

ASSESSMENT OF DENTAL HYGIENE PRACTICES AMONG PRIMARY SCHOOL PUPILS IN HONG, GOMBI AND MAIHA LOCAL GOVERNMENT AREAS OF ADAMAWA STATE, NIGERIA

ELIJAH HUDSON JATAU; & MUSTAPHA GARBA

Department of Physical and Health Education, Adamawa State College of Education, Hong. Nigeria.

Corresponding Author: *jatauelijah8@gmail.com*

Abstract

This study assessed dental hygiene practices among primary school pupils in Hong, Gombi and Maiha local government areas of Adamawa State, Nigeria. A descriptive survey research design was employed with a sample of 400 pupils selected through multi-stage sampling. Data was collected using a self-developed questionnaire with a reliability coefficient of 0.75. Chi-square analysis was used to test three null hypotheses at 0.05 level of significance. The findings revealed that primary school pupils in the study area have significant positive practices towards dental hygiene ($\chi^2 = 148.840$, $df = 1$, $p < 0.05$). No significant differences were found in dental hygiene practices between urban and rural pupils

Introduction

Dental hygiene is a crucial aspect of overall health, with the mouth serving as a major gateway to the body. The World Health Organization (WHO) defines oral health as "a state of being free from chronic mouth and facial pain, oral and throat cancer, oral infections and sores, periodontal (gum) disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual's capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing" (WHO, 2022).

($\chi^2 = 0.105$, $df = 1$, $p > 0.05$) or based on age ($\chi^2 = 2.381$, $df = 2$, $p > 0.05$). The study concludes that primary school pupils in the study area have positive dental hygiene practices and recommends continued dental health education to maintain these practices.

Keywords: Dental Hygiene Practices, Primary School Pupils, Oral Health, Tooth Decay Prevention, Oral Health Education, Dental Care Access, Adamawa State, Nigeria

Good dental hygiene practices are essential for maintaining oral health and preventing various diseases that can affect not only the mouth but also the entire body. The importance of dental hygiene is particularly critical during childhood and adolescence. Early establishment of good oral health habits can lead to lifelong benefits, reducing the risk of dental caries, periodontal diseases, and other oral health problems in adulthood. Moreover, poor oral health in children can lead to pain, infections, difficulties in eating and speaking, and even reduced school attendance and performance (UNICEF, 2022).

In Nigeria, as in many developing countries, oral health challenges are significant. Traditional methods such as chewing sticks are commonly used for dental hygiene, alongside modern approaches like toothbrushes and toothpaste. However, studies have shown that dental hygiene practices among school children in Nigeria are often inadequate (Ogundele & Ogunsile, 2018). Factors contributing to this situation include limited access to dental care services, lack of awareness about proper oral hygiene practices, and socioeconomic constraints. The Nigerian government has recognized the importance of oral health and has included it in its national health policy. However, implementation of oral health programs, especially in rural areas, remains a challenge. Primary schools play a crucial role in this context, as they provide an ideal setting for promoting good oral health practices and reaching a large number of children during their formative years.

Previous studies in Nigeria have focused on dental hygiene knowledge and practices among secondary school students (Emmanuel & Chang'endo, 2017) and in urban areas (Pius, 2004). However, there is a paucity of research on dental hygiene practices among primary school pupils, particularly in rural areas. This gap in the literature is significant, given that early intervention is crucial for establishing lifelong oral health habits.

Methodology

Research Design and Sampling

A descriptive survey research design was adopted for this study. The population comprised public primary school pupils in Hong, Gombi and Maiha local government areas of Adamawa State. A multi-stage sampling procedure was used to select 400 respondents.

Instrument

The instrument for data collection was a self-developed questionnaire titled "Practice of Dental Hygiene Questionnaire (PDH-Q)". The reliability of the instrument was established using the Pearson Moment Correlation Coefficient (PMCC), yielding a coefficient of 0.75.

Data Collection and Analysis

The questionnaires were administered by trained research assistants in each local government area. Data analysis was conducted using the Statistical Package for Social Sciences (SPSS) software. Frequency counts and percentages were used to analyze demographic data, while chi-square tests were employed to test the null hypotheses at a 0.05 level of significance.

Results

Hypothesis 1: Dental Hygiene Practices

Table 1: Chi-square Analysis of Dental Hygiene Practices Among Primary School Pupils

Practice	Observed (FO)	Expected (FE)	df	χ^2	P.
Practice	322	200	1	148.840 *	.000
Not practice	78	200			
Total	400	400			

χ^2 Critical = 3.84, df = 1, $p < 0.05$

The results in Table 1 show a χ^2 value of 148.840 at df = 1 ($p < 0.05$), indicating that primary school pupils in the study area have significant positive practices towards dental hygiene.

Hypothesis 2: Urban vs Rural Practices

Table 2: Chi-square Analysis of Dental Hygiene Practices Between Urban and Rural Pupils

Practice	Urban	Rural	Total	df	χ^2	P
Agree	138	135	273	1	.105	.747
Disagree	62	65	127			
Total	400	400	400			

$\chi^2 = 0.105$, df = 1, $p > 0.05$

Table 2 shows no significant difference in dental hygiene practices between urban and rural primary school pupils ($\chi^2 = 0.105$, df = 1, $p > 0.05$).

Hypothesis 3: Age-based Practices

Table 3: Chi-square Analysis of Dental Hygiene Practices Based on Age

Dental hygiene practice on Age	8-10years	11-12years	13-14years	Total	df	χ^2	P.
Agree	74	136	63	273	2	2.381	.304
Disagree	34	55	38	127			
Total	108	191	101	400			

$\chi^2 = 2.381$, df = 2, $p > 0.05$

Table 3 indicates no significant difference in dental hygiene practices based on age among the primary school pupils ($\chi^2 = 2.381$, df = 2, $p > 0.05$).

Discussion

The results of this study provide insights into the dental hygiene practices of primary school pupils in Hong, Gombi, and Maiha local government areas of Adamawa State, Nigeria. Three key findings emerged from our analysis:

- i. Significant positive practices towards dental hygiene
- ii. No significant difference between urban and rural pupils
- iii. No age-based differences in practices

The findings of this study reveal that primary school pupils in Hong, Gombi and Maiha local government areas of Adamawa State have significant positive practices towards dental hygiene. This result aligns with the findings of Ogundele and Ogunsile (2018), who reported high positive dental health practices among adolescents in Oyo State, Nigeria. Similarly, Sa'adu *et al.*, (2015) found that a high percentage of medical, dental, and paramedical students considered oral health as important as general health. These consistent findings across different Nigerian states and age groups suggest a growing awareness of dental hygiene importance among young people in the country.

Interestingly, our study found no significant difference in dental hygiene practices between urban and rural school pupils. This result contradicts some previous studies but supports Nyamuryekung'e's (2012) review, which noted significant dental hygiene practices across Nigeria. The lack of urban-rural disparity in our study might indicate improved dental health education and awareness in rural areas of Adamawa State. However, as Plunket (2015) observed, slight differences may exist due to socio-economic factors and parental literacy levels, which warrants further investigation.

Our findings showed no significant differences in dental hygiene practices based on age among the primary school pupils. This result is consistent with Smyth's (2017) study on 12-13 year old school children and Shenoy's (2018) research on the effectiveness of school dental education programs.

The absence of age-related differences suggests that dental hygiene education in the study area may be effective across different age groups within the primary school range.

These findings collectively indicate a positive trend in dental hygiene practices among primary school pupils in the study area. However, they also highlight the need for continued efforts in dental health education. As the CDC report (2022) emphasizes, early dental hygiene is crucial, with over 40% of children having cavities by kindergarten age. Therefore, maintaining and enhancing these positive practices through continued education and awareness programs is essential.

The study's limitations include its focus on self-reported practices, which may be subject to social desirability bias. Future research could incorporate clinical examinations to correlate reported practices with actual oral health status. Additionally, investigating the sources and effectiveness of dental health information in both urban and rural settings could provide valuable insights for tailoring educational interventions.

Conclusion and Recommendations

This study concludes that primary school pupils in the selected local government areas of Adamawa State demonstrate positive dental hygiene practices. Based on these findings, it is recommended that:

- i. Dental health education should be continued and reinforced to maintain positive oral hygiene practices among primary school pupils.
- ii. Further research should be conducted to explore factors contributing to the similarity in practices between urban and rural areas, as well as across age groups.
- iii. School-based oral health programs should be strengthened to support and improve existing positive practices.

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