

Assessment of knowledge of adolescent health problems among secondary school teachers in Bayelsa State, Nigeria

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Abstract

Background: Adolescents are susceptible to a range of health issues that might have significant impact on their growth and academic achievement, and teachers should have knowledge of these health problems in order to help, encourage and foster healthy habits. The study investigated knowledge adolescent health problems among secondary school teachers in Bayelsa state.

Method: The study adopted a cross-sectional descriptive survey research design that lasted from 23rd April to 16 August, 2023. A sample size of 318 secondary school teachers were selected for the study. The study adopted multi-stage sampling procedure. Three research questions and two hypotheses guided the study. The research questions were analyzed using frequency and percentages while the hypotheses were tested using t-test in the SPSS version 26.

Results: The findings revealed that, majority of respondents were male 165 (52.5%), while 149 (47.5%) were female. Secondary school teachers possess good knowledge of adolescent health problems (72.0%), their causes (68.7%) and preventive measures (68.6). Significant difference was recorded on respondents' knowledge on adolescent health problems based on gender ($t = 8.788$; $df = 312$; $p < 0.010$) and location ($t = 8.788$; $df = 312$; $p < 0.014$).

Conclusion: Secondary school teachers in Bayelsa State possess satisfactory knowledge of adolescent health problems, their causes and preventive measures.

Keywords: Adolescent; Adolescent health; Drug abuse; Diabetes; Health

1. Introduction

Adolescence is a critical stage of human development, spanning the ages of 10–19 years, and is characterized by rapid physical, psychological, emotional, cognitive, and social changes. This is the transitional time between childhood and maturity, and is divided into three distinct phases, such as early adolescence (10-13 years), middle adolescence (14-16 years), and late adolescence (17-19 years) [3]. During this period, adolescents experience significant developmental transitions that influence their present and future health and well-being. Adolescence is defined by significant changes in one's physical, emotional, and intellectual makeup as well as in relationships, expectations, and social roles [1]; [23]. These changes are crucial to one's personal growth and provide the groundwork for one's ability to function as an adult [5].

Although, generally considered one of the healthiest stages of life, adolescents are vulnerable to numerous health problems. According to [4], these problems include sexual and reproductive health issues, mental health disorders,

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substance abuse, malnutrition, communicable diseases such as malaria and HIV/AIDS, violence, injuries, and unhealthy lifestyle behaviours. These health challenges can adversely affect academic performance, school attendance, and overall quality of life, if not identified and addressed promptly [26]. The health status of an adolescents determines their health status in his/her adulthood [7]. Adolescents comprise of more than 1.2 billion of the world population indicating that, roughly one in every six persons is an adolescent [27]. In Nigeria, 32% of the total Nigerian population consists of adolescents which translates to about 230 million. They are the future of the nation and represents the major demographic, political, social and economic force [11]. They have specific needs which vary with gender, life circumstances and socio-economic conditions.

Adolescence is the crucial phase of life. According to [9], it creates stress and serious health issues for young people that may find it difficult to appropriately cope, communicate and face them. Many serious diseases in adulthood have their roots in adolescence [16]; [12]. Adolescents are susceptible to a range of health challenges, including physical injury, psychological issues and school dropout, early pregnancy, reproductive health issues, social health issues like substance abuse, smoking, gender-based violence and engagement in high-risk sexual behaviour that leads to teenage pregnancy or contracting life-threatening diseases such as HIV/AIDS and other behaviours, [15];[13]. In essence, these health issues might occasionally have an impact on a person's growth, adolescent life, and academic success. According to [8], adolescents are susceptible to forming bad behaviours during this period which might result in a number of health issues that requires the teachers' knowledge to help them overcome.

Teachers are the adults with whom adolescent students spend most of their time, and therefore, the people who could have one of the most significant opportunities to help encourage and foster healthy habits [18]. This is so because teachers are believed to have adequate knowledge and strategies surrounding adolescent health. It is estimated that 12.7 percent of young people in aged 4 to 18 years have a health issues, including 5.2 percent with an anxiety disorder [20]. This means that in any given classroom, teachers will likely have three to four students experiencing health struggles [6]. Furthermore, adolescent health concerns, such as anxiety and worry, are risk factors for the later development of mental health disorders in adulthood [10]; [25]. The time in which students are in the care of educators in school is crucial to establishing healthful practices that will allow them to become better-functioning adults with the ability to successfully cope.

Schools are strategic settings for promoting adolescent health because young people spend a substantial proportion of their time within the school environment [14]. Secondary school teachers interact with adolescents daily and are often the first adults to observe behavioural, emotional, or physical changes that may indicate health problems [22]. Consequently, teachers are expected to possess adequate knowledge of adolescent health problems to enable them identify at-risk students, provide basic health guidance, make appropriate referrals, and support the implementation of school health programmes [17]; [19].

In Nigeria, adolescents constitute a significant proportion of the population and face multiple health challenges arising from socioeconomic inequalities, limited access to adolescent-friendly health services, poor health literacy, and risky health behaviours [24]. Bayelsa State is not exempted from these challenges, as adolescents are exposed to malaria, sexually transmitted infections, teenage pregnancy, substance use, mental health problems, and other preventable conditions that may negatively affect their educational attainment and future productivity [21]. Since teachers are key stakeholders in the school health system, their knowledge of these health problems is essential for effective health education, early detection of health concerns, and timely intervention.

Despite the pivotal role of teachers in adolescent health promotion, evidence from studies conducted in Nigeria indicates that teachers' knowledge of school health-related issues is often inadequate, thereby limiting their effectiveness in promoting students' health and well-being [2]. There is limited empirical evidence regarding the extent of secondary school teachers' knowledge of adolescent health problems in Bayelsa State. According to [25], assessing their level of knowledge will provide evidence for educational authorities and health policymakers to design targeted training programmes that strengthen teachers' capacity to address adolescent health needs within schools. It is against this background that this study sought to assess the knowledge of adolescent health problems among secondary school teachers in Bayelsa State. The study was aimed at assessing the knowledge of secondary school teachers on adolescent health problems in Bayelsa State. The following research questions were posed to guide the study.

- What is the level of knowledge of teachers on common health problems of adolescents in secondary schools in Bayelsa State?
- To what extent do teachers know the preventive measures of common health problems of adolescents in secondary schools in Bayelsa State?

- What is the level of knowledge of teachers on the causes of common health problems of adolescents in secondary schools in Bayelsa State by teachers?

Two null hypotheses were postulated for the study and they include;

- There is no significant difference in the knowledge of teachers on adolescent common health problems in secondary schools in Bayelsa State based on gender.
- There is no significant difference between urban and rural teachers on knowledge of adolescents' health problems in secondary schools in Bayelsa State.

2. Materials and Methods

The study adopted a cross-sectional descriptive survey research design that lasted from 23rd April to 16 August, 2023. Three research questions and two hypotheses guided the study. The population for this study consisted of all the 3182 teachers which comprised 1688 male and 1494 female teachers in the 198 public secondary schools in Bayelsa State. (Ministry of Education, Post Primary Education Board, 2021). A sample size of 318 teachers was used for the study, which was determined using Cochran's formula at 95% confidence level, 5% margin of error, and 50% response distribution. This sample was drawn from 120 public secondary schools with a distribution of 169 male and 149 female teachers.

Multi-stage sampling procedure was adopted to select the respondents for the study. In the first stage, simple random sampling technique was used to select 120 schools out of the 198 public boarding secondary schools Bayelsa State. In the second stage, proportionate stratified random sampling technique was used to allocate the sample size to each selected public boarding secondary schools in Bayelsa State with focus on class level, based on student population. Finally, students were selected from each class (stratum) using simple random sampling technique (balloting) until the required sample size was obtained. The "instrument for data collection was self-developed questionnaire titled Teachers' Knowledge of Adolescents' Common Health Problems Questionnaire" (TKOACHPQ). The 30-item instrument had two sections (A and B). Section A consists of the teachers' demographic variable which includes: educational attainment, marital status, years in service, gender and location. While section B was structured with questions that elicit the knowledge of secondary school teachers on adolescent health problems. The questionnaire was a modified version from relevant Knowledge, Attitude and Practice (KAP) studies with response options of YES or NO for all questionnaire items, with correct answer assigned with 1 mark while wrong answer was assigned 0 mark for knowledge questions.

To ensure the validity of the instrument, it was subjected to content and face validity. The content and face validity of the instrument was determined by three experts in the field of Health Education. Face and content validity of the instrument was ascertained by three experts in the field of health education. Reliability of the research instrument was determined using Kuder-Richardson Formula 20 (KR-20) reliability test. The instrument was administered to 20 students in a public secondary school in Mbiama, Rivers State once and was retrieved that same day. The returned copies of the instrument were coded, analyzed, yielding an internal consistency of 0.82, which was adjudged to be appropriate for the instrument to be used for the study. The 318 copies of the questionnaire were administered by the researchers with the assistance of six trained research assistants. Out of 318 copies administered, only 314 were retrieved, resulting to 98.7 percent return rate.

Data obtained from the study were coded into Statistical Package for the Social Science (SPSS) version 26 and analyzed using descriptive statistics of frequencies and percentages for the research questions and t-test for the hypotheses at 0.05 level of significance. The total scores were categorized into good and poor levels, by using a modified version of World Health Organization standardized Knowledge-Attitude-Practice (KAP) survey guidelines commonly used in public health researches. Based on the WHO KAP survey recommendations, knowledge and practice scores were categorized as ≥ 60 good knowledge, while $< 60\%$ is poor knowledge.

3. Results

As shown in table 1, 165 (52.5%) were male, while 149 (47.5%) of respondents were female. The table further revealed that, 150 (47.8%) of the respondents were in rural schools while 164 (52.2%) were in urban schools.

Table 1 Demographic Data of Respondents (n=314)

Variables	Categories	Frequency	Percentage
Gender	Male	165	52.5%
	Female	149	47.5%
Location	Rural	150	47.8%
	Urban	164	52.2%

The data presented in table 2 shows teachers' knowledge on common health problems of adolescents in senior secondary schools in Bayelsa State. The data shows that majority of the respondents answered YES to all the six questionnaire items leading to a cluster percentage of 72.0% for YES and 28% for NO options. Since the cluster percentage of 72.0% is greater than the benchmark 60%, the researchers agreed that secondary school teachers have good knowledge on common health problems of adolescents in senior secondary schools in Bayelsa State.

3.1. Research Question 1: What is the level of knowledge of teachers on common health problems of adolescents in secondary schools in Bayelsa State?

Table 2 Summary of Analysis on Teachers on Knowledge of Common Health Problems of Adolescents(n=314)

S/N	Items	Yes		No	
		Frequency	Percentage	Frequency	Percentage
1	Obesity is common health problem among adolescents	271	86.3	43	13.7
2	Gonorrhea is a common health problem among adolescents	227	72.3	87	27.7
3	Mental disorder is a common health problem among adolescents	213	67.8	101	32.2
4	Drug abuse is a common health problem among adolescents	270	86.0	44	14.0
5	HIV is a common health problem among adolescents	233	74.2	81	25.8
6	Early child birth is a common health problem among adolescents	109	45.2	205	54.8
	Cluster Percentage		72.0		28.0

The data presented in table 3 shows teachers' knowledge of preventive measures on common health problems of adolescents in senior secondary schools in Bayelsa State. The data shows that majority of the respondents answered YES to all the six questionnaire items leading to cluster percentage of 68.7% for YES and 31.3% for NO options. Since the cluster percentage of 68.7 is greater than the benchmark 60%, the researchers agreed that secondary teachers have good knowledge of preventive measures of common health problems of adolescents in senior secondary schools in Bayelsa State.

3.2. Research Question 2: To what extent do teachers know the preventive measures of common health problems of adolescents in secondary schools in Bayelsa State?

Table 3 Summary of Analysis on Teachers on Knowledge of preventive measures of Common Health Problems of Adolescents(n=314)

S/N	Items	Yes		No	
		Frequency	Percentage	Frequency	Percentage
1	Regular physical activities help in preventing common health problem in Adolescents	251	79.9	63	20.1
2	Eating healthy foods helps in preventing common health problem in Adolescents	216	68.8	98	31.2
3	Students getting enough rest helps in managing common health problem in Adolescents	210	66.9	104	33.1
4	Students not involving in smoking helps in preventing common health problem in Adolescents	164	52.2	150	47.8
5	Students practicing healthy behaviours on daily basis helps prevent common health problem among adolescents	222	70.7	92	29.3
6	Students not getting involved in drinking too much alcohol help prevent common health problems among adolescents	231	73.6	83	26.4
	Cluster Percentage		68.7		31.3

The data presented in table 4 shows the level of teachers' knowledge on the causes of common health problems of adolescents in senior secondary schools in Bayelsa State. The data shows that majority of the respondents answered YES to all the six questionnaire items leading to cluster percentage of 68.6% for YES and 31.4% for NO options. Since the cluster percentage of 68.6 is greater than the benchmark 60%, the researchers agreed that secondary teachers have good knowledge on causes of common health problems of adolescents in senior secondary schools in Bayelsa State.

3.3. Research Question 3: What is the level of knowledge of teachers on the causes of common health problems of adolescents in secondary schools in Bayelsa State by teachers?

Table 4 Summary of Analysis on Teachers on Knowledge of Causes of Common Health Problems of Adolescents(n=314)

S/N	Items	Yes		No	
		Frequency	Percentage	Frequency	Percentage
1	Unhealthy diet can cause common health problem in Adolescent	206	65.6	108	34.4
2	Untidy environment can cause common health problem in Adolescent	245	78.0	69	22.0
3	Constants use substance abuse by students can cause common health problem in Adolescent	235	74.8	79	25.2
4	Lack of pro-social leisure activity can cause common health problem in Adolescent	229	72.9	85	27.1
5	Genetic factors can cause common health problem in Adolescent	215	68.5	99	31.5
6	Smoking can cause common health problem in Adolescent	162	51.6	152	48.4
	Cluster Percentage		68.6		31.4

Results in table 5 shows difference in the knowledge of teachers on adolescent common health problems in secondary schools in Bayelsa State based on gender. An independent t-test results showed that the difference between the groups was significant ($t = 8.788$; $df = 312$; $p < 0.010$) and the null hypothesis that says there is no significant difference in the knowledge of teachers on adolescent common health problems in secondary schools in Bayelsa State based on gender was rejected. This is because the p -value of 0.010 is lesser than the 0.05 level of significance. This finding suggests that; male and female secondary school teachers don't have the same level of knowledge on adolescent common health problems in secondary schools in Bayelsa State.

3.4. Hypothesis 1: There is no significant difference in the knowledge of teachers on adolescent common health problems in secondary schools in Bayelsa State based on gender.

Table 5 Summary of t-test analysis on difference in knowledge of teachers on adolescent common health problems in secondary schools in Bayelsa State based on gender (n=314)

Variables	N	Mean	Std	Df	t-value	Sig.	Decision at $p < 0.05$
Male Teachers	169	25.60	2.6132				
				312	8.788	0.010	*
Female Teachers	149	16.35	8.6429				

*= significant at $p < 0.05$ alpha level

Results in table 6 shows difference in the difference between urban and rural teachers on knowledge of adolescents' health problems in secondary schools in Bayelsa State. An independent t-test results showed that the difference between the groups was significant ($t = 8.788$; $df = 312$; $p < 0.014$) and the null hypothesis that says there is no significant difference in the knowledge of teachers on adolescent common health problems in secondary schools in Bayelsa State based on gender was rejected. This is because the p -value of 0.014 is lesser than the 0.05 level of significance. This finding suggests that; the knowledge levels of teachers in rural location and teachers in urban location are not the same on adolescent common health problems in secondary schools in Bayelsa State.

3.5. Hypothesis 2 There is no significant difference between urban and rural teachers on knowledge of adolescents' health problems in secondary schools in Bayelsa State.

Table 6 Summary of t-test analysis of difference between urban and rural teachers on knowledge level of teachers' knowledge of preventive measures of adolescent common health problems (n=314)

Variables	N	Mean	Std	Df	t-value	Sig.	Decision at $p < 0.05$
Rural	150	46.4	9.34				
				316	6.796	0.014	*
Urban	164	38.0	6.91				

*= significant at $p < 0.05$ alpha level

4. Discussion Findings

The study revealed that secondary school teachers in Bayelsa State possess good knowledge of common adolescent health problems. This finding suggests that teachers are familiar with the major health challenges affecting adolescents, including mental health disorders, substance abuse, sexually transmitted infections (STIs), HIV/AIDS, teenage pregnancy, menstrual health problems, malnutrition, obesity, and risky sexual behaviours. The high level of knowledge demonstrated by the teachers is encouraging because schools remain one of the most important settings for promoting adolescent health. Teachers interact with adolescents daily and are often the first adults to observe changes in students' physical appearance, emotional well-being, behaviour, and academic performance [22].

The finding supports the recommendations of [27], which emphasize that schools provide a unique opportunity to promote adolescent health through health education, counselling, early identification of health problems, and referral services. [27], further states that comprehensive school health services improve educational outcomes while simultaneously reducing preventable adolescent morbidity and mortality. The finding is also consistent with [3], who argued that adolescence represents a critical developmental period during which appropriate health knowledge and

timely interventions can significantly influence lifelong health outcomes. Likewise, [6], maintained that teachers are indispensable partners in promoting adolescent well-being because they create supportive learning environments and facilitate healthy behaviours.

The study further established that secondary school teachers possess good knowledge of the causes of adolescent health problems. This finding reflects an understanding of the multifactorial nature of adolescent health. According to the socio-ecological model, adolescent health is influenced by interactions among individual, interpersonal, family, school, community, and policy-related factors [18]. Teachers who understand these determinants are more likely to identify students at risk and implement appropriate preventive strategies. The finding corroborates [23], who observed that adolescent health outcomes are determined not only by biological factors but also by social, economic, educational, cultural, and environmental conditions. Similarly, WHO recognizes that improving adolescent health requires multisectoral interventions involving schools, families, health systems, and communities [27].

The findings further indicated that teachers possess good knowledge of preventive measures for common adolescent health problems. This finding agrees with the WHO Guideline on School Health Services, which recommends comprehensive school health programmes that integrate health promotion, disease prevention, counselling, mental health support, nutrition services, sexual and reproductive health education, and referral systems for school-aged children and adolescents [27]. The finding also supports current evidence showing that preventive interventions delivered through schools produce substantial improvements in adolescent health behaviours [6]. Consequently, teachers who possess adequate knowledge of preventive measures become valuable agents for promoting healthy lifestyles and preventing avoidable diseases among adolescents.

The testing of hypothesis 1 revealed that there was a statistically significant difference in the knowledge adolescent health problems by secondary school teachers based on gender. Therefore, gender does significantly influence teachers' knowledge of adolescent health problems in Bayelsa State. It further indicates that male and female teachers are not equally capable of participating in adolescent health promotion programmes. The descriptive findings further indicated that female teachers possessed slightly higher knowledge of adolescent health problems than their male counterparts. This observation may reflect the greater involvement of female teachers in students' psychosocial welfare, reproductive health education, and counselling activities. Female teachers often serve as confidants for adolescent girls experiencing menstruation-related concerns, sexual harassment, or emotional distress, thereby gaining greater practical exposure to adolescent health issues [22].

The study also established that there was statistically significant difference in teachers' knowledge on adolescent health problems based on school location. Teachers working in urban and rural secondary schools demonstrated different levels of knowledge regarding adolescent health problems. The finding suggests that teacher education programmes, standardized professional qualifications, educational policies, digital communication technologies, and government capacity-building initiatives have not reduced disparities in professional knowledge between urban and rural teachers. The presence of significant geographical differences is not encouraging because it indicates that adolescent health promotion programmes cannot be implemented across all secondary schools in Bayelsa State without requiring substantially different educational packages for teachers in rural and urban settings.

5. Conclusion

From the findings of the study, the researchers concluded that, secondary school teachers in Bayelsa State possess satisfactory knowledge of adolescent health problems, their causes and preventive measures. This provides a valuable resource for strengthening school health programmes and improving adolescent health outcomes. The study further revealed a statistically significant difference in secondary school teachers' knowledge on adolescent health problems based on gender and location. Based on the above conclusion, the following recommendations were made;

Periodic refresher training be provided to keep secondary school teachers informed of emerging adolescent health issues such as cyberbullying, internet addiction etc.

Government should establish a policy frame-work that would improve teachers, access to information technologies, and professional development opportunities that would further reduce the knowledge disparities between urban and rural teachers.

Schools' administration should regularly assess teachers' knowledge and implementation of strategies related to adolescent health. Collecting feedback from students, parents, and healthcare professionals can provide valuable insights into the effectiveness of the school's efforts and identify areas for improvement

Compliance with ethical standards

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Disclosure of conflict of interest

No conflict of interest was declared by the authors.

Statement of ethical approval

The authors visited the head of the directorate of schools in the state ministry of education and obtained written permission before proceeded to the schools to carry out the study. The authors consciously maintained anonymity of the participants. As part of the design of the instrument, no personal information of participants was needed in the questionnaire. It was properly explained in the instrument that, the information needed was purely for the purpose of academic.

Statement of informed consent

The authors obtained informed consent from the participants, which was done verbally and they all participated voluntarily.

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