

**ASSESSMENT OF SCHOOL HEALTH SERVICES IN PRIMARY SCHOOLS IN
EGOR LOCAL GOVERNMENT AREA BENIN CITY, EDO STATE**

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MAY, 2026

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**A ONE-YEAR PROJECT SUBMITTED TO
DEPARTMENT OF PUBLIC HEALTH AND COMMUNITY MEDICINE,
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MAY, 2026

DECLARATION

We hereby declare that this research project titled “**Assessment of School Health Services in Egor LGA Benin city, Edo State**” was conducted under supervision and has not been submitted in part or in full for any purpose.

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CERTIFICATION

This is to certify that this research study titled “**ASSESSMENT OF SCHOOL HEALTH SERVICES IN EGOR LGA BENIN CITY, EDO STATE**” was conducted by **NORAH OSOSE ASUELINMEN** with matriculation number **MED1807372** and **ENDURANCE AMANGUI BENSON** with matriculation number **MED1807378** under the supervision of Prof. V.Y ADAM in the Department of Public Health and Community Medicine, College of Medical Sciences, University of Benin as part of the requirements for the award of Bachelor of Medicine, Bachelor of Surgery (MBBS) degree.

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DEDICATION

This work is dedicated to Almighty God, whose grace and guidance has brought us to this milestone. We also dedicate it to our beloved parents, whose unwavering love, prayers, and sacrifices have been a great source of strength.

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LIST OF ABBREVIATIONS

ADHD:	Attention Deficit Hyperactivity Disorder
AMU:	Arab Medical Union
ASD:	Autism Spectrum Disorder
ASHSC:	Assessment of School Health Services Checklist
BMI:	Body Mass Index
CSOM:	Chronic Suppurative Otitis Media
ENT:	Ear, Nose and Throat
HPPSCQ:	Health Problems of Primary School Child Questionnaire
HPS:	Health Promoting School
LGA:	Local Government Area
LMIC:	Low- and Middle-Income Countries
NSBSP:	National School Based Screening Programme
NSHP:	National School Health Policy
OCD:	Obsessive Compulsive Disorder
PHC:	Primary Health Care
PRISMA:	Preferred Reporting Items for Systematic Review and Meta-Analysis Protocol
PTSD:	Post Traumatic Stress Disorder
RTI:	Respiratory Tract Infection
SDG:	Sustainable Development Goals
SHP:	School Health Programme
SHS:	School Health Services
SUBEB:	State Universal Basic Education Board
UBE:	Unuversal Basic Education
UNESCO:	United Nations Educational, Scientific, and Cultural Organization
UNICEF:	United Nations Children's Fund
UTI:	Urinary Tract Infection
WHO:	World Health Organization

OPERATIONAL DEFINITION OF TERMS

Health: a state of complete physical, mental and social wellbeing of primary school pupils as reflected in their access to utilization of school health services and not merely the absence of disease or infirmity

School: an educational institution designed to provide learning environments for the teaching of students, usually under the direction of teachers and access to school health services.

School Health Programme: a comprehensive, coordinated approach implemented in primary schools that aims to promote the physical, mental, and social well-being of students, staff, and the school community.

School Health Services: health related services provided by a health worker available to pupils enrolled in primary education, either within school premises or in a healthcare facilities situated outside the school

Service: organized health related activities provided within the school setting to improve the well-being of pupils.

ABSTRACT

Background: School health services are essential for promoting pupils' health, reducing preventable diseases, and supporting effective learning outcomes. However, their effectiveness is dependent on teachers' awareness and engagement, as well as the availability of functional infrastructure. In many settings, these components remain weak, contributing to sustained transmission of communicable diseases such as malaria, diarrhoea, and respiratory infections among school children.

Objective: This study assessed teachers' knowledge and attitude, availability of school health facilities, and the burden of communicable diseases among pupils in Egor LGA to guide improvements in school health services.

Methods: A descriptive cross-sectional study was conducted between March 2025 and May 2026 among 254 teachers and 245 pupils in primary schools in Egor LGA, Benin City, Edo State recruited via a multistage sampling technique. Data collected using a structured self-administered questionnaire was analysed with IBM SPSS 27.0 using descriptive and inferential statistics. Statistical significance was set at $p < 0.05$.

Results: The mean age of teachers was 39.3 ± 9.4 years, while pupils had a mean age of 10.1 ± 2.0 years. Most teachers were female, 438 (73.0%), married, 460 (76.6%), and possessed a B.Ed/B.Sc degree, 147 (57.9%). Good knowledge of school health services was observed in 92 (54.1%) respondents and was significantly associated with years of teaching experience ($p = 0.031$) and school type ($p < 0.01$). Most teachers, 185 (72.8%), demonstrated a positive attitude towards school health services. School health infrastructure and preventive services were limited, with only 98 (38.6%) schools keeping pupils' health records. Among pupils, 93 (38.0%) reported illness within the preceding three months, with malaria being the most common condition, 38 (40.9%). Most pupils had good hygiene indicators and normal nutritional status. Primary caregiver type significantly predicted child ill health ($p = 0.001$). Major barriers to implementation included shortage of trained personnel, 110 (44.0%), lack of health education programmes, 131 (52.6%), and low parental awareness of school health services.

Conclusion: Most respondents had good knowledge and a positive attitude towards school health services. However, school health facilities were inadequate and

communicable diseases were common among pupils, especially in public schools. Strengthening teacher training, improving infrastructure, and ensuring adequate funding and supervision are needed to improve implementation and reduce disease burden.

Keywords: School health services, School health facilities, Teachers' knowledge, Pupil health, Nutritional status, Communicable diseases.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

The School Health Programme (SHP) is a comprehensive initiative aimed at promoting the physical, mental, and social well-being of students, enabling them to achieve their full educational potential. It includes integration of key components such as, School Health Services (SHS), school feeding services, health education, good relationship between children's school, home and community, and a healthy school environment to support the overall development of children.¹

SHS, which is a component of the SHP, is an essential component of the educational system, aimed at promoting, maintaining and enhancing the physical, mental, and social well-being of school children to enable them to benefit optimally from their education. These services encompass preventive, curative, and health-promoting activities aimed at ensuring that school-aged children remain healthy and ready to learn. School-age children and adolescents (those aged 5–19 years) experience a range of largely preventable health problems such as unintentional injury, interpersonal violence, sexual and reproductive health issues, communicable diseases, noncommunicable diseases and mental health issues.^{2,3} Therefore, SHS activities such as, preventing and controlling diseases through routine screenings, immunisations, and early intervention strategies, first aid, promotion of mental and emotional well-being by offering counselling services and promoting a healthy lifestyle by encouraging good hygiene practices, proper nutrition, and regular physical activity are a necessity.²

The World Health Organisation (WHO) and the United Nations Educational, Scientific, and Cultural Organisation (UNESCO) emphasize the integration of health services into schools as a fundamental approach to fostering child health and academic success.⁴⁻⁵ It also contributes significantly to the achievement of multiple Sustainable Development Goals (SDGs) as SHS primarily align with SDG 3 (Good Health and Well-being), SDG 4 (Quality Education), and SDG 5 (Gender Equality). Under SDG 3, SHS help achieve Target 3.3, which focuses on ending epidemics of communicable diseases such as HIV/AIDs, tuberculosis, and malaria through early detection and health education; Target

3.4, by promoting mental health and well-being among school-aged children; and Target 3.8, by ensuring access to essential health services through school-based care. For SDG 4, SHS support Target 4.1, which aims for all children to have free, equitable, and quality primary and secondary education, by reducing health-related absenteeism; Target 4.5, by addressing barriers to education faced by vulnerable groups including children with disabilities and chronic illnesses; and Target 4.a, which seeks to provide safe, inclusive, and effective learning environments, including those with basic health and hygiene services. Regarding SDG 5, SHS contribute to Target 5.6, which ensures universal access to sexual and reproductive health and rights, through age-appropriate sexuality education and access to menstrual hygiene products and services for girls, thus reducing school dropout related to gender-specific health needs.⁴⁻⁸

A UNESCO report highlighted that 9 in 10 countries invest in SHP, more than 100 countries implement school vaccination initiatives and almost every country has health education as a part of its curriculum.⁹ While most countries have some form of SHS in place, many of these programmes, especially in Low and Middle Income Countries (LMIC), lack an evidence-based framework, suffer from inadequate implementation, are underfunded, or have limited reach and effectiveness.²

In Nigeria, children and adolescents make up almost half of the population and spend most of their time in schools. This makes schools a strategic place for the delivery of health care services. Despite the introduction of policies like the National School Health Policy (NSHP) in 2006, studies have consistently reported challenges in SHS delivery, including inadequate funding, lack of adequate facilities, insufficient health personnel, and poor awareness among teachers and school administrators.¹⁰ The effectiveness of SHS also varies between urban and rural areas, with rural schools often facing greater challenges due to limited health care access and funding constraints.¹¹

SHS in Nigeria face ongoing challenges related to effectiveness and sustainability and implementation efforts have often been hindered by poor policy enforcement and lack of accountability. Improvements in teacher training and stronger collaboration between the ministries of education and health have the potential to enhance SHS delivery. While school-based health interventions offer structured support within the education system,

community-based initiatives may provide a more sustainable approach to meeting the health needs of schoolchildren^{11,12}.

Recognising the important role of SHS in promoting child health and supporting educational outcomes, this study aims to assess the knowledge, attitudes, common health conditions, and key implementation factors associated with SHS in primary schools across Edo State. By identifying existing gaps and challenges, the study will offer practical insights to inform policies and strategies that can strengthen school health programme and contribute to better health outcomes for children.

1.2. STATEMENT OF PROBLEM

Globally, teachers play a essential role in the successful implementation of SHS as they are often the first point of contact for students in need of health-related support.² They serve as front-line providers of health education, first aid, and basic health monitoring within the school setting and are well-positioned to identify early signs of illness, promote healthy behaviours, and refer students for further care when necessary. Their involvement ensures that health initiatives are integrated into daily school activities, enhancing both reach and sustainability. Their effectiveness at playing this role however, depends on adequate training, clear role definition, and support from school health policies and resources¹¹. Studies have revealed that teachers' knowledge of SHS varies significantly.

Studies done in India in 2024 found that only about 28% of teachers had adequate knowledge of SHS. In Nigeria recent studies done in Abia, Bauchi, Delta, Kano, Ogun, and Sokoto States in 2023 and Oyo state in 2022 have reported similar findings, with many teachers having low awareness of the school health programme¹³⁻¹⁸. Teachers who lack adequate knowledge of SHS are less likely to effectively promote health education, identify health issues, or facilitate access to health services for students^{14,15}. Studies have also revealed that many teachers in LMICs, hold negative or indifferent attitudes toward SHS due to a lack of training, inadequate resources, and insufficient support from school administrators. Studies done in India showed that 84.3% of teachers thought that school health programmes were an unnecessary burden on teachers¹⁸. Studies in Oyo and Abia States in Nigeria in 2023 showed that many teachers have negative attitudes towards SHS with many expressing frustration over the lack of resources and training and some viewed SHS as an additional responsibility that was not part of their job description^{16,17}. Improving

teachers' knowledge and attitude towards SHS will lead to improved health outcomes for pupils, improved academic performance, and long-term socioeconomic gains for the community.²

Many schools, particularly in LMICs, lack facilities essential for SHS such as first aid kits, sick bays or health rooms. A 2021 WHO report revealed that only 40% of schools in LMICs have access to basic health facilities.³ Studies in Enugu, Oyo and Edo States in Nigeria showed that many schools lacked essential health facilities such as first aid kits, sick bays, ambulances and access to trained health personnel.¹⁵⁻¹⁷

The health status of pupils in primary schools is a key factor influencing their academic performance, attendance, and overall well-being. Many children experience health conditions that, if left unaddressed, may hinder their learning capabilities, development and contribute to mortality among school aged children¹⁹⁻²¹. Despite the importance of this factor, there is often a lack of comprehensive data on the common health conditions affecting pupils, making it difficult for schools and policymakers to implement effective health interventions.^{22,23} Understanding these health concerns can help with the development of targeted strategies to improve school health services and promoting early interventions²¹.

Studies in Namibia and Gaza done in 2022 and 2023 respectively, have shown that many countries, particularly LMICs, face significant challenges in implementing SHS due to inadequate funding, lack of trained personnel, lack of supplies and facilities, and poor coordination between stakeholders.^{22,23} According to the United Nations Children's Fund (UNICEF), only 30% of schools in sub-Saharan Africa have access to basic health services, and many lack essential facilities such as clean water, sanitation.²⁴ Schools that lack adequate health facilities, trained personnel, and community support will be unable to effectively implement SHS, leading to poor health outcomes among students².

1.3. JUSTIFICATION

SHS is one of the main components of the school health programme aimed at ensuring that every child remains healthy to benefit maximally from his/her education. Failure to observe SHS could lead to increased health risks, poor academic performance, and difficulties in

accessing necessary healthcare among pupils and staff. In primary schools, especially within developing regions like Egor LGA in Benin City, the condition of SHS is often under-researched and under-supported.

Despite the global emphasis on achieving SDGs 3 (Good Health and Well-being), 4 (Quality Education), and 5 (Gender Equality), there is limited local data on the actual state of SHS in primary schools in this area. Many studies focus on broader educational challenges but overlook the health infrastructure, teacher awareness, and common health conditions that directly affect pupils' learning and attendance.¹⁷⁻²¹

This study is important because it addresses this gap by assessing the knowledge and attitudes of teachers, evaluating the availability of health facilities and services, identifying common health issues among pupils, and exploring the factors that influence SHS implementation. The findings will help improve school health policies, promote healthier learning environments, and support the achievement of SDGs in the region.

1.4. RESEARCH QUESTIONS

1. What is the level of knowledge of SHS among primary school teachers in Egor LGA?
2. What are the attitudes of primary school teachers towards SHS in Egor LGA?
3. What are the basic health facilities available in primary schools in Egor LGA?
4. What are the common health conditions among primary school pupils in Egor LGA?
5. What are the factors associated with the implementation of SHS in primary schools in Egor LGA?

1.5. AIM

This study aims to assess SHS in Egor LGA, Edo State, Benin City.

1.6. GENERAL OBJECTIVE

To assess SHS in primary schools in Egor LGA, Benin City, Edo state to achieve SDGs 3, 4 and 5.

1.7. SPECIFIC OBJECTIVES

1. To assess knowledge of SHS among primary school teachers in Egor LGA, Benin City, Edo State.
2. To ascertain the attitude of primary school teachers towards SHS in Egor LGA, Benin City, Edo State.
3. To identify basic health facilities available and health services in primary schools in Egor LGA, Benin City, Edo State.
4. To identify common health conditions among pupils in primary schools in Egor LGA, Benin City, Edo State.
5. To determine the factors associated with the implementation of SHS in primary schools in Egor LGA, Benin City, Edo State.

CHAPTER TWO

LITERATURE REVIEW

2.1 CONCEPTUAL REVIEW OF SHS

SHS, are services provided by a health workers to students enrolled in primary or secondary education, either within school premises or in a health service situated outside the school.⁴ It is one of the five components of the school health programme aimed at ensuring every child remains healthy to benefit maximally from his/her education.¹² SHS connotes the preventive and curative health services to pupils and other members of the school community. Its purpose is to help children achieve the maximum health possible for them to obtain full benefits from their education through early detection and treatment of diseases that could impinge their health and learning.²⁵

Knowledge and attitude toward SHS among primary school teachers are important because teachers play a central role in implementing and supporting school health programmes. Teachers interact with pupils daily and are often the first to observe health-related issues that may affect learning and wellbeing. Adequate knowledge of SHS enables teachers to understand the components, objectives, and importance of school health programmes, while a positive attitude encourages their active participation in promoting health activities within the school environment. Therefore, assessing the level of knowledge and the attitude of primary school teachers toward SHS is essential for understanding how effectively these services can be implemented in primary schools..²⁶

2.2 THEORETICAL FRAMEWORK

This study is guided by the Health Belief Model (HBM) and supported by Donabedian Model.

2.3 HEALTH BELIEF MODEL

The Health Belief Model explains health-seeking behavior based on individual perceptions of illness and healthcare options.²⁷ The key components of HBM includes:

Perceived Susceptibility: Teachers perception that pupils are vulnerable or at risk of illnesses like such as malaria, worm infestation, injuries and malnutrition.

Perceived Severity: Beliefs about the severity seriousness of poor health conditions such as poor academic performance, absenteeism and other health complications

Perceived Benefits: Beliefs about the advantages of school health services such as improve overall learning, reduced absenteeism and safety promotion.

Perceived Barriers: Factors that hinder implementing effective school health services such as lack of healthcare facilities, lack of training and lack of government support.

Cues to action: Triggers to motivate teachers to act such as health inspections, government policies and training programmes.

Self Efficacy: Competency and confidence in implementation of school health services.

The Health Belief Model is important to this study as it explains how teachers perception and beliefs influence their knowledge, attitude and practices regarding an effective school health services.²⁸

2.4 THE DONABEDIAN MODEL

Donabedian evaluated quality health service delivery from the dimensions of structure, process, and outcome. On the one hand, “structure” encompassed every physical infrastructure and knowledge workers that take part in the actual care of the sick and the injured. On the other hand, “process” consists of all that goes on in the process of caring for the patients, including communication both in the process of treatment and dispensing of drugs and supplies and also includes diagnosis, treatment, and preventive care.²⁹ In relation to school health services, the structure entails school health facilities such as availability of sick bay, first aid kits, clean water, human resources such as number and training of school health personnel and policy and equipment which include presence of health policies and essential health tools in schools. The process involves health activities which entails screening for diseases, health education and referrals. It also involves quality of interactions such as how teachers and health workers carry out services and lastly, implementation practices which entails regularity, adherence to standards and reporting. Outcomes describes the effect on the pupils and how SHS has improved health, reduced sickness and better participation in school activities.³⁰

2.5 CONCEPTUAL FRAMEWORK

The conceptual framework for this study illustrates the relationship between independent variables, service delivery variables and dependent variables.

Independent variables: knowledge of SHS, attitude towards SHS, sociodemographic factors and school health facilities.

Intervening variables: Teachers training and competency, access to health facilities, government policy enforcement and adequate funding.

Dependent variable: Implementation of school health services.³¹

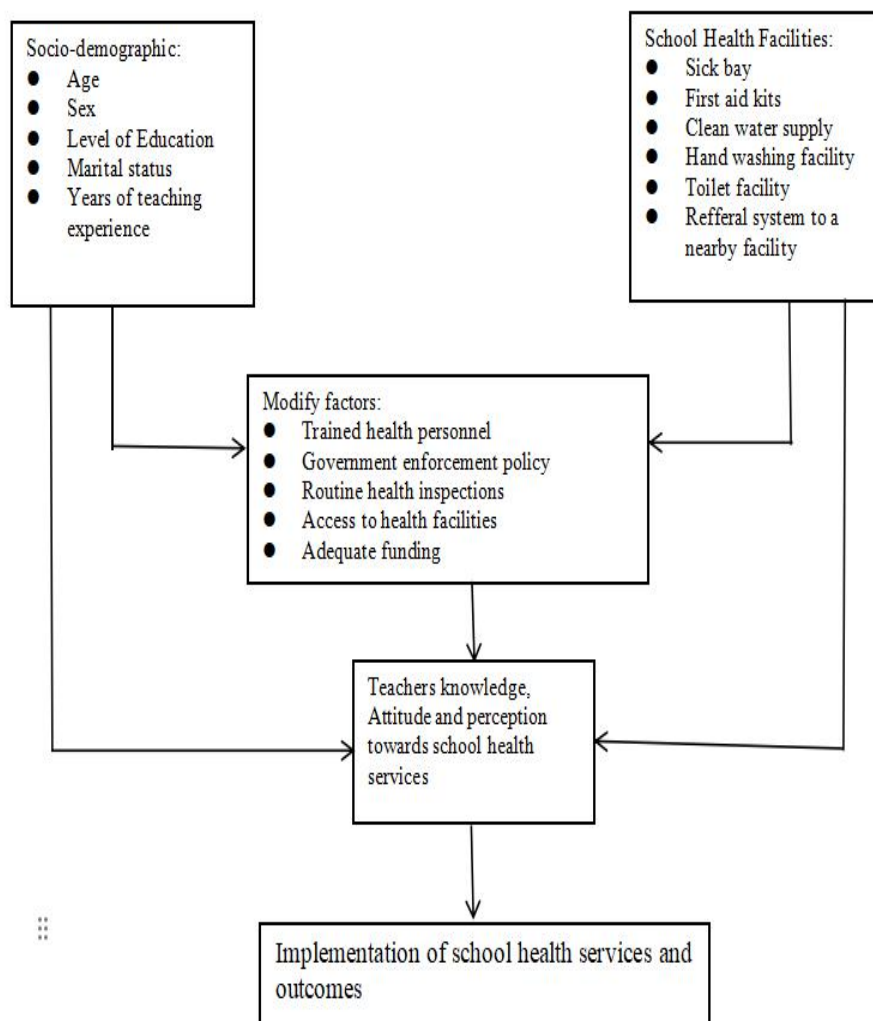


Figure 1: Conceptual Framework: Assessment of SHS³²

2.6 KNOWLEDGE OF SHS AMONG TEACHERS IN PRIMARY SCHOOLS

A descriptive cross-sectional study done in 2024 assessed the level of knowledge of regarding school health programs among 155 school teachers in primary schools selected by a non purposive sampling method in the Tanahun District of Gandaki province, Nepal. This study found that most of the teachers were aware of health services like deworming campaigns 146 (94.2%), health screenings 143 (92.3%), and referrals for medical care 137 (88.4%). The respondents also recognized measures like food and water sanitation 147 (94.8%), closing schools during epidemics 143 (92.3%), proper hand washing 142 (91.6%), and medical exams 134 (86.5%). Although knowledge levels were high, 136 (87.7%) of respondents had no formal training in SHS, indicating a gap between theoretical awareness and practical preparedness. The study highlights that most respondents have a good level of knowledge of school health programs (SHP) and their importance in promoting health and safety in schools. Despite the lack of training in SHP for many teachers, they recognize key objectives such as health education, emergency care, and the need for a clean school environment. This study included teachers from only 3 government schools limiting the generalisability of the findings and used a non probability sampling method which may have introduced selection bias, affecting the representatives of the sample.³³

In 2024, a descriptive cross-sectional study done in Jodhpur, India on 100 primary school teachers, to assess the knowledge levels of school teachers regarding selected components of the school health program. A convenient sampling technique was employed to select participants, ensuring that a diverse representation of teachers from both urban and rural areas was included. The study revealed that 38 (38%) of the teachers demonstrated inadequate knowledge, 34 (34%) had moderate knowledge, and 28 (28%) exhibited adequate knowledge regarding the selected school health services. The study highlights significant knowledge gaps among school teachers in Jodhpur regarding selected components of the school health program. The study was limited to teachers from only three government schools, thereby restricting the generalisability of the findings to other schools and settings. The use of a non-probability sampling technique may have introduced selection bias, which could affect the representativeness of the sample.³⁴

In Ghana, a descriptive cross-sectional study was conducted in 2023 among 220 secondary school teachers in Kwadaso Municipal Area, Kumasi to assess the school health policy in

Ghana. A stratified random sampling technique was used and respondents were interviewed using a structured questionnaire. The study assessed teachers' knowledge of school health policy using a five-level Likert scale. The study showed that for overall coverage of health needs the largest group of teachers agreed 66 (29.86%), or strongly agreed 33 (14.93%), that the SHP covers all aspects of the health needs of students and a significant portion disagreed 57 (25.79%) or strongly disagreed 35 (15.84%). The study also revealed that majority agreed 96 (43.44%) or strongly agreed 43 (19.46%) that the SHP focuses on preventive measures and only few disagreed 26 (11.76%) or strongly disagreed 12 (5.43%). A large number of teachers also agreed 96 (43.44%) or strongly agreed 43 (19.46%) that the SHP focus is only treatment measures and only few disagreed 26 (11.76%) or strongly disagreed 12 (5.43%). The high number of teachers agreed 97 (43.89%) or strongly agreed 34 (15.38%) that the SHP combines both preventive and treatment measures and only few disagreed 29 (13.12%) or strongly disagreed 8 (3.62%). The study suggests that the majority of teachers possessed knowledge about their school's health policy. The study however did not assess teacher's knowledge about the specific school health services that were available. A significant limitation was the scarcity of published literature on school health in Ghana and the broader African region. This made it challenging for the researchers to compare their findings with existing best practices in school health.³⁵

A systematic review of cross-sectional studies published between 2014-2024 aimed to assess SHS in Nigeria. The selection of studies and the analysis process were guided by the inclusion and exclusion criteria outlined in the Preferred Reporting Items for Systematic Review and Meta-Analysis protocol (PRISMA). This study showed that most teachers were not formally trained in SHS and that they were often unaware of national SHS policies or guidelines due to non-existent or poorly disseminated implementation frameworks. Teachers were often excluded from planning or evaluating SHS activities, reducing their opportunity to build understanding or competency. The review found only 13 studies that met the inclusion criteria which reflects a paucity of research in this area. The findings in this study are constrained by the small number of eligible studies, geographic bias, and lack of quality assessment and could be improved by incorporating a formal study quality appraisal, and assessing a wider geographical area.³⁶

In 2023, a descriptive cross-sectional study was carried out in Bende Local Government Area of Abia State, Nigeria. The study involved all 320 public primary school teachers

across 34 public schools within the LGA. A simple random sampling method was used, involving all available teachers in the schools. Data collection was done through a pre-tested, self-administered questionnaire. The study assessed the level of knowledge of school health services among the teachers and found that 204 (63.7%) participants had good knowledge of school health services, while 116 teachers (36.3%) demonstrated poor knowledge. The study also investigated the relationship between socio-demographic characteristics and knowledge levels. Statistically significant associations were found between good knowledge and variables such as age, sex, marital status, educational qualification, years of teaching experience, and residential location of the teachers ($p < 0.05$ in all cases). However, limitations exist in terms of generalisability, as the study focused only on public school teachers in a single rural LGA, which may not represent broader populations across Nigeria.¹⁷

In Nigeria, a descriptive cross-sectional study was done in Gwagwaladga Area Council, Abuja in 2021 among 246 teachers in primary schools. The study aimed to assess the knowledge, attitude and practice of SHP among primary school teachers. The study showed that most of the teachers 244 (99.2%) had good knowledge on SHS. Among the 246 who completed the survey, 103 (41.9%) respondents were in public schools and 143 (58.1%) respondents were in private schools. A higher proportion of teachers in public schools had good knowledge 103 (100%) compared to 141 (98.6%) of respondents in the private schools. This study used self administered questionnaires which may have introduced recall and social desirability bias among the teachers. It could have been improved by including schools from multiple geographic locations, adopting a mixed-methods or longitudinal design, and incorporating objective assessments of school health programme practice to provide a more comprehensive evaluation.³⁷

2.7 ATTITUDE OF TEACHERS TOWARDS SCHOOL HEALTH SERVICES IN SCHOOLS

A cross-sectional field-based study published in 2022 was conducted in the Sangli District of Maharashtra, India, to evaluate the knowledge, attitudes, and practices regarding school health services among 700 secondary school teachers, of which 518 teachers were from rural schools and 182 from urban schools, They were selected using a two-stage stratified random sampling method and a self-administered, pilot-tested questionnaire was used. The study found that both rural and urban teachers demonstrated a high overall positive attitude

towards school health services, with an overall mean attitude score of 88%. However, rural teachers showed significantly higher median attitude than their urban counterparts. Further analysis revealed that despite this positive attitude, only a minority of teachers had undergone any formal training related to school health. Specifically, 52 (10.12%) rural teachers and 15 (8.10%) urban teachers had received training, with a longer average training duration reported in rural settings. Nonetheless, 673 (96.1%) of the participants agreed that teachers should provide health education, and 685 (97.8%) of participants emphasized the importance of engaging students in interactive health discussions. However, a significant proportion 596 (85.2%) of participants viewed health programme for students as an additional burden. The findings indicate good attitude among teachers toward participating in SHS, although logistical and perceptual barriers such as lack of training and perceived workload may hinder full implementation. The limitations of the study include its restriction to a single district, limiting generalisability to other regions. Also, the use of self-reported data may have introduced bias due to participants' subjective perceptions or social desirability. The study could be improved by expanding the study setting to include multiple districts or regions, which would enhance the generalisability of the findings. In addition, incorporating objective measures such as direct observation, record review, or triangulation with qualitative methods would help reduce bias associated with self-reported data and improve the validity of the results.³⁸

In 2020, a descriptive cross-sectional study was carried out among high school teachers in Myanmar, China. The study aimed to assess the level of involvement in the Health Promoting School (HPS) program and its associated factors, including teachers' attitudes towards SHS. A total of 194 high school teachers participated in the quantitative strand using a structured, pre-tested questionnaire. Findings revealed that only 48 (24.7%) of the teachers had positive attitudes towards the HPS program. The majority, of teachers 104 (53.6%) had a neutral attitude, while 42 (21.6%) teachers exhibited negative attitudes. The study concluded that a relatively low proportion of teachers held positive attitudes toward SHS, which may limit their active engagement in the HPS program. The study emphasized the importance of teacher training, parental cooperation, and sufficient support systems to foster more favorable attitudes and greater involvement. Limitations of the study include its restriction to high school teachers, thereby excluding perspectives from primary or middle school levels, and potential non-generalisability to other regions in Myanmar due to demographic differences. The study could have been improved by conducting the study

across multiple regions of Myanmar and using probability-based sampling methods would reduce regional bias and improve the external validity of the findings.³⁹

In Nigeria, descriptive cross-sectional study conducted in 2022 was carried out in Isi-Ala-Ngwa LGA of Abia State. The study aimed to assess the knowledge, attitude, and involvement of teachers in relation to school health services. The study involved all 264 public primary school teachers across 24 schools in the LGA. A total population sampling method was employed, as the entire teacher population was below 10,000. Data were collected using a pre-tested, semi-structured, self-administered questionnaire. The study showed that only 97 (38.6%) respondents had a positive attitude towards school health services, while the majority, 162 (61.4%), demonstrated a negative attitude. This finding indicates a substantial challenge in fostering teacher engagement and ownership of school health-related responsibilities. The study relied on self-reported data, social desirability bias may have influenced participants' responses regarding their attitudes and could be improved by incorporating objective measures such as direct observation, record review, or triangulation with qualitative methods to help reduce bias.⁴⁰

In April 2021, descriptive cross-sectional study published was conducted in Gwagwalada Area Council, Abuja, Nigeria, to assess the knowledge, attitude, and practice of SHP among primary school teachers. The study involved a sample size of 257, with data collected from 246 respondents using self-administered, semi-structured questionnaires and a cluster sampling. The study showed that the majority of teachers in both public and private schools, approximately 205 (83.33%), held positive attitudes. Specifically, teachers in private schools demonstrated a better attitude at 87.4% compared to 77.7% in public schools, with this difference being statistically significant ($p=0.043$). Teachers in both public and private schools largely perceived the SHP as desirable and necessary, with 82.5% of private school teachers and 69.9% of public school teachers agreeing with this sentiment ($p = 0.02$). Furthermore, 65.9% (162 out of 246) of the respondents believed that SHP is achievable, showing no significant attitudinal difference between the two school types. While teachers with the longest teaching experience (24 to 29 years) showed the most positive attitude (100%), a notable proportion of poor attitudes (22.10%) was observed among respondents with 18 to 23 years of teaching experience when compared to those with fewer years of experience. Data was collected via self-administered, semi-structured questionnaires which is subject to response bias.³⁷

2.8 BASIC HEALTH FACILITIES AND SHS AVAILABLE IN SCHOOLS

A descriptive cross-sectional study was carried out in 2020 among 101 female schools (primary, intermediate and secondary schools) in Hail Saudi Arabia. Of the 101 schools, 86 (85.1%) have established clinics whereas 15 (14.9%) of them lack clinics. Also the maximum number of schools equipped with first aid kits were 92 (97.6%). From 92 schools, 49 (48.8%) had sufficient first aid kits available, whereas 49 (48.8%) clinics had an insufficient number of first aid kits but 3 (3.3%) clinics lacked first aid kit. Around 93 (92.1%) clinics have pharmacies whereas 8 (7.9%) do not offer any pharmaceutical aid. The sources of medication of 49 (48.8%) clinics were from health affairs, whereas the primary sources of medication for 8 (7.9%) clinics were from education affairs. Around 40 (39.6%) schools had self-arrangements and 4 (4.0%) clinics have no medical sources. Around 70 (69.3%) schools had a protocol for hospital referral whereas 31 (30.7%) schools did not have any protocol. Additionally, 73 (72.3%) schools had ambulance call protocols and 28 (27.7%) schools did not. The data in this study was collected from female schools only and due to lack of logistics and support sample was taken using non probability snowball sampling technique that may not accurately generalised to whole Hail region. Including both male and female schools and using probability-based sampling methods would improve representativeness and generalisability of the findings.⁴¹

An observational study was carried out in 2021 surveyed SHS in all 28 European Union countries between the years 2015-2018. This survey was carried out to categorize the suitability of interventions for inclusion in SHS. A Purposive Sampling was used to identify experts totaling to about 1,293 invitees. SHS in the European Union commonly included routine screening (height, weight, vision, hearing), vaccinations and dental check-ups, Health education and lifestyle promotion, individual counseling and mental health interventions. While screening and emergency care were universally provided, the sophistication and comprehensiveness varied. Notably, only five countries operated purely school-based SHS (Model A), while others used off-site health professionals or mixed approaches. This variability suggests that while structured SHS models are desirable, they are also adaptable. The selection of experts was done through purposive sampling, which included experts identified from academic databases and professional networks. This method, while practical, may have introduced selection bias, which may have lead to the

over representation of individuals with certain affiliations, experiences, or regional perspectives.⁴²

A descriptive cross-sectional study was carried out in 2025 in rural secondary schools in Mbeya Rural District, Tanzania, with 329 respondents. The study assessed the provision of health care services and their effects in rural secondary schools. It utilized a simple random sampling method for students, a purposive sampling method for teachers and a structured, closed-ended questionnaire was administered to students and teachers. It revealed that First Aid Services were the most widely available health service, reported by 300 (100%) students and 26 (89.66%) teachers. Also available are Vaccination Programs, acknowledged by 280 (93.33%) students and 21 (72.41%) teachers, likely due to government-led immunization drives. General Health Education was also prevalent, with 275 (91.67%) students and 23 (79.31%) teachers confirming its availability. However, some comprehensive health services are severely lacking. Mental Health Counselling was reported to be present by none of the students and only 10 (34.48%) of the teachers. General Medical Checkups and Physical Fitness Evaluations were similarly underrepresented, with only 72 (24.14%) students and 5 (17.24%) teachers respectively noting their presence. These figures clearly demonstrate a major service gap in holistic student health care. The study was carried out in only 15 rural secondary schools in one district, so the results may not reflect healthcare service conditions in other rural areas or regions. It relied on survey responses from students and teachers without deeper methods like observations or interviews, which may limit the depth and accuracy of the findings.⁴³

In 2023, a descriptive cross sectional study was carried out involving 220 teachers from four second-cycle institutions in Kwadaso, Ghana to assess their school health policy. It utilised a stratified random sampling technique and a structured questionnaire was administered to the respondents. In the study, 117 (53.1%) of the teachers reported that their school had a dedicated sickbay, though 55 (47.3%) of these cited drug shortages as a challenge. About 158 (71.8%) reported the presence of trained state registered nurses and about 84 (38%) reported that their school had friendly facilities for people living with disability. The data in this study was collected via self-reported responses, which may be prone to misreporting or bias. The authors also acknowledged a paucity of published literature on school health programs in Ghana and West Africa, making comparative analysis challenging.³⁵

A ten-year systematic review conducted in 2025 assessed SHS in Nigeria implementation. Out of 13 studies included in the review, only two specifically addressed SHS facilities available in schools. Findings consistently revealed that private schools perform slightly better than public schools in offering SHS, though both fall below acceptable standards. For instance, in Sokoto and Ogun States, studies found that most schools lacked trained health personnel, sick bays, or adequate first aid facilities. Resources for health service delivery such as essential drugs, sanitary environments, and qualified staff were grossly inadequate in both public and private settings. The study also cited insufficient health personnel, non-functional sickbays, and limited emergency response mechanisms in public primary schools in Edo, Delta, and Lagos states. The review included only 13 studies out of over 5,000 initially identified, which shows a scarcity of published research on school health services in Nigeria and limits how strong the conclusions can be. Most of the included studies were conducted in a few regions (especially southern states), resulting in uneven geographic coverage that may not represent the whole country.³⁶

In 2023, descriptive cross-sectional study done Ekiti State to assess the school health services in primary schools, showed a similar pattern. Of the 67 schools assessed, none had doctors or trained first aiders, and only 3 (4.5%) had a nurse. Although first aid boxes were present in 67 (97%) of the schools, many lacked essential drugs and materials. Sick bays were absent in most as only 3 (4.5%) had sick bays, and no schools conducted pre-entry or periodic medical examinations. Routine inspection was the most consistent health activity, while referral systems were largely informal. This study was conducted in only 67 schools within one Local Government Area, limiting the generalisability of the study to other regions. Also, it relied mainly on inspection checklists therefore, some important details about the quality of school health services may have been missed and the assessment methods used may have introduced bias, which could affect the accuracy of the results.²⁵

In Edo State, a descriptive cross-sectional survey was conducted in 2021 with 56 school health education teachers as respondents from secondary schools in Egor LGA Benin city. The study showed that 14 (25%) of the schools had sickbays with 5 (35.7%) being run by school nurses while 9 (64.3%) were ran by other school health teachers. Most of the schools, 42 (75%), had no sick bays. About 49 (87.5%) of the schools had a first aid box, 43 (76.8%) had safe water supply and sanitary facilities while 13 (23.2%) didn't have. All

the schools had no ambulance for conveying sick children and only 2 (3.6%) carried out visual and hearing tests for students. Also 38 (67.8%) of the schools studied found to keep health record while 18 (32.2%) had none. About 49 (87.5%) required certificate of immunization before they can be given admission into their school, 16 (28.6%) of the schools gave regular health education and 18 (32.2%) of the schools were visited by health visitors.⁴³

A descriptive cross-sectional study was conducted in 2021 in Cross River State, Nigeria, to assess the availability of school health facilities and personnel in public secondary schools. The study sampled 160 public secondary schools using a stratified random and proportionate sampling method. Data was collected using a structured checklist titled Assessment of School Health Services Checklist (ASHSC), developed by the researchers. The study focused on evaluating the availability, accessibility, and adequacy of school health facilities and services. Findings revealed that only 59 (37%) of health facilities and equipment were available, 54 (31%) were accessible, and 41 (23%) were adequate across the schools. Facilities such as toilets, urinals, and thermometers were reported as available in the 160 (100%) schools. However, adequacy varied significantly, with only 118 (74%) of schools having sufficient toilets and urinals, and even fewer having adequate sick bays, seen in only 48 (30%) schools and sick beds in 56 (35%). While 138 (86%) of the schools had first aid kits, only 85 (53%) reported them as adequate. Equipment such as otoscopes found in 6 (4%) schools, glucose meters in 26 (16%), and scolimeters in 5 (3%) were rarely present, and many schools lacked essential tools such as medical cabinets found in 21 (13%) schools and scales in 102 (64%) schools. Regarding health services, only 67 (42%) of schools reported having any health personnel, 50 (31%) had personnel accessible to students, and just 32 (20%) had adequate numbers of such personnel. Specifically, health counselors were available in 102 (64%) of the schools, school nurses in 56 (35%), health educators in 102 (61%), and laboratory technicians in only 13 (8%) schools. The study also reported that visiting health professionals were limited, with medical doctors visiting most schools only once a year in 80 (50%) schools or twice in 44 (27.5%) schools. Dietitians, dentists, and ophthalmologists visited annually in 95.6% to 100% of cases, but not more frequently. The study relied solely on observational checklists completed by school staff, without the use of professional audits, inspections, or medical evaluations to confirm the functionality or usage of the facilities. Thus, findings are limited by potential reporting bias,

lack of direct clinical assessment, and variations in school infrastructure quality across rural and urban areas.⁴⁴

2.9 COMMON HEALTH CONDITIONS IN PRIMARY SCHOOL CHILDREN

A nation wide descriptive cross-sectional study published in 2021 was carried out in Saudi Arabia to determine the prevalence of health problems targeted By the National School Based Screening Programme (NSBSP) among primary school students. The study targeted first- and fourth-grade primary school students in both public and private schools across 20 health regions during the 2018–2019 academic year. The sample size was 444,259 primary school students selected by systematic coverage of 50% of selected schools. The screening was conducted by trained health teams, including physicians, nurses, and dentists, using standardized tools such as Body Mass Index (BMI) measurements, Snellen charts for visual acuity, audiometers for hearing (only in suspected cases), dental examination for caries, attention deficit hyperactivity disorder (ADHD) screening based on the Vanderbilt ADHD Rating Scale (used only for suspected cases), scoliosis screening using Adam’s forward bend test. All data were digitally entered into the school health screening program database. The most prevalent health conditions identified among primary school students were dental cavities which were the most commonly observed health issue, affecting 171,928 (38.7%) of the screened children. Errors of refraction (primarily myopia) were diagnosed in 48,424 (10.9%) of students, and overweight and obesity combined were present in 46,647 (10.5%) (6.4% and 4.1% in public and private schools respectively). ADHD was identified in 12,483 (2.81%) of students, based on reports from parents and teachers. Scoliosis and/or kyphosis were seen in 2132 (0.48%), and auditory problems in 3109 (0.7%) of the sample. The data also revealed sex differences: girls had higher rates of scoliosis seen in 1660 girls vs. 414 boys (0.7% vs. 0.2%), eye errors in 28,695 vs. 19,468 (12.1% vs. 9.4%), obesity/overweight in 26797 vs. 19,882 (11.3% vs. 9.6%), and dental cavities in 106,717 vs. 73,730 (41.5% vs. 35.6%) than boys. Boys, however, showed higher rates of incomplete immunization seen in 10,769 vs. 10,434 girls (5.2% vs. 4.4%) and auditory problems in 2,071 vs. 1,422 girls (1.0% vs. 0.6%).⁴⁵

A descriptive cross-sectional study which was published in 2020 was carried out in rural Bangladesh to identify common medical conditions among primary school children. The study involved 227 primary school children from 2 public and 2 private schools and a purposive sampling method was used, involving children present at health camps whose

guardians gave informed consent. The study conducted among primary school children in rural Bangladesh revealed a variety of both medical and surgical conditions. Among the medical illnesses, the most frequently observed was bronchial asthma, which affected 27 (11.89%) of the children. This was followed by rhinitis, present in 19 (8.37%) of the pupils, and food allergies reported in 13 (5.73%). Helminthic infections, largely due to irregular deworming practices, were found in 12 (5.29%) of the children. Respiratory tract infections (RTIs) affected 9 (3.96%), while angular stomatitis was observed in 7 (3.08%). Additionally, 6 (2.64%) of the children suffered from scabies, and 1.76% experienced calf muscle cramps. Conjunctivitis and urinary tract infections (UTIs) were also noted, each accounting for 4 (1.76%) of the cases. Diarrhea and nonspecific lymphadenopathy were diagnosed in 3 (1.32%) of the children. Less commonly reported conditions included allergic dermatitis in 2 (0.88%) children, anemia in 1 (0.44%), gingivitis in 1 (0.44%), fungal infections in 1 (0.44%), hepatitis in 1 (0.44%), pharyngitis in 1 (0.44%), and night blindness due to vitamin A deficiency in 1 (0.44%). In terms of surgical conditions, dental caries were the most common, affecting 23 (10.13%) of the children. This was followed by tonsillitis, seen in 10 (4.41%), and chronic suppurative otitis media (CSOM), reported in 6 (2.64%). Other less frequent surgical issues included warts, external angular dermoid, inguinal hernia, smegmoma, meatal stenosis, pterygium, rectal prolapse, and a complex case of tonsillitis associated with deviation of the nasal septum, enlarged adenoids, and otitis externa, each affecting less than 1% of the study population. The sampling method used in this study limits statistical representativeness of broader populations.⁴⁶

A cross-sectional, cluster-based study published in 2022 in Eastern Uganda investigated common health conditions among school aged children, with a focus on surgical needs. A total of 1581 children were interviewed using a structured questionnaire, and 1054 received physical examinations by trained medical doctors. The study found that 169 (16.0%) of examined children had at least one verified surgical condition, with the most common group being congenital anomalies found in 133 (12.7%) children. Among these, umbilical hernias were the most prevalent condition, affecting 82 (7.8%) children, followed by groin hernias in 15 (1.4%) and cryptorchidism in 12 (1.1%). Other conditions identified included trauma-related injuries in 42 (4.0%) children, upper and lower limb abnormalities in 13 (1.3%), and rare anomalies like cleft lip, clubfoot, hydrocephalus, and amniotic band syndrome. Approximately 66 (6.3%) children had a current unmet surgical need, meaning they had conditions requiring surgery that had not yet been treated. In addition, 11 (10.1%)

children with surgical conditions had associated disabilities, mainly from congenital anomalies, trauma, or infectious complications. The reliance on clinical examination rather than only self-reporting strengthened the accuracy of the findings. The study however excluded non-surgical health conditions, so it does not provide a comprehensive picture of all common childhood illnesses.⁴⁷

In 2020, a descriptive cross-sectional health study was conducted across 355 primary schools in Fayoum Governorate, Egypt to evaluate their health appraisal system. A systematic random sample of 7000 students aged 6–10 years was selected from among over 60,000 examined pupils. The aim was to evaluate the health status of students through clinical and laboratory examinations carried out by multidisciplinary medical teams. A structured questionnaire was also used to collect data from the Ministry of Health and Population, Ministry of Education, School Health Insurance program, and Arab Medical Union (AMU) project staff. The most common health condition identified was anaemia, found in 4980 (83%) of tested students (based on haemoglobin <11.5 g/dL). Other prevalent conditions included dental problems in 1980 (33%), hair and scalp disorders in 540 (9%), refractive errors in 390 (6.5%), Ear, Nose and Throat (ENT) problems in 90 (1.5%), musculoskeletal disorders 72 (1.2%), and gastrointestinal issues in 30-60 (0.5-1%), with variations across gender, residence, and grade level. Females showed significantly higher rates of hair/scalp issues and refractive errors, while males had higher prevalence of dental problems, anaemia, and musculoskeletal disorders ($p<0.05$). Rural students had significantly more skin and scalp conditions, whereas urban students showed more gastrointestinal issues. Health problems were also influenced by parental literacy and family structure; children from larger families, higher birth orders, or consanguineous unions were more prone to multiple disorders. About 108 (18%) of the targeted children were not examined due to absenteeism, which may have introduced selection bias and affected prevalence estimates.⁴⁸

In 2024 a descriptive cross-sectional study carried out in Nnewi North LGA, Anambra State to assess health problems among primary school children as perceived by parents and teachers. The respondents consisted of 112 and 86 primary school teachers and parents respectively. The study utilised a purposive sampling technique and the data collection instrument used was a researcher developed instrument titled Health Problems of Primary School Children Questionnaire (HPPSCQ). Of the physical illnesses that were found to be

common among the primary school children, Colds and flues were the most frequently acknowledged, reported by 131 (66.7%). Other physical illnesses found were allergies, reported by 120 (60.6%) respondents, conjunctivitis (pink eye) by 84 (42.4%), gastroenteritis 86 by (43.4%), hand, foot, and mouth disease by 70 (35.4%), impetigo 54(27.3%), hair lice by 108 (54.5%), worm infestations by 116 (58.6%), physical disabilities by 102 (51.5%), asthma by 86 (43.4%), malnutrition by 15 (7.6%), urinary tract infections by 64 (32.3%), iron deficiency by 76 (38.4%), diabetes by 56 (28.3%), diarrhoea by 106 (53.5%), frequent headaches by 118 (59.6%), mononucleosis by 52 (26.3%), overweight by 86 (43.4%), obesity by 66 (33.3%). Mental illnesses found were anxiety reported by 152 (76.8%) respondents, depression and mood disorder by 152 (76.8%), ADHD by 70 (35.4%), Obsessive Compulsive Disorder (OCD) by 84 (42.4%), eating disorders by 112 (56.6%), Post-Traumatic Stress Disorder (PTSD) by 110 (55.6%), Autism Spectrum Disorder (ASD) by 96 (48.5%), schizophrenia by 60 (30.3%), and disruptive behaviour disorder by 131 (56.6%). Learning and communication disorders were reported by 138 (69.7%) respondents. Data was gathered via a structured questionnaire, relying on self-reports from parents and teachers. This approach is subject to recall bias, social desirability bias, and subjective judgment, especially for mental health symptoms. The study used perceptions rather than clinical assessments to identify health problems. No medical tests or professional diagnoses were included to confirm the existence or extent of the reported illnesses.⁴⁹

In 2020, a descriptive cross-sectional study was carried out in Lagos, Edo and Delta States of Nigeria with 298 teachers and 300 pupils as respondents. The study sought to assess common health conditions in primary school students. The study utilized a random sampling technique and a detailed questionnaire was used for the teachers and a less detailed one was used for the pupils who could read and write. Common illnesses found among the pupils include typhoid reported by 12 (4%) teachers, malaria by 167 (56%), cough by 24 (8%), fever by 60 (20%). measles by 21 (7%). pneumonia by 3 (1%) and diarrhoea by 12 (4%). The study used self reported data and responses from teachers and pupils are subject to social desirability and recall bias. The study did not include objective health assessments (e.g., medical screening, school facility audits), relying instead on perceptions of health issues.⁵⁰

2.10 FACTORS ASSOCIATED WITH THE IMPLEMENTATION OF SHS IN SCHOOLS

A narrative review was conducted in Japan in 2021 to explore factors influencing the successful implementation of school health services nationwide. The study used purposeful document selection based on relevance to national school health services in Japan and reviewed various documents including national laws, educational guidelines, and reports from the Ministries of Education and Health. Databases Searched include Google Scholar, CiNii (Japan), Ichushi-Web (Japan), PubMed, ERIC, and EBSCO using keywords such as “school health services,” “health checkups,” “school doctor,” “school nurse,” and equivalents in Japanese. The review identified six key enabling factors that contributed to the systematized implementation of school health services. The first factor was the existence of a legal basis, such as the School Health and Safety Act, which mandates essential health services like annual checkups and environmental health monitoring in all schools. The second factor was the partnership between the education and health sectors, which included collaboration between school staff and external health professionals like school doctors, dentists, and pharmacists. The third factor involved a systematized supervision structure across national, prefectural, municipal, and school levels, ensuring consistent monitoring and technical support. Fourthly, the study emphasized the importance of clearly defined roles and responsibilities for each stakeholder, as outlined in national guidelines. The fifth factor was the availability of skilled human resources, particularly the full-time Yogo teachers (school nurse teachers), who are trained health educators embedded within schools. The sixth factor was the regular assessment of children's health issues through mandated annual surveys and health screenings, allowing for data-driven planning and policy updates. These findings suggest that a multi-level, well-coordinated framework with legal, administrative, and human resource support is essential for effective implementation of SHS. Despite its strengths, the review also highlighted challenges such as poor data-sharing between ministries and limited engagement with local health facilities in certain regions, which could hinder comprehensive service delivery. The study used a narrative review approach rather than a systematic review. This means that it did not follow strict inclusion/exclusion criteria, and the selection of documents may have been influenced by researcher bias.⁵¹

A qualitative, descriptive-exploratory study published in 2022 was conducted in four municipalities of Greater Florianópolis, Brazil, Florianópolis, São José, Palhoça, and

Biguaçu. The study involved 20 health professionals from various disciplines, such as nurses, physicians, psychologists, dentists, and social workers. Participants were selected with a purposive sampling method based on their involvement in school health activities, with inclusion criteria requiring at least one year of experience working with school-aged children in public primary care settings. Data collection was via semi-structured interviews, either in-person or via Google Meet, depending on participant preference. Interviews were audio-recorded and transcribed, and the data were analyzed using content analysis in three stages: pre-analysis, material exploration, and inference/interpretation. The study identified both potentials and limits in the intersectoral articulation of the SHP. As key strengths, professionals cited the creation of stronger bonds between schools and health teams, improved monitoring of students' health, and enhanced access to health education for students and families. Health promotion activities included anthropometric assessments, vaccination verification, and health education sessions tailored to each school year covering oral hygiene, nutrition, hygiene, and violence prevention. Additionally, partnerships with social services such as CRAS and the NASF (Expanded Family Health Support Center) were praised for fostering multidisciplinary collaboration. However, several barriers hindered full implementation. These included partial school coverage, a lack of educator engagement, limited awareness of the program among education staff, and reduced participation in planning and execution. Health teams faced workload overload and shortages in human resources, with some professionals serving entire municipalities alone. The COVID-19 pandemic further strained resources, halted in-person school visits, and forced health promotion to pivot to remote formats using digital educational materials. A notable limitation of the study was the restricted sample size and regional scope, confined to selected municipalities in Santa Catarina. The convenience sampling method and exclusive reliance on healthcare providers' perspectives also limited representation of other stakeholders such as educators, students, or families. Additionally, the pandemic context may have shaped participant responses, possibly underestimating regular challenges or overemphasizing crisis-induced barriers. The study concluded that despite these limitations, the School Health Program holds significant potential to promote child health and address social determinants, provided there is greater policy integration, intersectoral coordination, and support for capacity building among both health and education professionals.⁵²

A qualitative exploratory study which was published in 2025 was carried out in three regions of Namibia: Khomas, Oshana, and Kavango. The study involved 20 stakeholders,

including school principals, teachers, school-based nurses, and health program administrators. A purposive sampling method was used, targeting participants with direct involvement in the implementation of SHS. Data were collected using semi-structured interviews, guided by an interview schedule specifically developed for the study objectives. The study conducted among stakeholders in Namibian primary schools revealed multiple factors that affect the effective implementation of school health services. Resource limitations emerged as a major challenge, including a shortage of school nurses, inadequate supplies, and over-reliance on inconsistent donor funding. Stakeholders reported that these limitations often led to the cancellation of health programs and an inability to provide learners with even basic health education materials. Staff awareness and training was another significant barrier. Many teachers and health workers demonstrated limited understanding of the NSHP and lacked access to adequate training. This knowledge gap made it difficult for them to implement school health services confidently and effectively. In addition, disgruntlement due to lack of consultation in policy development was noted. Participants expressed dissatisfaction with the top-down approach used by the Ministry of Education, citing imposed responsibilities without adequate support. This led to a lack of ownership and motivation among implementers. Furthermore, limitations in the policy's focus were identified. The NSHP was seen as overly learner-centered, neglecting teacher well-being and failing to address health concerns in non-classroom areas such as playgrounds and staff facilities. A lack of systematic monitoring and frequent interruptions due to funding delays further hindered effective implementation. The sampling method used in this study limits statistical representativeness of broader populations. As a qualitative study using purposive sampling, the findings are not generalizable but offer in-depth insights into contextual factors affecting school health policy implementation in Namibia.⁵³

In 2023, a descriptive cross-sectional study was carried out in the Kwadaso Municipal Area of Kumasi, Ghana to assess the school health policy in Ghana. The study involved 220 teachers from four second-cycle institutions. A stratified simple random sampling method was used and data was collected using a structured, self-administered questionnaire and analyzed with STATA, Excel, and Jamovi. The study conducted among teachers in second-cycle schools in Kwadaso revealed several factors influencing the implementation of school health services, such as, the availability of trained personnel, with 158 (71.82%) of respondents indicating that trained state-registered nurses were in charge of school clinics.

However, several challenges were reported. These included inadequate supply of drugs, reported by 104 (47.27%) respondents, staffing shortages by 72 (32.73%) respondents and lack of basic medical consumables by 44 (20.00%) respondents. Support from the central government was cited as a critical determinant, accounting for 52.94% of resource provision, while school administrations and non governmental organizations (NGOs) contributed 38.46% and 8.14%, respectively. Infrastructure-related challenges were also reported, with only 111 (50.2%) agreeing that their schools had adequate classrooms and 93 (38.0%) indicating that facilities for people living with disabilities were available. While water and sanitation facilities were generally rated positively, gaps remained in the consistent availability of hygienic water and functional sickbays. Teachers' perceptions and training played a significant role in implementation. About 92 (41.63%) teachers believed that their classroom responsibilities were linked to SHP success, and 115 (52.49%) had received first aid training, which many found useful both at school 106 (48%) and at home 68 (31%). However, 111 (50.23%) reported that the training received was insufficient to meet practical needs. The study also found that inter-sectoral collaboration, particularly between health and education sectors, was weak. Teachers expressed concern that although they were aware of school health policies, their contributions to decision-making were limited. Only 74 (33.48%) agreed that the policy clearly defined engagement roles at the implementation level. The sampling method, although randomized within defined strata, was limited to four schools within a single municipality, which restricts the generalisability of the findings to other regions or national populations. Additionally, challenges such as teacher availability and funding constraints during data collection may have influenced the scope and depth of responses.²⁷

A descriptive review article was published in 2024 following an examination of SHS in Edo State, Nigeria. The study provided a comprehensive examination of the SHS, highlighting key benefits, challenges, and factors hindering effective implementation in the state. Data was sourced from past national and local surveys, published studies, and reports from organizations such as Med-Vical International and simHealth Africa. The author integrated findings from multiple descriptive and evaluative studies carried out in primary and secondary schools in different LGAs, including Egor and Oredo. The study revealed several factors affecting the implementation of SHS in primary schools in Edo State. A major factor was the lack of awareness and poor dissemination of the NSHP, which serves as the guiding document for implementing SHS. The NSHP, launched in 2006, was found

to be largely unknown or unavailable in most schools, resulting in poor policy enforcement and low awareness among school staff, students, and parents. Another challenge was the absence of trained healthcare personnel. The study emphasized that public schools especially suffered from a lack of school nurses, doctors, psychologists, and other health professionals needed to deliver SHS effectively. Brain drain in the health sector further exacerbated this shortfall, leaving many schools without functional sick bays or medical support staff. Inter-sectoral collaboration between the Ministry of Education and the Ministry of Health was found to be weak or uncoordinated, leading to fragmented efforts and duplication of roles. Despite policy provisions for shared responsibility, the study reported that the Ministries often operated in silos, delaying the roll-out of comprehensive SHS in schools. Furthermore, poor funding and lack of political will were identified as significant constraints. While the NSHP prescribes that government should take the lead in financing SHS, there was no evidence of consistent budgetary allocation for SHS implementation in the state. Additionally, the role of school and community contributions was undervalued, leading to unsustainable service models. The availability and utilization of SHS facilities were reported to be particularly poor in public schools. Data from studies conducted in Egor and Oredo LGAs showed that fewer than 5% of public schools had functional sick bays, and less than 4% screened food vendors. By contrast, private schools showed comparatively better SHS infrastructure and service delivery. Other facilities such as ambulances, vision and hearing tests, and routine screenings were virtually absent across most schools. The sampling method used in the studies reviewed by the author varied but generally involved cross-sectional assessments of school facilities, school personnel, and student health knowledge and practices. However, the use of localized studies and purposive inclusion of more urban schools may limit the generalisability of findings to rural and under-resourced areas of Edo State.⁵⁴

In 2022, descriptive cross-sectional study which was published was carried out in Ibadan North-West Local Government Area, Oyo State, Nigeria. The study involved 300 secondary school students aged 10–19 years from public and private schools, and a multi-stage sampling procedure was used. A self-structured questionnaire, containing both open- and close-ended questions, was used to collect data. The questionnaire was divided into three sections: socio-demographic characteristics, school health service utilization, and barriers to utilization. The instrument was validated through content and face validity procedures by experts in test and measurement. The study conducted among students in

secondary schools in Ibadan revealed several barriers affecting the effective implementation of school health services. It was found that utilization of school health services was considerably higher in private schools compared to public ones. For instance, 114 (76%) private school students strongly agreed that the school sickbay was adequately equipped and in use, compared to only 54 (36%) of students in public schools. Additionally, 93 (62%) of private school respondents strongly agreed that trained health personnel or nurses were readily available to attend to them, as against 52 (34.7%) in public schools. The study identified a lack of clear procedural guidelines for school health operations as a major challenge. This was reported by 99 (66%) of private and 69 (46%) of public school respondents. Poor road conditions, particularly in rural areas, were also considered a limiting factor to effective outreach programmes, with 83 (55.3%) and 64 (42.7%) of students in private and public schools respectively strongly agreeing with this assertion. Furthermore, the inability of school nurses to conduct follow-ups or home visits for students with health concerns was identified as a challenge by 82 (54.7%) of students in private schools and 70 (47.3%) in public schools. Shortage of health personnel was another major issue raised, with nearly half of respondents in both public and private schools indicating it as a significant barrier to service delivery. The study also revealed a statistically significant association between school type and the level of SHS utilization, with a higher proportion of utilization found among students in private schools ($p < 0.05$). This suggests that better infrastructure, resources, and perhaps administrative commitment in private schools contribute to more effective implementation. The limitations of the study include its restriction to secondary school students in a single local government area, limiting the generalisability of its findings to other educational levels and regions. Moreover, as a self-reported survey, the data collected may be influenced by recall bias or social desirability bias.⁵⁵

CHAPTER THREE

METHODOLOGY

3.1 STUDY AREA

This study was conducted in Egor LGA of Edo State, Nigeria. Egor is situated within Benin City, which is the state capital. Edo State is one of the 36 states in Nigeria and is located in the South-South geopolitical zone. The state comprises 18 LGAs and has an estimated population of over 5 million people, a figure driven by natural population increase and continuous rural-urban migration. Edo State is ethnically diverse, with major ethnic groups including the Benin, Esan, Etsako, Owan, and Akoko-Edo, alongside minority groups such as the Ijaw, Itsekiri, and Urhobo, particularly in the riverine communities.^{56, 57}

Benin City is situated in the southern part of Edo State and lies approximately at latitude 6°20'N and longitude 5°37'E. It serves as the administrative, political, and economic centre of the state. As of 2025, Benin City has an estimated population of about 2,044,560. The metropolis comprises five LGAs which include Oredo, Egor, Ikpoba-Okha, Ovia North-East, and Uhunmwonde, each administered by a Local Government Chairman. The city is widely known for its rich cultural heritage, particularly the historical legacy of the Benin Kingdom and its globally recognized artifacts.^{56, 58}

Egor LGA is one of the five LGAs that make up Edo State. It forms part of the Benin Metropolitan Area, which also includes Oredo and Ikpoba-Okha LGAs. Egor lies approximately between latitude 6°21'N and longitude 5°37'E. Egor LGA shares boundaries with Oredo LGA to the east, Ikpoba-Okha to the southeast, and Ovia North-East to the west. The administrative headquarters of Egor LGA is located at Uselu, a densely populated urban settlement within the Benin City metropolis. The area covers several communities including Ugbowo, Uselu, Useh, Isihor, Ogida, Eweka, Evbotubu, and Uselu N'Ugboko, among others.^{57, 58}

The population of Egor LGA, according to the 2006 National Population Census, was approximately 339,899, with a more recent estimated population (2025 projection) of about 500,000 people due to urban expansion and migration. The population is largely composed of the Benin ethnic group, though other ethnic groups such as Esan, Etsako, Urhobo,

Yoruba, Igbo, and Hausa are also represented due to the cosmopolitan nature of Benin City. The major occupation of residents includes civil service, petty trading, artisan-ship, and small-scale business.^{58,59}

Egor LGA hosts a significant number of public and private primary schools, reflecting the area's commitment to basic education as part of the Universal Basic Education (UBE) policy of the Federal Government of Nigeria. The primary schools in the area are managed by the Edo State Universal Basic Education Board (SUBEB) in collaboration with local education authorities. These schools serve as important centres for child learning and development, as well as platforms for implementing school health services such as health education, medical screening, environmental sanitation, immunization, and first aid care.

Healthcare services in Egor LGA are provided through both public health centres and private clinics, alongside a few mission-owned health facilities. However, within the school setting, school health services are often coordinated through visits by health officers from the Local Government Health Department, teachers trained in basic health care, and collaborations with the Primary Health Care (PHC) centres located across communities. Despite the presence of these facilities, there are still concerns about the adequacy, accessibility, and quality of school health services available to pupils in the area.

Egor LGA's urban–semi-urban setting, high population density, and concentration of schools make it an appropriate location for this study on the assessment of school health services. The findings from this study are expected to provide insight into the level of implementation of school health programmes, existing gaps, and possible strategies to improve health outcomes among primary school pupils in the local government area.

3.2 STUDY DESIGN

A analytical cross-sectional study design was used for this study.

3.3 STUDY POPULATION

This study included all teachers and pupils in public and private primary schools in Egor LGA of Benin City, Edo State.

3.4 SELECTION CRITERIA

Inclusion criteria

1. All teachers employed in either public or private primary schools within Egor LGA
2. All primary school pupils in Egor LGA
3. Those who voluntarily consent to participate in the study

Exclusion criteria

1. Teachers who are too ill or unavailable to complete the questionnaire
2. Pupils who are critically ill or medically unstable at the time of assessment

3.5 STUDY DURATION

This study was conducted between February 2025 – April 2026 as represented in the Gantt chart found in the appendix.

3.6 SAMPLE SIZE DETERMINATION

The minimum sample size (n) was calculated separately for teachers and pupils using the Cochran's formula for descriptive studies.⁴⁰

$$n = \frac{z^2 pq}{d^2}$$

Where:

n = minimum sample size

z = normal standard deviation at 1.95 (95% confidence interval)

p = prevalence of the characteristics of interest = 0.11 (11% of teachers selected in Egor LGA, Edo State with poor knowledge of SHS)²⁶

d = desired level of precision = 0.05

q = the complementary probability = 1 - p

q = 1-0.11 = 0.89

Sample Size Determination for the Teachers

$$n = \frac{1.96^2 \times 0.11 \times 0.89}{0.05^2}$$

$$n = 150$$

Non-response rate

10% non-response rate was added to the sample size utilizing the formula of non-response rate

$$nf = n / 1 - nr$$

Where;

nf = final minimum sample size

n = minimum sample size

nr = non response rate at 10% = 0.1

thus;

$$nf = 150 / 1 - 0.1 = 166.7 \sim 167$$

Design effect

This study used a multistage sampling technique, and a design effect of 1.5 was applied.

$$n_{adjusted} = 167 \times 1.5 = 251$$

Therefore, final sample size is 251 was used for this study.

Sample Size Determination for the Pupils

p = prevalence of the characteristics of interest = 0.1029 (10.29% of pupils selected in primary schools in Uselu, Benin city, Edo State with prevalence of mild gingivitis)⁶⁰

$$q = 1 - p = 1 - 0.1029 = 0.8971$$

$$n = \frac{1.96^2 \times 0.1029 \times 0.8971}{0.05^2}$$

$$n = 142$$

Non-response rate

10% non-response rate was added to the sample size utilizing the formula of non-response rate

$$nf = n / 1 - nr$$

$$nf = 142 / 1 - 0.1 = 157.8 \sim 158$$

Design effect

This study used a multistage sampling technique, and a design effect of 1.5 was applied.

$$n_{\text{adjusted}} = 158 \times 1.5 = 237$$

Therefore, final sample size is 237 was used for this study.

3.7 SAMPLING TECHNIQUE

A multistage sampling technique was used in selecting the respondents.

Stage 1: Selection of Wards in Egor LGA

There are ten wards in Egor Local Government Area (LGA): Otubu, Oliha, Ogida/Use, Egor, Uwelu, Evbareke, Uselu I, Uselu II, Okhoro and Ugbowo. Two wards were selected using a simple random sampling technique by balloting, namely Ugbowo and Uselu I.

Stage 2: Selection of Primary Schools

A list of all registered primary schools in Egor LGA was obtained from the Local Government Education Authority. From this list, schools located in the selected wards (Ugbowo and Uselu I) were identified. These schools were stratified based on ownership into public and private schools. Considering that private schools are more numerous than public schools, a larger proportion of schools were selected from the private school stratum to ensure adequate representation and reduce sampling bias. Using simple random sampling by balloting, a total of 20 primary schools were selected from both strata.

Stage 3: Selection of Respondents

At the final stage of the multistage sampling technique, all teachers in the selected schools who were present during the period of data collection and willing to participate were recruited into the study until the required sample size was obtained. For the pupils, respondents were selected by simple random sampling technique by balloting from each class in the selected schools.

3.8 DATA MANAGEMENT

DATA COLLECTION TOOL

Data was collected using a structured self-administered questionnaire for teachers and interviewer administered questionnaire for the pupils and accompanying checklist for each of the schools. This questionnaires and checklist was modified by the researchers using information from literature reviews and questionnaires of previous studies^{10,12,17,25,33,37,49-53}. The questions on each section consisted of open and closed questions. The questionnaires and checklist were designed as follows:

Questionnaire for teachers

1. **Section A:** this section assessed the socio-demographic characteristics of respondents, including age, sex, marital status, educational qualification, years of teaching experience, religion, ethnicity, administrative position, class being taught, number of pupils in class, and type of school.
2. **Section B:** this section assessed respondents' knowledge of school health services (SHS). Questions covered awareness of SHS, sources of information, definition of SHS, objectives and components of SHS, teachers' roles in SHS, facilities supporting SHS, common health problems addressed by SHS, referral practices, personnel involved in SHS, and awareness of the Nigerian School Health Policy. Multiple response questions were included to assess the depth of respondents' knowledge.
3. **Section C:** this section assessed respondents' attitudes toward school health services using a five-point Likert scale ranging from "strongly disagree" to "strongly agree." Statements explored perceptions regarding the importance of SHS, its effect on pupils' wellbeing and academic performance, teachers' responsibilities, need for training, government support, and willingness to participate in SHS activities.
4. **Section D:** this section assessed the availability of health facilities and health services within the schools. Information obtained included availability and frequency of medical screening for pupils and teachers, first aid services, health inspections, school nurses and medical doctors, referral systems, immunization programmes, health records, and measures taken when pupils or teachers were ill or injured.
5. **Section E:** this section assessed factors associated with the implementation of school health services in schools. Questions explored challenges such as inadequate funding, lack of trained personnel, inadequate facilities, poor collaboration with health facilities, weak policy enforcement, overcrowding, poor sanitation, lack of health education programmes, poor parental involvement, and sociocultural factors affecting SHS implementation.

Questionnaire for pupils

The questionnaire consisted of two sections:

1. **Section A:** this section assessed the socio-demographic characteristics and recent health history of the pupils. Information obtained included age, sex, class, religion, ethnicity, primary caregiver, parents' or guardian's occupation, history of illness within the last three

months, and common illnesses experienced such as malaria, diarrhoea, upper respiratory tract infections, skin infections, eye infections, and ear infections.

2. Section B: this section consisted of an observational and physical examination checklist used to assess the health status and personal hygiene of the pupils. Parameters assessed included height and weight measurements, condition of the hair (appearance, colour, and infections), oral examination findings (colour of teeth, tooth deformity, plaques, caries, and mouth odour), presence of skin infections, condition of the nails (infection and trim status), and use of footwear. Physical examination findings were recorded by the research assistants during data collection.

Observational checklist for facilities

An observational checklist was used to assess the availability and condition of health facilities and health-supportive infrastructure in the selected primary schools. The checklist was completed by the research assistants through direct observation during visits to the schools.

The checklist obtained information on the presence and condition of facilities related to school health services. Items assessed included the availability of a sick bay/dispensary, first aid kit with required contents, functional health room, school health records, ambulance or transport facility for referral, playgrounds, recreational and sports facilities, pipe-borne water supply, gender-sensitive toilet facilities, handwashing facilities, school counsellor, perimeter fencing with gate, location of the school away from environmental hazards, and general cleanliness of the school environment.

Each item on the checklist was assessed and categorized as “present in good condition,” “present in poor condition,” or “absent.”

METHODS OF DATA COLLECTION

A team of twelve research assistants was recruited and trained to ensure familiarity with the questionnaire and checklist structures and the capacity to address respondents’ queries across its sections. The questionnaires were numbered and administered and were collected from the teachers on the same day of administration. The pupils’ questionnaire was

administered through face-to-face interviews conducted by trained research assistants and the facilities in the schools were also inspected

PRE-TESTING

The questionnaire was pre-tested 10% of the sample size of 251 for teachers which is 26 and 237 for pupils which is 24. This helped to validate the questionnaire, identify errors and helped point out corrections that were effected in the final questionnaire before it was used.

DATA ANALYSIS

Data was collated and checked for errors, after which they will be exported to IBM SPSS software (version 27.0) for coding, scoring and analysis. Descriptive statistics such as percentages, frequencies, mean, and standard deviations will be used to summarise sociodemographic responses. Inferential statistics such as chi-square, logistic regression were used to assess associations between sociodemographic variables and SHS knowledge, attitude and health facilities. The WHO anthroplus tool was used to calculate the Body Mass Index for age. Results obtained will be presented using frequency distribution tables, charts and prose.

SCORING OF VARIABLES

SECTION A: SOCIODEMOGRAPHIC CHARATERISTICS

Age

The teachers' ages were grouped into ≤ 34 , 35-39, 40-44.45-49, and ≥ 50 and those of pupils into ≤ 6 , 7-9, 10-12 and > 12 ⁶¹.

Occupation of the Primary Care Giver

The modified ILO's (International Labour Organization) the International Classification of Occupations (ISCO) dividing skill levels into skill level 0 to 4 was used ⁶²

Using the modified international labour classification:

Skill level 0: Unemployed, student, retired

Skill level 1: Unskilled labour

Skill level 2: Clerks, service and sales workers; plant operators

Skill level 3: Technicians and associate professionals

Skill level 4: Professionals, managers

SECTION B: KNOWLEDGE OF SHS AMONG PRIMARY SCHOOL TEACHERS

Knowledge of School Health Services among teachers was assessed using structured questions covering awareness, definition, components, objectives, teachers' roles, support facilities, personnel involved, referral process, and policy-related issues. Only respondents who had ever heard of SHS were included in the detailed knowledge assessment.

A scoring system was developed to quantify respondents' level of knowledge. For single-best-answer questions, each correct response was awarded 1 point, while incorrect responses were awarded 0 points. For multiple-response questions, each correctly identified item was awarded 1 point, Items that were correct but not selected were scored 0 points, incorrect options selected attracted penalty points (-1) to discourage guessing and over-selection of options.

The total knowledge score for each respondent was obtained by summing all correctly identified items and subtracting penalty points where applicable. The maximum obtainable score was determined by the total number of correct items across all knowledge domains. A cut off of 50% and above was used for good knowledge and less than 50% for poor knowledge.

SECTION B: ATTITUDE OF TEACHERS TOWARD SHS

Teachers' attitude towards SHS was assessed using a 10-item Likert-type attitude scale. Each item was rated on a five-point response scale: Strongly Disagree (1 point), Disagree (2 points), Undecided (3 points), Agree (4 points), and Strongly Agree (5 points). One negatively worded item (Item 6) was reverse-scored to ensure uniformity in direction of measurement, such that higher scores consistently reflected a more positive attitude towards school health services. The total attitude score for each respondent was obtained by summing the scores across the ten items. The minimum obtainable score was 10, while the maximum obtainable score was 50. Teachers $\geq 50\%$ of the maximum score were classified as having a good attitude towards school health services, while those who scored below $<50\%$ were classified as having a poor attitude.

SECTION E: COMMON HEALTH CONDITIONS

Common health conditions among the pupils were assessed using both self-reported responses and direct clinical assessment findings. Pupils who reported illness within the preceding three months were further assessed for the type of illness, treatment received, and place of treatment. Frequencies and percentages were calculated for all reported health conditions and healthcare utilisation variables. Clinical hygiene and health indicators such as hair appearance, dental condition, skin and nail infections, nail trimming, and use of footwear were assessed through physical examination and classified as either normal or abnormal findings. Anthropometric measurements were used to calculate BMI-for-age and height-for-age z-scores based on WHO child growth standards, and respondents were categorised as underweight, normal, overweight, obese, stunted, tall, or too tall for age.

DATA PRESENTATION

Results were presented in prose and frequency tables.

3.9 ETHICAL CONSIDERATIONS

Ethical approval and clearance for this study was obtained from Health Research Ethics Committee of University of Benin Teaching Hospital with protocol number ADM/E 22/A/VOL.VII/14865491272126. This was to ensure compliance with ethical guidelines and standards.

A cover letter was obtained from the Department of Community Health, University of Benin.

An approval to collect data from public schools was obtained from the State Ministry of Education.

Informed consent would be gotten from respondents and participants.

Participant confidentiality and anonymity will also be ensured throughout the data collection process.

3.10 STUDY LIMITATIONS

A major challenge encountered in the study was dependence on information provided by respondents, which may have been affected by recall bias. To minimise this limitation, the study employed simplified and specific questions to improve accuracy. There was also the possibility of measurement variability during clinical examinations, as assessments such as

oral health, skin condition, and hygiene status depend partly on observational judgment, which may introduce a degree of observer bias despite efforts to standardize procedures.

CHAPTER FOUR

RESULTS

A total of 499 respondents comprising of 254 teachers and 245 pupils participated in this study. The results are presented in the following sections in line with the specific objectives:

SECTION A: Sociodemographic characteristics of respondents

SECTION B: Knowledge of SHS among primary school teachers in Egor LGA

SECTION C: Attitude towards SHS among primary school teachers in Egor LGA

SECTION D: School health facilities and services available in primary schools in Egor LGA

SECTION E: Common health conditions among primary school pupils in Egor LGA

SECTION F: Factors influencing implementation of SHS in primary schools in Egor LGA

SECTION A
SOCIODEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Table 1: Sociodemographic characteristics of teachers

Variables	Frequency (n = 254)	Percent
Age group (years)		
≤ 34	81	31.9
35 – 39	30	11.8
40 – 44	72	28.3
45 – 49	32	12.6
≥ 50	39	15.4
Mean ± SD	<i>39.27 ± 9.4 years</i>	
Sex		
Female	202	79.5
Male	52	20.5
Marital status		
Single	58	22.8
Married	175	68.9
Divorced	19	7.5
Cohabiting	1	0.4
Widowed	1	0.4
Religion		
Christianity	227	89.4
Islam	23	9.1
African Traditional Religion	4	1.6
Ethnicity		
Benin	105	41.3
Esan	50	19.7
Igbo	43	16.9
Yoruba	25	9.8
Afemai	9	3.5
Hausa	6	2.4
Ibibio	5	2.0
Urhobo	4	1.6
Ika	3	1.2
Isoko	2	0.8
Ijaw	2	0.8
Highest educational qualification		
SSCE	13	5.1
OND	3	1.2
HND	3	1.2
NCE	56	22.0
B. Ed/B.SC	147	57.9
M.Ed./MSc	32	12.6
Teaching experience (years)		
<5	44	17.3
5 – 9	64	25.2
10 – 14	42	16.5
≥ 15	104	40.9
Current administrative position		
Classroom teacher	217	85.4
Assistant head teacher	16	6.3
Head teacher	21	8.3

The mean age was 39.27 ± 9.37 years and was fairly distributed across categories, with most respondents aged 40–44 years, 72 (28.3%), followed by ≤ 34 years, 81 (31.9%), 45–49 years, 32 (12.6%), 35–39 years, 30 (11.8%), and >50 years, 39 (15.4%).

Most respondents were female, 202 (79.5%), while 52 (20.5%) were male. In terms of marital status, most were married, 175 (68.9%), followed by single, 58 (22.8%), divorced, 19 (7.5%), and very few were cohabiting or widowed, 1 (0.4%) each.

Regarding religion, most teachers were Christians, 227 (89.4%), followed by Muslims, 23 (9.1%), and those practising African Traditional Religion, 4 (1.6%).

For ethnicity, Benin teachers were most represented, 105 (41.3%), followed by Esan, 50 (19.7%), Igbo, 43 (16.9%), Yoruba, 25 (9.8%), Afemai, 9 (3.5%), Hausa, 6 (2.4%), Ibibio, 5 (2.0%), Urhobo, 4 (1.6%), Ika, 3 (1.2%), Isoko, 2 (0.8%), and Ijaw, 2 (0.8%).

Regarding educational qualification, most respondents had a B.Ed/B.Sc, 147 (57.9%), followed by NCE, 56 (22.0%), M.Ed/MSc, 32 (12.6%), SSCE, 13 (5.1%), while OND and HND were least represented, 3 (1.2%) each.

Teaching experience was highest among those with more than 15 years, 104 (40.9%), followed by 5–9 years, 64 (25.2%), less than 5 years, 44 (17.3%), and 10–14 years, 42 (16.5%).

Most respondents were classroom teachers, 217 (85.4%), while 21 (8.3%) were head teachers and 16 (6.3%) were assistant head teachers.

Table 1b: Sociodemographic characteristics of teachers

Variables	Frequency (n = 254)	Percent
Class taught		
Primary one	32	12.6
Primary two	24	9.4
Primary three	48	18.9
Primary four	35	13.8
Primary five	52	20.5
Primary six	63	24.8
Class size		
< 25	115	45.3
≥ 25	139	54.7
Type of school		
Private	168	66.1
Public	86	33.9

Most taught Primary six, 63 (24.8%), followed by Primary five, 52 (20.5%), Primary three, 48 (18.9%), Primary four, 35 (13.8%), Primary one, 32 (12.6%), and Primary two, 24 (9.4%).

Regarding class size, slightly more than half of the respondents taught classes with more than 25 pupils, 139 (54.7%), while 115 (45.3%) taught classes with fewer than 25 pupils.

Most teachers were from private schools, 168 (66.1%), while 86 (33.9%) were from public schools.

Table 2: Sociodemographic characteristics of pupils

Variables	Frequency (n = 245)	Percent
Age group (years)		
≤ 6	9	3.7
7 – 9	86	35.1
10 – 12	123	50.2
> 12	27	11.0
Mean ± SD	<i>10.1 ± 2.0 years</i>	
Sex		
Female	136	55.5
Male	109	44.5
Religion		
Christianity	232	94.7
Islam	13	5.3
Ethnicity		
Benin	92	37.6
Esan	38	15.5
Igbo	34	13.9
Yoruba	33	13.5
Afemai	16	6.5
Hausa	10	4.1
Urhobo	9	3.7
Isoko	3	1.2
Tiv	3	1.2
Ibibio	2	0.8
Idoma	2	0.8
Ijaw	2	0.8
Itsekiri	1	0.4
Primary caregiver		
Both parents	145	59.2
Mother	44	18.0
Father	41	16.7
Guardian	15	6.1
Skill level of primary caregiver		
Skill level 0	2	0.8
Skill level 1	11	4.5
Skill level 2	168	68.6
Skill level 4	64	26.1
Type of school		
Private	158	64.8
Public	86	35.2
Class of pupil		
Primary 1	14	5.7
Primary 2	31	12.7
Primary 3	40	16.3
Primary 4	50	20.4
Primary 5	57	23.3
Primary 6	53	21.6

Among the pupils, age ranged from below 7 to above 13 years, with most respondents aged 10–12 years, 123 (50.2%), followed by 7–9 years, 86 (35.1%), >13 years, 27 (11.0%), and <7 years, 9 (3.7%). The mean age was 10.1 ± 2.0 years.

More than half of the pupils were female, 136 (55.5%), while 109 (44.5%) were male. Most respondents were Christians, 232 (94.7%), while 13 (5.3%) were Muslims.

Regarding ethnicity, Benin pupils were most represented, 92 (37.6%), followed by Esan, 38 (15.5%), Igbo, 34 (13.9%), Yoruba, 33 (13.5%), Afemai, 16 (6.5%), Hausa, 10 (4.1%), Urhobo, 9 (3.7%), Isoko, 3 (1.2%), Tiv, 3 (1.2%), Ibibio, 2 (0.8%), Idoma, 2 (0.8%), Ijaw, 2 (0.8%), and Itsekiri, 1 (0.4%).

Most pupils lived with both parents, 145 (59.2%), followed by those living with their mother, 44 (18.0%), father, 41 (16.7%), and guardians, 15 (6.1%).

For primary caregivers' skill level, most were at skill level 2, 168 (68.6%), followed by skill level 4, 64 (26.1%), skill level 1, 11 (4.5%), and skill level 0, 2 (0.8%).

Most pupils attended private schools, 158 (64.8%), while 86 (35.2%) attended public schools.

Regarding class distribution, pupils were mostly in Primary 5, 57 (23.3%), followed by Primary 6, 53 (21.6%), Primary 4, 50 (20.4%), Primary 3, 40 (16.3%), Primary 2, 31 (12.7%), and Primary 1, 14 (5.7%).

SECTION B
KNOWLEDGE OF SHS AMONG PRIMARY SCHOOL TEACHERS IN EGOR LGA

Table 3a: Knowledge of school health services among teachers

Variables	Frequency (n = 254)	Percent
Ever heard of School Health Services (SHS)		
Yes	170	66.9
No	84	33.1
Sources of information on SHS (n=170) *		
Health workers	64	48.5
Media	48	36.4
Training/workshop	29	22.0
School	29	22.0
Colleagues	20	15.2
Parents	9	6.8
Definition of SHS (n=170)		
Coordinated programme of health services provided in schools to promote, protect and improve pupils' health	112	65.9
Health care given to pupils only when they are sick in school	36	21.2
Teaching pupils about diseases without providing any health care services	22	12.9
What SHS includes (n=170) *		
Promoting pupils' physical health	128	77.1
Preventing diseases among pupils	52	31.3
Supporting pupils' learning ability	39	23.5
Treating only serious illnesses	8	4.8
Components of SHS (n=170) *		
Routine health screening	105	66.9
Health record	88	56.1
First aid	79	50.3
Pre-entry medical and dental screening	62	39.5
Counselling services	51	32.5
Referral services	42	26.8
Sick bay	30	19.1
School entertainment programmes	14	8.9
Sale of food items in school	4	2.5
Objectives of SHS (n=170) *		
Improve pupils' health status	131	78.4
Detect health problems early	77	46.1
Reduce absenteeism from illness	27	16.2
Replace hospital-based care	10	6.0
Teachers' role in SHS (n=170) *		
Observing pupils for signs of illness	100	61.0
Providing basic first aid	78	47.6
Giving health education talks	73	44.5
Prescribing drugs to pupils	23	14.0

****Multiple response question***

Among respondents, 170 (66.9%) had ever heard of school health services (SHS), while 84 (33.1%) had not.

Regarding sources of information on SHS, health workers were the most common source, 64 (48.5%), followed by media, 48 (36.4%), training or workshops, 29 (22.0%), school, 29 (22.0%), colleagues, 20 (15.2%), and parents, 9 (6.8%).

Concerning understanding of SHS, most respondents defined it as a coordinated programme of health services provided in schools to promote, protect and improve pupils' health, 112 (65.9%), while 36 (21.2%) described it as healthcare given only when pupils are sick, and 22 (12.9%) viewed it as teaching about diseases without providing care.

Regarding what SHS includes, promoting pupils' physical health was most frequently identified, 128 (77.1%), followed by preventing diseases, 52 (31.3%), supporting learning ability, 39 (23.5%), and treating only serious illnesses, 8 (4.8%).

For components of SHS, routine health screening was most reported, 105 (66.9%), followed by health records, 88 (56.1%), first aid, 79 (50.3%), pre-entry medical and dental screening, 62 (39.5%), counselling services, 51 (32.5%), referral services, 42 (26.8%), sick bay, 30 (19.1%), school entertainment programmes, 14 (8.9%), and sale of food items in school, 4 (2.5%).

Regarding objectives of SHS, improving pupils' health status was most reported, 131 (78.4%), followed by early detection of health problems, 77 (46.1%), reducing absenteeism, 27 (16.2%), and replacing hospital-based care, 10 (6.0%).

Concerning teachers' roles in SHS, observing pupils for signs of illness was most frequently reported, 100 (61.0%), followed by providing basic first aid, 78 (47.6%), giving health education talks, 73 (44.5%), and prescribing drugs to pupils, 23 (14.0%).

Table 3b: Knowledge of school health services among teachers

Variables	Frequency (n = 170)	Percent
Support facilities required for SHS*		
School sick bay or first aid box	140	84.8
Safe water supply	93	56.4
Toilet and handwashing facilities	86	52.1
Staff parking space	12	7.3
Common illnesses treatable in SHS*		
Malaria	77	88.5
Worm infestation	35	40.2
Respiratory infections	17	19.5
Hypertension	6	6.9
Referral process in SHS*		
Sending pupils to a health facility when necessary	108	65.5
Informing parents or guardians	77	46.7
Providing first aid in school	60	36.4
Personnel involved in SHS*		
School nurses	111	67.3
Health educators	73	44.2
Medical doctors	60	36.4
School counsellors	52	31.5
Community health workers	45	27.3
School teachers	39	23.6
Environmental health officers	32	19.4
Dieticians	29	17.6
SHS is guided by*		
National School Health Policy	118	74.7
Collaboration between education and health sectors	74	46.8
Community participation	23	14.6
Individual teacher preference	6	3.8

****Multiple response question***

Among respondents, school sick bay or first aid box was the most frequently identified support facility required for school health services, reported by 140 (84.8%). This was followed by safe water supply, 93 (56.4%), and toilet and handwashing facilities, 86 (52.1%), while staff parking space was least reported, 12 (7.3%).

Concerning common illnesses treatable within school health services, malaria was most frequently reported, 77 (88.5%), followed by worm infestation, 35 (40.2%), respiratory infections, 17 (19.5%), and hypertension, 6 (6.9%).

Regarding referral processes in school health services, sending pupils to a health facility when necessary was most reported, 108 (65.5%), followed by informing parents or guardians, 77 (46.7%), and providing first aid in school, 60 (36.4%).

On personnel involved in school health services, school nurses were most frequently identified, 111 (67.3%), followed by health educators, 73 (44.2%), medical doctors, 60 (36.4%), school counsellors, 52 (31.5%), community health workers, 45 (27.3%), school teachers, 39 (23.6%), environmental health officers, 32 (19.4%), and dieticians, 29 (17.6%).

Regarding governance of school health services, the National School Health Policy was most commonly cited, 118 (74.7%), followed by collaboration between education and health sectors, 74 (46.8%), community participation, 23 (14.6%), and individual teacher preference, 6 (3.8%).

Table 3c: Knowledge of school health services among teachers

Variables	Frequency (n = 170)	Percent
Aware of School Health Policy		
Yes	117	68.8
No	53	31.2
Seen a copy of School Health Policy document		
Yes	23	13.5
No	147	86.5
Where School Health Policy document was seen		
School	10	43.5
Workshop/training	4	17.4
Media	2	8.7
Google	1	4.3
Headmaster's office	1	4.3
Internet	1	4.3
Local government council	1	4.3
Medical centre	1	4.3
National Health School	1	4.3
Workplace	1	4.3
Level of Knowledge		
Good Knowledge	92	54.1
Poor Knowledge	78	45.9

Most respondents reported awareness of the School Health Policy, 117 (68.8%), while 53 (31.2%) were not aware of it. However, only 23 (13.5%) had seen a copy of the policy document, while 147 (86.5%) had not. Among those who had seen it, most reported exposure in school, 10 (43.5%), followed by workshops or training, 4 (17.4%), while other sources such as media, Google, internet, local government council, medical centre, national health school, and workplace were each reported by 1 (4.3%) respondent respectively.

Table 4a: Sociodemographic factors and respondents' knowledge of school health services

Variables	Knowledge		Test statistic (χ^2)	p-value
	Good (n=92) Freq. (%)	Poor (n=78) Freq. (%)		
Age group (years)				
≤ 34	29 (63.0)	17 (37.0)	3.399	0.501
35 – 39	11 (50.0)	11 (50.0)		
40 – 44	26 (56.5)	20 (43.5)		
45 – 49	11 (42.3)	15 (57.7)		
≥ 50	15 (50.0)	15 (50.0)		
Sex				
Female	73 (51.4)	69 (48.6)	2.548	0.146
Male	19 (67.9)	9 (32.1)		
Marital status				
Ever married	68 (52.3)	62 (47.7)	0.729	0.469
Never married	24 (60.0)	16 (40.0)		
Religion				
Christianity	84 (53.8)	72 (46.2)	0.056	>0.999
Other*	8 (57.1)	6 (42.9)		
Ethnicity				
Edo indigene	62 (52.5)	56 (47.5)	0.386	0.617
Edo non-indigene	30 (57.7)	22 (42.3)		
Highest educational qualification				
SSCE/ND/HND	6 (46.2)	7 (53.8)	1.231	0.760
NCE	24 (60.0)	16 (40.0)		
B. Ed/B.Sc	54 (54.0)	46 (46.0)		
M.Ed./MSc	8 (47.1)	9 (52.9)		
Teaching experience (years)				
<5	15 (55.6)	12 (44.4)	8.897	0.031
5 – 9	23 (71.9)	9 (28.1)		
10 – 14	20 (62.5)	12 (37.5)		
≥ 15	34 (43.0)	45 (57.0)		

*African Traditional Religion, *Islam*.

Good knowledge of school health services was significantly associated with teaching experience ($\chi^2 = 8.897$, $p = 0.031$). Respondents with 5–9 years of experience recorded the highest proportion of good knowledge, 23 (71.9%), followed by those with 10–14 years, 20 (62.5%), and <5 years, 15 (55.6%), while those with >15 years had the lowest proportion of good knowledge, 34 (43.0%), indicating a non linear pattern across experience categories.

All other sociodemographic variables were not significantly associated with knowledge ($p > 0.05$).

Table 4b: Sociodemographic factors and respondents' knowledge of school health services

Variables	Knowledge		Test statistic (χ^2)	p-value
	Good (n=92) Freq. (%)	Poor (n=78) Freq. (%)		
Current administrative position				
Assistant/ Head teacher	17 (51.5)	16 (48.5)	0.112	0.846
Classroom teacher	75 (54.7)	62 (45.3)		
Type of school				
Private	71 (65.1)	38 (34.9)	14.857	<0.001
Public	21 (34.4)	40 (65.6)		
Class				
Primary 1 – 3	40 (56.3)	31 (43.7)	0.242	0.643
Primary 4 – 6	52 (52.5)	47 (47.5)		
Class size				
<25	43 (59.7)	29 (40.3)	1.580	0.217
≥25	49 (50.0)	49 (50.0)		

Good knowledge of school health services was significantly associated with type of school ($\chi^2 = 14.857$, $p < 0.001$), with a higher proportion of respondents in private schools, 71 (65.1%) having good knowledge compared to those in public schools 21 (34.4%).

Current administrative position was not significantly associated with knowledge ($p = 0.846$), although classroom teachers, 75 (54.7%) had a slightly higher proportion of good knowledge compared to assistant or head teachers 17 (51.5%).

Class level was also not significantly associated with knowledge ($p = 0.643$), with similar proportions of good knowledge among Primary 1–3 40 (56.3%) and Primary 4–6 respondents 52 (52.5%).

Class size did not show a significant association with knowledge ($p = 0.217$), although respondents in smaller classes (<25) had a higher proportion of good knowledge 43 (59.7%) compared to those in larger classes 49 (50.0%).

Table 5a: Predictors of good knowledge of school health services among respondents

Variables	β	OR	95% C.I. for OR		p-value
			Lower	Upper	
Age group (years)	-0.013	0.987	0.927	1.052	0.696
Sex					
Male*		1			
Female	-0.534	0.586	0.222	1.548	0.281
Religion					
Christianity*		1			
Islam	-0.380	0.684	0.197	2.375	0.550
Marital status					
Ever married*		1			
Never married	0.176	1.192	0.420	3.379	0.741
Ethnicity					
Edo indigenes*		1			
Edo non-indigenes	-0.341	0.711	0.317	1.593	0.407
Highest educational qualification					
SSCE/ND/HND*		1			
NCE	0.801	2.227	0.494	10.028	0.297
B. Ed/B.Sc	0.573	1.773	0.448	7.025	0.415
M.Ed./MSc	0.170	1.186	0.203	6.921	0.850
Teaching experience (years)					
<5*		1			
5 – 9	0.961	2.615	0.660	10.362	0.171
10 – 14	0.984	2.676	0.563	12.722	0.216
≥ 15	0.424	1.528	0.263	8.883	0.637

*OR: Odds ratio; CI: Confidence interval; * Reference category; ** $p < 0.05$; $R^2 = 13.9-18.6\%$*

None of the variables were significant predictors of good knowledge of school health services. However, respondents with 5–9 years (OR = 2.615, 95% CI: 0.660–10.362, $p = 0.171$), 10–14 years (OR = 2.676, 95% CI: 0.563–12.722, $p = 0.216$), and >15 years (OR = 1.528, 95% CI: 0.263–8.883, $p = 0.637$) were shown to have higher odds of good knowledge compared to those with <5 years of experience.

Similarly, higher educational qualifications were not significant predictors, although NCE (OR = 2.227, 95% CI: 0.494–10.028), B.Ed./B.Sc. (OR = 1.773, 95% CI: 0.448–7.025), and M.Ed./MSc (OR = 1.186, 95% CI: 0.203–6.921) showed increased odds compared to SSCE/ND/HND.

Table 5b: Predictors of good knowledge of school health services among respondents

Variables	β	OR	95% C.I. for OR		p-value
			Lower	Upper	
Current administrative position					
Assistant/ Head teacher *		1			
Classroom teacher	0.049	1.050	0.423	2.607	0.917
Type of school					
Private*		1			
Public	-1.584	0.205	0.082	0.512	0.001**
Class					
Primary 1 – 3*		1			
Primary 4 – 6	-0.149	0.861	0.415	1.790	0.689
Class size					
<25*		1			
≥25	0.353	1.423	0.609	3.322	0.415

OR: Odds ratio; CI: Confidence interval; * Reference category; ** $p < 0.05$; $R^2 = 13.9–18.6\%$

The only statistically significant predictor of good knowledge of school health services was type of school. Respondents in public schools were significantly less likely to have good knowledge compared to those in private schools (OR = 0.205, 95% CI: 0.082–0.512, $p = 0.001$).

SECTION C
ATTITUDE OF PRIMARY SCHOOL TEACHERS TOWARDS SHS IN EGOR LGA

Table 6: Attitude of teachers towards school health services

Variables	n = 254 Freq. (%)				
	SA	A	N	D	SD
School health services are important for pupils' overall wellbeing	125 (49.2)	105 (41.3)	9 (3.5)	3 (1.2)	12 (4.7)
School health services contribute positively to pupils' academic performance	102 (40.2)	126 (49.6)	12 (4.7)	3 (1.2)	11 (4.3)
Early detection of health problems is possible through school health services	92 (36.2)	126 (49.6)	19 (7.5)	5 (2.0)	12 (4.7)
Teachers have a responsibility to support school health services	82 (32.3)	130 (51.2)	23 (9.1)	9 (3.5)	10 (3.9)
Teachers should receive training in basic first aid and school health practices	95 (37.4)	128 (50.4)	12 (4.7)	12 (4.7)	7 (2.8)
Involvement in school health services adds unnecessary burden to teachers	15 (5.9)	63 (24.8)	50 (19.7)	76 (29.9)	50 (19.7)
Adequate school health services can reduce absenteeism among pupils	43 (16.9)	109 (42.9)	33 (13.0)	44 (17.3)	25 (9.8)
School management should prioritize funding for school health services	64 (25.2)	125 (49.2)	34 (13.4)	20 (7.9)	11 (4.3)
Government policies are necessary for effective implementation of school health services	86 (33.9)	137 (53.9)	20 (7.9)	4 (1.6)	7 (2.8)
I am willing to receive training on SHS	77 (30.3)	121 (47.6)	33 (13.0)	12 (4.7)	11 (4.3)

SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree

Concerning the importance of school health services for pupils' overall wellbeing, most respondents, 125 (49.2%), strongly agreed and 105 (41.3%) agreed, while only a small proportion disagreed or strongly disagreed. A similar pattern was observed regarding their contribution to academic performance, where 102 (40.2%) strongly agreed and 126 (49.6%) agreed.

Regarding early detection of health problems, most respondents, 92 (36.2%), strongly agreed and 126 (49.6%) agreed. In relation to teachers' roles, 82 (32.3%) strongly agreed and 130 (51.2%) agreed that teachers have a responsibility to support school health services. Similarly, 95 (37.4%) strongly agreed and 128 (50.4%) agreed that teachers should receive training in basic first aid and school health practices.

A notable proportion of respondents, 76 (29.9%), disagreed that involvement in school health services adds unnecessary burden to teachers, while 50 (19.7%) strongly disagreed and 63 (24.8%) agreed. This indicates mixed but generally non negative perception of workload implications.

For outcome related perceptions, 43 (16.9%) strongly agreed and 109 (42.9%) agreed that adequate school health services can reduce absenteeism among pupils. Most respondents also supported institutional and policy level actions, with 64 (25.2%) strongly agreeing and 125 (49.2%) agreeing that school management should prioritize funding, while 86 (33.9%) strongly agreed and 137 (53.9%) agreed that government policies are necessary for effective implementation.

Finally, willingness to receive training was high, with 77 (30.3%) strongly agreeing and 121 (47.6%) agreeing

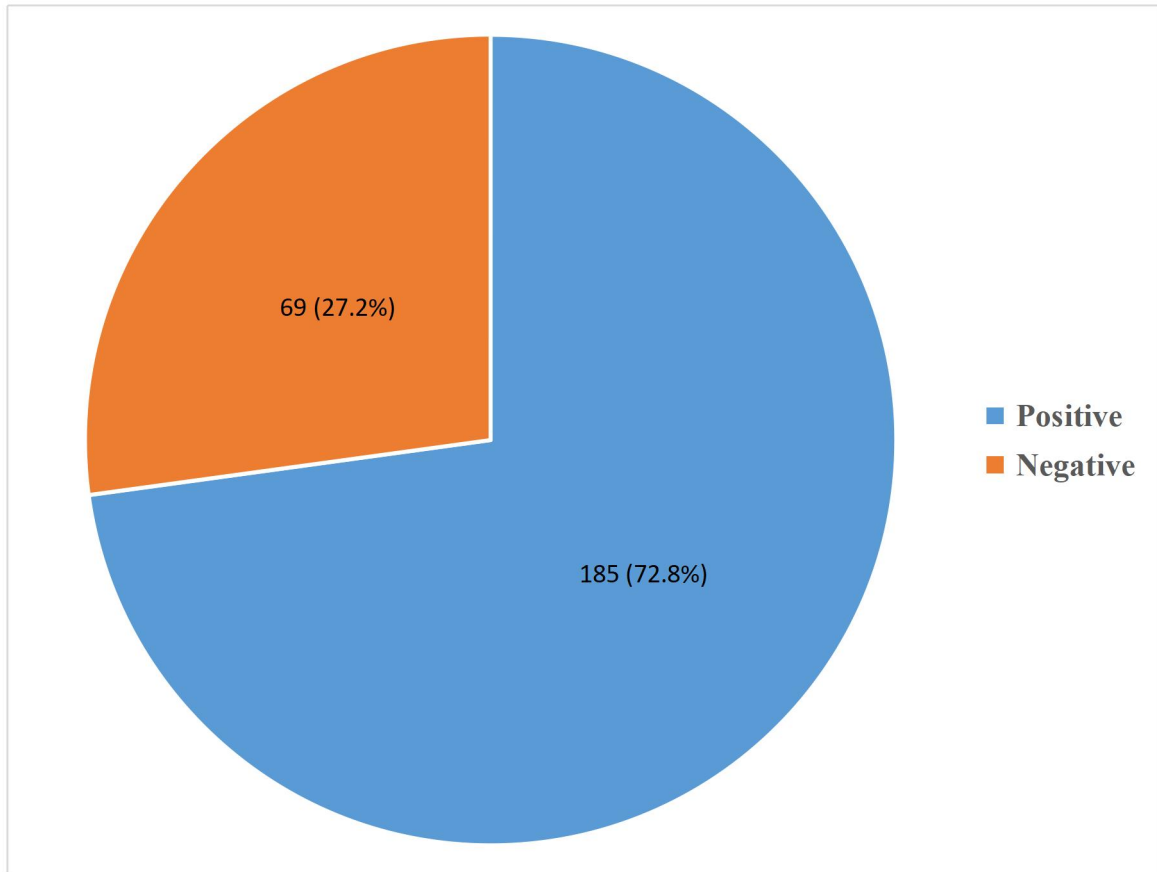


Figure 2: Attitude towards school health services among respondents

Majority of respondents, 185 (72.8%) had positive attitudes toward school health services, while 69 (27.2%) had negative attitudes.

Table 7a: Sociodemographic factors and respondents' attitudes toward school health services

Variables	Attitude		Test statistic (χ^2)	p-value
	Positive (n=185) Freq. (%)	Negative (n=69) Freq. (%)		
Age (years)				
≤ 34	58 (71.6)	23 (28.4)	2.067	0.728
35 – 39	21 (70.0)	9 (30.0)		
40 – 44	54 (75.0)	18 (25.0)		
45 – 49	21 (65.6)	11 (34.4)		
≥ 50	31 (79.5)	8 (20.5)		
Sex				
Female	148 (73.3)	54 (26.7)	0.093	0.861
Male	37 (71.2)	15 (28.8)		
Marital status				
Ever married	139 (71.3)	56 (28.7)	1.023	0.324
Never married	46 (78.0)	13 (22.0)		
Religion				
Christianity	163 (71.8)	64 (28.2)	1.142	0.364
Other*	22 (81.5)	5 (18.5)		
Ethnicity				
Edo indigene	120 (71.4)	48 (28.6)	0.496	0.552
Edo non-indigene	65 (75.6)	21 (24.4)		
Highest educational qualification				
SSCE/ND/HND	12 (63.2)	7 (36.8)	5.198	0.158
NCE	37 (66.1)	19 (33.9)		
B. Ed/B.Sc	115 (78.2)	32 (21.8)		
M.Ed./MSc	21 (65.6)	11 (34.4)		
Teaching experience (years)				
<5	35 (79.5)	9 (20.5)	2.299	0.520
5 – 9	43 (67.2)	21 (32.8)		
10 – 14	32 (76.2)	10 (23.8)		
≥ 15	75 (72.1)	29 (27.9)		

**African Traditional Religion, Islam.*

Across all sociodemographic variables assessed, there were no statistically significant associations with respondents' attitudes toward school health services, all $p > 0.05$.

Although not significant, a slightly higher proportion of respondents aged above 50 years had a positive attitude, 31 (79.5%), compared to other age groups, while those aged 45–49 years recorded the lowest proportion of positive attitude, 21 (65.6%). Females also showed a marginally higher proportion of positive attitude, 148 (73.3%), compared to males, 37

(71.2%). Never married respondents had a slightly higher proportion of positive attitude, 46 (78.0%), compared to ever married respondents, 139 (71.3%).

By educational qualification, respondents with B.Ed/B.Sc recorded a relatively higher proportion of positive attitude, 115 (78.2%), compared to other qualification categories, while those with SSCE/ND/HND had the lowest, 12 (63.2%). Similarly, respondents with less than 5 years teaching experience showed a slightly higher proportion of positive attitude, 35 (79.5%), compared to other experience groups.

Table 7b: Sociodemographic factors and respondents' attitudes toward school health services

Variables	Attitude		Test statistic (χ^2)	P-value
	Positive (n=185) Freq. (%)	Negative (n=69) Freq. (%)		
Current administrative position				
Assistant/ Head teacher	30 (81.1)	7 (18.9)	1.489	0.240
Classroom teacher	155 (71.4)	62 (28.6)		
Type of school				
Private	125 (74.4)	43 (25.6)	0.618	0.458
Public	60 (69.8)	26 (30.2)		
Class				
Primary 1 – 3	74 (71.2)	30 (28.8)	0.251	0.668
Primary 4 – 6	111 (74.0)	39 (26.0)		
Class size				
<25	83 (72.2)	32 (27.8)	0.046	0.888
≥25	102 (73.4)	37 (26.6)		
Knowledge of SHS				
Good	72 (78.3)	20 (21.7)	0.620	0.475
Poor	57 (73.1)	21 (26.9)		

Although not statistically significant, assistant or head teachers recorded a slightly higher proportion of positive attitude, 30 (81.1%), compared to classroom teachers, 155 (71.4%). Similarly, respondents in private schools showed a marginally higher positive attitude, 125 (74.4%), than those in public schools, 60 (69.8%).

With respect to class taught, respondents handling Primary 4 to 6 had a slightly higher proportion of positive attitude, 111 (74.0%), compared to those teaching Primary 1 to 3, 74 (71.2%). A similar minimal difference was observed for class size, where respondents teaching larger classes (>25 pupils) had a slightly higher positive attitude, 102 (73.4%), compared to those with smaller classes, 83 (72.2%).

In terms of knowledge of school health services, respondents with good knowledge showed a somewhat higher proportion of positive attitude, 72 (78.3%), compared to those with poor knowledge, 57 (73.1%), although this difference was also not statistically significant.

Table 8: Predictors of positive attitude towards school health services among respondents

Variables	β	OR	95% C.I. for OR		p-value
			Lower	Upper	
Age (years)	0.071	1.074	0.994	1.160	0.071
Sex					
Male*		1			
Female	0.105	1.111	0.370	3.335	0.852
Marital status					
Ever married*		1			
Never married	0.274	1.316	0.398	4.348	0.653
Ethnicity					
Edo indigenes*		1			
Edo non-indigenes	0.774	2.169	0.821	5.735	0.118
Highest educational qualification					
SSCE/ND/HND*		1			
NCE	-0.309	0.734	0.134	4.027	0.722
B. Ed/B.SC	0.783	2.188	0.443	10.807	0.337
M.Ed./MSc	-0.095	0.909	0.129	6.396	0.924
Teaching experience (years)					
<5*		1			
5 – 9	-1.438	0.237	0.046	1.231	0.087
10 – 14	-1.278	0.279	0.042	1.849	0.186
≥ 15	-1.820	0.162	0.019	1.351	0.093
Current administrative position					
Assistant/ Head teacher *		1			
Classroom teacher	-0.707	0.493	0.154	1.580	0.234
Type of school					
Private*		1			
Public	0.219	1.245	0.429	3.608	0.687
Class					
Primary 1 – 3*		1			
Primary 4 – 6	0.555	1.742	0.763	3.977	0.188
Class size					
<25*		1			
≥ 25	0.032	1.032	0.393	2.709	0.949
Knowledge of SHS					
Good*		1			
Poor	-0.474	0.622	0.272	1.423	0.261

*OR: Odds ratio; CI: Confidence interval; * Reference category; ** $p < 0.05$; $R^2 = 10.0-15.0\%$*

None of the variables included in the model were statistically significant predictors of the outcome (all $p > 0.05$), indicating that none independently predicted the outcome after adjustment.

Although not statistically significant, age showed a weak positive trend, where increasing age was associated with slightly higher odds of the outcome (OR = 1.074, 95% CI: 0.994–1.160, $p = 0.071$). Similarly, non-indigenes had higher odds compared to Edo indigenes (OR = 2.169, 95% CI: 0.821–5.735, $p = 0.118$). Teaching experience of 5–9 years (OR = 0.237, 95% CI: 0.046–1.231, $p = 0.087$), 10–14 years (OR = 0.279, 95% CI: 0.042–1.849, $p = 0.186$), and more than 15 years (OR = 0.162, 95% CI: 0.019–1.351, $p = 0.093$) all showed a tendency towards lower odds compared to those with less than 5 years of experience, although these findings were not statistically significant.

All other variables, including sex, marital status, educational qualification, administrative position, type of school, class taught, class size, and knowledge of school health services, were not significant predictors of the outcome.

SECTION D
SCHOOL HEALTH FACILITIES AND SERVICES AVAILABLE IN PRIMARY
SCHOOLS IN EGOR LGA

Table 9a: Availability of school health facilities and services in respondents' school

Variables	Frequency (n = 254)	Percent
School provides regular medical screening for pupils		
Yes	96	37.8
No	158	62.2
Frequency of pupils' medical screening (n=96)		
Weekly	3	3.1
Monthly	12	12.5
Every term	56	58.3
Every session	25	26.0
School provides regular medical screening for teachers		
Yes	36	14.2
No	218	85.8
Frequency of teachers' medical screening (n=36)		
Monthly	7	19.4
Every term	15	41.7
Every session	14	38.9
Undergone any training on School Health Services		
Yes	43	16.9
No	211	83.1
Sponsor of training (n=43)		
Education Board	19	7.5
School	13	5.1
Self	5	2.0
Other sponsor+	6	2.4
School provides first aid services for sick or injured pupils		
Yes	216	85.0
No	38	15.0
Routine health inspections carried out*		
None	119	47.6
General physical examination	90	36.0
Vision screening	32	12.8
Hearing screening	23	9.2
School keeps health records for pupils		
Yes	98	38.6
No	156	61.4
School has a nurse		
Yes	87	34.3
No	167	65.7

***Multiple response question; +Local Government Council, Nigeria Dental Association, SUBEB, Youth programme**

Most schools, 158 (62.2%), reported not providing regular medical screening for pupils, while 96 (37.8%) reported providing such services. Among schools that provided pupils' medical screening, 56 (58.3%) conducted it every term, 25 (26.0%) every session, 12 (12.5%) monthly, and 3 (3.1%) weekly.

Similarly, 218 (85.8%) schools reported not providing regular medical screening for teachers, while 36 (14.2%) provided it. Among those that screened teachers, 15 (41.7%) did so every term, 14 (38.9%) every session, and 7 (19.4%) monthly.

Undertaking of training on school health services was reported by 43 (16.9%) respondents, while 211 (83.1%) had not undergone any training. Among those trained, the Education Board was the most common sponsor, 19 (7.5%), followed by the school, 13 (5.1%), self-sponsored training, 5 (2.0%), and other sponsors, 6 (2.4%).

Most schools, 216 (85.0%), reported providing first aid services for sick or injured pupils, while 38 (15.0%) did not. Routine health inspections were largely absent, as 119 (47.6%) reported no inspections, while 90 (36.0%) reported general physical examinations, 32 (12.8%) reported vision screening, and 23 (9.2%) reported hearing screening.

Health record keeping for pupils was reported in 98 (38.6%) schools, while 156 (61.4%) did not keep such records. In addition, 87 (34.3%) schools reported having a nurse, while 167 (65.7%) had no nurse.

Table 9b: Availability of school health facilities and services in respondents' school

Variables	Frequency (n = 254)	Percent
School has a medical doctor		
Yes	26	10.2
No	228	89.8
Frequency of doctor's visits (n=26)		
Once a month	14	5.5
Twice a month	5	2.0
Weekly	3	1.2
On notification	2	0.8
Every session	1	0.4
During routine national/state immunization programmes	1	0.4
Referral system to a nearby health facility		
Yes	105	41.3
No	149	58.7
Referral facility used (n=105)		
General hospital	36	34.3
Primary health centre	34	32.4
Private clinic	30	28.6
Other facility+	5	4.8
School supports and provides immunization programme		
Yes	157	61.8
No	97	38.2
Frequency of immunization visits		
Weekly	6	2.4
Once a month	80	31.5
Twice a month	14	5.5
Every term	17	6.7
Every session	16	6.3
During routine national/state immunization programmes	14	5.5
On notification	10	3.9
What is done when a teacher or pupil is sick		
Asked to go home	117	46.8
Taken to the sick bay for treatment	93	37.2
Given drugs	22	8.8
Referred to a healthcare facility	18	7.2
What is done when a teacher or pupil is injured		
Given first aid treatment	207	82.1
Asked to go home	22	8.7
Nothing is done	13	5.2
Referred to a healthcare facility	10	4.0

**Multiple response question; +Parent's choice, UBTH.*

Most schools, 228 (89.8%), reported not having a medical doctor, while only 26 (10.2%) had one. Among schools with a doctor, 14 (5.5%) reported monthly visits, 5 (2.0%) reported

twice monthly visits, 3 (1.2%) reported weekly visits, while 2 (0.8%) reported visits on notification, and 1 (0.4%) each reported visits every session and during routine national or state immunisation programmes.

A referral system to a nearby health facility was reported in 105 (41.3%) schools, while 149 (58.7%) had no referral system. Among schools with referral systems, general hospitals were most commonly used, 36 (34.3%), followed by primary health centres, 34 (32.4%), private clinics, 30 (28.6%), and other facilities, 5 (4.8%). School-based immunisation programmes were supported in 157 (61.8%) schools, while 97 (38.2%) did not provide such support.

Regarding frequency of immunisation visits, 80 (31.5%) schools reported monthly visits, 17 (6.7%) every term, 16 (6.3%) every session, 14 (5.5%) twice a month, 14 (5.5%) during routine national or state programmes, 10 (3.9%) on notification, and 6 (2.4%) weekly.

In terms of response to illness, most schools, 117 (46.8%), reported sending sick pupils or teachers home, while 93 (37.2%) reported taking them to the sick bay for treatment, 22 (8.8%) provided drugs, and 18 (7.2%) referred them to a healthcare facility. When injury occurred, most schools, 207 (82.1%), provided first aid treatment, while 22 (8.7%) sent the individual home, 13 (5.2%) took no action, and 10 (4.0%) referred them to a healthcare facility.

Table 10: Availability and condition of school health and environmental facilities in schools

Variables	Present, in good condition n (%)	Present, in poor condition n (%)	Absent n (%)
Dispensary	12 (60.0)	1 (5.0)	7 (35.0)
First aid kit with required contents	18 (90.0)	2 (10.0)	0 (0.0)
Functional sick bay or health room	10 (50.0)	2 (10.0)	8 (40.0)
School health record	5 (25.0)	1 (5.0)	14 (70.0)
School ambulance or transport facility	4 (20.0)	1 (5.0)	15 (75.0)
Children playground	15 (75.0)	3 (15.0)	2 (10.0)
Recreational and sports facilities	11 (55.0)	5 (25.0)	4 (20.0)
Pipe borne water	14 (70.0)	3 (15.0)	3 (15.0)
Gender sensitive toilet facilities	17 (85.0)	1 (5.0)	2 (10.0)
Hand washing facilities	16 (80.0)	2 (10.0)	2 (10.0)
School counsellor	10 (50.0)	1 (5.0)	9 (45.0)
Perimeter fencing with gate	16 (80.0)	4 (20.0)	0 (0.0)
Location away from environmental hazards	19 (95.0)	0 (0.0)	1 (5.0)
Clean school environment	19 (95.0)	1 (5.0)	0 (0.0)

n=20

Most schools had a first aid kit with required contents in good condition, reported in 18 (90.0%) schools, while 2 (10.0%) had it in poor condition and none reported absence. Gender sensitive toilet facilities were in good condition in 17 (85.0%) schools, with 1 (5.0%) in poor condition and 2 (10.0%) absent. Hand washing facilities were also largely available and functional in 16 (80.0%) schools, while 2 (10.0%) were in poor condition and 2 (10.0%) were absent. Perimeter fencing with gate was present in good condition in 16 (80.0%) schools and in poor condition in 4 (20.0%), with none reporting absence.

A clean school environment was reported in good condition in 19 (95.0%) schools, while 1 (5.0%) reported it in poor condition and none reported absence. Similarly, 19 (95.0%) schools were located away from environmental hazards, with none reporting poor condition and only 1 (5.0%) reporting absence of this feature. Pipe borne water was available in good condition in 14 (70.0%) schools, while 3 (15.0%) reported poor condition and 3 (15.0%) reported absence.

Children playgrounds were present in good condition in 15 (75.0%) schools, while 3 (15.0%) were in poor condition and 2 (10.0%) absent. Recreational and sports facilities

were in good condition in 11 (55.0%) schools, with 5 (25.0%) in poor condition and 4 (20.0%) absent. A school counsellor was available in good condition in 10 (50.0%) schools, 1 (5.0%) in poor condition, while 9 (45.0%) schools had none.

Dispensaries were present in good condition in 12 (60.0%) schools, with 1 (5.0%) in poor condition and 7 (35.0%) absent. Functional sick bays or health rooms were available in good condition in 10 (50.0%) schools, while 2 (10.0%) were in poor condition and 8 (40.0%) absent. School health records were among the least available, present in good condition in 5 (25.0%) schools, 1 (5.0%) in poor condition, and absent in 14 (70.0%) schools. Similarly, school ambulance or transport facilities were least available, present in good condition in 4 (20.0%) schools, 1 (5.0%) in poor condition, and absent in 15 (75.0%) schools.

SECTION E
COMMON HEALTH CONDITIONS AMONG PRIMARY SCHOOL PUPILS IN
EGOR LGA

Table 11: Self-reported illness and health care utilisation among pupils

Variables	Frequency (n = 245)	Percent
Illness in preceding 3 months		
Yes	93	38.0
No	152	62.0
Type of illness (n=93)		
Malaria	38	40.9
Diarrhoea	22	23.7
URTI	17	18.3
Others*	10	10.8
Skin infections	5	5.4
Eye infections	4	4.3
Ear infections	4	4.3
Received treatment (n=93)		
Yes	78	83.9
No	15	16.1
Place of treatment (n=78)		
Patent medicine store	31	39.7
At home	24	30.8
Hospital	19	24.4
Health centre	4	5.1

****Others: Toothache, Typhoid, Ulcer***

Among the pupils, 93 (38.0%) reported having been ill in the preceding 3 months, while 152 (62.0%) reported no illness during the same period. Among those who reported illness, malaria was the most common condition, reported by 38 (40.9%) pupils, followed by diarrhoea in 22 (23.7%), upper respiratory tract infections (URTI) in 17 (18.3%), other conditions in 10 (10.8%), skin infections in 5 (5.4%), and eye and ear infections in 4 (4.3%) each.

Regarding treatment seeking behaviour, most of those who were ill, 78 (83.9%), received treatment, while 15 (16.1%) did not seek any form of treatment. Among those who received treatment, 31 (39.7%) sought care from chemists, 24 (30.8%) were managed at home, 19 (24.4%) received care in a hospital, and only 4 (5.1%) were treated at a health centre.

Table 12: Clinical indicators of hygiene and health status of pupils

Variables	Frequency (n = 245)	Percent
Hair		
Appearance		
Kempt	212	86.5
Unkempt	33	13.5
Colour		
Black	215	87.8
Brown	25	10.2
Golden	4	1.6
Discoloured	1	0.4
Infection		
Absent	237	96.7
Present	8	3.3
Teeth		
Colour		
White	171	69.8
Discoloured	74	30.2
Deformity		
Absent	226	92.2
Present	19	7.8
Plaques		
Absent	216	88.2
Present	29	11.8
Dental caries		
Absent	235	95.9
Present	10	4.1
Halitosis		
Absent	227	92.7
Present	18	7.3
Skin infections		
Absent	230	95.4
Present	11	4.6
Nail infections		
Absent	228	93.1
Present	17	6.9
Nail trimming		
Trimmed	176	71.8
Not trimmed	69	28.2
Shoes on feet		
Present	239	97.6
Absent	6	2.4

Concerning clinical indicators of hygiene and health status, most pupils had good hair appearance, with 212 (86.5%) having kempt hair, while 33 (13.5%) had unkempt hair. Hair infection was largely absent in 237 (96.7%) pupils, with only 8 (3.3%) presenting with infection. Tooth conditions were generally favourable, as 171 (69.8%) had white teeth, 226

(92.2%) had no deformity, 216 (88.2%) had no dental plaques, 235 (95.9%) had no dental caries, and 227 (92.7%) had no halitosis.

Skin and nail conditions were also predominantly normal, with 230 (95.4%) having no skin infections and 228 (93.1%) free from nail infections. Most pupils, 176 (71.8%), had trimmed nails, while 69 (28.2%) did not. Nearly all pupils, 239 (97.6%), wore shoes, with only 6 (2.4%) not wearing shoes.

Table 13: Anthropometric profile of pupils

Variables	Frequency (n = 245)	Percent
BMI-for-age		
Underweight	30	12.2
Normal	199	81.2
Overweight	13	5.3
Obese	3	1.2
Height-for-age		
Stunted	27	11.0
Normal	202	82.4
Tall	7	2.9
Too tall for age	9	3.7

Among the pupils assessed, the majority had normal nutritional status. Based on BMI for age, most respondents, 199 (81.2%), had normal weight, while 30 (12.2%) were underweight, 13 (5.3%) were overweight, and 3 (1.2%) were obese.

Similarly, height for age assessment showed that most pupils, 202 (82.4%), had normal height for their age. However, 27 (11.0%) were stunted, while 7 (2.9%) were tall and 9 (3.7%) were too tall for their age.

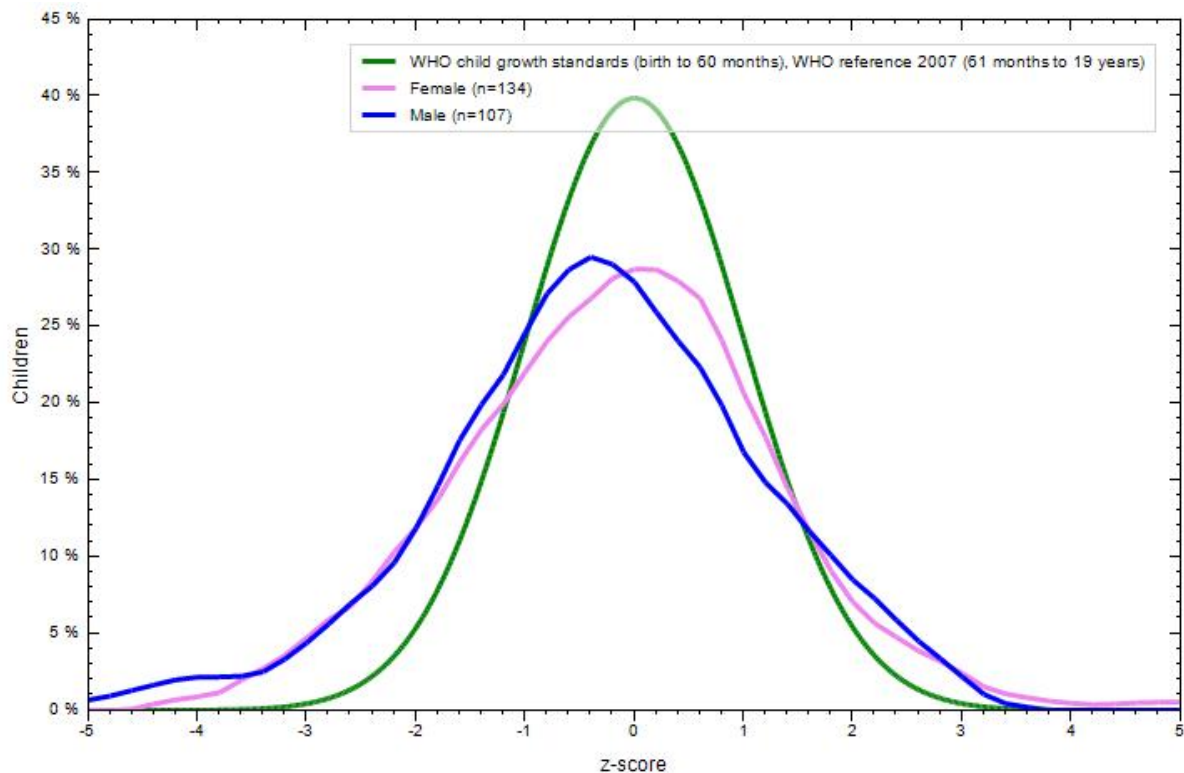


Figure 2: Comparison of BMI-for-age z-score distributions of respondents relative to WHO growth standards.

The WHO reference distribution was narrow and symmetrical around a z score of 0, whereas both male and female distributions were broader and flatter.

The male distribution was centred below the WHO median, with the highest frequency occurring around -0.5 z scores. The distribution extended further into the negative range, reaching approximately -5 z scores. In addition, the male curve displayed greater irregularity, including multiple peaks at the lower end of the distribution.

The female distribution was centred closer to the WHO median, with the peak occurring between approximately $+0.2$ and $+0.5$ z scores. Compared with males, the female distribution showed fewer observations at the extreme negative end. However, both male and female distributions extended into the positive range beyond $+3$ z scores, with a greater concentration of female observations in this upper range.

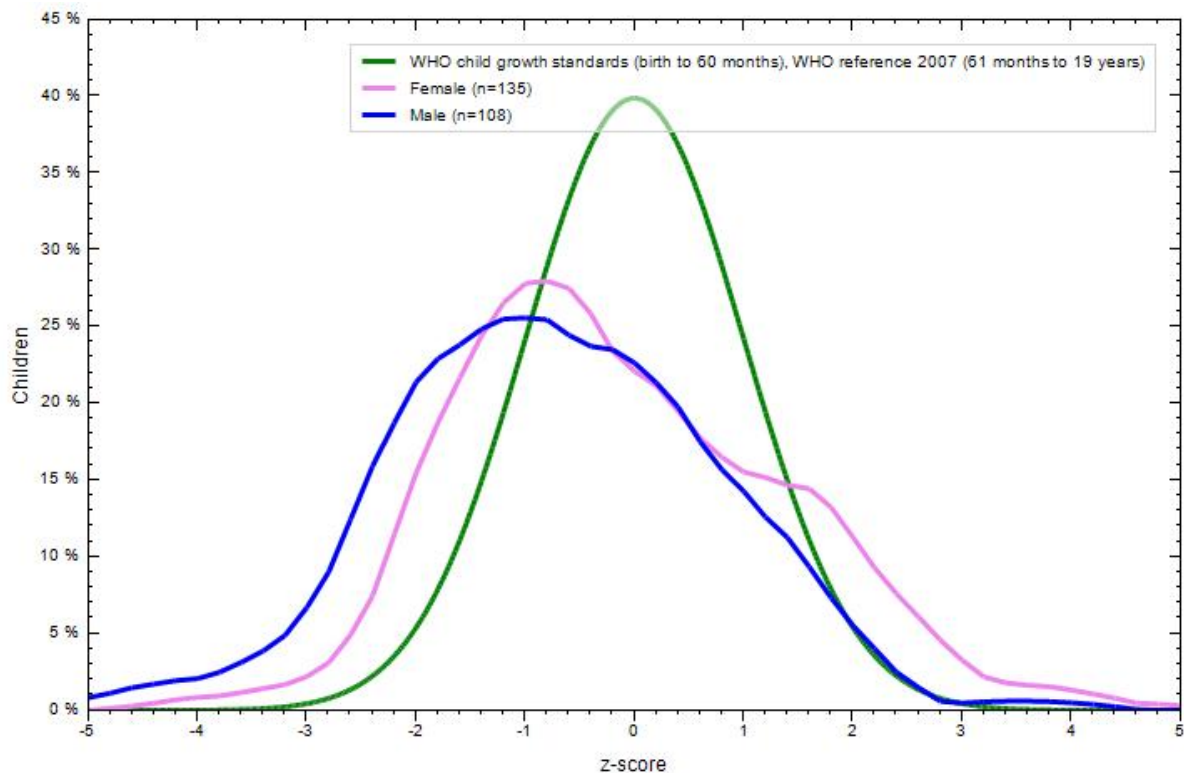


Figure 3: Distribution of height-for-age z-scores among respondents compared to the WHO child growth standards and 2007 reference.

The WHO reference population showed a narrow distribution centred at a z score of 0, whereas both male and female distributions were broader and shifted towards negative z scores.

Among males, the highest proportion of respondents had height-for-age z scores between approximately -1 and -1.5 , which falls within the normal range but below the WHO median. The male distribution extended prominently into the -2 to -4 z score range, indicating the presence of stunted and severely stunted children.

Among females, the highest proportion had z scores around -0.75 , which is also within the normal range and closer to the WHO median than the male distribution. The female distribution extended into the negative range but less markedly than that of the males. A secondary rise was also observed between $+1$ and $+2$ z scores, representing respondents whose height-for-age measurements were above the WHO median but still within the normal range.

Table 14: Sociodemographic factors and illness among respondents

Variables	Ill within preceding 3 months		Test statistic (χ^2)	p-value
	Yes (n=93) Freq. (%)	No (n=152) Freq. (%)		
Age group (years)				
≤ 6	1 (11.1)	8 (88.9)	6.528	0.088
7 – 9	36 (41.9)	50 (58.1)		
10 – 12	50 (40.7)	73 (59.3)		
> 12	6 (22.2)	21 (77.8)		
Sex				
Female	55 (40.4)	81 (59.6)	0.800	0.427
Male	38 (34.9)	71 (65.1)		
Religion				
Christianity	88 (37.9)	144 (62.1)	0.001+	>0.999
Islam	5 (38.5)	8 (61.5)		
Ethnicity				
Edo indigene	55 (37.7)	91 (62.3)	0.013	>0.999
Edo non-indigene	38 (38.4)	61 (61.6)		
Primary caregiver				
Both parents	41 (28.3)	104 (71.7)	16.777	0.001*
Mother	24 (54.5)	20 (45.5)		
Father	18 (43.9)	23 (56.1)		
Guardian	10 (66.7)	5 (33.3)		
Skill level of primary caregiver				
Skill level 0	1 (50.0)	1 (50.0)	3.071+	0.369
Skill level 1	6 (54.5)	5 (45.5)		
Skill level 2	66 (39.3)	102 (60.7)		
Skill level 4	20 (31.3)	44 (68.8)		
Type of school				
Private	67 (42.4)	91 (57.6)	3.498	0.073
Public	26 (30.2)	60 (69.8)		
Class of pupil				
Primary 1 – 3	38 (44.7)	47 (55.3)	2.516	0.129
Primary 4 – 6	55 (34.3)	105 (65.6)		

+*Fisher's Exact Test*; **p*<0.05

Primary caregiver was significantly associated with illness within the preceding 3 months ($\chi^2 = 16.777$, $p = 0.001$). A higher proportion of respondents whose caregivers were guardians reported illness, 10 (66.7%), followed by those cared for by their mother, 24 (54.5%), and father, 18 (43.9%), compared to those cared for by both parents, 41 (28.3%). All other variables were not significantly associated with ill health among respondents in the preceding 3 months ($p > 0.05$).

Table 15: Predictors of ill health among respondents in preceding 3 months

Variables	β	OR	95% C.I. for OR		p-value
			Lower	Upper	
Age (years)	0.023	1.023	0.865	1.211	0.790
Sex					
Male*		1			
Female	0.229	1.258	0.719	2.202	0.422
Religion					
Christianity*		1			
Islam	-0.044	0.957	0.276	3.315	0.944
Ethnicity					
Edo indigenes*		1			
Edo non-indigenes	-0.074	0.929	0.520	1.658	0.802
Primary caregiver					
Both parents*		1			
Mother	0.657	1.930	0.919	4.052	0.082
Father	1.097	2.995	1.449	6.193	0.003**
Guardian	1.607	4.989	1.375	18.104	0.015**
Skill level of primary caregiver					
Skill level 4*		1			
Skill level 0	-0.336	0.715	0.032	16.024	0.832
Skill level 1	0.864	2.372	0.581	9.676	0.229
Skill level 2	0.130	1.138	0.584	2.219	0.703
Type of school					
Private*		1			
Public	-0.589	0.555	0.296	1.040	0.066
Class of pupil					
Primary 1 – 3 *		1			
Primary 4 – 6	-0.381	0.683	0.346	1.348	0.271

OR: Odds ratio; CI: Confidence interval; * Reference category; ** $p < 0.05$; $R^2 = 9.4 - 12.8\%$

Primary caregiver was the only significant predictor of ill health among respondents in the preceding 3 months. Respondents whose primary caregiver was their father were about 3 times more likely to experience ill health compared to those cared for by both parents (OR = 2.995, 95% CI: 1.449–6.193, $p = 0.003$). Similarly, respondents whose caregiver was a guardian were about 5 times more likely to experience ill health compared to those cared for by both parents (OR = 4.989, 95% CI: 1.375–18.104, $p = 0.015$).

All other variables, including age, sex, religion, ethnicity, maternal caregiver, skill level of caregiver, type of school, class of pupil, and other socio demographic characteristics, were not statistically significant predictors of ill health among respondents ($p > 0.05$).

SECTION F
FACTORS INFLUENCING THE IMPLEMENTATION OF SCHOOL HEALTH
SERVICES

Table 16: Factors influencing the implementation of school health services

Variables	Frequency (n = 254)	Percent
Factors influencing implementation of SHS*		
Lack of trained health personnel	110	44.0
Lack of health facilities/equipment in school	95	38.0
Inadequate government funding	85	34.0
Poor collaboration with nearby health facilities	55	22.0
Lack of a sick bay or school clinic	50	20.0
Weak government policies or poor enforcement	28	11.2
School related hindrances to SHS*		
Lack of health education programmes	131	52.6
Poor sanitation and environmental conditions	73	29.3
Lack of first aid materials	67	26.9
Poor support from school authorities	51	20.5
Overcrowding of students	40	16.1
Societal factors affecting SHS*		
Low awareness of school health services among parents	88	34.6
Lack of parental involvement in school health activities	64	25.2
Negative attitudes of parents toward school health programmes	63	24.8
None	49	19.3
Cultural or traditional beliefs affecting health practices	37	14.6

****Multiple response question***

Lack of trained health personnel was the most commonly reported factor influencing implementation of school health services, reported by 110 (44.0%) respondents, followed by lack of health facilities or equipment in schools, 95 (38.0%), and inadequate government funding, 85 (34.0%). Other reported factors included poor collaboration with nearby health facilities, 55 (22.0%), lack of a sick bay or school clinic, 50 (20.0%), and weak government policies or poor enforcement, 28 (11.2%).

Regarding school related hindrances to school health services, the majority of respondents reported lack of health education programmes, 131 (52.6%), followed by poor sanitation and environmental conditions, 73 (29.3%), lack of first aid materials, 67 (26.9%), poor support from school authorities, 51 (20.5%), and overcrowding of students, 40 (16.1%).

Concerning societal factors affecting school health services, low awareness of school health services among parents was the most reported factor, 88 (34.6%), followed by lack of parental involvement in school health activities, 64 (25.2%), and negative attitudes of parents toward school health programmes, 63 (24.8%). Additionally, 49 (19.3%) reported

no societal factor, while 37 (14.6%) reported cultural or traditional beliefs affecting health practices.

CHAPTER FIVE

DISCUSSION

Majority of teachers had good knowledge of school health services, with a high level of awareness of school health services and the corresponding School Health Policy among. Health workers and media sources constituted the commonest sources of information on school health services among respondents. Also, respondents demonstrated better knowledge of the general objectives of school health services, such as promoting pupils' wellbeing, supporting learning, and facilitating early detection of illnesses, than of specific operational components including referral systems, counselling services, organised school health infrastructure, and the multidisciplinary personnel involved in service delivery. Although many respondents recognised the importance of health screening, first aid, and health promotion activities, knowledge regarding the practical implementation and coordination of comprehensive school health services was less consistent.

These findings may be due to the fact that teachers are more frequently exposed to the routine aspects of school health services encountered during daily school activities, while specialised operational components are less emphasised in routine teacher orientation and professional development programmes. In addition, the relatively low proportion of respondents who had undergone formal training on school health services and the limited proportion who had seen copies of the School Health Policy document may have contributed to the observed gaps in operational knowledge.

This observation is consistent with similar studies conducted in Abia State, Ghana, Nepal, and a Nigerian systematic review, where teachers generally demonstrated good awareness and knowledge of school health services but showed deficiencies in formal training and detailed understanding of implementation components.^{17,33,35,36} In Abia State, the majority of teachers were reported to have good knowledge of school health services, and significant associations were found between knowledge level and factors including educational qualification and teaching experience.¹⁷ In the study conducted in Ghana, teachers demonstrated awareness of school health policy and recognised both preventive and

treatment related roles of school health programmes, although some inconsistencies in understanding of policy scope were observed.³⁵ Similarly, the Nepalese study reported that most teachers were aware of school health activities such as deworming campaigns, sanitation practices, emergency care, and health screening despite the majority lacking formal training in school health services.³³ The systematic review conducted in Nigeria further revealed that teachers were frequently excluded from structured training opportunities and were often unaware of national school health policy frameworks because of poor dissemination and implementation systems.³⁶ These similarities may be as a result of widespread gaps in institutional capacity building, policy implementation, and continuing professional education relating to school health services across many low-and-middle-income countries (LMICs).

In contrast, a study conducted in Jodhpur, India reported important deficits in teachers' knowledge of selected school health programme components, with many respondents demonstrating poor or only moderate knowledge.³⁴ This difference may be attributable to differences in study setting, teacher exposure to school health activities, and variability in implementation of school health programmes across the regions. Conversely, another study conducted in Gwagwalada Area Council, Abuja reported a very high level of knowledge among teachers, with almost all respondents demonstrating good knowledge of school health services.³⁷ This difference may be related to stronger institutional support, better access to training opportunities, and the more urbanised nature of Abuja, which may enhance teachers' exposure to school health information and implementation activities. This is supported by findings in this study which showed that respondents in private schools were significantly more likely to have good knowledge compared to those in public schools, suggesting that institutional support and resource availability may influence teachers' exposure to school health information and practices.

Considering that teachers are often the first point of contact for identifying health-related problems among pupils, inadequate knowledge of important operational aspects of school health services may reduce the effectiveness of early disease detection, referral practices, emergency response, health counselling, and preventive health interventions within schools. Poor implementation of school health services may subsequently contribute to increased absenteeism, delayed treatment seeking, preventable illnesses, poor academic performance, and reduced overall wellbeing among school children. Since schools provide an important

platform for promoting child health and development, deficiencies in teachers' knowledge may also undermine broader community health outcomes.⁶³

To address these gaps, structured and continuous training programmes on school health services should be integrated into teachers' professional development activities at both local and state levels. Ministries of Education and Health should strengthen implementation of the National School Health Policy through regular workshops, supportive supervision, and improved dissemination of simplified policy documents to schools. Teacher training institutions should incorporate comprehensive school health education into pre-service teacher curricula to improve foundational competence before deployment into schools. In addition, stronger collaboration between schools and nearby healthcare facilities should be encouraged to improve teachers' practical exposure to referral systems, health screening activities, counselling services, and other essential components of school health services.

Most respondents had positive attitudes toward school health services. Teachers generally expressed strong agreement that school health services are important for pupils' overall wellbeing, contribute to improved academic performance, and facilitate early detection of health problems. There was also strong support for teachers' involvement in school health services, including the need for basic training in first aid and school health practices, as well as institutional and governmental support for effective implementation. Although a proportion of respondents expressed concern that involvement in school health services may add to their workload, the overall attitude remained largely favourable, and most teachers indicated willingness to receive further training on school health services.

Similar findings were reported in a study conducted in Gwagwalada Area Council, Abuja, where most teachers also demonstrated positive attitudes toward school health programmes, with many considering them as necessary and desirable components of the school system, although variations were observed across school types, with private school teachers showing more favourable attitudes than their public school counterparts.³⁷ In another study conducted in Sangli District, India, teachers were shown to also exhibit generally positive attitudes toward school health services, with strong agreement on the importance of health education and student engagement in health-related activities, although a large proportion perceived school health programmes as an additional workload burden.³⁸

In contrast, in a study conducted in Isi Ala Ngwa LGA, Abia State, majority of respondents reported negative attitudes towards school health services, suggesting poor acceptance and engagement with school-based health responsibilities.⁴⁰ Similarly, in Myanmar, a smaller proportion of teachers demonstrated positive attitudes with this being closely linked to institutional support, training exposure, and system level reinforcement of health promoting school programmes.³⁹ Furthermore, a systematic review of studies in Nigeria similarly highlighted that while awareness and recognition of school health services may be present, teacher engagement and attitudinal readiness are often constrained by limited institutional support, inadequate policy dissemination, and weak integration of teachers into school health programme planning and implementation processes. These disparities may be due to differences in the strength of school health system implementation across regions, availability of training opportunities, and the extent to which teachers are actively engaged in school health programme governance.

Positive attitudes towards school health services create an enabling environment for effective school health service delivery, particularly in areas such as health education, early detection of illness, and timely referral of pupils, which can prevent avoidable disease progression, complications, and long term morbidity. This also supports improved school attendance, better learning outcomes, and reduced transmission of communicable diseases within the school environment, thereby strengthening overall child health and educational attainment.^{40,61} However, concerns about workload burden and weak institutional support may undermine the sustainability and full implementation of school health programmes if not adequately addressed. To improve on this, school health services should be formally integrated into school structures with clearly defined teacher roles, supported by regular training, stronger collaboration between health and education sectors, and supportive supervision, alongside policy measures that institutionalise school health responsibilities to reduce perceived burden and ensure sustained implementation.⁴⁰

School health services were present in most schools in Egor LGA. However, their availability, coverage, and level of functionality varied considerably across institutions. Preventive services such as regular medical screening for pupils and teachers were limited, with less than half of schools providing screening for pupils and even fewer for staff. Where screening was done, it was mainly termly rather than routine. Routine health inspections were also inconsistently implemented and were mostly limited to general physical examinations, with

fewer schools conducting vision and hearing screening. In contrast, emergency care services were more commonly available, as most schools reported provision of first aid for sick or injured pupils.

These findings align with previous studies done in Ekiti and Cross River, Nigeria, where routine medical examinations and structured preventive school health services were largely absent, while first aid provision was more commonly reported.^{25,44} In Cross River State, school health services were present but largely inadequate, particularly for preventive and specialised care.⁴⁴ The observed pattern may be due to limited availability of trained school health personnel, weak enforcement of the National School Health Policy, and inadequate integration of preventive health services into routine school activities.

Nearly half of the schools reported not conducting any form of routine inspection, while those that did mainly carried out general physical examinations. More targeted screening activities such as vision and hearing assessments were less frequently reported, suggesting that structured and specialised school health surveillance remains limited within the study setting. Comparable findings were also reported in Cross River State, where essential screening equipment and specialised health services and in Edo State where only a very small proportion of schools carried out visual and hearing screening for pupils.^{43,44} These findings are likely due to weak institutionalisation of the school health programme within the education system, inadequate funding allocation for health infrastructure in schools, and limited enforcement of school health policy standards by the relevant ministries.

Less than half of the schools in the present study had a formal referral system linking the school to nearby healthcare facilities, indicating that structured coordination between schools and the formal health sector was largely inadequate. In many schools, referral decisions appeared to depend mainly on individual school discretion rather than clearly established protocols or standard operating procedures. Similar findings were reported in Saudi Arabia, where although some schools had referral arrangements in place, a considerable proportion lacked formal hospital referral and emergency response protocols.⁴¹ In contrast, the survey of school health services across European Union countries demonstrated more structured and integrated referral pathways embedded within organised school health systems and supported by multidisciplinary collaboration between schools and healthcare providers.⁴² The disparity observed may be attributable to differences in health system capacity, availability of trained

school health personnel, emergency preparedness frameworks, and the level of coordination between the health and education sectors across settings.

Most schools had optimal environmental health conditions such as perimeter fencing, safe location away from hazards, and generally clean surroundings, indicating that basic safety and environmental standards are relatively prioritised within the school system. However, more functional components of school health services, including recreational facilities, water and sanitation support systems, and health-specific infrastructure, were either absent or in poor working conditions. This suggests that while schools may meet basic structural requirements, the integration of health-promoting infrastructure remains incomplete.

Similar findings were reported in studies conducted in Ekiti State, Edo State, and Cross River State, where schools generally demonstrated better availability of basic environmental sanitation facilities and first aid resources than specialised school health infrastructure such as sick bays, health records systems, emergency transport facilities, and trained health personnel.^{25,43,44} Likewise, a systematic review of school health services in Nigeria reported persistent deficiencies in comprehensive school health infrastructure across many schools.³⁶ In contrast, studies from some European Union countries reported more structured and integrated school health systems with stronger institutional support for preventive, counselling, recreational, and emergency health services within schools.⁴² These differences may reflect variations in funding, policy implementation, intersectoral collaboration, and prioritisation of school health services across settings.

The absence of structured referral systems and inadequate emergency preparedness may compromise timely access to appropriate healthcare during acute illnesses or emergencies occurring within schools. This may increase the likelihood of preventable complications, prolonged illness, avoidable absenteeism, and adverse health outcomes among pupils and staff. Inadequate recreational facilities, poor health record systems, and limited availability of functional sick bays and trained personnel may further weaken health promotion activities, disease surveillance, continuity of care, and effective implementation of the National School Health Policy within schools.^{36,63}

To address these gaps, implementation of the National School Health Policy should be strengthened through improved collaboration between the Ministries of Education and Health, with greater emphasis on supportive supervision, monitoring, and enforcement of minimum school health standards. Schools should be supported to institutionalise routine medical screening programmes for pupils and staff, including periodic vision, hearing, and general health assessments linked to appropriate referral pathways. Clear referral protocols should also be developed and integrated into school health operations to ensure timely linkage between schools and nearby healthcare facilities during emergencies or specialised care needs.

Less than half of pupils reported being ill within the preceding three months, with malaria identified as the most frequently reported condition, and followed by diarrhoea and upper respiratory tract infections. Most ill pupils received some form of treatment; however, care was predominantly sought from chemists and home based management, with fewer pupils accessing hospitals or primary health centres. Illness occurrence was significantly associated with primary caregiver type, with children under guardians or single parent care experiencing higher odds of illness compared to those under both parents suggesting that household structure and caregiving arrangements may influence child health through differences in supervision, health seeking behaviour, and access to timely care, as well as potential variations in socioeconomic stability and caregiving capacity.

These findings are consistent with findings from previous studies done in Enugu and Ekiti where communicable diseases dominated morbidity profiles, largely attributed to poor environmental sanitation, inadequate water supply, and limited preventive school health services.^{64,44} In addition, a study from Ogun State reported that children from single parent households were more likely to experience poorer health outcomes, attributed to financial constraints and reduced caregiving capacity.¹⁰ Similarly, another study conducted in Tanzania revealed that household structural vulnerabilities, including single parent care and caregiver absence, are associated with increased use of informal care pathways and delayed access to formal healthcare services.⁴⁸ This may likely be due to reduced caregiving supervision and delayed access to timely and appropriate healthcare and can result in late presentation of illness, incomplete or inappropriate treatment, and a higher likelihood of complications from otherwise manageable conditions.

Clinical assessment indicators showed generally good hygiene status among pupils, with most having clean hair, normal oral hygiene, intact skin, and appropriate footwear. However, few demonstrated signs of poor hygiene, including unkempt hair, nail infections, and dental plaque. These findings are consistent with studies done in Uganda and Egypt where visible hygiene indicators among school children were generally acceptable, but oral health and subtle infections remained common concerns.^{47,48} The relatively low levels of poor hygiene in may be influenced by periodic school hygiene practices, parental supervision, or under-detection of subclinical conditions.

Most pupils had normal BMI and height-for-age, although a few were underweight, stunted, overweight, or obese. The presence of both undernutrition and overnutrition indicates a double burden of malnutrition within the school population. This pattern mirrors findings from Saudi Arabia and Egypt, where both undernutrition and overweight coexisted among school children, reflecting dietary transitions and unequal access to nutritious food.^{45,48} The relatively higher proportion of normal nutritional status in this study may be influenced by regional dietary patterns and moderate physical activity levels. In addition, the observed lower z-scores and broader variation in anthropometric distributions among males may suggest greater vulnerability of boys to nutritional deficits, possibly due to higher energy expenditure or differential caregiving patterns.

The pattern of illness, alongside predominant reliance on informal care and household level determinants of illness, highlight deficits in preventive child health services, primary healthcare utilisation, and household caregiving support. These predispose pupils to recurrent illnesses, which can negatively affect school attendance, learning outcomes, nutritional status, and overall child development, thereby reinforcing cycles of poor health and reduced educational attainment within the population.⁶³

The State Ministry of Health in collaboration with the Ministry of Education should reinforce standards on existing school-based child health programme to include quarterly medical screening, routine infection surveillance, and structured referral linkage with nearby primary health centres. In addition, all schools should be required to establish functional first aid units linked to designated primary healthcare facilities with clear referral protocols and emergency contact systems.

Shortage of trained health personnel was the most prominent barrier to effective implementation of school health services. Other cited barriers were inadequate facilities and equipment, insufficient funding, weak collaboration with nearby health facilities, absence of functional sick bays, and poor enforcement of school health policies. This pattern closely aligns with findings from Ghana, where shortages of trained school nurses, inadequate medical consumables, and weak institutional support were major constraints to effective school health service delivery.²⁷ Similarly, another study from Namibia reported shortages of school nurses, inadequate supplies, and overreliance on unstable funding sources, which frequently disrupted school health programmes.⁵³ These findings across settings suggest that human resource capacity remains a central determinant of school health service functionality, particularly in low resource environments where specialist school health personnel are not routinely deployed.

At the school level, lack of structured health education programmes emerged as the most commonly reported barrier, followed by poor sanitation conditions, inadequate first aid materials, weak administrative support, and overcrowding. Comparable studies in Edo and Oyo States in Nigeria have also documented weak implementation of health education components within school health programmes, alongside inadequate infrastructure and poor environmental sanitation.^{54,55} In Edo State, for instance, school health services were reported to be poorly institutionalised, with limited availability of functional sick bays, screening services, and preventive health activities, particularly in public schools.⁵⁴ Similar observations were made in Oyo State, where lack of clear operational guidelines, inadequate school infrastructure, and shortage of health personnel significantly hindered service delivery.⁵⁵ These similarities suggest that weak institutionalisation of school health programmes and inadequate prioritisation by schools continue to undermine effective implementation.

Societal factors identified in this study included low parental awareness, limited involvement in school health activities, and negative parental attitudes, which are consistent with evidence from Brazil and Japan, where weak stakeholder engagement was reported as a major barrier to successful school health programme implementation.^{51,52} In Brazil, limited awareness among education stakeholders and poor engagement of families reduced the effectiveness of school health interventions, while in Japan, despite a well-structured system, deficits in

coordination and information sharing between stakeholders still posed challenges to full implementation.⁵¹

These limit the capacity of schools to provide early detection, prevention, and timely management of common health problems. Inadequate trained personnel, weak infrastructure, poor funding, and limited collaboration with health facilities increase the likelihood of undetected illnesses, delayed treatment, and poorly managed acute conditions among pupils. This creates a setting where preventable diseases such as malaria, respiratory infections, and diarrhoeal diseases may progress without prompt intervention.^{36,51,63}

To improve on the identified barriers, school health services should be strengthened by mandating deployment of trained school health personnel, ensuring functional sick bays with basic equipment, and integrating routine health education, screening, and first aid into the school timetable. Enforce minimum standards for school health infrastructure through regular monitoring, while providing dedicated government funding to address gaps in equipment, sanitation, and overcrowding.

CONCLUSION

Most teachers had good knowledge of school health services, although a notable proportion lacked clear understanding of referral procedures, counselling services, and how different health workers are involved in schools.

Majority of teachers exhibited positive attitudes toward school health services, with good recognition of its importance for pupils' wellbeing and learning, despite concerns about workload burden.

Primary schools in Egor LGA had basic environmental and health infrastructure available, particularly sanitation and safety facilities, but were largely deficient in functional school health service components such as sick bays, trained personnel, routine screening activities, and health records systems.

Less than half of pupils had been ill in the preceding three months, with malaria, diarrhoea, and upper respiratory tract infections being the most frequently reported conditions.

The main barriers to implementation of school health services identified in this study were inadequate trained personnel, poor infrastructure, weak funding, limited collaboration with health facilities, insufficient school-level health programmes, and socio-cultural factors such as low parental awareness and limited involvement.

RECOMMENDATIONS

RECOMMENDATIONS

To the Federal Ministry of Education

1. Develop and mandate a standardized School Health Services framework for primary schools, clearly defining minimum service requirements such as sick bays, first aid stations, routine screening, and referral systems, to be implemented nationwide within the next academic cycle.
2. Integrate comprehensive school health services into teacher training curricula in Colleges of Education and Faculties of Education, ensuring pre-service teachers are trained on basic school health identification, first aid, and referral procedures before graduation.

To the Edo State Ministry of Health

1. Deploy trained community health extension workers to public primary schools on a scheduled basis (at least quarterly) to support screening, health education, and referral services, commencing within six months.
2. Strengthen collaboration with the Ministry of Education by establishing a joint school health supervisory team to conduct quarterly monitoring of hygiene conditions, communicable disease trends, and service delivery in schools.

To the Edo State Ministry of Education

1. Enforce minimum school health standards by conducting annual school health audits across all public and private primary schools, ensuring compliance with sanitation, water supply, and basic health facility requirements within each academic year.
2. Introduce mandatory school-based health education programmes, delivered weekly by trained teachers or designated health focal persons, starting from the next term.

To Egor Local Government Education Authorities

1. Provide basic school health infrastructure (sick bays, first aid boxes, handwashing facilities, and safe water points) to all public primary schools within one fiscal year through targeted budget allocation and donor partnerships.
2. Conduct biannual environmental sanitation inspections in all primary schools to ensure compliance with hygiene and sanitation standards, with enforcement penalties for non-compliance.

To School Administrators (Head Teachers and School Management Boards)

1. Establish functional school health committees in all primary schools within three months, comprising teachers, parent representatives, and community health workers to oversee daily hygiene practices and health related activities.
2. Ensure immediate provision and maintenance of basic first aid materials and referral protocols, including designated sick bays or isolation spaces, within each school term.

To School Teachers

1. Participate in mandatory in service training on school health services, first aid, and early identification of communicable diseases at least once every academic year.
2. Integrate daily health checks and hygiene monitoring into classroom routines to facilitate early detection and prompt referral of ill pupils.

To Parents and Guardians

1. Actively engage in school health activities by attending termly school health meetings and supporting hygiene and sanitation initiatives at home and school within each academic term.
2. Encourage early reporting of illness in children and ensure timely healthcare seeking behaviour when symptoms are observed.

CONTRIBUTION TO KNOWLEDGE

This study adds to existing knowledge by providing local evidence from Egor Local Government Area on the status and functioning of school health services, an area where limited context specific data currently exists. It offers a clear picture of how school health services are actually implemented in primary schools, showing the gap between policy expectations and real life practice.

The study further strengthens understanding by showing that although teachers have good general knowledge and positive attitudes towards school health services, this does not translate into full understanding of how the system works in practice, especially in areas such as referral systems, counselling services, and coordinated service delivery. This highlights the gap between theoretical knowledge and practical implementation capacity within school health programmes.

In addition, the study contributes new evidence that basic infrastructure is relatively available in schools, but functional school health services are weak or missing. This shows that having environmental facilities alone is not enough to ensure effective school health delivery, as key service components like trained personnel, routine screening, sick bays, and proper records are still lacking.

The study also adds to the literature by documenting the burden of common childhood illnesses alongside generally good hygiene and nutritional status, showing a mixed health profile where infectious diseases still persist despite some positive health indicators. This reinforces the continued need for strong preventive and school based health services.

Finally, the study highlights that implementation of school health services is influenced by multiple interconnected barriers at school, health system, and community levels, including shortage of trained staff, weak funding, poor collaboration with health facilities, and low parental involvement. This provides a more integrated understanding of why school health services remain weak and supports the need for multi-level interventions rather than single sector solutions.

POLICY IMPLICATIONS

The findings show that although school health services exist in most schools, their implementation is weak and uneven. This indicates that current education and health policies on school health services are not being fully translated into practice. Policy efforts should therefore focus on strengthening implementation rather than only policy formulation, with clear monitoring mechanisms to ensure compliance in all schools.

The limited availability of trained health personnel, weak referral systems, and inadequate funding highlight the need for stronger government commitment to school health financing and workforce deployment. Policies should support the posting or linkage of trained school health personnel to schools, alongside clear funding lines for school health activities such as screening, first aid services, and health education.

The findings also show that many schools lack functional health facilities such as sick bays, screening services, and proper health records. This implies that policy should set and enforce minimum standards for school health infrastructure, ensuring that all schools meet basic requirements for safe and functional health service delivery.

At the pupil level, the burden of communicable diseases such as malaria, diarrhoea, and respiratory infections reflects ongoing gaps in preventive health and environmental sanitation. This suggests that school health policy should be better aligned with public health and environmental health interventions, including routine screening, hygiene promotion, and stronger school based disease prevention programmes.

The study further shows that household structure and caregiving arrangements influence child health outcomes and health seeking behaviour. This implies that school health policy should not operate in isolation but should include family and community engagement strategies, especially targeting caregivers to improve supervision, early care seeking, and continuity of child health support.

Finally, the multiple barriers identified across school, health system, and societal levels show that school health service implementation requires multi sectoral coordination between education, health, and community stakeholders. Policies should therefore strengthen

intersectoral collaboration frameworks, clearly define roles, and ensure accountability across all levels of implementation

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APPENDIX I

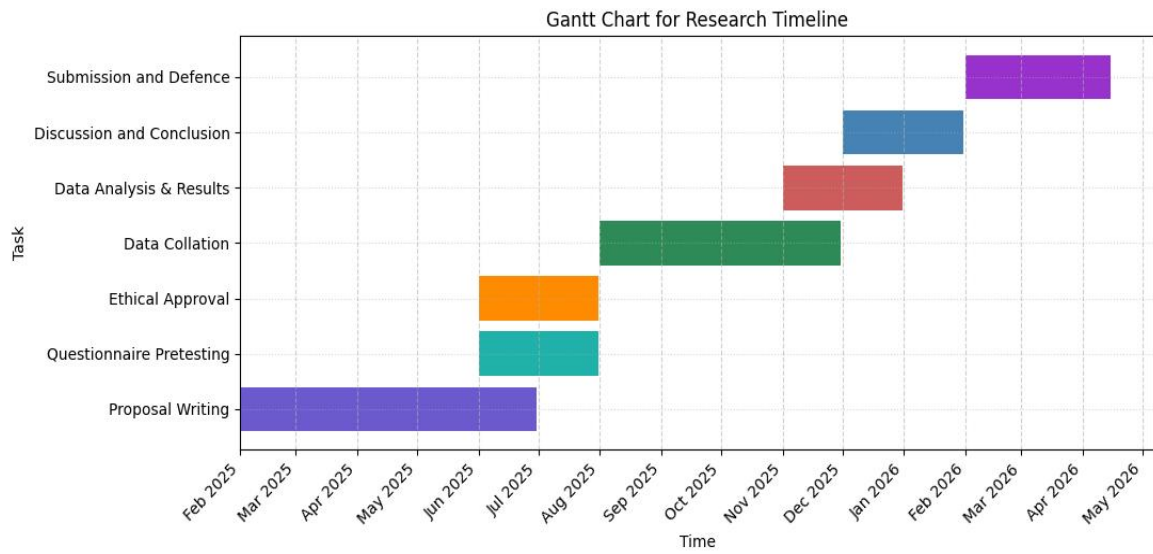


Figure 5: Gantt chart showing the work plan of the one-year project

APPENDIX II

INFORMED CONSENT FORM

Study Title: Assessment of School Health Services in Egor Local Government Area, Benin City, Edo State

Researchers: _____

Department: _____

Institution: _____

Invitation to Participate:

You are respectfully invited to participate in a research study assessing School Health Services in primary schools in Egor Local Government Area, Benin City, Edo State. This study is being conducted for academic purposes.

Purpose of the Study

The study aims to:

Assess teachers' knowledge of School Health Services

Determine teachers' attitudes towards School Health Services

Identify available health facilities and services in schools

Identify common health conditions among pupils

Determine factors affecting the implementation of School Health Services

Procedure

If you agree to participate, you will be asked to complete a questionnaire. This will take approximately 15–20 minutes. You are not required to provide your name or any identifying information.

Voluntary Participation

Your participation is entirely voluntary. You may decline to participate or withdraw at any time without any penalty or consequences.

Confidentiality

All information provided will be treated with strict confidentiality and used solely for academic purposes. No personal identifiers will be recorded, and findings will be reported in summary form only.

Risks and Benefits

There are no known risks associated with this study. The findings may contribute to improving School Health Services in Egor LGA.

Consent Statement

I have read and understood the information provided above. I voluntarily agree to participate in this study.

Participant's Signature: _____ Date: _____

Researcher's Signature: _____ Date: _____

APPENDIX III

QUESTIONNAIRE DESIGN FOR ASSESSMENT OF SCHOOL HEALTH SERVICES IN PRIMARY SCHOOLS IN EGOR LOCAL GOVERNMENT AREA BENIN CITY, EDO STATE

Dear respondents, we are 600-level medical students at the School of Medicine, University of Benin, Benin City. This research aims to assess the school health services in Egor LGA, Benin city, Edo state. This questionnaire will act as a tool for data collection in this study. All information provided will be treated as confidential. Thank you.

SECTION A: SOCIODEMOGRAPHIC CHARACTERISTICS

1. Age in years (as at last birthday): _____
2. Sex: Male ☐ Female ☐
3. Marital status: Single ☐ Married ☐ Divorced ☐ Co-habiting ☐ Others ☐
4. Highest educational qualification: NCE ☐ B.Ed/B.Sc ☐ M.Ed/M.Sc ☐
Others(specify)_____
5. Years of teaching experience:_____
6. Religion: Christianity ☐ Islam ☐ African Traditional Religion ☐ Others (please specify)_____
7. Ethnicity: Benin ☐ Esan ☐ Igbo ☐ Yoruba ☐ Hausa ☐ Others (please specify)_____
8. Current administrative position: Head teacher ☐ Assistant head teacher ☐ Classroom teacher ☐ Others (please specify) _____
9. Current class being tutored: Primary one ☐ Primary two ☐ Primary three ☐ Primary five ☐
Primary six ☐
10. Number of Pupils in Class_____
11. Type of school: Public ☐ Private ☐

SECTION B: KNOWLEDGE OF SHS

Instruction: This section is designed to assess your level of knowledge about SHS. Please tick (✓) the option that best represents your understanding.

12. Have you heard of SHS(School Health Services) Yes ☐ NO ☐
13. If yes, how did you first hear about SHS? (*Please tick all that apply*) Training/workshop ☐
School ☐ Parents ☐ Colleagues ☐ Media ☐ Health workers ☐ Others (please specify)

14. What is School Health Services? A coordinated programme of health services provided in schools to promote, protect, and improve pupils' health [] Health care given to pupils only when they are sick in school [] Teaching pupils about diseases without providing any health care services[]
15. School health services are concerned with: *(Please tick all that apply)* Promoting pupils' physical health [] Preventing diseases among pupils [] Supporting pupils' learning ability [] Treating only serious illnesses [] Punishing pupils for being ill [] Others (please specify)[] _____
16. Components of school health services include: *(Please tick all that apply)* Pre-entry Medical and dental screening [] Routine health screening [] Health record [] Sick bay [] First aid []Referral services[] Counselling services [] School entertainment programs [] Sale of food items in school [] Others (please specify)[] _____
17. The objectives of school health services are to: *(Please tick all that apply)* Improve pupils' health status [] Detect health problems early [] Reduce absenteeism from illness [] Replace hospital-based care[] Others (please specify)_____
18. Teachers' roles in school health services include: *(Please tick all that apply)* Observing pupils for signs of illness [] Providing basic first aid [] Prescribing drugs to pupils [] Giving health education talks [] Others (please specify)_____
19. Facilities that support school health services include: *(Please tick all that apply)* School sick bay or first aid box [] Safe water supply [] Toilet and handwashing facilities [] Staff parking space [] Others (please specify)_____
20. Common health problems addressed by school health services are: *(Please tick all that apply)* Malaria [] Worm infestation [] Respiratory infections [] Hypertension [] Others (please specify)_____
21. Referral of sick pupils involves: *(Please tick all that apply)* Providing first aid in school [] Sending pupils to a health facility when necessary [] Informing parents or guardians [] Treating all illnesses within the school [] Others (please specify)_____
22. Personnel involved in school health services include: *(Please tick all that apply)* Medical Doctors[] School nurses [] Health educators [] Environmental health officers [] School counsellors [] Community health workers [] Dieticians [] School teachers [] Others (please specify)_____
23. School health services in Nigeria are guided by: *(Please tick all that apply)* Nigerian National School Health Policy [] Collaboration between education and health sectors []

Community participation [] Individual teacher preference [] Others (please specify)_____

24. Are you aware of School Health Policy? Yes[] No[]

25. Have you seen a copy of School Health Policy? Yes[] No[]

26. If yes, where _____

SECTION C: ATTITUDES TOWARD SHS

Instruction: Please indicate your level of agreement with the following statements by ticking (✓) the appropriate box.

S/ N	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
27.	School health services are important for pupils' overall wellbeing					
28.	School health services contribute positively to pupils' academic performance					
29.	Early detection of health problems is possible through school health services					
30.	Teachers have a responsibility to support school health services					
31.	Teachers should receive training in basic first aid and school health practices					
32.	Involvement in school health services adds unnecessary burden to teachers					
33.	Adequate school health services can reduce absenteeism among pupils					
34.	School management should prioritize funding for school health services					
35.	Government policies are necessary for effective implementation of school					

	health services					
36.	I am willing to receive training on SHS					

SECTION D: HEALTH FACILITIES AND HEALTH SERVICES AVAILABLE

Instruction: This section is to obtain information on the availability and adequacy of health facilities and health services in your school. Please tick (✓) the option that best describes the situation in your school.

37. Does this school provide regular medical screening for pupils? Yes ☐ No ☐
38. If yes, how often? Weekly ☐ Monthly ☐ Every Term ☐ Every session ☐ Never ☐
39. Does this school provide regular medical screening for teachers? Yes ☐ No ☐
40. If yes, how often? Weekly ☐ Monthly ☐ Every Term ☐ Every session ☐ Never ☐
41. Have you undergone any training on School Health Services? Yes ☐ No ☐
42. If yes, who sponsored the training? School ☐ Self ☐ Education Board ☐ Others (please specify)_____
43. Does the school provide first aid services for sick or injured pupils? Yes ☐ No ☐
44. What routine health inspections/screenings are conducted for pupils? Vision screening ☐ Hearing screening ☐ General physical examination ☐ Not conducted ☐ Others (please specify)_____
45. Does the school keep health records for pupils? Yes ☐ No ☐
46. Does this school have a nurse? Yes ☐ No ☐
47. Is there a referral system to a nearby health facility? Yes ☐ No ☐
48. If yes, where are pupils referred to? Primary health centre ☐ General hospital ☐ Private clinic ☐ Others (please specify)_____
49. Does the school support and provide immunization programme? Yes ☐ No ☐
50. If yes, how often does he/she visit? Weekly ☐ Twice a month ☐ Once a month ☐ Others (Please specify)_____
51. Does this school have a medical doctor? Yes ☐ No ☐
52. If yes, how often does he/she visit? Weekly ☐ Twice a month ☐ Once a month () others (Please specify)_____
53. What is done when a teacher or pupil is sick? Asked to go home ☐ Taken to the sick bay for treatment ☐ Given drugs ☐ Referred ☐ Others specify (Please specify)_____
54. What is done when injured? Asked to go home ☐ Given first aid treatment ☐ Nothing is done ☐ Referred ☐ others(Please specify)_____

SECTION F: FACTORS ASSOCIATED WITH IMPLEMENTATION OF SHS

Instruction: This section seeks to identify factors that influence the implementation of school health services in your school. Please tick (✓) the option that best describes your school's situation.

55. What are the major factors affecting the implementation of school health services in your school? *(Please tick all that apply)* Inadequate government funding [] Lack of trained health personnel [] Lack of health facilities/equipment in school [] Lack of a sick bay or school clinic [] Poor collaboration with nearby health facilities [] Weak government policies or poor enforcement. Others (Please specify) _____
56. Which school-related factors affect the delivery of school health services? *(Please tick all that apply)* Overcrowding of students [] Poor sanitation and environmental conditions [] Lack of health education programmes [] Lack of first aid materials [] Poor support from school authorities [] Others (Please specify) _____
57. Which societal factors affect school health services in your school? *(Please tick all that apply)* Negative attitudes of parents toward school health programmes [] Cultural or traditional beliefs affecting health practices [] Lack of parental involvement in school health activities [] Low awareness of school health services among parents [] None [] Others (Please specify) _____

QUESTIONNAIRE FOR PUPILS

ASSESSMENT OF SCHOOL HEALTH SERVICES IN PRIMARY SCHOOLS IN EGOR LOCAL GOVERNMENT AREA, BENIN CITY. EDO STATE.

NAME OF SCHOOL:

TYPE: Public () Private ()

SECTION A: SOCIO-DEMOGRAPHIC PROFILE OF PUPILS

1. Age (as at last birthday).....
2. Sex:
3. Class: ☐ Primary 1 ☐ Primary 2 ☐ Primary 3 ☐ Primary 4 ☐ Primary 5 ☐ Primary 6
4. Religion: ☐ Christianity ☐ Islam ☐ African Traditional Religion ☐ Others (specify): _____
5. Ethnicity: ☐ Yoruba ☐ Igbo ☐ Hausa ☐ Benin ☐ Esan ☐ Afemai ☐ Others (please specify)
6. Who is your primary caregiver: ☐ Mother ☐ Father ☐ Both parents ☐ Guardian
7. Mother's Occupation: _____
8. Father's Occupation: _____
9. Guardian's Occupation: _____
10. Have you been ill in the last 3 months? ☐ Yes ☐ No
11. If yes, what illness did you have? Malaria ☐ Diarrhoea ☐ Upper respiratory tract infections (e.g., common cold, flu) ☐ Skin infections ☐ Eye infections ☐ Ear infections ☐ Others (please specify): _____

SECTION B: EXAMINATION OF PUPILS

Parameter	Sub-category	Options/Response
Height (cm)		_____
Weight (kg)		_____
Hair	Appearance	Kempt () / Unkempt ()
	Colour	Black () / Brown () / Golden () /

		Discoloured ()
	Infections	Present () / Absent ()
Oral Examination	Colour of teeth	White () / Yellow () / Discoloured ()
	Tooth deformity	Present () / Absent ()
	Plaques	Present () / Absent ()
	Caries	Present () / Absent ()
	Mouth odour	Present () / Absent ()
Skin infections		Present () / Absent ()
Nails	Infections	Present () / Absent ()
	Trim status	Trimmed () / Not Trimmed ()
Legs	Shoes	Present () / Absent ()

OBSERVATIONAL CHECKLIST

ASSESSMENT OF SCHOOL HEALTH SERVICES IN PRIMARY SCHOOLS IN EGOR LOCAL GOVERNMENT AREA, BENIN CITY. EDO STATE.

NAME OF SCHOOL:

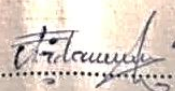
TYPE: Public () Private ()

HEALTH FACILITIES AND HEALTH SERVICES AVAILABLE

Instruction: This section is to obtain information on the availability and adequacy of health facilities in schools. Please tick (✓) the option that best describes the situation in the school visited.

Facility	Present in good condition	Present in poor condition	Absent
1. Sick bay/Dispensary			
2. First aid kit with required contents			
3. Functional sick bay/health room			
4. School health record			
5. School ambulance/Transport facility to referral centre			
6. Children playground			
7. Recreational and sports facilities			
8. Pipe borne water			
9. Gender-sensitive toilet facilities			
10. Hand washing facilities			
11. School Counsellor			
12. Perimeter fencing with gate			
13. Location of school away from potential environmental hazards			
14. Clean school environment			

APPENDIX IV

 HEALTH RESEARCH ETHICS COMMITTEE (HREC)	
UNIVERSITY OF BENIN TEACHING HOSPITAL P.M.B. 1111 BENIN CITY NIGERIA Telephone: 052-600418 Website: ubth.org	
CHIEF MEDICAL DIRECTOR Prof. (Mrs) I.N Ize-Iyamu	DIRECTOR OF ADMINISTRATION Jim Uwadie, Esq
CHAIRMAN Prof. (Mrs.) Antoinette N. Ofili	
HREC OFFICE: Committee email: ubthresearchethics@gmail.com Registration Number: NHREC-UBTH-HREC/24/12/20228	
PROTOCOL NUMBER: ADM/E 22/A/VOL. VII/14865491272126	
PROPOSAL TITLE: "ASSESSMENT OF SCHOOL HEALTH SERVICES IN PRIMARY SCHOOLS IN EGOR LOCAL GOVERNMENT AREA BENIN CITY, EDO STATE"	
PRINCIPAL INVESTIGATOR(S): ASUELINMEN NORAH OBOSE, BENSON EDURANCE AMANGUI	
DEPARTMENT/INSTITUTION: DEPARTMENT OF PUBLIC HEALTH AND COMMUNITY MEDICINE, SCHOOL OF MEDICINE, UNIVERSITY OF BENIN, BENIN CITY, EDO STATE, NIGERIA	
DATE CONSIDERED: MARCH 31 ST , 2026	
DECISION OF THE COMMITTEE: APPROVED	
THIS APPROVAL DATES 31/03/2026 TO 19/03/2027. IF THERE IS DELAY IN STARTING THE RESEARCH, PLEASE INFORM THE HREC SO THAT THE DATES OF APPROVAL CAN BE ADJUSTED ACCORDINGLY	
REMARK:	
CHAIRMAN: PROF. (MRS) A.N. OFILI	SIGNATURE & DATE  31/3/2026
SUPERVISOR (S): PROF. V.Y. ADAM	
DECLARATION BY INVESTIGATOR(S):  (please quote in all enquiries)	
Note that no participant accrual or activity related to this research may be conducted outside of these dates and you are to furnish the committee with the research activities at the completion of the study. All informed consent forms used in this study must carry the HREC assigned number and duration of HREC approval of the study. In multiyear research, endeavor to submit your annual report to the HREC early in order to obtain renewal of your approval and avoid disruption of your research. No changes are permitted in the research without prior approval by the HREC except in circumstances outlined in the Code. The HREC reserves the right to conduct compliance visit to research site without previous notification.	
Signature & Date  8/3/2026	
 ubthresearchethics@gmail.com	
Registration Number: NHREC/24/01/2020	

APPENDIX V



EDO STATE MINISTRY OF EDUCATION,

EDUCATION HUB, IYARO
P.M.B. 1058 BENIN CITY, NIGERIA
Email: min.edu@edostate.gov.ng
Hotline: 08182737088

Our Ref: PRS/PP/802/T¹/148

24th April, 2026

Department of Public Health and Community Medicine,
School of Medicine,
College of Medical Sciences,
University of Benin.

Attn: Asuelinmen Norah Osose & Benson Endurance Amangui

CERTIFICATE OF ETHICAL APPROVAL

This is to certify that the research proposal submitted by **Asuelinmen Norah Osose**, Matriculation Number **MED1807372**, and **Benson Endurance Amangui**, Matriculation Number **MED1807378**, final-year students of the Department of Public Health and Community Medicine, under the supervision of **Prof. V. Y. Adam**, titled "Assessment of School Health Services in Primary Schools in Egor Local Government Area, Benin City, Edo State", has been reviewed and approved by the Director, Planning, Research and Statistics, Ministry of Education.

2. The proposed study complies with the highest ethical standards and is deemed appropriate. The researcher is therefore authorized to conduct her study at **Oba Ewuare Primary School, Ugbowo Primary School, Ugbowo Housing Estate Primary School, Olua Primary School, Edaiken Primary School**, and **Oba Ewuare II Primary School**, all of which fall under the jurisdiction of the Ministry of Education.

Ethical Requirements:

- i. **Informed Consent and Right to Withdraw:** Participants must give informed consent and may withdraw from the study at any time without consequence.
 - ii. **Confidentiality and Data Security:** Sensitive information must be protected using appropriate measures, including encryption and anonymisation.
3. Please accept our warmest regards.

Orire G.O

Director, Planning, Research and Statistics
Ministry of Education.

APPENDIX VI

INTELLECTUAL PROPERTY & TECHNOLOGY TRANSFER OFFICE (IPTTO)
Vice Chancellor's Office
University of Benin
PMB1154, Benin City, Nigeria



CLEARANCE FORM

DATE: 12/05/2026

NAME: ASUELIMEN NORTH OBOSE

MATRIC NO: ME01807372

DEPARTMENT: MEDICINE AND SURGERY

FACULTY: MEDICINE AND SURGERY

SESSION OF GRADUATION: 2025/2026

DIRECTOR

PTTO/VCO
UNIVERSITY OF BENIN CITY
Head Of Unit (IPTTO)



INTELLECTUAL PROPERTY & TECHNOLOGY TRANSFER OFFICE (IPTTO)

Vice Chancellor's Office
University of Benin
PMB1154, Benin City, Nigeria

CLEARANCE FORM

DATE: 12/05/2026

NAME: BENSON-ATANGUI ENOURANCE

MATRIC NO: 17ED1807378

DEPARTMENT: MEDICINE AND SURGERY

FACULTY: MEDICINE

SESSION OF GRADUATION: 2025/2026

DIRECTOR

DATE

IPTTO

Head of Unit (IPTTO)