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ORIGINAL RESEARCH

Knowledge, Attitude and Practices of Primary School Teachers Towards Oral Health in Mchinji District, Malawi

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Background: Oral health is an essential component of overall well-being, yet it remains a neglected public health area in many low- and middle-income countries. Teachers play a vital role in shaping students' oral health behaviours, making their knowledge and practices crucial for school-based oral health promotion. This study assessed the knowledge, attitudes, and practices (KAP) regarding oral health among primary school teachers in Mchinji District, Malawi, to evaluate their readiness to support oral health education.

Methods: A cross-sectional survey was conducted among 316 primary school teachers using a structured questionnaire. Descriptive statistics summarized demographic and KAP variables, while chi-square tests and Cramér's V measured associations between demographic characteristics and oral health knowledge and practices.

Results: Among participants, 60.0% were male, 61.4% were aged 30–45 years, and 61.9% had more than 10 years of teaching experience. While 63.6% demonstrated average oral health knowledge and 29.4% showed good knowledge, awareness of preventive dental procedures such as dental scaling (26.7%) and flossing (14.2%) was low. Most teachers (82.2%) exhibited average oral hygiene practices, and only 10.2% had good practice scores. Although positive attitudes were widespread, with over 90% recognizing the importance of oral health and regular dental visits, only 26.4% had received oral health training, and 68.5% identified limited knowledge as a barrier to teaching oral health. Age was significantly associated with knowledge level ($p = 0.007$, Cramér's $V = 0.152$), while gender and teaching experience were not.

Conclusion: Primary school teachers in Mchinji District hold positive attitudes toward oral health but display knowledge and practice gaps. Strengthening teacher training through structured oral health capacity-building programs could enhance school-based health education and inform policies that integrate oral health into Malawi's primary school curriculum.

Plain Language Summary: This study explored how primary school teachers in Mchinji District, Malawi, understand and approach oral health in their daily lives and teaching.

Why was the study done?

Good oral health is an important part of overall well-being. Around the world, many people—especially in developing countries—experience challenges in maintaining healthy mouths and teeth. When learners experience oral health problems, it can affect their comfort, concentration, and school attendance. Teachers play a key role in shaping children's habits and could be valuable partners in promoting healthy oral care at school. However, it was not clear how well teachers themselves understood oral health or how they cared for their own oral well-being.

What did the researchers do and find?

We asked 316 primary school teachers in Mchinji District to complete a questionnaire about their oral health knowledge, attitudes, and practices. Most teachers showed moderate understanding and habits related to oral care. For instance, some were less familiar with preventive dental services such as flossing and professional cleaning. However, almost all teachers believed that maintaining oral health is important and expressed a strong willingness to guide learners in developing positive oral care behaviours.

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What do these results mean?

Teachers in Mchinji are enthusiastic about supporting children's oral health education but may need more information, materials, and training to do so effectively. By empowering teachers with knowledge and tools, schools can become key places for nurturing healthy smiles and improving overall well-being in communities.

Keywords: health education, school curriculum, health promotion, children's health, tooth decay, health literacy

Introduction and Background Information

Oral diseases, which share risk factors with other non-communicable diseases, affect 3.5 billion people worldwide, with 75% of those affected living in low and middle-income nations.[1] Dental caries afflicts 60–90% of children globally, causing pain and discomfort.[2] Children with poor oral health are 12 times more likely to miss daily activities than those without oral issues.[3] Oral diseases disrupt school and home life, resulting in 50 million lost school hours and a significant reduction in potential work hours.[4] Most dental problems arise from inadequate oral health knowledge and awareness. Promoting oral health involves educating individuals about its significance and its connection to overall health.[5]

Health promotion efforts are most effective when implemented during children's formative years, as this is when beliefs, attitudes, and habits develop. In 1995, the World Health Organization (WHO) launched the Global School Health Initiative to promote health among students, school staff, families, and community members.[6] Primary schools, which encompass more than 1 billion children representing 90% of the global child population, offer an ideal environment for promoting oral health.[7] Many developing countries have successfully implemented school-based oral health prevention programs, yielding positive results.[8]

Educators are instrumental in promoting dental health among students, acting as exemplars and primary information sources.[9] To effectively advocate for good oral hygiene, teachers must have sufficient knowledge and a positive mindset toward dental care. Studies have shown that inadequate oral health knowledge, resource scarcity, time constraints, and the absence of oral health education in school curricula hinder teachers' ability to promote dental health to students.[10]

In Malawi, dental issues constitute a significant portion of health concerns. According to a 2019 WHO report, 40.6% of Malawians aged 1–9 years had untreated dental caries in baby teeth, while 31.4% of those aged 5 and above had untreated cavities in permanent teeth.[11] Multiple studies on oral health in Malawi have suggested developing comprehensive school-based dental health programs to reduce the prevalence of oral diseases.[12] To achieve this, it is crucial to evaluate primary school teachers' knowledge, attitudes, and practices (KAP) regarding oral health, as they are pivotal in implementing these initiatives.

Research on primary school teachers' oral health knowledge, attitudes, and practices in Nigeria and Tanzania showed poor understanding and practices.[13] Conversely, South African primary school teachers demonstrated fair oral health knowledge.[14] In Malawi, our literature review revealed a lack of studies assessing primary school teachers' oral health knowledge, attitudes, and practices (KAP). This gap prevents understanding whether Malawian educators are sufficiently equipped with dental health information to conduct oral health promotion campaigns in schools. This study aimed to examine the knowledge, attitudes, and practices (KAP) of primary school teachers in Mchinji District, Malawi, regarding oral health. The findings are expected to guide the development of targeted oral health education programs for teachers, support the integration of oral health into the school curriculum, and inform policy efforts by the Ministries of Health and Education to strengthen school-based oral health promotion nationwide. By generating local evidence, this study provides a foundation for designing teacher-focused interventions that can enhance children's oral health outcomes and contribute to reducing the national burden of oral diseases.

Methodology

The study employed a cross-sectional descriptive study design to capture the KAP of public primary school teachers in Mchinji District. Data collection took place from June to July 2025. The study was conducted in public primary schools in Mchinji District.

Mchinji District, located in central-western Malawi, encompasses an area of 3,356 square kilometers and has a population of 602,305 inhabitants. Among Malawi's 28 districts, it ranks 13th in area, 17th in population density, and 20th in literacy rate.[15] In Malawi, Primary school management is organized by the Ministry of Education; District Education Managers (DEMs) oversee

district-level administration while zones (clusters of approximately 10–15 schools) are supported and supervised by Primary Education Advisors (PEAs).[16] According to the Mchinji District Education Office, there are 21 zones, 217 public primary schools, and about 2,700 teachers employed in the district, averaging approximately 12 teachers per school.[17]

The study specifically involved teachers in public primary schools of Mchinji District. Private primary school teachers were excluded since more than 95% of primary school learners in Malawi are enrolled in public schools, which also employ the majority of teachers and follow standardized national curricula under the Ministry of Education.[18] Public schools in Malawi serve as the main platform for government-supported oral health programs because of their wide reach and alignment with public health services. Therefore, focusing on public school teachers provides a representative and policy-relevant understanding of oral health knowledge, attitudes, and practices.[19,20] Only teachers who consented to participate were enrolled.

Sample Size and Sampling Method

Utilizing the formula n = N / (1 + N(e)^2), where n represents the sample size, N denotes the population size (2,700 primary school teachers in Mchinji), and e signifies the margin of error (0.05), the calculated sample size was 350. Although the initial sampling plan involved randomly selecting schools across Mchinji District, logistical and financial constraints during fieldwork made this approach infeasible. Specifically, difficulties in locating some of the selected schools and limited transport resources necessitated a pragmatic adjustment to the sampling strategy. Consequently, data were collected from 25 accessible public primary schools, and all teachers who consented to participate at these schools were included, ending with a total of 325 teachers. Although the adjustment to include only accessible schools introduced the possibility of selection bias, the public primary schools in Malawi are highly homogeneous in teacher qualifications, curriculum, and administrative structure.[32] This reduces the likelihood of significant bias affecting the representativeness of our findings.

Data Collection Tool

The study used a self-administered questionnaire which was adapted from similar studies.[2,8,14,21,22] Minor adjustments were made to suit the research objectives. The validity of the questionnaire was established through expert review by oral health professionals, ensuring relevance and content accuracy. It was then piloted among teachers who were not included in the main study to test clarity and comprehension. Feedback from this pilot informed minor revisions before final administration. Although internal consistency measures such as Cronbach's alpha were not applied, the expert validation and pre-testing process ensured acceptable face and content validity.

The questionnaire had a total of 25 questions divided into five sections.

- The first part contained three questions on demographics.
- The next section assessed knowledge of oral health, with nine questions. Participants were asked if they knew the causes of tooth decay, ways of preventing tooth decay, the best time for brushing, and their awareness of dental scaling, polishing, and flossing.
- The third section focused on attitudes toward oral health, assessing participants' perceptions and views on its importance. This part had four questions.
- The fourth section captured information on the teachers' oral health practices through five multiple-choice questions. The questions were on brushing frequency, amount of toothpaste used, brushing technique, use of toothpicks, and rinsing with water after a meal.
- The last section had four questions about whether oral health lessons are included in the school curriculum. It also asked if the participants were trained about oral health, their willingness to teach learners, and potential challenges to teaching.

Data Collection Procedure

Data collectors, who were well-trained on the study, explained the purpose to participants and encouraged them to answer without seeking information elsewhere. The questionnaire was in English, and data collectors clarified some questions without directing participants to a particular answer. Our study covered 25 schools with a total of 316 teachers.

The questionnaires were given to teachers, and they were allowed to answer the questions at their convenience, as the study was conducted while teachers were administering examinations. Teachers were given two days to complete the questionnaire, after which they were advised to leave it with the headmaster. We then collected the questionnaires from the headmaster on the following days.

Ethical Considerations

This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki.[23] Ethical approval was obtained from the College of Medicine Research and Ethics Committee (COMREC) with reference number P.11/24-1270 prior to data collection. All participants provided written informed consent by signing the consent section included in the physical questionnaire before participation. No minors or vulnerable individuals were involved in the study, and no identifiable personal data were collected or published. The DEM was informed of the study, and they notified the PEAs, who in turn notified the headmasters in each school.

Data Management and Analysis

Data were analyzed using IBM SPSS Statistics software. Before analysis, the dataset was assessed for accuracy and completeness. The overall proportion of missing data was less than 5% for all variables. Items with multiple or inconsistent missing responses were excluded from analysis where appropriate. Outliers and incorrect or inconsistent values were identified and removed to improve data reliability. After this process, data from 316 participants were analyzed.

Descriptive statistics, including frequencies and percentages, were used to summarize participant demographics and core KAP responses. Inferential analysis was conducted using Chi-square tests to examine associations between demographic factors and KAP outcomes. Knowledge was scored based on nine items: participants who answered 1–3 items correctly were categorized as having poor knowledge, 4–6 as average, and 7–9 as good knowledge. Oral health practices were grouped into poor (0–1 correct practices), average (2–3), and good (4–5 correct practices). Due to the limited number of attitude questions (n=3), these were reported directly without categorical grading. All results are based on valid responses, with missing data excluded from percentage calculations to ensure accuracy.

Results

A total of 316 teachers participated in the study.

Demographic Characteristics of Respondents

The demographic characteristics of the respondents are shown in Table 1. The majority of the participants were male (60.0%, n=186). Most teachers were within the middle-aged group, with 61.4% (n=188) aged between 30 and 45 years. Among those who reported their years of service, 61.9% (n=192) had more than 10 years of teaching experience.

Table 1 Demographic Characteristics of Respondents

Variable	Option	Frequency	Valid Percentage
Gender (n=310)	Male	186	60.0
	Female	124	40.0
Age (n=306)	< 30 Years	14	4.6
	30-45 Years	188	61.4
	> 45 Years	104	34.0

(*Continued*)

Table 1 (Continued).

Variable	Option	Frequency	Valid Percentage
How long have you been teaching (n=316)	< 5 Years	10	3.2
	5-10 Years	108	34.8
	> 10 Years	192	61.9

Oral Health Knowledge

The level of knowledge about oral health among primary school teachers is presented in Table 2. Most respondents correctly identified bacteria in the mouth (92.3%, n=287), frequent intake of sugary foods (84.1%, n=264), and infrequent brushing (77.1%, n=242) as causes of tooth decay. A high percentage of teachers agreed that limiting sugary foods (82.1%, n=253) and brushing with fluoridated toothpaste (88.7%, n=276) help prevent tooth decay. More than half of the participants (57.9%, n=180) reported not knowing what dental scaling and polishing was. Similarly, a large number of

Table 2 Knowledge of Oral Health (Causes, Prevention, and Concepts)

Question		Option	Frequency	Percentage
The following are the causes of tooth decay	Bacteria in the mouth (n=311)	Yes	287	92.3
		No	7	2.3
		I am not sure	17	5.5
	Increased intake of sugary foods (n=314)	Yes	264	84.1
		No	32	10.2
		I am not sure	18	5.7
	Infrequently brushing teeth (n=314)	Yes	242	77.1
		No	53	16.9
		I am not sure	19	6.1
The following are the ways of preventing tooth decay	Limiting intake of sugary foods (n=308)	Yes	253	82.1
		No	33	10.7
		I am not sure	22	7.1
	Brushing with fluoridated toothpaste (n=311)	Yes	276	88.7
		No	23	7.4
		I am not sure	49.5	49.5
What is the single best time to brush teeth?		Morning after waking up	152	49.5
		After breakfast	42	13.7
		Before going to bed at night	91	29.6
		Am not sure	22	7.2

(*Continued*)

Table 2 (Continued).

Question	Option	Frequency	Percentage
Do you know what dental scaling and polishing is? (n=311)	Yes	83	26.7
	No	180	57.9
	I am not sure	48	15.4
Do you know what flossing is? (n=303)	Yes	43	14.2
	No	215	71.0
	I am not sure	45	14.9
Do you know fluoridated toothpaste? (n=311)	Yes	228	73.3
	No	58	18.6
	I am not sure	25	8.0

teachers (71.0%, n=215) were not aware of what dental flossing was. Lastly, close to three-quarters of the teachers (73.3%, n=228) were aware of fluoridated toothpaste.

Overall Knowledge Score

As shown in Table 3 and in Figure 1, the majority of participants (63.6%) demonstrated an average level of oral health knowledge. Approximately 29.4% had good knowledge, while only 7.0% of respondents fell within the poor knowledge category.

Attitudes Toward Oral Health

Teachers' attitudes toward oral health are presented in Table 4. The vast majority of teachers (90.1%, n=283) agreed that good oral health is important to general body health. Similarly, 94.9% (n=298) believed it is important to visit a dentist periodically. When asked about their personal dental visits, more than half of them (54.6%, n=171) had visited a dentist before, with the most common reason being toothache (67.8%, n=120).

Oral Health Practices

The oral health practices reported by primary school teachers are summarized in Table 5. Close to half of respondents reported brushing their teeth more than twice daily (47.5%, n=150), while 38.9% (n=123) brushed twice. The most commonly used brushing technique was horizontal and vertical combined (75.6%, n=235). More than two-thirds of teachers (71.3%, n=224) reported using toothpicks to aid in cleaning their mouth.

Table 3 Distribution of Respondents by Knowledge Level (N=316)

Variable	Frequency (n)	Percentage (%)
Poor	22	6.96
Average	201	63.61
Good	93	29.43

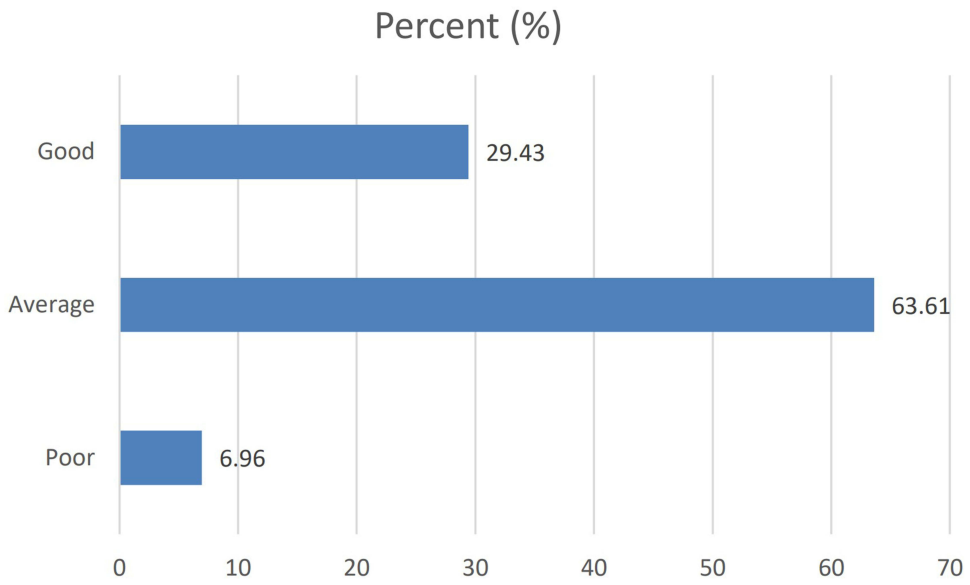

Figure 1 Distribution of oral health knowledge levels among primary school teachers in Mchinji District, Malawi. The majority (63.6%) demonstrated average knowledge, followed by good (29.4%) and poor (7.0%).

Overall Practices Score

As presented in Table 6 and in Figure 2, the majority of respondents (82.2%) demonstrated average oral health practices. Only 10.2% exhibited good practices, while 7.6% were categorized as having poor oral health practices.

Oral Health in the School Curriculum

From Table 7, it was found that more than half of teachers (57.6%, n=179) reported that oral health is part of their school curriculum. Only about a quarter of them (26.4%, n=83) said they had received training on oral health during their teaching training. A large proportion of the teachers (96.8%, n=305) expressed willingness to teach oral health to learners. When asked about challenges, the most common responses included inadequate knowledge (68.5%, n=215) and lack of teaching materials (27.1%, n=85).

Table 4 Attitudes Towards Oral Health

Question	Options	Frequency	Percentage
Is the oral health important to achieve total body health? (N=314)	Yes	283	90.1
	No	17	5.4
	I am not sure	14	4.5
Do you think it is good to visit a dentist periodically? (N=314)	Yes	298	94.9
	No	7	2.2
	I am not sure	9	2.9
Have you been to a dentist before? (N=313)	Yes	171	54.6
	No	142	45.4
If you visited the dentist, for what reason did you visit him? (N=176)	Toothache	120	67.8
	Dental check-up	35	19.8
	Gum bleeding	5	2.8
	Others	16	9.0

Table 5 Oral Health Practices of Teachers

Variable	Option	Frequency	Percentage
How often do you brush your teeth a day? (N=316)	Once	43	13.6
	Twice	123	38.9
	More than twice	150	47.5
How much toothpaste do you use for teeth brushing? (N=312)	Full length toothbrush bristles	98	31.4
	Half-length toothbrush bristles	86	27.6
	Pear sized amount	128	41.0
What brushing technique do you use? (N=311)	Horizontal	15	4.8
	Vertical	29	9.3
	Both horizontal and vertical	235	75.6
	Circular	32	10.3
Do you use toothpicks to aid mouth cleaning? (N=314)	Yes	224	71.3
	No	90	28.7
Do you rinse your mouth with water after a meal? (N=313)	Yes	265	84.7
	No	48	15.3

Table 6 Distribution of Respondents by Oral Health Practice Level (N=315)

Variable	Frequency (n)	Percentage (%)
Poor	24	7.6
Average	259	82.2
Good	32	10.2

Association Between Demographic Characteristics and Oral Health Knowledge

Chi-square analysis was conducted to examine the association between demographic variables and the level of oral health knowledge among primary school teachers (Table 8). As depicted in Table 8, the results showed no statistically significant association between gender and knowledge level ($p = 0.994$). The Cramér's V value of 0.006 suggests a negligible effect size, indicating minimal association. However, a statistically significant association was observed between age group and knowledge level ($p = 0.007$). A larger proportion of respondents with good knowledge fell in the 30–45 years age group (73.6%). The Cramér's V value of 0.152 indicates a small to moderate association. No significant association was found between years of teaching experience and knowledge level ($p = 0.353$).

Association Between Demographic Characteristics and Oral Health Practices

Table 9 below, shows that there was no statistically significant association between gender and practice level ($p = 0.165$), although males had a slightly higher proportion of good practice (54.8%) compared to females (45.2%). Similarly, age and teaching experience were not significantly associated with oral health practices ($p = 0.987$ and $p = 0.855$, respectively).

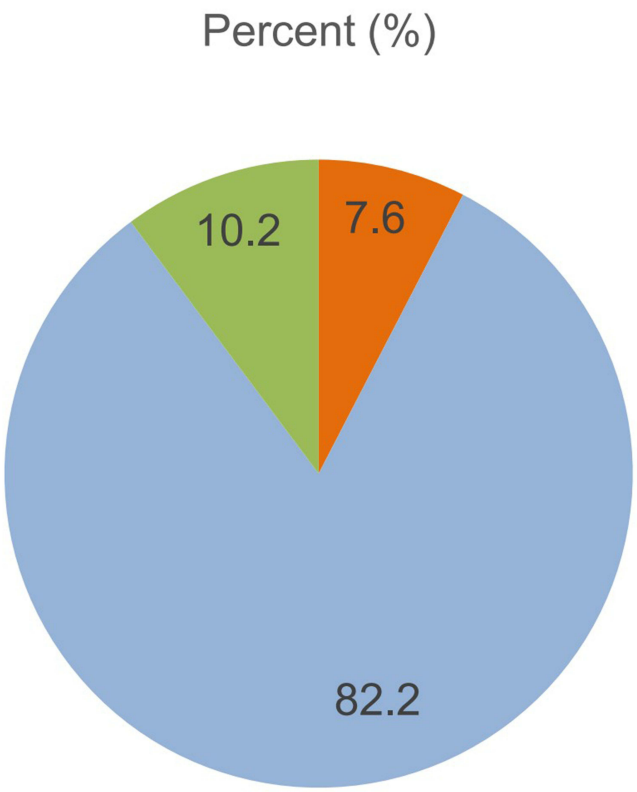

Figure 2 Distribution of oral health practice levels among primary school teachers in Mchinji District, Malawi. Most participants (82.2%) demonstrated average practices, with 10.2% showing good and 7.6% poor practices.

Discussion

This study assessed the knowledge, attitudes, and practices (KAP) of primary school teachers in Mchinji District, Malawi, regarding oral health. The findings reveal important insights into teachers' preparedness and potential role in

Table 7 Curriculum and Teacher Preparedness for Oral Health Education

Question	Options	Frequency	Percentage
Is education about oral health present in your school curriculum? (n=311)	Yes	179	57.6
	No	108	34.7
	I am not sure	24	7.7
Were you trained about oral health during your teaching training? (n=314)	Yes	83	26.4
	No	215	68.5
	I am not sure	16	5.1
Are you willing to teach learners about oral health? (n=315)	Yes	305	96.8
	No	10	3.2
What challenges may prevent you from teaching learners about oral health? (n=314)	Lack of time	14	4.5
	Inadequate knowledge about oral health	215	68.5
	Lack of resources for teaching	85	27.1

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Table 8 Association Between Demographic Characteristics and Oral Health Knowledge

Variable		Knowledge Level						p-value	Cramer`s V
		Poor		Average		Good			
		N	%	N	%	N	%		
Gender	Male	13	59.1	118	60.2	55	59.8	0.994	0.006
	Female	9	40.9	78	39.8	37	40.2		
Age range of participants	<30 years	3	15.0	8	4.1	3	3.3	0.007	0.152
	30-45 years	8	40.0	113	57.9	67	73.6		
	>45 Years	9	45	74	37.9	21	23.1		
Number of years in teaching	<5 years	2	9.1	7	3.6	1	1.1	0.353	0.084
	5-10 years	6	27.3	67	34.2	35	38.0		
	>10 years	14	63.6	122	62.2	56	60.9		

Table 9 Association Between Demographic Characteristics and Oral Health Practice

Variable		Oral Health Practices Level						p-value	Cramer`s V
		Poor		Average		Good			
		N	%	N	%	N	%		
Gender	Male	18	78.3	151	59.2	17	54.8	0.165	0.108
	Female	5	21.7	104	40.8	14	45.2		
Age range of participants	<30 years	1	4.2	11	4.4	2	6.7	0.987	0.024
	30-45 years	15	62.5	154	61.4	18	60.0		
	>45 Years	8	33.3	86	34.3	10	33.3		
Number of years in teaching	<5 years	0	0.0	9	3.5	1	3.2	0.855	0.047
	5-10 years	10	41.7	87	34.3	10	32.3		
	>10 years	14	58.3	158	62.2	20	64.5		

promoting oral health in school-based programs. While the majority demonstrated average knowledge and were willing to teach oral health, significant gaps persist in awareness of preventive measures and personal oral health practices.

A key finding of this study is that 63.6% of participants demonstrated average knowledge, while 29.4% had good knowledge. These findings are somewhat consistent with studies conducted in South Africa and Saudi Arabia, where teachers demonstrated moderate to fair levels of knowledge on oral health issues.[22,24] However, compared to a study in Pakistan that reported low levels of oral health knowledge among teachers, the Mchinji findings are relatively encouraging.[2] Despite this, concerning gaps were noted in teachers' understanding of critical concepts such as flossing (only 14.2% aware) and dental scaling and polishing (only 26.7% aware), which mirrors similar knowledge gaps reported in studies from Pakistan and Brazil.[2,21] These findings suggest a persistent lack of comprehensive oral health education in teacher training curricula.

Encouragingly, most teachers recognized the causes and prevention of dental caries. More than 90% correctly identified bacteria and sugar intake as causes of tooth decay and understood the role of fluoridated toothpaste. This strong conceptual understanding may reflect growing global awareness of oral hygiene, supported by community-level

health education efforts. However, the finding that nearly half of participants chose "morning" as the best time to brush, instead of "before bed", shows the persistence of everyday misconceptions that can undermine optimal dental hygiene.

In terms of attitudes, an overwhelming majority (90.1%) of participants agreed that oral health is essential to general health, and 94.9% believed in regular dental visits. These positive attitudes are promising for future school-based oral health initiatives. However, despite this favorable orientation, only 29.4% of respondents demonstrated good knowledge, and a mere 10.2% reported good practices. This disconnect between attitudes and practices has been similarly observed in studies from Tanzania and India,[22,25] highlighting that positive perception alone does not guarantee behavior change.

The study found that 82.2% of respondents had average oral health practices, with just 10.2% reporting good practice. Most teachers used improper toothpaste quantities, and only 10.3% used the recommended circular brushing technique. A high number reported rinsing with water after brushing—a habit that diminishes the benefits of fluoridated toothpaste. These findings align with those of studies from Malawi and Indonesia which emphasized improper brushing techniques and low fluoride effectiveness due to post-brushing rinsing.[26,27]

Importantly, only 26.4% of teachers had received oral health training, despite 57.6% reporting it was in their school curriculum. Yet, 96.8% expressed willingness to teach it, identifying lack of knowledge and teaching materials as the main barriers. These findings echo those from a study in Kenya that found teachers enthusiastic about teaching oral health but poorly equipped due to a lack of structured training and resources.[28]

The only significant association identified was between age and knowledge level ($p = 0.007$), with teachers aged 30–45 more likely to have good knowledge than their older counterparts. Similar age-related patterns were seen in oral health studies conducted in Ghana and Rwanda.[18,29] This relationship may reflect generational differences in access to training, as younger teachers are more likely to have been exposed to updated health education materials or continuing professional development programs during or after training. Older teachers, on the other hand, may have received limited exposure to structured oral health content during their initial teacher training. This suggests that integrating refresher or continuous professional development (CPD) modules on oral health could help bridge this generational knowledge gap Interestingly, no significant associations were found between gender, teaching experience, and either knowledge or practice, which contrasts with studies in Pakistan and Brazil that reported women and more experienced teachers having better oral health KAP.[2,21] This suggests that in Malawi, access to oral health information may be uniformly limited across teacher demographics.

Recommendations

Based on the findings, we recommend:

1. Integration of oral health education into pre-service and in-service teacher training programs to ensure baseline knowledge and updated content.
2. Development of standardized, curriculum-based teaching materials for oral health to support educators in delivering consistent, evidence-based content.
3. Collaboration between the Ministries of Health and Education to institutionalize oral health promotion within Malawi's school health policies.
4. Future studies should explore oral health KAP across multiple districts and private schools, and possibly include observational assessments of oral hygiene practices.

Limitations

The study has limitations, the first of which is that the data were self-reported and may be subject to social desirability bias, especially in reporting personal oral hygiene behaviors. Second, the study was conducted in a single district (Mchinji), which may limit generalizability to other parts of Malawi. There was also an adjustment to the sampling technique during the collection period.

Conclusion

Primary school teachers in Mchinji District demonstrate positive attitudes toward oral health, but significant gaps remain in their knowledge and practices. Their strong willingness to teach oral health offers a valuable opportunity for school-based promotion. To capitalize on this potential, urgent capacity-building programs and the provision of adequate teaching resources are needed to empower teachers as effective oral health promoters. Scaling up such initiatives nationally could substantially improve children's oral health outcomes across Malawi, addressing the country's considerable burden of dental caries and underscoring the critical need for timely policy and programmatic interventions.

Data Sharing Statement

The dataset generated and analyzed during the current study is available in the Google Drive repository, at the following link: https://drive.google.com/drive/folders/1aO8l9hHCe1mJZnumdS8TtE_sG4cHoaMK.

Ethics Approval and Informed Consent

This study was approved by the College of Medicine Research and Ethics Committee (COMREC) with reference number P.11/24-1270. All participants provided written informed consent before taking part in the study.

Consent for Publication

No images, videos, or recordings of identifiable individuals were used in this study, so consent for publication is not applicable.

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Disclosure

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