

Oral care practices of caregivers for children aged 2–5 years at Kajjansi Health Center IV, Wakiso District. A cross-sectional study.

Caroline Nabyonga*, Jimmy Okwany, Francisco Ssemuwemba, Hasifa Nansereko, Jane Frank Nalubega.
Mildmay School of Allied Health Sciences

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ABSTRACT

Background:

The study aimed to examine the oral care practices of caregivers for children aged 2–5 years at Kajjansi Health Center IV, Wakiso District.

Methodology:

This study used a descriptive cross-sectional quantitative design to assess caregivers' oral care practices for children aged 2–5 years at Kajjansi Health Center IV in Wakiso District. A sample of 96 caregivers was determined using the Kish and Leslie formula and selected through convenience sampling. Data were collected using structured questionnaires translated into Luganda and pretested at Seguku Health Center III. Responses were coded and analyzed using SPSS to generate frequencies and percentages. Ethical approval was obtained, informed consent was secured from participants, and confidentiality was maintained.

Results:

A total of 96 caregivers participated in the study. Most respondents were aged 20–30 years (43.8%), followed by 31–40 years (31.3%), while 16.6% were aged 41 years or above, and 8.3% were below 20 years. Nearly half had secondary education (45.8%), while 25.0% had tertiary education, 22.9% had primary education, and 6.3% had no formal education. Regarding employment, 37.5% were unemployed, 31.3% were self-employed, 29.2% were employed, and 2.1% were retired. Concerning oral care practices, only 35.4% always supervised children's tooth brushing, 41.7% sometimes supervised, and 22.9% never supervised. Daily sugary snack intake was reported by 33.3%, while 45.8% reported occasional intake. Fluoridated toothpaste was used by 56.3%, and 62.5% reported brushing with toothpaste. However, only 12.5% attended routine six-month dental visits, while 39.6% sought dental care only when pain occurred. Additionally, 41.7% brushed twice daily, while 8.3% did not brush their teeth.

Conclusion:

Caregivers' oral hygiene practices were moderate, with only half showing good habits.

Recommendation:

Health workers and community teams should conduct regular demonstrations and counselling sessions to guide caregivers on proper oral hygiene practices for young children.

Keywords: Oral care practices, children aged 2–5 years, supervised brushing, dental visits.

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Corresponding author: Caroline Nabyonga

Mildmay School of Allied Health Sciences

BACKGROUND OF THE STUDY

Proper oral hygiene in early childhood is critical for preventing dental caries, yet studies indicate gaps in caregivers' practices and knowledge. In Chicago, USA, 72% of caregivers reported brushing their children's teeth twice daily, but direct observation revealed only 48% adhered to this routine, highlighting a discrepancy between reported and actual behavior (Martin et al., 2020). In Dar es Salaam, Tanzania, only 35% of parents regularly supervised tooth brushing before a guidance intervention, which

increased to 68% afterward, demonstrating the importance of parental involvement (Shukuru Zacharias et al., 2024).

Dietary practices also pose challenges; in Hartford, USA, 60% of caregivers frequently offered sugary snacks and drinks to toddlers, reflecting misconceptions about healthy diets (Harris et al., 2023). Toothpaste use is another concern, as 55% of caregivers in Chicago avoided fluoridated toothpaste for children under three due to safety concerns and low awareness of benefits (Avenetti et al., 2020). In Los Angeles, 40% of caregivers sometimes rinsed teeth with

water rather than brushing, often due to time constraints or inadequate oral health education (Finlayson et al., 2019). Preventive dental visits are limited; a study in Poznan, Poland, found 65% of caregivers did not schedule routine dental check-ups, underestimating the importance of primary teeth care (Gerreth et al., 2020). Cultural factors also influence practices; in Adelaide, Australia, 30% of

$$n = \frac{Z^2 \cdot p \cdot (1 - p)}{d^2}$$

caregivers relied on traditional remedies instead of professional oral care, especially in Indigenous communities with limited access to services (Poirier et al., 2022).

Collectively, these findings reveal significant gaps in caregivers' oral health practices and highlight the need for targeted education, supervision, and culturally sensitive interventions to improve children's oral hygiene from an early age.

The study aimed to examine the oral care practices of caregivers for children aged 2–5 years at Kajjansi Health Center IV, Wakiso District.

METHODOLOGY

Study design and rationale

The study employed a descriptive cross-sectional design utilizing quantitative research approaches. This design enabled the researcher to collect all the required data at a single point in time, which was practical within the limited timeframe available. The cross-sectional approach also allowed for the assessment of caregivers' knowledge and practices regarding the oral health of children aged 2–5 years, providing a clear snapshot of the prevailing situation at Kajjansi Health Center IV, Wakiso District.

Study setting and rationale

The study was conducted at Kajjansi Health Center IV in Wakiso District, a peri-urban health facility serving a diverse population. The setting provided an appropriate environment for examining early childhood oral health because many caregivers regularly sought health services at this facility. Conducting the study at this site enabled the researcher to collect reliable information on caregivers' knowledge and practices related to the oral health of children aged 2–5 years.

Study Population

The study targeted caregivers of children aged 2–5 years attending Kajjansi Health Center IV. This population was selected because caregivers played a central role in shaping the oral health behaviors of young children, a stage characterized by limited awareness of proper oral hygiene and increased vulnerability to dental problems. Focusing on this group provided valuable insights into how caregiver

knowledge and practices influenced children's oral health outcomes.

Sample Size Determination

Since the total number of caregivers of children aged 2–5 years attending Kajjansi Health Center IV, Wakiso District, is not known, the sample size was determined using the Kish and Leslie (1965) formula for prevalence studies, applying an estimated prevalence of 53% (Musinguzi et al., 2019).

Where

n is the same size

Z=1.96 (for 95% confidence level)

p=0.53 (estimated prevalence of 53%)

d=0.05 (desired margin of error or precision)

Substituting the values

$$\begin{aligned} n &= \frac{(1.96)^2 \times 0.53 \times (1-0.53)}{(0.05)^2} \\ &= 383 \end{aligned}$$

Due to time and resource limitations, and since this was a prevalence study, only one-quarter of the calculated sample size was used.

$$\begin{aligned} \text{Therefore } n &= 383/4 \\ &= 96 \end{aligned}$$

Thus, the final sample size consisted of 96 study participants.

Sampling Procedure

A convenience sampling technique was used to select caregivers. This non-probability method was appropriate given the limited time and resources available for data collection. Caregivers who were present at the health facility during the study period and who consented to participate were approached and enrolled. This method ensured accessibility while still providing insights into caregivers' knowledge and practices regarding oral health.

Inclusion and Exclusion criteria

Inclusion Criteria

The study included caregivers of children aged 2–5 years who attended Kajjansi Health Center IV and had lived in the catchment area for at least six months. Eligible participants were required to provide voluntary informed consent and be the primary caregivers responsible for the child's daily care and oral hygiene.

Exclusion Criteria

Caregivers were excluded if they did not have children within the specified age range, were not residents of the

Kajjansi catchment area, were unable to communicate effectively due to language or health-related challenges, declined consent, or had participated in the pilot test.

Study Variables

Dependent Variable

Oral care of children aged 2–5 years, as reflected in their oral hygiene status and related outcomes.

Independent Variables

Practice-related factors: Caregivers' behaviors in maintaining children's oral health, including frequency of tooth brushing, use of fluoride toothpaste, and access to or utilization of dental care services

Research Instruments

Data were collected using a structured questionnaire designed to capture caregivers' knowledge and practices. The questionnaire consisted mainly of closed-ended questions and was developed in English before being translated into Luganda for improved comprehension. A pilot test (9 participants) was conducted at Seguku Health Center III to assess clarity and reliability. The questionnaire comprised three sections: demographic information, knowledge of oral care, and oral care practices.

Data Collection Procedure

Data were collected using structured questionnaires administered to caregivers through convenience sampling. Where possible, questionnaires were self-administered; for caregivers with literacy challenges, questions were read aloud in Luganda and responses recorded. Each completed questionnaire was checked on-site for completeness. The purpose of the study was explained to all. Participants, and written informed consent was obtained prior to participation.

Data Management, Data Analysis, and Presentation

Completed questionnaires were reviewed daily for accuracy,

coded, and entered into SPSS, with backups stored securely. Data were manually sorted and tallied before analysis. Descriptive statistics, including frequencies and percentages, were used to summarize the results. Findings were presented using tables, pie charts, and bar graphs.

Quality Assurance: Validity and Reliability

To ensure validity and reliability, several measures were undertaken. The structured questionnaire was pretested at Seguku Health Center III outside Kajjansi Health Center IV to evaluate its clarity, relevance, and comprehensiveness. Feedback from the pretest was used to refine the tool. Additionally, the instrument was reviewed by academic supervisors to ensure content and construct validity. Reliability was promoted through standardized data collection procedures. Research assistants were trained to administer the questionnaire consistently, which minimized interviewer bias. The pilot study helped to identify and correct any ambiguities, thereby improving clarity and uniformity.

During data collection, all completed questionnaires were checked daily for completeness and accuracy. These measures guaranteed that the findings were credible, reproducible, and valuable in guiding strategies to improve oral care practices among caregivers at Kajjansi Health Center IV, Wakiso District.

Ethical Considerations

Ethical approval was obtained from the research supervisor and the Dean of the Mildmay Institute of Health Sciences. An introductory letter was issued to facilitate access to the study site. Caregivers were informed about the study purpose and procedures, after which written consent was obtained. Participation was voluntary, and confidentiality was maintained through anonymous coding. Data were securely stored to prevent unauthorized access.

RESULTS

Socio-Demographic Characteristics of Caregivers

Table 1: Knowledge of Caregivers Regarding Oral Health (n=96)

Characteristic	Frequency (f)	Percentage (%)
Age (years)	8	8.3
Less than 20		
20–30	42	43.8
31–40	30	31.3
≥41	16	16.6
Highest Level of Education	6	6.3
No formal education		
Primary	22	22.9
Secondary	44	45.8
Tertiary	24	25.0
Employment Status	28	29.2
Employed		
Unemployed	36	37.5
Self-employed	30	31.3
Retired	2	2.1

The result in Table 1 shows that most respondents. 42 (43.8%) were aged 20-30 years, followed by 30(31.3%) aged 31-40 years. Almost half of the caregivers, 44 (45.8%), had attained secondary education, while 24(25.0%) had tertiary education. Regarding employment status, 36(37.5%) were employed, 30 (31.3%) were self-employed, and 28(29.2%) reported being formally employed. Only 2 (2.1%) were retired.

Caregivers' Practices Toward Oral Care for Children Aged 2–5 Years

According to Table 3 below, supervision during brushing was inconsistent; only 34(35.4%) always supervised their children, while 22 (22.9) never supervised brushing. Sugary snack consumption was common, with 32 (33.3%) reporting daily intake and 44 (45.8%) reporting occasional intake. More than half of the respondents, 54 (56.3%), used fluoridated toothpaste, while 12 (12.5%) used herbal or traditional alternatives. Dental check-ups were inconsistent; only 12 (12.5%) took their children for routine six-month visits, while 28 (29.2%) had never taken their children for a dental check-up. A notable 26 (27.1%) reported using traditional remedies instead of professional dental care.

Table 2: Oral Care Practice of Caregivers (n=96)

Practice Item	Response Category	Frequency (f)	Percentage (%)
Supervision during brushing	Always	34	35.4
	Sometimes	40	41.7
	Never	22	22.9
Sugary snack consumption	Daily	32	33.3
	Occasionally	44	45.8
	Rarely/Never	20	20.9
Type of toothpaste used	Fluoridated	54	56.3
	Non-fluoridated	16	16.7

	Herbal/traditional	12	12.5
	Don't know	14	14.6
Usual oral care method	Brushing with toothpaste	60	62.5
	Rinsing with water	18	18.8
	Wiping teeth	10	10.4
	No practice	8	8.3
Dental check-ups	Every 6 months	12	12.5
	Once a year	18	18.8
	Only when in pain	38	39.6
	Never	28	29.2
Use of traditional remedies	Yes	26	27.1
	No	70	72.9

DISCUSSION

The study revealed mixed oral care practices among caregivers. While 41.7% brushed their children's teeth twice daily, consistent with recommended standards, a substantial proportion brushed occasionally (20.8%) or not at all (8.3%). These findings align with a study in Chicago, where, despite adequate reported knowledge, only 48% of caregivers actually adhered to twice-daily brushing in practice (Martin et al., 2020).

Supervision during brushing was inconsistent, with only 35.4% always supervising. This trend mirrors findings from Tanzania, where parental supervision improved brushing quality but was hindered by time constraints and limited awareness before targeted interventions (Shukuru Zacharias et al., 2024). The present study reinforces evidence that caregiver involvement is essential for developing strong oral hygiene habits in children.

The frequency of sugary snack consumption was slightly high, with 33.3% reporting daily intake. Similar patterns have been reported in the U.S., where caregivers' misconceptions about healthy snacks and drinks contributed to frequent consumption of sugary beverages and snacks among toddlers (Harris et al., 2023). This study, therefore, confirms that dietary practices remain a key area requiring targeted oral health education.

Use of fluoridated toothpaste was moderate (56.3%), whereas 12.5% used traditional or herbal alternatives—patterns consistent with findings in Indigenous Australian communities, where cultural beliefs and limited access to dental services influenced reliance on home remedies (Poirier et al., 2022). The use of traditional remedies by 27.1% of caregivers in this study further highlights the influence of cultural practices on oral health behaviors in peri-urban Uganda.

Dental visits were irregular, with only 12.5% attending routine six-month check-ups and 29.2% reporting that they had never taken their children for dental evaluation. This mirrors findings from East African studies, which noted that caregivers often sought dental services only when children experienced pain or visible discomfort (Masumo et al., 2022). The pattern observed suggests that preventive oral health practices are not yet well adopted in the study setting. Overall, practices were moderate and did not fully correspond to caregivers' knowledge levels, highlighting a disconnect commonly reported in global pediatric oral health studies (Avenetti et al., 2020; Finlayson et al., 2019).

CONCLUSION

Caregivers' oral hygiene practices were moderate, with only half showing good habits. Irregular brushing, limited supervision, high sugary snack intake, and infrequent dental visits were major issues. These results suggest that although knowledge is fairly strong, it doesn't always lead to proper oral care behaviors for young children.

RECOMMENDATION

Health workers and community teams should conduct regular demonstrations and counselling sessions to guide caregivers on proper oral hygiene practices for young children.

Caregivers should ensure children brush their teeth twice daily under supervision to maintain good oral hygiene.

Caregivers should reduce children's consumption of sugary foods and drinks to prevent dental problems.

Caregivers should seek routine dental check-ups for children, even when there are no visible symptoms of dental problems.

Health partners and institutions should support community campaigns that promote practical and culturally acceptable oral hygiene practices for young children.

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List of abbreviations

Abbreviation

HC IV	Health Center IV
MIHS	Mildmay Institute of Health Sciences

Abbreviation

SPSS	Statistical Package for the Social Sciences
WHO	World Health Organization
IRC	Institutional Research Committee
f	Frequency
%	Percentage
CI	Confidence Interval
OR	Odds Ratio
SD	Standard Deviation

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The study received no external funding.

Conflict of interest

The authors declare no conflict of interest.

Data availability

Data is available upon request from the author.

Author biography

Caroline Nabyonga is a student pursuing a diploma in clinical medicine and community health.

Jimmy Okwany, research supervisor at Mildmay School of Allied Health Sciences

Francisco Ssemuwemba, research supervisor at Mildmay School of Allied Health Sciences

Hasifa Nansereko, research supervisor at Mildmay School of Allied Health Sciences

Jane Frank Nalubega: research supervisor at Mildmay School of Allied Health Sciences

Author contributions

CN: collected the data.

JO: supervised the study.

FS: supervised the study.

HN: supervised the study.

JFN: supervised the study

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