral health practices. The findings of the study agree with the study done in Dburan by Subedi et al. (2021), where

findings showed that pupils had poor oral hygiene due to a lack of hygiene education in their curriculum.

Regarding water supply, more than half of the respondents, 32(62%), mentioned that the water supply and the handwashing facility to support oral health are always available at school. This might have enabled respondents to continuously maintain proper oral health practices throughout the day during the study period. The findings of the study are contrary to the study done in Nepal by Sharma et al. (2024), where findings showed that pupils did not practice proper oral hygiene due to inadequate access to water and sanitary facilities at school.

Further findings revealed that all the respondents, 52(100%), mentioned that their school does not facilitate access to oral health supplies like toothpaste or toothbrushes. This could be because the school had a focus on other schools and study programs other than oral health, which might have left the oral care of learners unattended. The findings of the study match those of the study done in Bangladesh by Bhuiyan et al. (2020), where findings showed that pupils lacked basic oral hygiene supplies like toothpaste and brushes because schools did not provide them or facilitate access.

Concerning the school canteen, most of the respondents, 37(71%), disagreed that the school canteen does not offer healthy food options instead of sugary snacks and drinks. This might have worsened respondents' oral health since they continuously fed on unhealthy sugary foods. The findings of the study are in line with the study done in Norway by Vik et al. (2020), where findings showed that children were more likely to consume sugary snacks due to the availability of unhealthy foods in school canteens.

Socio-economic factors affecting oral hygiene among pupils of 7-18 years attending Taibah International School Bwebajja, Wakiso District

Concerning oral care supplies, the majority of the respondents, 30(58%), mentioned that they do not have access to their toothpaste and toothbrush. This might have made it hard for respondents to maintain proper oral health practices. The findings of the study are in agreement with the study done in Ethiopia by Gizaw et al. (2024), where findings showed that pupils from low-income households did not own a toothbrush or toothpaste, leading to poor oral hygiene.



Pertaining to income, the majority of respondents, 42(81%), mentioned that their families do not have sufficient income to purchase oral health supplies regularly. This might have created gaps in oral care, since respondents at times lacked oral care supplies, as they could not afford them. The findings of the study are in agreement with the study done in Brazil by Gholami (2024), where findings showed that pupils from low-income households had limited access to oral hygiene tools like toothbrushes and toothpaste.

Furthermore, the majority of respondents, 38(73%), mentioned that only one of their guardians is employed. This might have created a big burden on a single income against the big expenditure of the family, which might have caused a limited supply of oral health care products. The finding of the study is explained by the study done in Rwanda by Mukabizimana (2019), where findings showed that parents in stable employment were more likely to provide adequate oral hygiene materials for their children.

Further findings revealed that all the respondents, 52(100%), agreed that they share oral health supplies with family members due to family size. This might have led to cross-infection since at points respondents reported sharing toothbrushes. The findings of the study match with the study done in New Zealand by Hanif (2022), where findings showed that pupils shared a single toothbrush due to financial limitations in big families.

Lastly, the majority of respondents, 44(85%), mentioned that they never visit the dentist for professional oral care. This could be because respondents believed that professional oral care should only be sought when one had oral infections. The findings of the study are in alignment with the study done in South Africa by Fadila et al. (2024), where findings showed that pupils from low-income families had never visited a dentist due to high costs.

Conclusion

Regarding the individual factors, individual knowledge and behavior greatly influenced oral hygiene among pupils, as most lacked awareness of proper brushing techniques, rarely brushed their teeth, and had limited use of herbal alternatives.

Concerning school-related factors, absence of oral hygiene lessons, lack of access to oral care supplies, and availability of unhealthy foods at the canteen negatively affected pupils' oral health. More so, the school's limited

involvement in promoting and supporting oral hygiene practices undermined effective oral care.

As for the socio-economic factors, low household income, unemployment, and large family sizes limited pupils' access to personal oral care supplies and dental services. The common practice of sharing oral hygiene tools further increased the risk of infections, while infrequent dental visits reflected a reactive rather than preventive approach to oral health.

Limitations

Some participants had difficulty recalling information, which affected the validity of the study.

Recommendation

School Administrators should integrate oral hygiene education into the school curriculum to equip pupils with proper knowledge and practices. School canteens should offer healthy food options and reduce the sale of sugary snacks and drinks.

Teachers should regularly remind and encourage pupils about the importance of brushing and personal hygiene. Teachers should collaborate with health workers to organize oral health awareness sessions for pupils.

Parents and Guardians should provide each child with personal oral hygiene supplies such as toothbrushes and toothpaste. Encourage regular dental visits and educate children at home about proper oral care practices.

Health Workers and Dentists should conduct regular school-based dental checkups and oral health education outreaches. Offer child-friendly and fear-reducing approaches to dental care to help reduce anxiety among pupils.

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List of abbreviations

FDI	Foreign Direct Investment
HIMS	Health Information Management System
MOH	Ministry of Health
WDF	World Dental Federation
WHO	World Health Organization

Source of funding

The study was not funded.

Conflict of interest

The author declares no conflict of interest.

Author contributions

PN- Study developer, pretested research tools, Data collector, Data entry, and analysis.

MH- Supervised the Study.

JFN- Co-author of this research.

Data availability

Data is available upon request.

Informed consent

There was full disclosure; full comprehension, and respondents voluntarily consented to participate in the study.

Author biography

Phionah Nakisuyi is a student at Mildmay Uganda School of Nursing and Midwifery, pursuing her Diploma in Midwifery Extension.

Mpamize Habert is a tutor and a Research Supervisor at Mildmay Uganda School of Nursing and Midwifery.

Jane Frank Nalubega is a tutor and co-author of this particular study.

References

1. Adam, F. A., Mohd, N., Rani, H., Baharin, B., & Yusof, M. Y. P. M. (2021). *Salvadora persica* L. chewing stick and standard toothbrush as anti-plaque and anti-gingivitis tool: A systematic review and meta-analysis. *Journal of Ethnopharmacology*, 274, 113882. <https://doi.org/10.1016/j.jep.2021.113882> PMID:33513418
2. Alshahrani, S., Alshuaibi, A., Alkhalidi, M., & Koppolu, P. (2021). Perception and knowledge of patients from different regions in the kingdom of Saudi Arabia towards oral hygiene and oral hygiene aids. *Healthcare*, 9(5), 592. <https://doi.org/10.3390/healthcare9050592> PMID:34067903 PMCID:PMC8155865
3. Bhuiyan, M. A.-A., Anwar, H. B., Anwar, R. B., Ali, M. N., & Agrawal, P. (2020). Oral hygiene awareness and practices among a sample of primary school children in rural Bangladesh. *Dentistry Journal*, 8(2), 36. <https://doi.org/10.3390/dj8020036> PMID:32316128 PMCID:PMC7345536
4. Dhage, V. S., & Chougule, P. (2019). Importance of oral hygiene in oro-dental diseases: A review study. *International Journal of Research and Review*, 6(12), 69-74.
5. Djuraevna, K. M. (2023). Methodology of Inclusion of Healthy Lifestyle Skills in Adolescents with Deviant Behavior. *Novateur Publications*, 13, 1-71.
6. Ellakany, P., Madi, M., Fouda, S. M., Ibrahim, M., & AlHumaid, J. (2021). The effect of parental education and socioeconomic status on dental caries among Saudi children. *International Journal of Environmental Research and Public Health*, 18(22), 11862. <https://doi.org/10.3390/ijerph182211862> PMID:34831618 PMCID:PMC8619270
7. Fadila, W., Rahardja, M. B., Prasetyoputra, P.,



- Suwargiani, A. A., Prasetyo, Y. E., & Riyanti, E. (2024). Family's socioeconomic and demographic factors on elements of children's dental and oral health: A scoping review. *Clinical and Experimental Dental Research*. <https://doi.org/10.1002/cre2.818> PMID:38348592
8. Gholami, E. (2024). The Connection Between Socioeconomic Status and Oral Hygiene Practices Among Patients at Canarsie Family Dentistry. *Icahn School of Medicine at Mount Sinai*.
9. Gizaw, Z., Demissie, N. G., Gebrehiwot, M., Bitew, B. D., & Nigusie, A. (2024). Oral hygiene practices and associated factors among rural communities in northwest Ethiopia. *BMC Oral Health*, 24(1), 315. <https://doi.org/10.1186/s12903-024-04049-4> PMID:38461252 PMCID:PMC10924987
10. Graça, S. R., Albuquerque, T. S., Luis, H. S., Assunção, V. A., Malmqvist, S., Cuculescu, M., Slusanschi, O., Johannsen, G., Galuscan, A., & Podariu, A. C. (2019). Oral health knowledge, perceptions, and habits of adolescents from Portugal, Romania, and Sweden: A comparative study. *Journal of International Society of Preventive and Community Dentistry*, 9(5), 470-480. https://doi.org/10.4103/jispcd.JISPCD_194_19 PMID:31620380 PMCID:PMC6792312
11. Hanif, A., Baloch, H. R., Kazi, A., & Waqasi, J. (2022). Periodontal splinting-An adjunct to non-surgical periodontal therapy to manage tooth mobility. *IJCMCR*. 2022; 22 (4), 1, 33-43. <https://doi.org/10.46998/IJCMCR.2022.22.000541>
12. Igbinsosa, L. O., Evbuomwan, R., Okoromu, M. A., & Osarenkhoe, U. S. (2023). Oral Health: A Doorway to General Well-being. In *Human Teeth-From Function to Esthetics*. IntechOpen. <https://doi.org/10.5772/intechopen.109747>
13. Krejcie, R.V., & Morgan, D.W., (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*. <https://doi.org/10.1177/001316447003000308>
14. Lawal, F. B., & Bankole, O. O. (2019). Impact of untreated dental caries on daily performances of children from low social class in an urban African population: the importance of pain. *Pesquisa Brasileira Em Odontopediatria e Clínica Integrada*, 19, e4771. <https://doi.org/10.4034/PBOCI.2019.191.82>
15. Lebele, O. (2023). School dietary habits and the dental health status of primary school learners in Johannesburg, South Africa. *University of the Witwatersrand*.
16. Mounica, C. (2019). Evaluating the Effect of Oral Health Education on Oral Hygiene Status Among Children Aged 7-14 Years with Hearing Impairment in Bengaluru City-An Interventional Study. *Rajiv Gandhi University of Health Sciences (India)*.
17. Mukabizimana, J. (2019). Assessment of the risk behaviors and practices towards dental health among school children in rural and urban public primary schools in Rwanda (Doctoral dissertation, University of Rwanda).
18. Neves, É. T. B., Granville-Garcia, A. F., Dutra, L. da C., Baccin Bendo, C., Ferreira, F. de M., Paiva, S. M., & Horowitz, A. M. (2021). Association of oral health literacy and school factors with untreated dental caries among 12-year-olds: a multilevel approach. *Caries Research*, 55(2), 144-152. <https://doi.org/10.1159/000514501> PMID:33721863
19. Osuh, M. E., Oke, G. A., Lilford, R. J., Owoaje, E., Harris, B., Taiwo, O. J., ... & Chen, Y. F. (2022). Prevalence and determinants of oral health conditions and treatment needs among slum and non-slum urban residents: Evidence from Nigeria. *PLOS Global Public Health*, 2(4), e0000297. <https://doi.org/10.1371/journal.pgph.0000297> PMID:36962169 PMCID:PMC10021815
20. Palanisamy, S., Cholan, P., Ramachandran, L., Tadepalli, A., Parthasarathy, H., & Umesh, S. G. (2023). Navigating Oral Hygiene Challenges in Spastic Cerebral Palsy Patients: A Narrative Review for Management Strategies for Optimal Dental Care. *Cureus*, 15(12). <https://doi.org/10.7759/cureus.50246> PMID:38196433 PMCID:PMC10774706
21. Poirier, B., Hedges, J., Smithers, L., Moskos, M., & Jamieson, L. (2021). "What are we doing to our babies' teeth?" Barriers to establishing oral health practices for Indigenous children in South Australia. *BMC Oral Health*, 21, 1-12. <https://doi.org/10.1186/s12903-021-01791-x>. PMID:34488721 PMCID:PMC8422744
22. Ruff, R. R., Senthil, S., Susser, S. R., & Tsutsui, A. (2019). Oral health, academic performance, and school absenteeism in children and adolescents: A systematic review and meta-analysis. *The Journal of the American Dental Association*.



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Association, 150(2), 111-121.

<https://doi.org/10.1016/j.adaj.2018.09.023>

PMid:30473200

23. Sharma, M. K., Adhikari, R., Khanal, S. P., Acharya, D., & van Teijlingen, E. (2024). Do school Water, Sanitation, and Hygiene facilities affect students' health status, attendance, and educational achievements? A qualitative study in Nepal. *Health Science Reports*, 7(8), e2293. <https://doi.org/10.1002/hsr2.2293> PMid:39131595 PMCID:PMC11310280
24. Subedi, K., Shrestha, A., Bhagat, T., & Baral, D. (2021). Effectiveness of oral health education intervention among 12-15-year-old school children in Dharan, Nepal: a randomized controlled trial. *BMC Oral Health*, 21, 1-11. <https://doi.org/10.1186/s12903-021-01877-6> PMid:34649553 PMCID:PMC8515708
25. Vik, F. N., Heslien, K. E. P., Van Lippevelde,

W., & Øverby, N. C. (2020). Effect of a free healthy school meal on fruit, vegetables and unhealthy snacks intake in Norwegian 10-to 12-year-old children. *BMC Public Health*, 20, 1-8.

<https://doi.org/10.1186/s12889-020-09470-2>

PMid:32894122 PMCID:PMC7487881.

26. Wamiti, C. (2020). Factors associated with dental caries among children/youth in Mbeere district. University of Nairobi.
27. Warschat, V. (2023). The relationship between dental avoidance, dental anxiety, and dental checkups in students (Bachelor's thesis, University of Twente).
28. World Health Organization. Oral health surveys: Basic methods. Geneva, Switzerland: World
29. Health Organization; (2022).

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