European Journal of Physical Education and Sport Science
ISSN: 2501 - 1235
ISSN-L: 2501 - 1235
Available on-line at: www.oapub.org/edu

doi: 10.5281/zenodo.1451721 Volume 4 | Issue 11 | 2018

EFFECT OF A TWO-DAY AWARENESS PROGRAMME ON THE SAFETY KNOWLEDGE OF PRIMARY SCHOOL PUPILS IN MODAKEKE, OSUN STATE, NIGERIA

R. B. Ayodele[1],
O. O. Akinbiola[1i],
M. M. Mamudu[2],
I. D. Fasugba[2]
[1]Dr. Department of Physical and Health Education,
Obafemi Awolowo University,
Ile-Ife, Nigeria
[2]Department of Physical and Health Education,
Obafemi Awolowo University,
Ile-Ife, Nigeria

Abstract:
The study examined the effect of a two-day awareness programme on the safety knowledge of primary school pupils in Modakeke, Osun State. It compared the safety knowledge of pupils by gender and type of school. The study adopted the pretest-posttest experimental research design. A total of 200 pupils (110 Males and 90 females) were selected using stratified random sampling technique. Stratification was based on school type (Public and Private). A self-developed questionnaire was used to gather information on the safety knowledge of pupils before and after a 2-day intervention programme which exposed them to information on accident prevention measures at different settings in the school including road, laboratory, school garden, classrooms and staircase and playground. The pretest and posttest scores were compared and the Pearson Product Moment Correlation Coefficient analysis yielded r=1 $p > 0.05$. It was concluded that the awareness programme improved the school safety knowledge of primary school pupils at all settings. Regular short-term safety awareness programmes were recommended in schools.

Keywords: awareness, accident, safety, intervention, pupils

1. Introduction

Schools provide the most effective way of influencing any population especially the children who are at the growing stage. The school children are at a stage when

[i] Correspondence: email oluwabusayoakinbiola@gmail.com

behaviours can be shaped easily, reshaped and modified to reflect and conform to the norms and values of the community and the society at large in order to help them cultivate and maintain healthy and safe lifestyles as they interact with their environment. However, the Nigeria school-age population (±6 – 11) years who comprises about 20% of the total population (Nwankwo, 2004) and especially those in the primary school age have been found to be highly susceptible to many unfavourable conditions that predispose them to dangers including accidents and injuries. In their study, Nkere, Ajibola and Ibe (2017), found that 5,369 (24.4%) of patients that visited the Accidents and Emergency unit of a teaching hospital in Calabar, between 2012 and 2015 were injured patients, and 15.6% of the injured were children less than 10 years. Adoga and Ezoilo (2014) in their earlier study in Jos found a higher injury prevalence of 31.1%. It was also revealed in the review of Ayodele, Olubayo-Fatiregun & Olawale (2017) that school accidents were commonest among this age group and the consequences were found to be more serious as compared to home accidents.

There are many predisposing factors in accident occurrence among children. In his submission, John (2006) indicated childhood-based factors which include curious, exploratory and imitative natures of the child. Apart from their inquisitive nature, children' developmental stage influences their abilities to deal with hazards, the more reason why school children within the primary level (that is pupils at the first six years of school) require high level supervision to perform many activities safely. The age of the child has therefore been linked to the type of accident or injury that they involved in. For instance, it was established that children of less than one year who die from injuries are predominantly victims of unintended suffocation or accidental strangulation, while drowning is a main cause of injuries and deaths among the children aged 1-4 years, and in ages up to 10 years, falling was the mechanism of injury whereas, traffic injuries were found to be responsible for most injuries among persons aged between 11 and 19 years (Nkere, Ajibola & Ibe (2017). Observations have indicated that these children often try to explore and attempt new activities without having the capability of assessing the level of risks that may be involved, which makes them more susceptible to injuries.

Also, childhood injuries were closely linked with social and economic deprivations (Lynn, 2016). Corroborating this assertion, the World Report on Child Injury Prevention (2008) revealed that children from poorer backgrounds are five times more likely to die as a result of accidents than children from better-off families and the gap is widening. Childhood is a social construction, whose boundaries shift with time and place and this has implications for vulnerability to injury. Other specific socio-economic factors associated with injury among children include; low household income, increased number of persons in household, increased number of children under 16 years, lower maternal education, multi-family dwelling, and overcrowding.

As regards the relatedness of gender to accident vulnerability, the National Action Plan for Child Injury Prevention (NAP, 2012) indicated that some children are at greater risks than others for an injury, based on gender. For example, the author noted

that injury-related deaths and disabilities are more likely to occur among male children of those living in specific geographic regions and in certain racial/ethnic groups and vulnerability in each category varies according to age and gender. According to Nkere, Ajibola and Ibe (2017), the gender distribution of injured patients in their study was 59.9% males as against 40.1% females. This was earlier found by Chalya, Kanumba, Mabula & Gilyoma (2011), Toluse, Idowu, Ogundele & Egbewole (2016) and Ayodele, Olubayo-Fatiregun & Olawale (2017).

A separate study carried out by the Benard van Leer Foundation (2011) indicated that environment is a key factor affecting the occurrence and severity of accidents. The author stated that the extent of supervision in and outside the school and the presence of open hazard sites (including narrowness of corridor, unguarded railings, poor illumination, poorly arranged furniture etc.) where probability of accidents is high make children more vulnerable though, many times, these environmental factors could be a contributory factor and not an immediate cause.

In addition to these factors, poor safety knowledge of pupils especially in the school environment have been found to be a highly contributory factor in accident causation and there are evidences that the knowledge of these pupils about keeping safe is shallow. For instance, the boy who climbed the tree to pluck fruits; the girl who turns the handle of a frying pot on fire to herself or that who uses broom stick to pick dirt from his or her ears has demonstrated either lack of safety knowledge or non-challant attitude towards safety. Corroborating these statements, Ibhafidon, Onuzulike and Ewusie (2017) found that students in their study were generally unaware or had low level of awareness about safety in times of disasters. The author confirmed that there was no significant difference in the awareness level of males and females when it comes to safety during these times. These results contradicted those of Vijayakumari and Sabitha (2015) who found that more girls than boys at the secondary school level had greater safety awareness during disasters. As stated by the authors, females are more concerned with family matters than their male counterparts, hence, she may gather more information regarding the protection of the family than the males.

To reduce the rate and cost of accidents therefore, researchers like Okafor (2000), Ejifugha (2002), Vacca and Boscher (2003), Fakeye, Oyinlola and Salaam (2017) have suggested formal school-based safety education as a means of creating safety awareness. Unfortunately, schools do contend separately with multiples of other uncoordinated projects and programmes which places burden on school authorities thereby making the formal school-based intervention programme unproductive to an extent. To worsen the situation, the haphazard way in which the safety education subject is handled in schools especially at the primary school level, where the subject of safety is not included as a main subject in the curriculum; where the Health Education subject (which houses safety education as one of its content areas) has an underdog status, where it is only included in the school curriculum as a correlated subject; handled by non-qualified personnel, with poor funding and inadequate teaching facilities and equipment threatens the efficacy of the school safety education

However, what readily comes to mind as a complementary programme to the school-based safety education is the use of regular safety awareness/campaign programmes and interventions, which researchers like Okafor (2000) and Onyezere (2017) have suggested as effective in mass knowledge creation and building. Although, studies on the efficacy of these awareness programmes abound, researches have not confirmed the efficacy of such short-term interventions among the primary school pupils in Modakeke, Ile-Ife; hence this study.

The specific objectives of this study were to:

a. examine the safety knowledge of males and female primary school pupils in Modakeke;
b. compare safety knowledge between the pupils in private and public schools in the study area; and
c. investigate the effect of the 2-day accident prevention awareness on safety knowledge of primary school pupils at different settings.

1.1 Hypothesis

1. There is no significant difference between the safety knowledge of male and female primary school pupils in Modakeke, Ile-Ife, sun State.
2. There is no significant difference between the safety knowledge of Public and Private primary school pupils in the study area:
3. The 2-day Accident Prevention Awareness programme will not have significant effect on the safety knowledge of primary school pupils at different locations in the school.

2. Methodology

The pretest-posttest experimental research design was employed for this study. The population for the study comprised the entire public and private primary schools in Modakeke, Osun State. A total of 200 pupils were selected using stratified random sampling technique with the type of school (Public or private) as stratum. From each type of school, 100 pupils were selected using convenient sampling technique. There were 110 males and 90 females. Study was delimited to primaries 4 – 6. A validated questionnaire titled 'Effect of Awareness Programme on Safety Knowledge' (EAP-SA) was used to collect pre and post intervention data from the pupils while an Accident Prevention Education Package was used to disseminate adequate information on how to keep safe at all settings (home, school and road) to the pupils for 2 days. Data were collected before and after intervention. The pre-post data were correlated using Pearson Product Moment Correlation Coefficient.

3. Results

Table 1: Chi-square Summary Table on Male and Female Knowledge of Safety Measures at Different Settings

Settings	Sex	No	df	(x^2Calc)	(x^2Calc)	P	Sig
Road	Public	100	1 3	1.24	3.84	0.05	NS
	Private	90					
School Farm	Public	100	1	2.46	3.84	0.05	NS
	Private	90					
Classrooms and Staircase	Public	100	1	0.30	3.84	0.05	NS
	Private	90					
Laboratory	Public	100	1	3.41	3.84	0.05	NS
	Private	90					
Playground	Pubic	100	1	0.22	3.84	0.05	NS
	Private	90					

Table 1 showed that when the safety knowledge of males and females was compared, the Cal.x^2 scores for pupil's knowledge of safety measures on the road (x^2=1.24); School farm (x^2=2.46); Staircase and classrooms (x^2=0.30); Laboratory (x^2=3.41) and Playground (x^2=0.22) were less than the *tab*x^2=3.84 at 0.05 level of significance. This means that the hypothesis that states that there is no significant difference between the safety knowledge of male and female pupils was upheld.

Table 2: Chi-square Summary Table Comparing Knowledge of Safety Measures between Public and Private School Pupils

Settings	Sex	No	df	(x^2Calc)	(x^2Calc)	P	Sig
Road	Public	100	1 3	.78	3.84	0.05	NS
	Private	100					
School Farm	Public	100	1	10.34	3.84	0.05	S
	Private	100					
Classrooms and Staircase	Public	100	1	10.62	3.84	0.05	S
	Private	100					
Laboratory	Public	100	1	25.54	3.84	0.05	S
	Private	100					
Playground	Pubic	100	1	0.63	3.84	0.05	NS
	Private	100					

Table 2 showed that when the road and playground safety knowledge of public and private school pupils were compared, data showed that the calcx^2 scores for pupil's knowledge of safety measures on the road (x^2=3.78) and Playground (x^2=0.63) were less than the *tab*x^2=3.84 at 0.05 level of significance, while x^2values for knowledge of safety measures in the school farm (x^2=10.34); Staircase and classrooms (x^2=10.62) and Laboratory (x^2=25.24) were greater than the *tab*x^2=3.84 at 0.05 level of significance. This means that the hypothesis that states that there is no significant difference in safety knowledge between the public and private school pupils was upheld for road and playground safety, but rejected for farm, stairway/classroom and laboratory safety measures.

Tables 3 – 7 show the correlation analysis of the pre and post intervention scores for different settings

Table 3: Correlation Analysis of Pupils' Safety Knowledge on the Road (Pre and Post Intervention)

Correlations

	Walking on the left side of the road	**Facing on-coming vehicle when walking on the road**	**Crossing the road at zebra crossings**	**Not playing on the road**	**Waiting for vehicles to stop before crossing the road**	**Riding bicycle without complying with safety rules**	**Not sleeping when carried on motorcycle**	**Looking to the right, left and right again before crossing the road**
Walking on the left side of the road	1.000 . 0							
Facing on-coming vehicle when walking on the road	.345 .000 197	1.000 . 0						
Crossing the road at zebra crossings	-.219 .002 197	-.119 .094 197	1.000 . 0					
Not playing on the road	.282 .000 197	.147 .038 197	.021 .767 197	1.000 . 0				
Waiting for vehicles to stop before crossing the road	.045 .528 197	.088 .219 197	.057 .428 197	.171 .016 197	1.000 . 0			
Riding bicycle without complying with safety rules	.283 .000 197	.374 .000 197	-.223 .002 197	.002 .976 197	-.015 .836 197	1.000 . 0		
Not sleeping when carried on motorcycle	.007 .918 197	-.133 .061 197	.246 .000 197	.068 .342 197	-.016 .817 197	.029 .685 197	1.000 . 0	
Looking to the right, left and right again before crossing the road	.165 .020 197	.182 .010 197	-.179 .011 197	.058 .415 197	.187 .008 197	.044 .535 197	-.296 .000 197	1.000 . 0

Data in Table 3 indicated that there was no correlation in pupils' pre and post intervention responses to questions on safety measures on the road ($r=1$: $p > 0.05$)

Table 4: Correlation Analysis of Pupils' safety knowledge on the Farm (Pre and Post Intervention)

Correlations

	Not playing with insects and snakes	**Not holding gardening tools on their edges**	**Not putting hands or legs into holes at school/garden**	**Wearing gloves when handling waste**	**Maintaining adequate workspace during gardening**	**Washing hands with soap and water after gardening**	**Using farm tools as prescribed by the teachers during gardening**
Not playing with insects and snakes	1.000 . 0						
Not holding gardening tools on their edges	.215 .002 197	1.000 . 0					
Not putting hands or legs into holes at school/garden	.378 .000 197	.137 .054 197	1.000 . 0				
Wearing gloves when handling waste	.389 .000 197	.297 .000 197	.514 .000 197	1.000 . 0			
Maintaining adequate workspace during gardening	.373 .000 197	.088 .217 197	.443 .000 197	.426 .000 197	1.000 . 0		
Washing hands with soap and water after gardening	.415 .000 197	.194 .006 197	.501 .000 197	.502 .000 197	.578 .000 197	1.000 . 0	
Using farm tools as prescribed by the teachers during gardening	.116 .104 197	.141 .047 197	.258 .000 197	.189 .007 197	.168 .017 197	.182 .010 197	1.000 . 0

Table 4 showed that there were disparities in pupils pre and post intervention responses to items on accident prevention measures in the school farm ($r=1$ $p > 0.05$). This means that hypothesis that states that the two-day safety awareness programme will not have significant effect on the farm safety knowledge of pupils was rejected.

Table 5: Correlation Analysis of Pupils' Safety Knowledge in the Classrooms and on Stairways (Pre and Post Intervention)

Correlations

	Not engaging in rough play	Sharing sharp objects like blades with friends	Avoiding chasing mates on the stairs	Running on wet stairways	Avoiding sitting on damaged chair	Avoiding gliding/hanging on stairs handrails
Not engaging in rough play	1.000 . 0					
Sharing sharp objects like blades with friends	.151 .033 197	1.000 . 0				
Avoiding chasing mates on the stairs	.255 .000 197	.168 .017 197	1.000 . 0			
Running on wet stairways	.398 .000 197	.226 .001 197	.278 .000 197	1.000 . 0		
Avoiding sitting on damaged chair	.313 .000 197	.189 .008 197	.247 .000 197	.246 .000 197	1.000 . 0	
Avoiding gliding/hanging on stairs handrails	.096 .178 197	.107 .133 197	.140 .048 197	.200 .005 197	.125 .078 197	1.000 . 0

Table 5 showed that there were disparities in pupils' pre and post intervention responses to items on accident prevention measures on the classrooms and stairways (r=1 $p > 0.05$). This means that hypothesis that states that the two-day safety awareness programme will not have significant effect on the Classroom and staircase safety knowledge of pupils was rejected.

Table 6: Correlation Analysis of Pupils' Safety Knowledge in the Laboratory (Pre and Post Intervention)

Correlations

	Avoiding skin contacts with chemicals	Not lighting matches or candles inside laboratory	Avoiding eating in the laboratory	Not inserting metals or hands into electrical sockets in the laboratory	Wearing gloves in the laboratory
Avoiding skin contacts with chemicals	1.000 . 0				
Not lighting matches or candles inside laboratory	-.022 .754 197	1.000 . 0			
Avoiding eating in the laboratory	.530 .000 197	-.021 .768 197	1.000 . 0		
Not inserting metals or hands into electrical sockets in the laboratory	.489 .000 197	-.027 .706 197	.564 .000 197	1.000 . 0	
Wearing gloves in the laboratory	.451 .000 197	-.023 .752 197	.526 .000 197	.379 .000 197	1.000 . 0

Table 6 showed that there were disparities in pupils' pre and post intervention responses to items on accident prevention measures on the laboratory ($r=1$ $p > 0.05$). This means that hypothesis that states that the two-day safety awareness programme will not have significant effect on the laboratory safety knowledge of pupils was rejected.

Table 7: Correlation Analysis of Pupils' safety knowledge on the Playground (Pre and Post Awareness Intervention)

Correlations

Control Variables	**Playing on dry surfaces**	**Using appropriate shoe-size for training**	**Using sports equipment only when teachers/ spotter is around**	**Picking sharp objects like broken bottles, needles and nails off the playground**	**Not playing or walking on wet floors**	**Not playing or sitting close to dilapidated buildings**
Playing on dry surfaces	1.000 . 0					
Using appropriate shoe-size for training	-.064 .373 197	1.000 . 0				
Using sports equipment only when teachers/ spotter is around	.084 .238 197	-.170 .016 197	1.000 . 0			
Picking sharp objects like broken bottles, needles and nails off the playground	.343 .000 197	.026 .715 197	.146 .040 197	1.000 . 0		
Not playing or walking on wet floors	.047 .514 197	.106 .138 197	-.320 .000 197	.015 .836 197	1.000 . 0	
Not playing or sitting close to dilapidated buildings	.480 .000 197	-.112 .116 197	.063 .376 197	.386 .000 197	-.074 .297 197	1.000 . 0

Table 7 showed that there were disparities in the pupils' pre and post intervention responses to items on accident prevention measures on the playground ($r=1$ $p > 0.05$). This means that hypothesis that states that the two-day safety awareness programme will not have significant effect on the playground safety knowledge of pupils was rejected.

4. Discussion of Findings

The result of this study which indicated that both males and females were not different in their safety knowledge was supported by Ibhafidon, Onuzulike and Ewusie (2017) but contradicted the results of Vijayakumari and Sabitha (2015) who found that girls at the secondary school level have greater safety awareness during disasters. It is agreed

that females are more concerned with family matters than their male counterparts and are most likely to get more interested to learn safety information about protection of the family than the males. It is even surprising that no difference was found between the knowledge of males and females on accident prevention measures in the school farm.

The disparity in the awareness level of private and public schools' pupils in this study could be attributable to the fact that children attending private schools are majorly those whose families have high socioeconomic status and are more likely to be much guided and given accurate information about working safely than children whose parents do not care about the safety of their children. The result of this study which showed that the programme intervention had effect on the pupils' knowledge of accident prevention measure was earlier suggested by Okafor (Okafor, 2000 and Onyezere, 2017)

5. Conclusion

On the basis of the results of the study, it was concluded that the safety knowledge of primary school pupils in Modakeke is high and that males and females did not differ in their safety knowledge of accident prevention measures. The 2-day intervention programme had effect on the school safety knowledge of the pupils.

5.1 Recommendation

It was recommended that pupils should be well educated on how to prevent accidents in various settings. This can be accomplished through implementation of regular safety awareness programmes to complement the school-based safety education in schools.

References

Adoga, A. & Ozoilo, K. (2014). The Epidemiology and Type of Injuries seen at the Accident and Emergency Unit of a Nigeria Referral Center. *Journal of Emergency Trauma and Shock.* 7 (2) 77 - 82

Ayodele, R. B., Olubayo-Fatiregun, M. A. & Olawale J. O. (2017). Comparative Analysis of Accident Occurences in School and Home among Pupils in Ife-Ijesha Senatorial District of Osun State, Nigeria. *Nigeria School Health Journal.29* (1) 89 - 96

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. & A. A. Salaam (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 Ikokwu College of Education, Owerri. Imo State. *Nigeria School Health Journal.29* (1) 72 – 7

John, D. F. (2006). Commonwealth of Learning and Open Education Resources. WikiEducator, New Zealand

Lynn, W. (2016). Accident to Children: Home Safety Advice and Information on Child Safety. www.rospa.com. retrieved 23 September, 2016.

National Action Plan on Child Injury Prevention (2012). Protecting Our Nation's Future. Division of Unintentional Injury Prevention.

Nkere, E. I. D., C. A. Ajibola, R. T. Ibe (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

Nwankwo, B. (2004). Population Dynamics and Health Impacts. 2nd Edition. Owerri Colon Concepts Publishers. 67 – 78

Okafor, J. O. (2000). Functional Approach to School Health Education. 2nd Edition. Anambra. Erudite Publishers. 6 – 101

Onyezere, J. O. (2017). Innovative Approaches to Awareness Creation and Public Education on Disaster Risk Reduction. *Nigeria School Health Journal.29* (1) 1 – 8

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

Vacca & Bosher (2003). Law and Education. Current Issues and Court Decisions. Sixth Edition.

Vijayakumari, K. & Sabitha P. (2015), Awareness of Disaster Management: An Exploration among Secondary School Students of Kerala Based on their Gender, Locale and Experience. *Guru Journal of Behavioural and Social Sciences* 3 (2) 382 - 388

Wilson, M. H. (1991). Saving Children: A guide to Injury Prevention. Oxford University Press.