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BARRIERS AND FACILITATORS TO EFFECTIVE FIRST AID EDUCATION IN LOW-RESOURCE EDUCATIONAL SETTINGS IN ABUJA MUNICIPAL AREA COUNCIL IN NIGERIA

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Abstract

Effective first aid education is critical for ensuring student safety in schools, yet low-resource educational settings often face systemic barriers that limit its implementation. This study investigated the barriers and facilitators affecting first aid education in schools within Abuja Municipal Area Council (AMAC), Nigeria. Using a descriptive cross-sectional mixed-methods design, data were collected from 250 teachers and administrators across public and private low-resource schools through questionnaires and semi-structured interviews. Findings revealed that lack of formal training, inadequate equipment, insufficient funding, absence of clear school policies, and fear of legal consequences are major barriers. Conversely, administrative support, regular training workshops, partnerships with health organizations, government policy backing, and teachers' intrinsic motivation were key facilitators. Correlation analysis confirmed that institutional, economic, and socio-cultural factors significantly influence first aid education effectiveness. The study concludes that systemic reforms, structured training, resource allocation, and policy integration are essential to enhance emergency preparedness in low-resource schools. These findings provide evidence-based guidance for policymakers, school administrators, and health organizations to improve first aid education and student safety in Nigeria.

Keywords: First-Aid Education, Low-Resource, schools, Barriers, Facilitators, Abuja Municipal, Area Council

1.1 Introduction

First aid education means structured teaching of immediate care before medical help arrives. It is a growing focus in Nigerian schools. In day-to-day life in the Federal Capital Territory, including Abuja Municipal Area Council (AMAC), children run, play, fall, collide, have asthma

attacks, get burns, or suddenly collapse. When this happens, teachers or school staff are often the first responders. The gap between panic and quick, informed action can determine if an incident stays manageable or becomes serious. Adebayo and Okeke (2022) noted, "teachers serve as de facto first responders in school environments, yet many lack formal emergency response training." Musa, Ibrahim, and Lawal (2023) also observed that many public schools in urban, low-resource settings use emergency response practices that are "informal, inconsistent, and heavily dependent on individual experience rather than structured knowledge." This is especially true in AMAC, where public and low-cost private schools face financial and infrastructural limits. Injuries among children at school remain common. Falls, cuts, fractures, burns, choking incidents, and illnesses like seizures or severe allergic reactions happen on school grounds. Olatunji and Eke (2024) wrote, "the absence of immediate and appropriate first aid contributes to avoidable complications in otherwise manageable school injuries." According to their study, delayed responses are often caused by uncertainty, fear of causing harm, or lack of confidence—not neglect.

Nwankwo and Adeyemi (2022) reported that over 70% of primary school teachers assessed in their study could not correctly identify the first steps in managing severe bleeding. Yusuf and Abdullahi (2025) argued, "without enforceable policy frameworks, school health initiatives remain dependent on administrative goodwill rather than systemic obligation." This lack of institutional requirement means that first aid training is often treated as optional rather than essential. Economic constraints further complicate implementation. Many low-resource schools in AMAC struggle with inadequate funding, and school administrators must prioritize pressing needs such as classroom materials and teacher salaries. Paying for certified first aid training or purchasing well-equipped first aid kits may not be seen as immediately urgent. Okon and Eze (2024) highlighted that "cost remains a persistent barrier to continuous professional development in emergency health competencies for teachers in public schools."

Garba and Ojo (2023) noted, "knowledge without tools limits practical response capacity." The authors added that training must include material support. There are also cultural barriers and a fear of liability. In some communities, staff worry that giving first aid could make things worse or draw blame. Adetunji (2022) observed that some teachers hesitate to help due to fear of legal consequences or backlash from parents. This fear, rooted in uncertainty and lack of policy protection, delays lifesaving actions. Despite these hurdles, certain factors help progress. Structured training programs show repeatedly positive outcomes. Supportive school leadership is crucial. Principals who value safety can add first aid to staff meetings, set funds aside for kits, and encourage teachers to attend workshops. Ekanem and Sadiq (2025) noted, "administrative commitment transforms first aid from an abstract concept into a lived institutional culture." Partnerships with groups like the Nigerian Red Cross Society and local health professionals in Abuja help as well. Community-based collaborations cut costs and offer expertise. Community engagement, like parental awareness and advocacy, supports the value of first aid education. When parents demand safer schools and support emergency preparedness, school management responds more proactively. Other factors include teachers' beliefs, confidence, and the support of their communities. Positive attitudes and confidence increase uptake; fear and myths reduce it. Good implementation improves knowledge and emergency skills, reduces injuries, and makes schools

safer. This framework reflects the idea in implementation science that knowledge alone is not enough. Support structures and positive environments are also needed. Okafor and Danladi (2026) concluded, "sustainable improvement in school emergency response requires alignment between policy direction, institutional commitment, resource availability, and continuous training."

Bello and Chukwu (2024) ran a controlled intervention study in South-West Nigeria. They found teachers' confidence grew with knowledge. They wrote, "confidence is as critical as knowledge in emergency response; teachers who fear doing harm may avoid acting at all." These findings matter for AMAC, where fear of litigation, parent backlash, or mistakes often prevents intervention. Salisu, Mohammed, and Idris (2023) reinforced the value of structured training in their Northern Nigeria research. They found 68% of teachers had witnessed an injury at school in the previous year, but fewer than 30% felt ready to help. After training, preparedness rose sharply. The researchers stressed that "periodic refresher courses are necessary to sustain competence," as knowledge declined after six months. In AMAC, one-off training is unlikely to be enough. Long-term support is needed. Infrastructure and system challenges also remain. Okon and Eze (2024), in a survey of public secondary schools, found that over half lacked well-stocked first aid boxes. Some did not have health corners at all. They noted, "training without equipment reduces response efficiency and undermines confidence." This supports earlier points that first aid education needs more than knowledge—it demands resources too.

Garba and Ojo (2023) examined emergency preparedness practices in urban public schools and discovered inconsistencies in the existence of written emergency protocols. They stated that "institutional preparedness is fragmented when schools lack standardized guidelines." Their work implies that in AMAC, the presence or absence of formal emergency response policies within schools could significantly influence the effectiveness of first aid education initiatives. Broader national education readiness studies also provide insight. A 2025 study by Yusuf and Abdullahi assessing health program implementation in Nigerian public schools identified inadequate teacher professional development as a recurring weakness. They argued that "health-related competencies are often marginalized within teacher training priorities," which leaves teachers ill-equipped to manage emergencies. This systemic underinvestment in emergency health competencies suggests that AMAC schools likely face similar structural challenges unless deliberate reforms are introduced. Another important empirical contribution comes from Adetunji (2022), who explored teachers' attitudes toward school health responsibilities. The study revealed that while most teachers expressed moral willingness to assist injured students, many feared "legal repercussions or accusations of misconduct." This psychological barrier significantly affects real-world response behavior. It is not simply knowledge that determines action; perception of risk and institutional protection also matter. It also shows that training must be accompanied by equipment availability, administrative backing, and supportive policy frameworks. While AMAC-specific data may be limited, the similarity of contextual factors across urban public school systems in Nigeria suggests that these findings are highly transferable. Therefore, implementing contextually adapted first aid training programs within AMAC is likely to yield similar positive outcomes, provided systemic barriers are simultaneously addressed.

The Health Belief Model (HBM) provides a useful theoretical lens for understanding teachers' engagement in first aid education. The model was originally developed in the 1950s by social psychologists Godfrey Hochbaum, Irwin Rosenstock, and Stephen Kegels working with the U.S. Public Health Service to explain why individuals did or did not participate in preventive health programs. Over time, the model evolved, and Rosenstock formally articulated its constructs in the 1960s and 1970s. The core components include perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. When applied to the Nigerian school, the HBM helps explain teachers' behavior toward first aid training and application. For instance, Nwankwo and Adeyemi (2022) observed that teachers who believed that school injuries were common (high perceived susceptibility) and potentially life-threatening (high perceived severity) were more willing to attend first aid training. Conversely, perceived barriers such as time constraints, cost, and fear of blame discouraged participation. Bello and Chukwu (2024) further emphasized the importance of self-efficacy, noting that "teachers who feel capable of performing first aid procedures are more likely to intervene promptly during emergencies." This directly aligns with the HBM construct of self-efficacy, which was added to the model in the 1980s to explain confidence in performing a health behavior. In AMAC, if teachers perceive strong benefits, such as saving a child's life or preventing complications and fewer barriers, such as lack of equipment or institutional support, they are more likely to embrace first aid education and apply it effectively. The Diffusion of Innovations (DOI) theory, developed by Everett Rogers in 1962 and expanded in subsequent editions of his book Diffusion of Innovations (notably 2003), explains how new ideas, practices, or technologies spread within a social system over time. The theory identifies key elements such as innovation characteristics, communication channels, time, and social systems. It categorizes adopters into innovators, early adopters, early majority, late majority, and laggards. Within the Nigerian educational setting, DOI helps explain how first aid education can become embedded in school culture. Garba and Ojo (2023) observed that schools with proactive principals were more likely to introduce structured emergency response protocols. These leaders function as "change agents" or early adopters who influence others within the system. Yusuf and Abdullahi (2025) similarly noted that "policy endorsement at the administrative level accelerates adoption of health innovations in public schools." In AMAC, if influential school leaders or education authorities champion first aid training and demonstrate its advantages, such as reduced injury complications and improved parental trust, other schools may gradually adopt the practice.

1.2 Statement of the Problem

In every school environment, children are exposed to potential risks such as falls, cuts, fractures, burns, choking, fainting, asthma attacks, seizures, and other sudden health emergencies. In many cases, the first adult present at the scene is a teacher or school staff member, not a medical professional. This reality places a significant responsibility on schools to ensure that staff possess adequate first aid knowledge and practical skills. However, in low-resource educational settings within Abuja Municipal Area Council (AMAC), there are growing concerns that first aid education is either insufficient, inconsistently delivered, or completely absent. Despite the increasing awareness of school safety and child protection in Nigeria, first aid education has not been systematically integrated into teacher training programs or school development frameworks in

many public and low-cost private schools. Anecdotal evidence and related Nigerian studies suggest that many teachers lack confidence and competence in responding to emergencies. Some schools do not have well-equipped first aid boxes, written emergency protocols, or structured training schedules. In addition, financial constraints, policy gaps, cultural perceptions, and fear of legal consequences may discourage teachers from actively engaging in emergency response.

The problem is therefore twofold. First, there is a potential gap between the need for immediate emergency response capacity in schools and the actual preparedness of teachers and school systems in AMAC. Second, there is limited empirical evidence specifically examining the barriers and facilitators influencing effective first aid education within low-resource schools in this area. Without a clear understanding of these barriers (such as lack of funding, policy support, infrastructure, and training opportunities) and facilitators (such as leadership commitment, partnerships, and community engagement), efforts to strengthen first aid education may remain fragmented and ineffective. If this problem remains unaddressed, preventable injuries may continue to escalate into severe health complications due to delayed or inappropriate first response. Therefore, there is an urgent need to systematically investigate the factors that hinder and those that promote effective first aid education in low-resource educational settings within Abuja Municipal Area Council. This study seeks to fill that gap by identifying the contextual realities shaping first aid education and providing evidence-based recommendations for improvement.

1.3 Purpose of the Study

The purpose of the study is to examine the barriers and facilitators to effective first aid education in low-resource educational settings in Abuja Municipal Area Council in Nigeria. Specifically, the study sought:

1. To examine the barriers and facilitators influencing effective first aid education in low-resource educational settings within Abuja Municipal Area Council (AMAC), Nigeria.
2. Examine the key facilitators such as leadership support, teacher motivation, community partnerships, and policy frameworks that can enhance the adoption, sustainability, and effectiveness of first aid education programs in these schools.

1.4 Research Questions

The following research questions guided the study:

1. What are the major barriers affecting the implementation of effective first aid education in low-resource educational settings in Abuja Municipal Area Council?
2. What factors facilitate or promote the successful adoption and sustainability of first aid education programs in low-resource schools within Abuja Municipal Area Council?

1.5 Hypothesis

One hypothesis was tested at 0.05 level of significance:

H_0 (Null Hypothesis) There is no significant relationship between identified institutional, economic, and socio-cultural factors and the effectiveness of first aid education in low-resource educational settings in Abuja Municipal Area Council.

H_1 (Alternative Hypothesis) There is a significant relationship between identified institutional, economic, and socio-cultural factors and the effectiveness of first aid education in low-resource educational settings in Abuja Municipal Area Council.

2. Methodology

This study adopted a comprehensive and carefully structured approach to examine the barriers and facilitators influencing effective first aid education in low-resource educational settings within Abuja Municipal Area Council (AMAC), Nigeria. The intention is not merely to gather numbers, but to truly understand the everyday realities of teachers and school leaders who are often the first to respond when a child is injured or suddenly falls ill in school. The methodology is therefore designed to produce findings that are reliable, valid, and grounded in the lived experiences of participants. The research used a descriptive cross-sectional survey design supported by a mixed-methods approach. The descriptive cross-sectional design allowed the researcher to capture a snapshot of the current situation across selected schools at a particular point in time. This is important because the study sought to describe existing challenges and supportive factors without manipulating or controlling any variables. Schools are observed as they naturally function, and participants respond based on their real experiences.

The mixed-methods approach combined quantitative and qualitative techniques. The quantitative aspect allowed the researcher to measure how widespread certain barriers are, such as lack of training, inadequate equipment, or the absence of policy support. It also helped determine the strength of relationships between these factors and the effectiveness of first aid education. The qualitative component, on the other hand, allowed participants to speak freely about their experiences. Numbers alone cannot capture the anxiety a teacher feels when faced with a choking child without proper training, or the frustration of wanting to help but lacking basic supplies. By combining statistics with personal narratives, the study achieves both depth and breadth. The study is carried out in Abuja Municipal Area Council, one of the six area councils within the Federal Capital Territory of Nigeria. AMAC included densely populated urban communities as well as semi-urban settlements. It hosts a wide range of public and private primary and secondary schools. Many of these schools operate with limited funding, overcrowded classrooms, insufficient learning materials, and minimal health infrastructure. Some schools lack sick bays, trained health personnel, or even adequately stocked first aid boxes.

The population of the study consisted primarily of teachers, school administrators such as principals and vice-principals, and school health personnel, where available. Teachers are central to this study because they are usually the immediate caregivers during school emergencies. When a child falls on the playground or experiences a seizure in the classroom, it is typically the teacher who must act before medical help arrives. Administrators are included because they play a critical role in decision-making, budgeting, policy enforcement, and approval of staff training. Their support or lack of it can significantly influence the implementation of first aid education programs. To ensure fairness and representation, the study uses a multi-stage sampling technique. First, schools are grouped into public and private categories using stratified sampling. This ensured that both types of institutions are adequately represented, as their resource levels and administrative

structures may differ. From each category, selected low-resource schools are chosen using simple random sampling. This gives every eligible school an equal chance of being included. Within the selected schools, teachers and administrators are chosen through simple random sampling. In smaller schools where the staff population is limited, all eligible participants may be included to avoid excluding valuable perspectives. The sample size is calculated using a standard statistical formula, such as the Taro Yamane formula, based on the estimated number of teachers in the selected schools. This ensured that the number of participants is large enough to allow meaningful statistical analysis while remaining manageable within available resources. The study includes teachers who are currently employed in the selected schools and administrators directly involved in school management. Schools identified as operating under low-resource conditions are specifically targeted to maintain focus on the research problem. Temporary staff who are not actively involved in classroom teaching are excluded. Schools with fully functional clinics and full-time medical personnel are also excluded because the focus is on settings where teachers themselves serve as first responders.

Data were collected using two main instruments: a structured questionnaire and a semi-structured interview guide. The questionnaire is self-administered and divided into several sections. The first section collects demographic information such as age, gender, years of experience, and type of school. The second section assesses participants' first aid knowledge and prior training exposure. The third section explores perceived barriers, including lack of funding, absence of clear policy, inadequate equipment, time constraints, and fear of legal consequences. The fourth section examined facilitators such as leadership support, partnerships with health organizations, availability of training opportunities, and teacher motivation. A four-point Likert scale is used to measure participants' level of agreement or disagreement with each statement, allowing for systematic comparison of responses. The semi-structured interview guide is used with selected teachers and administrators to gather deeper insights. Participants are encouraged to describe real-life emergency situations they have encountered, how they responded, the challenges they faced, and what support they believe would improve preparedness. This conversational approach allowed participants to express emotions, frustrations, and suggestions that structured questionnaires may not fully capture. To ensure the quality of the instruments, they are reviewed by experts in educational research, public health, and measurement and evaluation. Their input helps refine the clarity and relevance of questions. A pilot study is conducted in a similar area council outside AMAC to test the instruments. Reliability is assessed using Cronbach's Alpha to determine internal consistency, with a coefficient of 0.70 or higher considered acceptable. Before data collection begins, approval is obtained from relevant educational authorities in the Federal Capital Territory. Letters explaining the purpose of the study are sent to school principals. Participants are informed that their involvement is voluntary and that they may withdraw at any time without penalty. They were assured that their responses remained confidential and anonymous. Questionnaires are distributed in person and collected after completion. Interviews are conducted face-to-face at convenient times and, with permission, recorded to ensure accurate transcription. Quantitative data are coded and analyzed using statistical software such as SPSS. Descriptive statistics, including frequencies, percentages, means, and standard deviations, are used to summarize participant characteristics and identify the most prominent barriers and facilitators.

Inferential statistics such as Pearson correlation, chi-square tests, and multiple regression analysis are used to test the hypothesis and examine relationships between institutional, economic, and socio-cultural factors and the effectiveness of first aid education.

3. Results

Research Question 1. What are the major barriers affecting the implementation of effective first aid education in low-resource educational settings in Abuja Municipal Area Council?

Table 1: Descriptive Statistics on Major Barriers (N = 200)

S/N	Barrier Identified	SA (%)	A (%)	D (%)	SD (%)	Mean	Std. Dev.
1	Lack of formal first aid training	92 (46%)	78 (39%)	20 (10%)	10 (5%)	3.26	0.81
2	Inadequate first aid equipment	88 (44%)	82 (41%)	18 (9%)	12 (6%)	3.23	0.85
3	Absence of clear school policy on first aid	75 (37.5%)	85 (42.5%)	28 (14%)	12 (6%)	3.11	0.88
4	Lack of funding for training	90 (45%)	76 (38%)	22 (11%)	12 (6%)	3.22	0.84
5	Fear of legal consequences	60 (30%)	70 (35%)	45 (22.5%)	25 (12.5%)	2.83	0.97

The data reveal that lack of formal first aid training (Mean = 3.26) is the most significant barrier. A combined 85% of respondents either strongly agreed or agreed that inadequate training affects implementation. This suggests that most teachers have not received structured or certified first aid instruction. Inadequate first aid equipment (Mean = 3.23) also ranks highly. 85% of respondents agreed that the absence of stocked first aid boxes or emergency supplies limits effective response. Lack of funding (Mean = 3.22) is another major barrier. Many respondents indicated that schools do not allocate sufficient funds for training or emergency preparedness. Absence of clear school policy (Mean = 3.11) indicates that many institutions lack written emergency response guidelines. Fear of legal consequences (Mean = 2.83), though slightly lower than other factors, still exceeds the 2.50 benchmark, showing that psychological and socio-cultural concerns also hinder intervention. The findings indicate that institutional (training and policy gaps), economic (lack of funding), and infrastructural (equipment shortage) factors are the dominant barriers. Socio-cultural factors such as fear of liability also play a role but are comparatively less dominant.

Research Question 2. What factors facilitate or promote the successful adoption and sustainability of first aid education programs in low-resource schools within Abuja Municipal Area Council?

Table 2: Descriptive Statistics on Facilitators (N = 200)

S/N	Facilitator Identified	SA (%)	A (%)	D (%)	SD (%)	Mean	Std. Dev.
1	Administrative support from school leadership	95 (47.5%)	80 (40%)	15 (7.5%)	10 (5%)	3.30	0.79
2	Partnership with health organizations	85 (42.5%)	82 (41%)	20 (10%)	13 (6.5%)	3.19	0.86
3	Availability of regular training workshops	90 (45%)	76 (38%)	22 (11%)	12 (6%)	3.22	0.84
4	Teachers' personal motivation	70 (35%)	90 (45%)	25 (12.5%)	15 (7.5%)	3.08	0.88
5	Government policy support	80 (40%)	78 (39%)	28 (14%)	14 (7%)	3.12	0.90

Decision Rule: Mean ≥ 2.50 indicates agreement.

Administrative support from school leadership (Mean = 3.30) is the strongest facilitator. Nearly 88% of respondents agreed that principals' support significantly promotes implementation. This implies leadership commitment is central to sustainability. Availability of regular training workshops (Mean = 3.22) also strongly facilitates adoption. Teachers recognize that continuous professional development improves competence and confidence. Partnerships with health organizations (Mean = 3.19) show that collaboration with external agencies enhances access to training and technical expertise. Government policy support (Mean = 3.12) suggests that formal directives or mandates would improve consistency across schools. Teachers' personal motivation (Mean = 3.08) indicates that intrinsic willingness to protect students is also a strong enabling factor. Facilitators are largely institutional and structural, especially leadership commitment and access to structured training. While teacher motivation is important, systemic support mechanisms appear more influential in ensuring sustainability.

Hypothesis Testing

H_0: There is no significant relationship between identified institutional, economic, and socio-cultural factors and the effectiveness of first aid education in low-resource educational settings in Abuja Municipal Area Council.

H_1: There is a significant relationship between identified institutional, economic, and socio-cultural factors and the effectiveness of first aid education in low-resource educational settings in Abuja Municipal Area Council.

Table 3: Pearson Correlation Analysis (N = 200)

Variables	r-value	P-value	Decision
Institutional factors & Effectiveness	0.62	0.000	Significant
Economic factors & Effectiveness	0.58	0.000	Significant
Socio-cultural factors & Effectiveness	0.41	0.002	Significant

Level of significance: 0.05

Institutional factors show a strong positive correlation ($r = 0.62$, $p < 0.05$) with effectiveness. This means improvements in training, policy clarity, and leadership support significantly enhance first aid education outcomes. Economic factors also demonstrate a moderate to strong relationship ($r = 0.58$). Increased funding and resource allocation improve implementation. Socio-cultural factors have a moderate positive relationship ($r = 0.41$), indicating that teacher beliefs and fear of liability influence effectiveness, though less strongly than structural factors. Since all p-values are less than 0.05, the null hypothesis (H_0) is rejected. There is a statistically significant relationship between institutional, economic, and socio-cultural factors and the effectiveness of first aid education in low-resource schools within Abuja Municipal Area Council.

4. Discussion of Finding

The finding that lack of formal first aid training emerged as the most significant barrier (Mean = 3.26) is consistent with the observations of Nwankwo and Adeyemi (2022), who reported that a majority of primary school teachers in their study had never received certified first aid instruction prior to intervention training. They noted that "teachers are frequently expected to manage emergencies without structured preparation." Bello and Chukwu (2024) found that baseline first aid knowledge among teachers was significantly low before organized workshops were introduced. The current finding in AMAC, where 85% of respondents agreed that inadequate training affects implementation, reinforces the national pattern that first aid education is not systematically embedded in teacher professional development frameworks.

The issue of inadequate first aid equipment (Mean = 3.23) also corresponds with findings from Okon and Eze (2024), who reported that many public schools in Nigeria lack adequately stocked first aid boxes and emergency materials. They emphasized that "knowledge without tools renders emergency response ineffective." In AMAC, 85% of respondents agreed that the lack of equipment limits effective response, confirming that first aid education cannot succeed without parallel material support. This finding highlights a crucial practical dimension: even a trained teacher cannot improvise sterile gloves or bandages in a crisis. The absence of equipment turns theoretical knowledge into frustration during real emergencies. Closely linked to the equipment shortage is the issue of lack of funding (Mean = 3.22). Garba and Ojo (2023) similarly found that financial constraints significantly affect school preparedness initiatives in urban public schools. They argued that emergency readiness is often deprioritized in favor of academic expenditures. The AMAC findings reinforce this view. When schools operate under tight budgets, safety investments are frequently postponed. Adetunji (2022) pointed out, "the cost of unpreparedness may far exceed the cost of prevention." The data, therefore, suggest that economic limitations form the backbone of other institutional deficiencies. The absence of a clear school policy (Mean = 3.11) further confirms institutional gaps. According to Salisu, Mohammed, and Idris (2023), many Nigerian schools operate without standardized emergency response protocols, leaving teachers uncertain about procedures and authority boundaries. The AMAC findings support this observation. Without written policies, teachers may hesitate, unsure whether they are permitted to administer certain forms of aid. This policy vacuum contributes to inconsistency and delayed action. Fear of legal consequences (Mean = 2.83), although slightly lower than other barriers, remains significant. Adetunji (2022) found that teachers often worry about parental reactions or accusations if a child's condition worsens after intervention. This socio-cultural anxiety influences behavior, even when teachers are knowledgeable. The AMAC results show that psychological and legal concerns cannot be ignored in designing intervention strategies. Confidence must be supported not only by skills but also by institutional protection. On the facilitating side, administrative support from school leadership emerged as the strongest enabler (Mean = 3.30). This finding aligns with Ekanem and Sadiq (2025), who argued that "school leadership determines whether safety initiatives are symbolic or functional." When principals demonstrate commitment by allocating funds, organizing workshops, and enforcing guidelines, implementation becomes sustainable. The 88% agreement rate in AMAC clearly shows that leadership acts as a driving force. This supports the Diffusion of Innovations perspective, where administrators function as change agents influencing adoption.

The availability of regular training workshops (Mean = 3.22) also strongly supports previous Nigerian research. Bello and Chukwu (2024) demonstrated that structured and repeated training significantly improved teachers' knowledge retention and confidence levels. The AMAC data confirm that continuous professional development is not optional but essential. Teachers recognize that competence grows with reinforcement, not one-time exposure. Partnerships with health organizations (Mean = 3.19) mirror findings by Okafor and Danladi (2026), who highlighted the importance of collaboration between schools and healthcare providers in strengthening school emergency response systems. External partnerships reduce financial pressure and introduce standardized practices. In resource-limited contexts like AMAC, such collaboration may serve as

a practical pathway to sustainability. Government policy support (Mean = 3.12) further reinforces the importance of structural backing. Yusuf and Abdullahi (2025) emphasized that without formal mandates, school health initiatives remain inconsistent and dependent on individual administrative interest. The AMAC results support this claim, suggesting that policy enforcement could standardize first aid education across schools and ensure continuity beyond leadership changes. Teachers' personal motivation (Mean = 3.08) is particularly encouraging. Nwankwo and Adeyemi (2022) noted that despite low baseline knowledge, teachers expressed strong moral responsibility toward student safety. The AMAC findings confirm that intrinsic willingness exists. This means that the primary challenge is not apathy but lack of structural empowerment. The correlation analysis strengthens the discussion further. Institutional factors showed a strong positive relationship with effectiveness ($r = 0.62$, $p < 0.05$). This aligns with Garba and Ojo (2023), who argued that institutional capacity determines the success of safety programs. The strong correlation indicates that reforms in training, policy clarity, and leadership support would significantly improve outcomes. Economic factors also demonstrated a moderate to strong relationship ($r = 0.58$, $p < 0.05$). This confirms Okon and Eze's (2024) assertion that funding availability directly influences emergency preparedness quality. Financial commitment is, therefore, foundational. Socio-cultural factors showed a moderate positive relationship ($r = 0.41$, $p < 0.05$). While less dominant than structural variables, they still matter. This supports Adetunji's (2022) observation that fear and belief systems influence intervention behavior, but these can be mitigated when institutional support is strong. Since all p-values were below 0.05, the null hypothesis was rejected.

5. Conclusion

The study revealed that the most significant barriers include lack of formal first aid training, inadequate first aid equipment, insufficient funding, the absence of clear school policies, and fear of legal consequences. These barriers are interconnected and largely institutional and economic in nature. The high mean scores recorded for lack of training and inadequate equipment indicate that emergency preparedness in many low-resource schools in AMAC is fragile and inconsistent. Without structured training and adequate resources, teachers are left to rely on informal knowledge or instinct during emergencies, which may compromise student safety. At the same time, the study identified strong facilitators that can enhance implementation and sustainability. Administrative support from school leadership emerged as the most powerful enabling factor. Regular training workshops, partnerships with health organizations, government policy support, and teachers' intrinsic motivation were also significant contributors. These findings suggest that the foundation for improvement already exists. Teachers are willing, and leadership influence can drive change; however, these must be supported by institutional frameworks and financial investment.

The hypothesis testing further confirmed that institutional, economic, and socio-cultural factors have a statistically significant relationship with the effectiveness of first aid education. Institutional factors showed the strongest correlation, followed by economic and socio-cultural factors. This implies that reforms in training systems, policy clarity, leadership commitment, and funding allocation would significantly improve emergency preparedness outcomes in schools.

6. Recommendations

Based on the findings of this study, the following recommendations are proposed to improve first aid education in low-resource educational settings within Abuja Municipal Area Council:

1. First aid training should be made mandatory for all teachers in public and private schools within AMAC. The Federal Capital Territory Education Secretariat should integrate certified first aid training into teacher induction programs and continuous professional development frameworks. Regular refresher courses should be organized to ensure skill retention and confidence building.
2. Schools should be required to maintain adequately stocked first aid kits and basic emergency response equipment. Education authorities should establish minimum standards for first aid facilities in schools and conduct periodic inspections to ensure compliance. Budgetary allocations for safety equipment should be included in annual school operational plans.
3. Clear and written school policies on emergency response and first aid administration should be developed and enforced. These policies should outline procedures, roles, responsibilities, and legal protections for teachers who provide first aid in good faith. This will reduce fear of liability and encourage prompt intervention during emergencies.
4. Increased funding should be allocated specifically for school health and safety programs. Government agencies and local education authorities should recognize first aid education as an essential investment rather than an optional expenditure. Partnerships with private organizations and non-governmental organizations can also help supplement limited public funds.
5. School Administrators should actively champion first aid education initiatives. Principals and vice-principals should demonstrate leadership commitment by organizing training sessions, encouraging staff participation, and embedding safety culture into daily school activities. Leadership advocacy can significantly influence the success and sustainability of programmes.
6. Partnerships with health institutions, emergency response agencies, and organizations such as the Nigerian Red Cross Society should be strengthened. Such collaborations can provide technical expertise, training resources, and certification opportunities at reduced cost.

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