

Impact of Safety-Education Intervention on Knowledge and Preventive Practices on Accidents among Pupils in Akoko South-West Local Government Area of Ondo State

Olasunkanmi Rowland Adeleke, Ph.D

Department of Human Kinetics and Health Education

Adekunle Ajasin University, Akungba-Akoko

olasunkanmi.adeleke@aaua.edu.ng



Abstract

This study examined the impact of safety education intervention on pupils' knowledge and preventive practices regarding accidents in Akoko South-West Local Government Area of Ondo State. A pre-test–post-test quasi experimental research design was adopted, involving a sample of 60 pupils. Data were collected using a validated, self-developed questionnaire. Mean and standard deviation were used to answer the research questions, while t-test and analysis of variance (ANOVA) were employed to test the hypotheses at 0.05 level of significance. Findings revealed that safety education intervention had a significant positive effect on pupils' knowledge of accident prevention ($t = 24.537, p \leq 0.05$). Similarly, a significant improvement was observed in pupils' accident prevention practices following the intervention ($t = 42.923, p \leq 0.05$). The study further showed that gender and religion did not significantly influence pupils' knowledge or practices related to accident prevention. The study concluded that safety education intervention significantly enhances both knowledge and preventive practices among pupils. It is therefore recommended that safety education be incorporated into the school curriculum, particularly at the primary school level, to equip children with essential safety knowledge and practices that can reduce their vulnerability to accidents.

Keywords: accident, children, environmental factors, injuries, safety education

Introduction

Children are disproportionately exposed to accidental injuries due to a range of biological, developmental, and environmental risk factors. Their innate curiosity, combined with immature cognitive judgment and limited motor coordination, constrains their ability to recognize and respond appropriately to potential hazards. These limitations are particularly evident among primary school pupils in the first six years of formal schooling, who often lack the capacity to independently manage risks associated with routine activities. As a result, this age group requires consistent supervision and structured guidance to ensure safety. In addressing this vulnerability, schools represent a strategic and effective setting for

intervention, as they provide an organized platform for delivering age-appropriate safety education. Through school-based programmes, safety knowledge and preventive practices can be systematically introduced and reinforced, thereby promoting safer behaviours and reducing the incidence of accidents among young children. School children are at a developmental stage where behaviours are highly malleable, making it an opportune period to promote safe and healthy lifestyles that align with societal and community norms.

In this study, the term accident refers specifically to unintentional injuries commonly experienced by primary school pupils, including falls, burns, cuts, poisoning, drowning-related incidents, and minor traffic-related injuries occurring within the home and school settings. These forms of accidents constitute the most prevalent and preventable injury categories among children of primary school age and represent the central focus of this research.

Studies have reported that the type of accident or injury that the child was involved in has connection to their age. For example, it was found that the majority of injuries among children under one year old are caused by unintentional suffocation or accidental strangulation; drowning is a leading cause of injuries and deaths among children aged 1-4, and falls were the mechanism of injury for children up to 10 years old (Jullien, 2021; Tang et al., 2025). In contrast, the majority of injuries among individuals aged 11-19 years old were found to be caused by traffic accidents (Nkere et al., 2017).

These children are more prone to injuries because, according to observations, they frequently try to explore and try new things without being able to comprehend the potential risks. Additionally, social and economic hardship were strongly associated with childhood injuries (Lynn, 2016). Because childhood is a social construct, its boundaries change over time and space, which affects a person's susceptibility to harm. Low household income, a larger household, more children under 16, a lower level of maternal education, multi-family housing, and overcrowding are additional particular socioeconomic factors linked to child injuries (Adekanye, 2015; Balogun et al., 2025). In their study, Nkere et al., (2017) found that 40.1% of the injured patients were female, whereas 59.9% of the patients were male. Toluse et al. (2016), Ayodele et al. (2018), and Chalya et al. (2011) had previously reported that these factors influence susceptibility to high risk of accidents.

Although these environmental factors are often a contributing factor rather than an immediate cause, Ayodele et al. (2018) claimed that children are made more vulnerable by

the level of supervision both inside and outside the school as well as the presence of open hazard sites (such as narrow corridors, unguarded railings, poor illumination, poorly arranged furniture, among others) where the likelihood of accidents is high. In addition to this, it has been discovered that a significant contributing factor to accidents is students' inadequate safety awareness, particularly in the school setting. There is evidence that these students' understanding of staying safe is limited (Roslan et al., 2022).

One of the cornerstones of effective safety tactics and methods for enhancing safety is safety education. Safety education plays a critical role in shaping individuals' awareness, attitudes, and behaviours toward the prevention of accidents and injuries. Consequently, it has been incorporated into the formal education system in virtually every country of the world, as well as into various programmes, initiatives, and extracurricular activities. The importance of safety education becomes evident when considering common preventable incidents in everyday life. For instance, a girl who carelessly turns a frying pot handle toward an open flame, a child who climbs a tree to harvest fruits without considering the risk of falling, or an individual who uses a broomstick to remove dirt from the ear, all demonstrate inadequate safety awareness or a nonchalant attitude toward personal safety. Ibhafidon et al. (2017) discovered, in their study, that students were generally ignorant or had limited awareness regarding safety in times of catastrophes, which supports these claims. The authors attested that there was no discernible difference between men and women's levels of safety awareness.

To raise awareness of safety, Fakeye et al. (2017) proposed formal school-based safety instruction. Regretfully, schools must manage numerous uncoordinated projects and programmes on their own, which puts a strain on school administrators and renders the official school-based intervention programme rather ineffective. The situation is further exacerbated by the haphazard way that safety education is handled in schools, particularly at the primary school level, where it is not included as a main subject in the curriculum. The Health Education subject, which includes safety education as one of its content areas, is an underdog subject and is only included in the curriculum as a correlated subject. More so, the effectiveness of school safety education is threatened by unqualified personnel, inadequate funding, and inadequate teaching facilities and equipment.

It has been observed that most accidents including falls, burns and poisoning among pupils occur at home and/or school environments. The health and academic implications of accidents range from bodily injuries, missing school, poor school performance to non-school completion. Many of these accidents had been attributed to poor supervision by

Impact of Safety-Education Intervention on Knowledge and Preventive Practices on Accidents among Pupils in Akoko South-West Local Government Area of Ondo State

Olasunkanmi Rowland Adeleke, Ph.D

elderly ones and poor accident prevention knowledge possessed by the pupils. Although, studies on the efficacy of these awareness programmes abound, researches have not confirmed the efficacy of such interventions among the primary school pupils in Ondo State; hence this study.

Hypotheses

Ho1: There is no significant impact of safety education intervention on pupils' accident prevention knowledge.

Ho2: There is no significant impact of safety education intervention on pupils' accident prevention practices

Ho3: Gender does not significantly influence pupils' accident prevention knowledge.

Ho4: Religion has no significant influence on pupils' accident prevention knowledge.

Ho5: Gender does not have any significant influence on pupils' accident prevention practices.

Ho6: There is no significance influence of religion on pupils' accident prevention practices.

Methodology

One-Group Pretest-Posttest research design was used for this study. The population of this study comprised of all primary school pupils in Akoko-South Local Government Area of Ondo State. The sample size for this study was sixty (60) pupils in Akoko-South Local Government Area, Ondo State. Participants were measured before (pretest) and after (posttest) receiving the treatment. The multi-stage sampling procedure was used for this study. This included selecting one primary school in the study area using simple random sampling technique. The second stage involved selecting 20 pupils each from primary 4, 5 and 6, from the primary school selected, making a total of 60 pupils using systematic sampling technique.

One research instrument and a treatment package were used for the study. The primary instrument was a structured, close ended questionnaire that was developed by the researcher. The questionnaire was titled "Safety-Education Intervention on Knowledge and Preventive Practices on Accidents (SEI-KPPA)". The questionnaire consisted of three sections: section A measured demographics of the respondents, section B collected data on knowledge on accidents while section C measured the preventive practices of pupils on accidents using a modified three point-scale rating (yes, no, I don't know). For positive worded question

items, Yes was scored 2, No = 1, I don't know = 0, the reverse was coded for negative worded question items.

The treatment package comprised a Health Education–based safety education intervention designed to improve upper primary pupils' knowledge of accidents and enhance their preventive practices. The intervention, grounded in the Health Education curriculum, focused on developing health-related knowledge, attitudes, life skills, and behaviours necessary for injury prevention. It was implemented over a 4–6 week period and integrated into regular Health Education lessons for pupils in Primary 4–6. The intervention addressed core Health Education components, including personal and environmental safety, injury prevention, and health decision-making. Instructional content covered types and causes of accidents, environmental hazards, health implications of unsafe behaviours, preventive safety practices, and basic first-aid awareness, emphasizing the interaction between individual behaviour, environment, and health outcomes.

The research instrument was validated at face and content validity levels by two experts in the Department of Human Kinetics and Health Education. The final corrected version was used for data collection. Test and retest method was used to determine the reliability of this study. 10 copies of drafted questionnaire were administered to 10 respondents in a selected school. The respondents were not part of the main study but possess similar characteristics. This exercise was performed on two separate occasions within an interval of two weeks. The first and second sets of responses were correlated using Pearson Product Moment Correlation (PPMC) and resultant value of $r = 0.68$ was obtained.

Approval to conduct the study was obtained from the relevant educational authorities and school administrators, with permission granted by the school head and cooperation secured from Health Education teachers. Pupils were informed about the purpose of the study and assured of confidentiality, anonymity, and voluntary participation, after which verbal assent was obtained. A pre-test was administered prior to the intervention to establish baseline information on pupils' knowledge and preventive practices related to accidents. The questionnaire was administered by the researcher during regular class periods under supervised conditions, with items clearly explained to ensure proper understanding.

Following the pre-test, a Health Education–based safety education intervention was implemented for all participants over a period of 4–6 weeks during scheduled Health Education lessons. The intervention followed a standardized lesson guide, with each session lasting approximately 40–45 minutes. Instruction was delivered using interactive lectures,

group discussions, role-play, demonstrations, and scenario-based learning, supported by charts, posters, and audio-visual materials. The content focused on types and causes of accidents, identification of hazards, preventive safety behaviours, and basic first-aid measures. Implementation fidelity was ensured through continuous monitoring using an intervention checklist to confirm that lesson objectives, content, and instructional strategies were consistently delivered.

At the end of the intervention period, a post-test was administered to the same group of pupils using the same instrument employed during the pre-test, under similar conditions to minimize testing bias. Completed copies of the questionnaire were collected, coded, and securely stored, and the data were prepared for statistical analysis to assess changes in pupils' knowledge and preventive practices resulting from the intervention.

T-test and ANOVA were used to test the formulated hypotheses using SPSS 29.0 software. Hypotheses were accepted or rejected at alpha level 0.05.

Presentation of results

Ho1: There is no significant impact of safety education intervention on pupils' accident prevention knowledge.

Table 1: t-test of difference between pre-test and post-test mean scores on pupils' accident prevention knowledge

Knowledge	N	Mean	SD	Df	t.cal	Sig
Pre-test	60	37.42	2.71	59	24.537	.000
Post-test	60	48.87	2.27			

Table 1 presents that there exists a significant impact of safety education intervention on accident prevention knowledge of pupils in the study area because the p value is less than 0.05.

Ho2: There is no significant impact of safety education intervention on pupils' accident prevention practices.

Table 2: t-test of difference between pre-test and post test mean scores on pupils' accident prevention practices

Practice	N	Mean	SD	Df	t.cal	Sig
Pre-test	60	28.73	2.97	59	42.923	.000
Post-test	60	47.85	2.43			

Table 2 contains the findings which indicated that t-cal is 42.923 and p-value is less than 0.05. This inferred that there exists a significant impact of safety education intervention on accident prevention practices among pupils in the study area.

Ho3: Gender does not significantly influence pupils' accident prevention knowledge.

Table 3: t-test of gender difference on post-test mean scores on pupils' accident prevention knowledge

Variables	N	Mean	SD	Df	t.cal	Sig
Male	30	49.20	2.19	58	1.139	.260
Female	30	48.53	2.34			

As presented in table 3, the p value of 0.260 is greater than 0.05. The tested null hypothesis is hereby upheld. Therefore, it is concluded that there is no significant influence of gender on the impact of safety education intervention on knowledge of accident prevention among pupils in Ondo State.

Ho4: Religion has no significant influence on pupils' accident prevention knowledge.

Table 4: ANOVA of difference on post test mean scores on pupils' accident prevention knowledge based on their religion

Variables	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	12.600	1	12.600	2.500	.119
Within Groups	292.333	58	5.040		
Total	304.933	59			

Result presented in table 4 revealed that there was no significant influence of religion on the impact of safety education intervention on knowledge of accident prevention among pupils in Ondo State based on religion. The result is not significant since the significant value is greater than 0.05. Hence, the null hypothesis is accepted.

Impact of Safety-Education Intervention on Knowledge and Preventive Practices on Accidents among Pupils in Akoko South-West Local Government Area of Ondo State

Olasunkanmi Rowland Adeleke, Ph.D

Ho5: Gender does not have any significant influence on pupils’ accident prevention practices.

Table 5: t-test of gender difference on post-test mean scores on pupils’ accident preventive practices

Variables	Mean	N	SD	Df	t.cal	Sig
Male	47.80	30	2.59	58	.158	.875
Female	47.90	30	2.29			

As presented in table 5, the p value of 0.875 is greater than 0.05. The tested null hypothesis is hereby upheld. Therefore, it is concluded that there is no significant influence of gender on the impact of safety education intervention on accident preventive practices among pupils in Ondo State.

Ho6: There is no significant influence of religion on pupils’ accident prevention practices.

Table 6: ANOVA of difference on post-test mean scores on pupils’ accident preventive practices based on religion

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	5.467	1	5.467	.927	.340
Within Groups	342.183	58	5.900		
Total	347.650	59			

Result presented in table 6 revealed that there was no significant influence of religion on the impact of safety education intervention on accident preventive practices among pupils in Ondo State. The result is not significant since the significant value is greater than 0.05. Hence, the null hypothesis is retained.

Discussion of the findings

The finding from hypothesis one revealed that the safety education intervention had a significant positive impact on pupils’ knowledge of accident prevention. This result suggests that exposing pupils to structured and age-appropriate safety education within the school setting can substantially improve their understanding of accidents, their causes, and preventive measures. This finding supports earlier assertions in the introduction that children at the primary school level are developmentally vulnerable due to limited cognitive judgment and risk perception, and therefore require structured guidance to enhance safety

awareness. The improvement in knowledge observed in this study further aligns with the view expressed by Roslan et al. (2022) that pupils generally possess limited safety awareness, particularly within the school environment, and that deliberate educational efforts are necessary to address this gap. Similarly, Ayodele et al. (2018) emphasized that targeted safety awareness programmes are effective in improving pupils' safety-related knowledge, especially when delivered within the school system.

The finding from hypothesis two showed that the safety education intervention had a significant positive impact on pupils' accident prevention practices. This indicates that improved safety knowledge translated into healthier and safer behavioural practices among the pupils. This outcome is consistent with the Health Education principle highlighted in the introduction, which emphasizes the relationship between knowledge acquisition, attitude formation, and behaviour change. The finding also supports the argument that many accidents among pupils occur due to poor safety awareness and inadequate preventive practices, particularly in school and home environments (Ayodele et al., 2018). By improving pupils' understanding of environmental hazards and safe behaviours, the intervention contributed to a reduction in risky practices, thereby reinforcing the role of school-based safety education as an effective preventive strategy.

With respect to hypothesis three, the findings indicated that gender did not significantly influence the impact of safety education intervention on pupils' knowledge of accident prevention. This suggests that both male and female pupils benefitted equally from the intervention. This result aligns with the observation by Ibhafidon et al. (2017), who reported no significant difference between males and females in safety awareness levels. The finding implies that when safety education is systematically delivered within a formal school setting, gender-related differences in exposure and experience become less relevant, as pupils receive uniform instruction regardless of sex.

The finding from hypothesis four revealed that religion had no significant influence on the impact of the safety education intervention on pupils' knowledge of accident prevention. This suggests that safety knowledge acquisition among pupils is largely independent of religious affiliation when delivered through a structured school-based programme. This finding supports the position advanced in the introduction that safety education constitutes a universal public health concern that cuts across cultural and religious boundaries. As earlier noted, children's vulnerability to accidents is primarily linked to developmental limitations, environmental hazards, and inadequate supervision rather than belief systems (Ayodele et al., 2018; Roslan et al., 2022). Consequently, structured Health Education

Impact of Safety-Education Intervention on Knowledge and Preventive Practices on Accidents among Pupils in Akoko South-West Local Government Area of Ondo State

Olasunkanmi Rowland Adeleke, Ph.D

interventions appear sufficient to improve pupils' safety knowledge irrespective of religious background.

Similarly, the finding from hypothesis five showed that gender did not significantly influence the impact of safety education intervention on pupils' accident preventive practices. This indicates that both male and female pupils adopted preventive practices at comparable levels following exposure to the intervention. This finding reinforces the earlier assertion in the introduction that school children are at a developmental stage where behaviours are highly malleable and responsive to guided instruction. When pupils are exposed to the same learning environment, supervision, and instructional content, behavioural outcomes tend to be similar regardless of gender (Ibhafidon et al., 2017; Ayodele et al., 2018). This suggests that structured safety education can effectively promote positive preventive practices among pupils without gender bias.

Finally, the finding from hypothesis six revealed that religion did not significantly influence the impact of safety education intervention on pupils' accident preventive practices. This implies that preventive behaviours promoted through Health Education-based safety instruction were uniformly adopted by pupils irrespective of religious affiliation. This finding aligns with the broader view expressed in the introduction that accidents among pupils are largely attributable to unsafe environments, poor supervision, and inadequate safety awareness rather than religious factors (Adekanye, 2015; Ayodele et al., 2018). Therefore, structured school-based safety education remains an effective and inclusive strategy for improving accident prevention practices among pupils across diverse religious backgrounds.

Conclusion

The study concluded that safety education intervention had significant effect on knowledge and practices on accident prevention among pupils in Ondo state. In addition, gender and religion have no significant influence on the impact of safety education intervention on knowledge and practices of accident prevention among pupils in Ondo state. Hence, the study showed that safety education intervention study is significant in knowledge and practices of accident prevention.

Recommendation

The study recommended that safety education should be taught in schools especially from primary school level in order to instill in children safety knowledge and practices which will protect them from being victims of accident.

References

- Adekanye, A. (2015). Community survey of childhood injuries in North-Central Nigeria. *Annals of Pediatric Surgery*. <https://doi.org/10.1097/01.XPS.0000462928.45595.53>
- Ayodele, R. B., Akinbiola, O. O., Mamudu, M. M. & Fasugba, I. D. (2018). Effect of a Two-Day Awareness Programme on the Safety Knowledge of Primary School Pupils in Modakeke, Osun State, Nigeria. *European Journal of Physical Education and Sport Science*, 4(11), 1-12.
- Balogun, O. J., Bello, O. O., Nkhata, L. A., & Conran, J. (2025). Maternal knowledge and attitude towards unintentional childhood injury among children under five. *African Journal of Disability*, 14, 1617. <https://doi.org/10.4102/ajod.v14i0.1617>
- Chalya, P. I., Kanumba, E. S., Mabula, J. B., Giiti, G. & Gilyoma, J. M. (2011). Aetiological Spectrum, Injury Characteristics and Treatment Outcomes of Head injury Patients at Bagada Medical Center in North-Western Tanzania. *Tanzania Journal of Health Research*, 13, 93 – 102.
- Fakeye, J. K., Oyinlola, A. I. & Salaam, A. A. (2017). Determinants of School Accidents among Secondary School Students in Oyo West Local Government Area of Oyo State. *Nigeria School Health Journal*, 29(1), 50 – 56.
- Ibhafidon, A., Nuzulike, N. M. & Ewuzie, M. A. (2017). Disaster Management Awareness among Students of Alvan Ikoku College of Education, Owerri. Imo State. *Nigeria School Health Journal*, 29(1), 72 – 81
- Jullien, S. (2021). Prevention of unintentional injuries in children under five years. *BMC pediatrics*, 21(Suppl 1), 311. <https://doi.org/10.1186/s12887-021-02517-2>
- Lynn, W. (2016). Accidents to Children: Home Safety, Advice and Information Child Safety. Retrieved on Sept, 2016 from www.rosipa.com/home/accidentdonthavetohappen
- Nkere, E. I. D., Ajibola, C. A., & Ibe, R. T. (2017). Epidemiology of Injuries at Accident and Emergency Units of University of Calabar Teaching Hospital, Calabar, Nigeria. *Nigerian School Health Journal*, 29(2). 44 – 52.
- Roslan, M. F., Razak, M. R. A., Ishak, N. S., Sofyan, D., & Nupan, A. (2022). *Student awareness of safety aspects in school*. *Journal of Metrics Studies and Social Science*, 1(2), 61–66.

Impact of Safety-Education Intervention on Knowledge and Preventive Practices on Accidents among Pupils in Akoko South-West Local Government Area of Ondo State

Olasunkanmi Rowland Adeleke, Ph.D

Tang, P., Fan, Q., Sun, J., Ji, J., Yang, L., Tang, W., & Lu, Q. (2025). The Hidden Danger of Unintentional Child Injuries in an Urban Domestic Environment: Considering Unintentional Injuries from Another Angle. *International Journal of Environmental Research and Public Health*, 22(7), 1068. <https://doi.org/10.3390/ijerph22071068>

Toluse, A. M., Idowu, O. T., Ogundele, O. O. & Egbewole, A. (2016). Injury Epidemiology at a Trauma Center in South-Western, Nigeria. *African Journal of Trauma*, 5(1), 1 – 4.