Prevalence and Socio-Demographic Predictors of Domestic Accidents among Children in Khana Local Government Area of Rivers State

ABSTRACT

This study investigated the prevalence and socio-demographic predictors of domestic accidents among children in Khana Local Government Area of Rivers State. Four research questions guided the study. A descriptive survey design was adopted as the research design for this study. A multi-stage sampling procedure was used to select a sample size of 435 respondents for the study. A standardized questionnaire with a reliability coefficient of .82 was used for data collection. Data was analyzed using frequency, percentage and binary logistic regression for relevant variables. The findings of the study revealed that the prevalence of domestic accident among children was 241(58.9%). Fall was the most common type of domestic accident found in this study. The findings of the study revealed that the prevalence of domestic accident is 241(58.9%) with 168(41.1%) indicating that domestic accident had occurred more than once. Fall was the most common type of domestic accident found in this study. 56(35.6%) of the children aged 1-2 years have had domestic accident more than once, 18(16.1%) within age 3- 4 years have had domestic accident once, and 5(3.6%) of those aged 5-8 years have had domestic accident more than once. 82(34.4%) boys and 27(15.8%) girls have had domestic accidents severally. The results further showed that factors such as gender had statistically significant relationship with domestic accident whereas age and family size did not have statistically significant relationship with domestic accidents. It was concluded that the prevalence of domestic accident among children in Khana Local Government Area was high with fall been the most common among them. Socio-demographic factors such as gender was a predictors of domestic accident among children. It was recommended among others that health professionals should establish parent's educational programmes especially for mothers about home accidents and how to manage it. This is because education was found to have a statistically significant relationship between domestic accidents.

Keywords: Domestic accident; prevalence; children; Khana Local Government Area.

1. INTRODUCTION

The home is the first environment of everybody including children. As the home remains the place where all daily activity begin and end, domestic accidents will be inevitable at home. In recent times, domestic accidents are the major cause of death in children from 0-10 years. But more at risk are children below five years. This particular age is more prone to domestic accident because they always want to do what adults are doing. They like to explore the environment around. They also prefer to follow the adult to go wherever they are going. This is more in the rural areas. They are also good in climbing chairs and tables, at this age, it does not matter if the house is specious, they prefer to play round the house not minding the dangerous instruments that are in the house thereby exposing themselves to different types of domestic accidents. Annually, 830,000 children die from home accidents worldwide, corresponding to 2,000 child deaths per day. Again, millions of children are referred to hospitals due to injuries caused by accidents, resulting in lifelong disabilities (World Health Organization, 2014). The accidents are fourth leading causes of deaths in Europe (HEIDI, 2012). Among types of accident, it is true that number of domestic accidents is greater than traffic and occupational accidents, actual number of accidents and associated harms cannot be established because records are insufficient and data from hospitals alone does not represent all relevant figures (Tanir, 2012).

According to Arulogun, Ikolo and Oluwasanu [1], domestic accidents include burns, cuts, choking, poisoning, falls, trips etc which involves the use of objects such as knife, bottle, razor, hot objects, and chemicals among others. The authors added that these home implements

might seem harmless but if not handled cautiously by taking safety measures, the accidents that may likely to occur might just prove as fatal as any other normal accidents. In USA, domestic accidents comprise third leading causes of emergency department visits (CDC, 2011). In UK, 40^0 0 of all accidents occur at home and 2,700,000 people are treated due to domestic accidents with 7,000 deaths annually [ROSPA, 20120]. According to the National Safe Kids Campaign in the United State, 40% of death and 50% of non-fatal unintentional injuries occur in and around the home (National Safe Kids Campaign, 2012). A child's environment plays a critical role, both in the occurrence and the severity of an injury. Most injuries take place in or near a child's home (WHO Issue Brief Series, 2013). In Turkey,domestic accident with incidence of 25.0% is second leading cause following traffic accidents (Kocer, 2006). Accidents are prevalent in both home and external environment.

Prevalence refers to the total number of individuals in population who have a disease or health condition at a specific period of time, usually expressed as a percentage of the population (Harvard. Chan school of public health 2015). Hemalaha and Ram (2018) Agrees that domestic accident contributes a majorproportion in the prevalence of injuries more than others. according to Sanusi (2018), It is difficult to established the prevalence of domestic accidents among children in Nigeria because National figures for the prevalence of domestic accidents among children in Nigeria are unavailable because of lack of an accident registry system or poor/ under reporting, but the figures from different studies (mostly hospital based) from across the country indicate that they are high.

Accidents are worldwide public health problems, and in some European countries, domestic accidents, kill more people than road accidents. Some socio-demographic variables influence accidents a lot, variable such as; Age, gender, religion, income, level of education, family size, location among others. Socio-demographic is basically a groupingof people by those characteristics, they are in other words, major predictors of domestic accident (Rose (2016). Child hood injuries depended on socio demographic factors and the effect of socio-demographic factors varied between injury mechanism and products involved in the injuries. European public health association, (2018). This means that the type of mechanism such as toys at home can cause domestic accident among children.

Sanusi (2018) in a study on determining domestic accident in early childhood, preschool children are more prone to domestic accident with indication, higher than 50% with events happening at home. Such events as playing with toys, running around the sitting room dispose children to domestic accidents. At this age, they are full of strength and can do anything without knowing that they are exposing themselves to danger. All these have brought the children between 0-10 years into a very serious danger of domestic accident. Accident vary depending on age of the child, falls are more common among infant, while bums are less common (Amed, 2013). Majority of mothers whose children have been victims of domestic accidental fall within the age of 25-31 years with majority working and schooling and do not have much time to care for these children, thereby exposing them to more danger of domestic accident. Gender: Is a state of being male or female used with reference to social and cultural differences rather than biological (Wikipedia 2018), with regards to Social, emotional growth or development of children, boys usually manifest aggressiveness while girls are caring (UNESCO, 2018).

Hemalatha (2016) reported that majority of injuries occur among male children than female, with 42% of injuries occurring in the hands which was the most common sites due to handling of sharp objects. Oladele and Olabanjo [2] in their contrary study agrees that the incidence of childhood burn injury was noted in females from Ibadan (South west Nigeria) with a female to male ratio of 2:1. According to Monaldel et al. (2017), incomplete elementary school had (33%) as a level of education. Mohammed et al. (2018) in another study asserts that working class mothers with university education, attended first aid training and had history of less child injury at home because they are more knowledgeable and had proper practice at home Social status is the social standing of a person as compare to others in a group or situation This is often described as ranking people according to their social position and others (John, 2016).

Monalde et al. (2017) states that families with low social status presented increased risk to domestic accident. However also found out that they do not show significant difference in the frequency of accidents according to income level. The investigations agree that families with low monthly income do not report accidents

because they would be more concerned with providing food for their family and other living condition. Also in agreement with this report, many parents, at this low income level prefer to patronize the chemist around, without knowing the level of internal injury the child has sustained. General examination of children with domestic injuries will help to dictate injuries that may not be seen physically. Therefore, caregivers are advice to take their children to health facilities where thorough investigations will be done and it will also be registered in that facility as one of the cases recorded for their statistics [3,4]. Location as predictor of accident, is a position or site occupied or available for occupancy or marked by some distinguishing features. Mohamed et al. (2018) opines that accidents can take place in a wide variety of environments. However, the home is the most likely location for accidents involving children. The main domestic accident causing hospitalization of children was falls, usually in the afternoon, while the living rooms and gardens were the most cited places for occurrence of domestic accidents (Manalde, et al 2018). It was against tis background that the researcher has decided to research on prevalence and predictors of domestic accident among children in Khana Local Government Area of Rivers State.

2. STATEMENT OF PROBLEM

High level of burn incidence, cases of kerosene poisoning, many children have swallowed kerosene in large quantities mistaken it to be water, kerosene consumption by little children is a Public Health problem because it has caused death in some homes, while many parents spent huge sum of money in the hospital to save lives ofchildren. In a study on domestic accident in Kano Nigeria, kerosene poisoning was the most common domestic accident reported (Sanusi, 2018).

Domestic accidents also lead to deformities, such as fractures, a case of fall from chairs during normal routine play where a child broke his right shoulder limb that gave a permanent scare. This health problem of deformity and level of time and resources taken from the family are serious public health problem them. Domestic accident have also led to loss of lives and properties especially with the families that lock their children at home while they go for daily work [5,6]. Some of these domestic accident can occur and claim the lives of those children.

Domestic accident in form of fume inhalation recently claimed the lives of family of five in KhanaLocal Government area of Rivers State Nigeria, and some other places in Nigeria. Similarly, these has been reported in Khana Local Government Area such as burns, cuts, choking, poisoning, falls, trips and electric shock and electrocution among others which claimed the lives of children between the ages of (0-9) years and many left some deformed [7].

Hence the researcher has decided to research on prevalence and predictors of domestic accident among children in Khana Local Government Area of Rivers State.

1.1 Objectives of Study

The main aim of this study was to investigate the prevalence and socio demographic predictors of domestic accidents among children in Khana Local Government Area, Rivers State.

1.2 Research Questions

The following research questions were proposed to guide this study:

1. What is the prevalence of domestic accidents among children in Khana Local Government Area of Rivers State?
2. What is the influence of age as a predictor of domestic accidents among children in Khana Local Government Area of Rivers State?
3. Is gender a predictor of domestic accidents among children in Khana Local Government Area of Rivers State?
4 To ascertain if size of family is a predictor of domestic accidents among children in Khana Local Government Area of Rivers State?

3. METHODOLOGY

The research design adopted for this study is descriptive survey design. Nwankwo (2013) defines descriptive research design as that design in which the researcher collects data from large sample drown from a given population and describe certain features of the sample as they are at the particular time of the study. The population for the study consisted of thirty thousand, three hundred and twenty six (30,326) children between the ages of 0-10years in Khana Local Government Area of Rivers State (The

source of this information is from the 19 wards of Khana Local Government Area of Rivers State). The sample size for the study consisted of 420 mothers in Khana Local Government Area, Rivers State. Taro Yamen's formular was used to determine the sample size. The simple random sampling technique was used to select 420mothers in Khana Local Government Area of Rivers State. A standardized questionnaire with 0.82 reliability coefficient titled "Questionnaire on Socio Predictors of Domestic Accident among Children (QSPDA) was used to collect data from mothers in Khana Local Government Area. Data was analyzed using frequency, percentage, Pearson's correlation, Chi-square and binary logistic regression for relevant variables. Analysis variance [ANOVA] was used to test hypothesis at 0.05 alpha level of significance.

4. RESULTS

Research question 1: What is the prevalence of domestic accidents among children in Khana Local Government Area?

Table 2 shows the prevalence of domestic accidents among respondents' children.

182(44.5%) indicated that there had never been an occurrence of accident at their homes while the rest of the respondents indicated its occurrence. Therefore, the prevalence of domestic accident is 241 (58.9%)> with 168(41.1%) indication that domestic accident had occurred more than once. The highest proportion in each of the items shows that the following forms of domestic accidents had occurred more than once injury from sharp objects 101(24.6%) fall from toy 120(29.3%), fall as a result of slippery floor is 136(33.3 %) and fall as a result of inadequate lightening 84(18.1%). The highest proportion in each of the items also shows that following had occurred once. fall from furniture 113(27.6%), bitten by any kind of insects 104(25.4%), fall as a result of unsafe staircase 61(14.9%). fall as a result of loosed drugs 76(18.6%), drug overdose 57(14.0), intake of drugs due to wrong placement of the drug 55(13.5%). injury due to kerosene stove fire 47(11.5%), Injury as a result of gas stove 45 (11.1%), bitten by a rodent 40(9.8%), electric shock 32(7.9%), injury from local oven firewood 19(4.7%), ingestion of cleaning fluids such as detergent 18(4.4%) and ingestion of kerosene in place of water 17(4.2%).

Research question 2: What is the influence of age on domestic accident among children in Khana Local Government Area?

Table 2 reveals the influence of age on domestic accident among children. 56(35.6%) of the children aged 1-2 years have had domestic accident more than once, 18(16.1%) within age 3- 4 years have had domestic accident once, and 5(3.6%) of those aged 5-8 years have had domestic accident more than once. The result further showed that age had a very low negative influence on the occurrence of domestic accident (-003).

Research question 3: What is the influence of gender on domestic accident among children n Khana Local Government Area?

Table 3 shows the influence of gender on domestic accident among children. 82(34.4%) of the children who are boys and 27(15.8%) children who are girls have had domestic accident more than once. The result further showed that gender had a low negative influence on the occurrence of domestic accident among children (r = .161).

Table 1. Prevalence of domestic accidents among respondents' children

Domestic accident	None F%)	Once F(%)	> once F(%)	Severally F(%)
Occurrence of domestic accident	I82(44.5)	90(22.0)	92(22.5)	45(11.0)
Injury from sharp objects	172(42.0)	106(25.9	101(24.6)	30(7.3)
Fall from toy	190(46.2)	67(16.4)	120(29.3)	32(7.8)
Fall as a result of slippery floor	162(46 4)	67(16.4)	136(33.5)	49(12.0)
Fail from furniture	165(40 3)	62(15.2)	84(20.5)	47(11.5)
Fail as a result of inadequate lightening	255(62.3)	113(27.6)	74(18.1)	16(3.9)
Fall as a result of unsafe staircase	308(75.3)	64(15. 6)	26(6.4)	15(3.7)
Fall as a result of loose drugs	311(76.0)	61(14.9)	12(2.9)	0(0.0)
Bitten by a rodent	357(87.3)	76(18.6)	2(0.5)	10(2.5)
Bitten by snake/other reptiles	382(93.3)	40(9.8)	0(0.0)	11(2.7)

Bitten by any kind of insects	164(40.1)	16(4.0)	73(17.8)	68(16.7)
Injury from boiling water	298(72.9)	104(25.4)	24(5.8)	9(2.2)
Injury as a result of gas stove	352(86.1)	78(l9,1)	11(2.7)	0(0.0)
Injury due to kerosene stove fire	361(88.3)	45(11.1)	0(0.0)	0(0.0)
Injury from local oven fire/fire wood	381(93.1)	47(11.5)	0(0.0)	0(0 0)
Electric shock	362(88.5)	19(4.7)	6(1.5)	0(0.0)
Drug overdose	343(83.8)	32(7.9)	0(0.0)	0(0.0)
intake of drugs due to wrong placement of the drug	343(83.8)	57(14.0) 55(13.5)	2(0.5)	0(0.0)
Ingestion of kerosene in place of water	383(93.6)		0(0.0)	0(0.0)
Ingestion of cleaning fluids such as Detergent	378(92.4)	17(4.2) 18(4.4)	13(3.1)	0(0.0)

Table 2. Influence of age on domestic accident among children

Age	Domestic accident				Total	r-value	Decision
	None F%)	Once F(%)	> once F(%)	Severally F(%)			
1 -2yrs (toddlers)	82(52.2)	14(8.9)	56(35.6)	5(3.2)	157(100)	-003	Very low
3- 4 (preschool)	60(53.6)	32(28.6)	18(16.1)	2(1.8)	112(100)		
5-8 (infants)	80(57.1)	30(21.4)	25(19.9)	5(3.6)	139(100)		
Total	222(54.3)	76(18.6)	73(17.8)	12(2.9)	409(100)		

Table 3. Influence of gender on domestic accident among children

Gender	Domestic accident				Total	r-value	Decision
	None F%)	Once F(%)	> once F(%)	Severally F(%)			
Boys	79(33.1)	59(24.7)	82(34.4)	18(7.6)	238(100')	-161	Low
Girls	82(47.9)	40(23.4)	27(15.8)	22(12.8.)	171(100)		
Total	161(39.4)	99(24.2)	109(24.2)	40(9.8)	409(100)		

Table 4. Influence of family size on domestic accident among children

Family	Domestic accident				Total	r-value	Decision
	None F(%)	Once F(%)	> once F(%)	Severally F(%)			
1-3	67(45.3)	40(27.0)	26(17.6)	15(10.1)	148(100)	-014	Very low
4-6	79(41.4)	41(21.5)	49(25.7)	22(11.5)	191(100)		
>7	35(50.0)	6(8.6)	22(31.4)	7(10.0)	70(100)		
Total	181(44.2)	87(21.3)	97(23.7)	44 (10.8)	409(100)		

Research question 4: What is the influence of fairly size on domestic accident among children in Khana Local Government Area?

Table 4 reveals the influence of family size on domestic accident among children. 40(27.0%) of the respondents having family size of 1-3 have had the occurrence of domestic accident among their children once, 41(21.5) and 6(8.6%) of those having family size of 4-6 and 7 respectively have had occurrence of domestic accident among their children more than once. The result further showed that family size had a very low negative influence on the occurrence of domestic accident(r= -.014).

5. DISCUSSION OF FINDINGS

The findings of this study in Table 1 showed the prevalence of 241(58.9%) with 168(41.1%) indicating that domestic accident had occurred more than once. This finding is not surprising given that accident can take place in a wide variety of environments but the home is the most likely location for accidents among children due to their

developmental stage and their hyper activeness. At childhood, they are good in climbing chairs and tables, and also play around the house with less attention to unsafe conditions and dangerous instruments that may be around. This might be the reason for the high prevalence of domestic accident among children found in this study. The finding of this study corroborates that of Mohammed (2016) which showed that more than (50%) of the respondent reported the experiences of domestic accident. The finding of this study is also similar to that of Silva et al. [5] which showed that the prevalence of domestic accident among preschool children was 5.2%, This similarly found between the previous study and the present one might be due to the fact that the study respondents in both studies were parents/caregivers. The findings of this study are slightly different from that of Bhuvaneswari et al. [8] where a lesser percentage (39.7%) was found. The reasoned for this difference might be attributed to the fact that the data for the previous study was collected among both parents and children whereas the data for the present study collected from parents alone although, information about the children was elicited. The findings of this study is at variance with that of Cevil et al. [9] which showed that the prevalence of domestic of 22.3%. The variation between this study and the present one might be due to the difference in the method of data collection and the sample size.

The findings of this study revealed that the highest proportion in each of the items shows that the following forms of domestic accidents had occurred more than once: injury from sharp objects 101(24.6%) fail from toy 120(29.3%), fail as a result of slippery floor 136(33.3 %), fall from furniture 113(27.6%), fall as a result of unsafe staircase 61(14.9%). fall as a result of loosed rugs 76(18.6%), and fail as a result of inadequate lightening 84(18.1%). This finding is in support of Sheila (2014) who reported that falls are the most common cause of accidents in the home and account for 44 percent of all children accidents. The finding of this study is also in support of Arulogun, Ikolo and (luwasanu 2013) where falls were mostly reported on the list of accident found. The similarity between the present study and the previous ones might be due to the fact that at childhood, children always like to explore the environment around them and they do a lot of climbing of chair, table or toys. This must have helped to increase the rate of falls found among children. The findings of this study differs from that of Abuhakar et al (2018) which showed that kerosene poisoning was the commonest domestic accident reported followed by falls. This difference might be due to the fact the two studies were carried out in different settings. The present study was a community-based study whereas the previous study was hospital based. There is the expectation that most of the respondents sampled in the previous study were patients who visited the hospital due poisoning and serious fall which could not be handled at home, but in most cases, domestic accidents are minor in nature and at such were treated at home.

The findings of this study in ‘Table 3 showed that 56(35.6%) of the children aged 1-2 years have had domestic accident more than once, 18(16.1%) within age 3-4 years have had domestic accident once, and 25(29.9%) of those age of 5-8 years have had domestic accident more than once. The tested hypothesis on this showed that those aged 3-4 years were non-significantly about 1.2 times (OR .785: 95%Ci 0,475-1205) less likely to experience domestic accident compared to children aged 1-2 years. Children aged 5-8 years were 1.113 times (OR = 1.113: 95%CJ = 0651-1 904) more likely to experience domestic accident compared to children aged 1-2 years and occurrence of domestic accident.

The findings of this study in ‘Table 4 showed that the influence of gender on domestic accident among children. 82(34.4%) of the children who are boys and 27(15.8%) children who are girls have had domestic accident more than once. The result further showed that gender had a low negative influence on the occurrence of domestic accident among children (r = .161). The findings showed that the total number of injuries and average number of injuries in girls were significantly less than that of boys. The findings of this study showed that 40(27.0%) of the respondents having family size of 1-3 have had the occurrence of domestic accident among their children once, 41(21.5) and 6(8.6%) of those having family size of 4-6 and 7 respectively have had occurrence of domestic accident among their

children more than once. The findings further showed that family size had a very low negative influence on the occurrence of domestic accident.

6. CONCLUSION

Based on the data and the findings, it was concluded that the prevalence of domestic accident among children in Khana Local Government Area was high with fall been the most common among them. Socio-demographic factors such as gender, socio-economic status, education and location were predictors of domestic accident among children.

7. RECOMMENDATIONS

Based on the findings of this study the following recommendations were made:

1. Health professionals should establish parent's educational programmes especially for mothers about home accidents and how to manage it. This is because education was found to have a statistically significant relationship between domestic accidents.
2. Adults or parents should always supervised the activities of the children at home as this will help to reduce the high prevalence of domestic accident among children
3. Child Health Care Services should make parents aware of the importance of prevention of domestic accident and develop interventions in order to prevent child injuries at home.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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