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Knowledge–Behaviour Gap in Teenage Pregnancy Prevention among Secondary School Students: Influence of School-Based Health Education in Ward II, Burutu Local Government Area, Benue State, Nigeria

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Abstract

This study examined the knowledge–behaviour gap in teenage pregnancy prevention by assessing the influence of school-based health education among secondary school students in Ward 11, Burutu Local Government Area, Delta State, Nigeria. A descriptive survey research design was adopted. The sample comprised 60 students selected from Sokebolou and Ogulagha secondary schools through a multistage sampling procedure. Data were collected using a structured questionnaire validated by experts, with a reliability coefficient of 0.84. The data were analysed using frequency, percentage, mean and standard deviation. Findings showed that students had high knowledge of the meaning, causes and prevention of teenage pregnancy, although awareness of its health risks was low. Health education programmes moderately improved students' understanding and corrected wrong ideas about teenage pregnancy, but had low influence on preventive behaviour, including avoidance of risky sexual behaviour, responsible relationship decisions and positive behaviour change. Group discussions, real-life examples and clear teacher explanations were identified as useful strategies, while inadequate programmes, lack of trained teachers, inadequate teaching materials and cultural beliefs limited programme effectiveness. The study proved that a knowledge–behaviour gap exists among students and recommended strengthening school-based health education through trained facilitators, interactive teaching, adequate materials and culturally sensitive behaviour-change communication.

Keywords: Health education; Teenage pregnancy; Preventive behaviour; Knowledge–behaviour gap; Secondary school students; Delta State

Introduction

Teenage pregnancy remains a persistent public health, educational and social problem because it occurs during a developmental stage when adolescents are still acquiring the maturity and decision-making capacity needed for safe reproductive choices (Bolarinwa et al., 2022). In Nigeria, the problem remains substantial despite some recorded improvement. Akombi-Inyang et al. (2022) using pooled Nigeria Demographic and Health Survey data from 22,761 adolescents aged 15–19 years, found that adolescent pregnancy declined from 22.9% in 2008 to 18.7% in 2018, but remained strongly associated with poverty, low educational attainment and regional inequality.

Although this decline suggests some national progress, Bolarinwa et al. (2022) reported a spatial adolescent pregnancy range of 0–66.67% across Nigeria, indicating that national averages can conceal severe localised burdens. The consequences are equally multidimensional. Alex-Ojei et al. (2023) reported that adolescent mothers in Nigeria experience stigma, financial constraints, family influence and culturally shaped health-seeking decisions, which means that teenage pregnancy affects not only maternal health, but also schooling, social identity, access to care and future life opportunities. Therefore, teenage pregnancy prevention should be treated as a school, family and community health education priority rather than as a narrow biological issue.

Health education is central to teenage pregnancy prevention because it can translate reproductive health information into informed judgement, risk perception and safer behaviour. Myat et al. (2024), in a scoping review of school-based comprehensive sexuality education, argued that effective programmes should cover contraception, pregnancy, abortion and HIV/STIs through multi-session school-based delivery, although many interventions remain incomplete in content, provider competence and outcome measurement. Similarly, Bordogna et al. (2023), after reviewing 29 studies, showed that comprehensive sexuality education is more defensible than abstinence-only or no sexuality education because it addresses knowledge and safer behaviour together. However, the value of health education lies not in lesson delivery alone, but in strengthening attitudes, refusal skills, decision-making capacity and responsible relationship behaviour. This is important because students may know the meaning or causes of teenage pregnancy without developing the confidence and practical skills required to avoid risky sexual behaviour.

Despite the preventive promise of school-based health education, teenage pregnancy continues to occur in Nigeria because adolescent vulnerability is shaped by factors that classroom knowledge alone cannot remove. Alukagberie et al. (2023), in a Nigerian scoping review of 28 studies, reported adolescent pregnancy prevalence ranging from 7.5% to 49.5% and identified individual, family, school, peer, community and societal factors as interacting drivers. This challenges the assumption that awareness alone is sufficient. Ayamolowo et al. (2024) similarly reported that among unmarried adolescents in Nigeria, unintended pregnancy ranged from 23.4% to 92.7%, while contraceptive use was low, partly due to limited reproductive health information and poor awareness of modern contraceptives. Although some adolescents may possess partial reproductive health knowledge, Govender et al. (2019) disclosed that only 43.9% of adolescent maternal health service users in South Africa answered at least half of pregnancy and STI/HIV knowledge questions correctly, demonstrating that exposure to health messages does not necessarily create adequate understanding. This concern is relevant to Ward 11, Burutu Local Government Area, Delta State, where students may report knowledge of teenage pregnancy prevention while still showing weak preventive behaviour.

This study is therefore justified by the need to examine this knowledge–behaviour gap in a specific school-community context. While national studies provide broad evidence on adolescent pregnancy determinants, local school-based studies are necessary because they show whether health education is practical, regular, culturally acceptable and behaviour-focused within the immediate learning environment of students. In Ward 11, the critical issue is not simply whether students have heard about teenage pregnancy prevention, but whether school-based health education is strong enough to influence avoidance of risky sexual behaviour, responsible relationship decisions and positive reproductive health choices.

This study is guided by the Health Belief Model and the knowledge–behaviour perspective because both explain why information may fail to produce action. Kim et al. (2022) found that Health Belief Model constructs, including perceived severity, perceived benefits and perceived barriers, were associated with adolescents' healthy pregnancy preparation behaviour. This supports the argument that students are more likely to act preventively when they understand risk, consequences, benefits and barriers. Applied to teenage pregnancy prevention, health education is more likely to influence behaviour when it increases perceived susceptibility, explains severity, reduces barriers, builds self-efficacy and provides clear cues for preventive action. Consequently, this article argues that school-based health education in Ward 11 should be evaluated not only by what students know, but by how effectively that knowledge becomes protective behaviour.

Based on this background, the study examined the knowledge–behaviour gap in teenage pregnancy prevention by assessing the influence of school-based health education among secondary school students in Ward 11, Burutu Local Government Area, Delta State. Specifically, the study sought to determine the level of students' knowledge of teenage pregnancy and its prevention, examine the extent to which school-based health education influences teenage pregnancy preventive behaviour, and identify the strategies and challenges affecting the effectiveness of school-based health education for teenage pregnancy prevention among secondary school students in the study area.

Methods

Study design and setting

The study adopted a descriptive survey research design. This design was considered appropriate because the study sought to collect data from secondary school students on their knowledge of teenage pregnancy, exposure to school-based health education and preventive behaviours without manipulating any study variable. Since the concern of the study was to describe existing knowledge, behavioural responses and programme-related challenges within the school setting, the descriptive survey design provided a suitable basis for obtaining respondents' views and identifying patterns in the data. The study was conducted in Ward 11, Burutu Local Government Area, Delta State.

Study population

The population of the study comprised secondary school students in Ward 11, Burutu Local Government Area, Delta State. The accessible population was drawn from students in Sokebolou and Ogulagha secondary schools.

Sample size and sampling technique

The sample consisted of 60 students selected from Sokebolou and Ogulagha secondary schools. This figure represents the valid responses analysed in the study and is therefore the basis for reporting the empirical findings.

A multi-stage sampling procedure was adopted in three phases. In the first stage, Ward 11 was purposively selected because it was the focus area of the study. In the second stage, Sokebolou and Ogulagha secondary schools were selected because they were the accessible secondary schools within the study area. In the third stage, students in the selected schools were stratified by gender to ensure representation of both male and female respondents, after which proportionate sampling was used to select 27 students from Sokebolou Secondary School and 33 students from Ogulagha

Secondary School. This gave a total sample of 60 respondents. The procedure was appropriate because it allowed the study to select respondents systematically from the target area while ensuring school and gender representation.

Data collection instrument

Data were collected using a structured questionnaire developed by the researcher. The questionnaire contained sections on demographic characteristics, knowledge of teenage pregnancy, influence of health education programmes, preventive behaviour, components of health education delivery and challenges affecting programme effectiveness. The items were structured on a four-point Likert response format of Strongly Agree, Agree, Disagree and Strongly Disagree, scored 4, 3, 2 and 1 respectively for positively worded items. Mean scores were interpreted using the following decision rule: 1.00–2.49 was regarded as low, 2.50–3.49 as moderate, and 3.50–4.00 as high. This enabled consistent interpretation of students' responses across the study variables.

Data collection procedure

Permission was obtained from the relevant school authorities before data collection. Respondents were informed about the purpose of the study, assured that participation was voluntary, and allowed to decline participation without penalty. Confidentiality was maintained by ensuring that students were not required to disclose identifying personal information on the questionnaire. The completed questionnaires were used only for academic research purposes.

Data analysis

The completed questionnaires were coded and analysed using descriptive statistics. Frequency and percentage were used to summarise respondents' demographic information and response patterns. For the Likert-scale items, responses were scored as follows: Strongly Agree = 4, Agree = 3, Disagree = 2 and Strongly Disagree = 1. The mean score for each item was obtained by multiplying each response option by its frequency, adding the weighted scores, and dividing the total by the number of respondents. This was expressed as: Mean = $\Sigma fx/N$, where Σfx represents the sum of the weighted responses and N represents the number of respondents. Mean and standard deviation were used to answer the research questions on students' knowledge, preventive behaviour, health education strategies and implementation challenges. The interpretation was based on the four-point scale. Since the scale midpoint was 2.50, mean scores of 1.00–2.49 were interpreted as low, 2.50–3.49 as moderate, and 3.50–4.00 as high. This decision rule was used to determine whether students' knowledge, behavioural influence, programme strategies and implementation challenges were low, moderate or high.

Results

Table 1**: Students' Knowledge of Teenage Pregnancy and Its Prevention**

Domain	S/N	Item	N	Mean	SD	Remark
Knowledge of teenage pregnancy	1	I understand what teenage pregnancy means.	60	3.73	1.19	High
	2	I know the major causes of teenage pregnancy among students.	60	3.13	1.40	Moderate
	3	I am aware of the health risks associated with teenage pregnancy.	60	2.27	1.60	Low
Knowledge of prevention	4	I know different ways teenage pregnancy can be prevented.	60	3.82	1.20	High

Table 1 shows that students had high knowledge of the meaning, causes and prevention of teenage pregnancy. The highest mean score was recorded for knowledge of different ways teenage pregnancy can be prevented (mean = 3.82), followed by understanding of the meaning of teenage pregnancy (mean = 3.73). Knowledge of the major causes of teenage pregnancy was also high (mean = 3.13). However, awareness of the health risks associated with teenage pregnancy was low (mean = 2.27). This indicates that although students understood teenage pregnancy at a general level, their knowledge of its health consequences was inadequate. The finding therefore suggests that existing health education may be stronger in creating basic awareness than in explaining the medical and developmental risks of teenage pregnancy.

Table 2**: Influence of School-Based Health Education on Knowledge and Preventive Behaviour**

S/N	Item	N	Mean	SD	Remark
1	After attending health education programmes, my understanding of teenage pregnancy prevention improved.	60	2.76	1.17	Moderate
2	Health education programmes help correct wrong ideas about teenage pregnancy.	60	3.08	0.93	Moderate
3	Health education programmes have increased my knowledge about teenage pregnancy prevention.	60	2.95	1.98	Moderate
4	Health education programmes encourage me to avoid risky sexual behaviour.	60	2.13	1.11	Low
5	Health education has helped me make responsible decisions about relationships.	60	2.32	1.24	Low
6	Information from health education programmes influences my behaviour positively.	60	2.15	1.12	Low

Table 2 reveals a clear difference between knowledge improvement and behavioural influence. Health education programmes corrected wrong ideas about teenage pregnancy at a high level (mean = 3.08), while improvement in understanding of teenage pregnancy prevention (mean = 2.76) and increase in knowledge (mean = 2.95) were moderate. In contrast, the influence of health education on preventive behaviour was low. Students reported low influence in relation to avoiding risky sexual behaviour (mean = 2.13), making responsible relationship decisions (mean = 2.32), and positive behaviour change (mean = 2.15). This result provides the strongest evidence of the

knowledge–behaviour gap. It shows that school-based health education may be improving awareness, but it is not yet sufficiently transforming knowledge into protective behaviour.

Table 3**: Components of Health Education Programmes**

S/N	Item	Mean	SD	Remark
1	Teaching methods used during health education lessons help me understand better.	2.47	1.09	Low
2	Use of real-life examples makes health education lessons more effective.	3.40	1.66	Moderate
3	Teachers explain health education topics clearly and effectively.	3.12	1.63	Moderate
4	Group discussions during health education lessons improve my understanding.	3.73	1.92	High

Table 3 shows that interactive and practical teaching strategies improved students' understanding of health education. Group discussions had the highest mean score (mean = 3.73), followed by real-life examples (mean = 3.40) and clear teacher explanations (mean = 3.12). However, general teaching methods recorded a moderate score (mean = 2.47). This suggests that students benefit more when health education is participatory, practical and relatable. Therefore, the effectiveness of teenage pregnancy prevention education may depend not only on the content taught, but also on how the content is delivered.

Table 4**: Challenges Affecting Health Education Programme Implementation**

S/N	Item	N	Mean	SD	Remark
1	There are not enough health education programmes in my school.	60	3.93	1.29	High
2	Lack of trained health education teachers affects programme effectiveness.	60	3.63	1.70	High
3	Inadequate teaching materials reduce the quality of health education lessons.	60	3.82	1.20	High
4	Cultural beliefs sometimes limit effective teaching of health education in school.	60	3.73	1.19	High

Table 4 shows that all identified challenges were rated high by the respondents. The most serious challenge was inadequate health education programmes in schools (mean = 3.93), followed by inadequate teaching materials (mean = 3.82), cultural beliefs (mean = 3.73), and lack of trained health education teachers (mean = 3.63). These findings suggest that the weak behavioural influence observed in Table 2 may be linked to poor programme implementation. Where health education is irregular, under-resourced, culturally restricted and delivered by insufficiently trained teachers, its capacity to move students from knowledge to preventive behaviour becomes limited.

Discussion

The finding that students recorded high knowledge of the meaning, causes and prevention of teenage pregnancy suggests that school-based health education has created basic awareness among respondents. However, the low mean score on awareness of health risks indicates that this

knowledge remains incomplete because students may know that pregnancy can be prevented without fully understanding its medical, educational and psychosocial consequences. This finding agrees with Alukagberie et al. (2023), who showed that adolescent pregnancy in Nigeria is shaped by individual, family, school, peer and community factors, meaning that awareness must be deep enough to confront multiple layers of vulnerability. Similarly, the finding is consistent with Myat et al. (2024), who found that many school-based sexuality education interventions do not fully cover the recommended concepts, components, providers, duration and outcomes, which explains why students may receive information without receiving sufficiently comprehensive risk education. However, unlike studies that treat general awareness as evidence of adequate knowledge, the present finding shows that students' knowledge is selective because understanding of pregnancy prevention coexists with weak awareness of its health consequences. Therefore, the present finding does not simply show that students are knowledgeable; rather, it shows that their knowledge is selective, and selective knowledge is insufficient for adolescent pregnancy prevention.

The most critical finding of the study is that health education improved understanding but had low influence on avoiding risky sexual behaviour, making responsible relationship decisions and changing behaviour positively. This pattern confirms a knowledge–behaviour gap because knowing about teenage pregnancy does not automatically mean that students possess the confidence, support or skills required to act preventively. This finding agrees with Ayamolowo et al. (2024), who showed that unintended pregnancy and abortion among unmarried adolescents in Nigeria are driven by interacting social, relational and service-related barriers rather than lack of information alone. It also supports Kim et al. (2023), who reported that the strongest effect of comprehensive sexuality education was on cognition, while behavioural outcomes were more variable, indicating that knowledge may improve faster than behaviour. However, the finding partly contrasts with Rodríguez-García et al. (2025), who reviewed 25 randomised trials and found that most comprehensive sexuality education interventions reduced risky sexual behaviours, although two studies did not. This contrast suggests that behavioural change depends on programme quality, delivery method and context. Consequently, the weak behavioural influence observed in Ward 11 should not be read as evidence that health education is useless; rather, it suggests that the existing approach may be too informational and not sufficiently skills-based, counselling-oriented or behaviour-focused.

The finding that group discussions, real-life examples and clear teacher explanations improved students' understanding demonstrates that pedagogy matters in teenage pregnancy prevention. This finding agrees with Myat et al. (2024), who observed that participatory teaching methods help adolescents internalise and integrate sexuality education content more effectively than passive instruction. It is also consistent with Rivenes Lafontan et al. (2024), who argued that role-play, group discussions and interactive activities can create safer classroom spaces for students to discuss sexuality-related issues, although such methods must be culturally sensitive. In contrast to ordinary lecture-based approaches that mainly transmit information, the present finding shows that students valued teaching that was practical, interactive and relatable. This evidence strengthens the finding because the students did not merely value "more teaching"; they valued teaching that improved their participation and understanding. Therefore, ordinary lecture-based health education may raise awareness, but participatory methods are more likely to build confidence, decision-making and refusal skills.

The high ratings for inadequate programmes, lack of trained teachers, inadequate teaching materials and cultural beliefs indicate that the knowledge–behaviour gap is partly an implementation problem. This finding agrees with Chavula et al. (2022), who, in a systematic review of low- and middle-income countries, found that sexuality education integration depends on teacher training, learning resources, school-health facility links, stakeholder collaboration and cultural acceptance. It is also consistent with Rivenes Lafontan et al. (2024), who found that cultural taboos, gender dynamics and insufficient resources restrict comprehensive sexuality education in school settings. However, while some structured interventions reported in previous studies achieved stronger behavioural outcomes, the present study shows that programme weaknesses may prevent health education from translating knowledge into action. These studies therefore support the current finding because students' weak behavioural response is unlikely to improve where health education is irregular, under-resourced or constrained by silence around sexuality. Therefore, teenage pregnancy prevention in Ward 11 requires a shift from occasional awareness lessons to structured, culturally sensitive and skills-based school health education delivered by trained facilitators with adequate materials and community support.

Conclusion

The study concluded that school-based health education is useful in improving students' knowledge of teenage pregnancy and its prevention among secondary school students in Ward 11, Burutu Local Government Area, Delta State. The findings showed that students had good knowledge of the meaning, causes and prevention of teenage pregnancy, suggesting that health education has contributed to basic awareness. However, this awareness did not translate strongly into preventive behaviour, as students reported low influence of health education on avoiding risky sexual behaviour, making responsible relationship decisions and changing behaviour positively. This confirms the existence of a knowledge–behaviour gap among the respondents.

The study therefore concludes that teenage pregnancy prevention should not depend on awareness creation alone. While knowledge is necessary, it is not sufficient to produce responsible sexual behaviour where students lack decision-making skills, self-confidence, counselling support and culturally safe spaces for reproductive health discussion. Effective prevention requires school-based health education programmes that are regular, practical, interactive and behaviour-focused. Schools in Ward 11 should increase the frequency and quality of health education programmes and ensure that reproductive health education is delivered by trained health education teachers or community health educators. Lessons should use participatory methods such as group discussions, real-life examples, question-and-answer sessions, peer education and role play, since these strategies make health education more practical and relatable. Schools and relevant education authorities should also provide adequate teaching materials, including charts, pamphlets, posters and age-appropriate reproductive health guides, to improve students' understanding.

In addition, parents, community leaders and religious leaders should be sensitised to reduce cultural resistance and encourage responsible adolescent reproductive health communication. Schools should also strengthen links with youth-friendly health services so that students can access counselling, accurate information and referral support. Overall, teenage pregnancy prevention should move beyond knowledge transmission to include life skills, refusal skills, self-confidence and responsible relationship behaviour.

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