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Environmental factors contributing to home accidents among children below 5 years in Akere Division, Apac Municipality, Apac District. A cross-sectional study.

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ABSTRACT

Background:

While Home environments are often considered safe spaces, they are the most common setting where young children experience unintentional injuries. The study aims to identify environmental factors contributing to home accidents among children under five years in Akere Division.

Methodology:

A descriptive cross-sectional study with 67 caregivers using structured questionnaires on demographics, environmental risks, caregiver practices, and socioeconomic factors; data were analysed quantitatively. Data was analysed and presented in tables, graphs, and pie charts using Microsoft Excel 2020.

Results:

The majority identified sharp objects as hazards causing cuts/lacerations, 48(71.6%), and 4(6%) identified slippery floors. Slippery floors were the most reported bathroom hazard, causing slips/falls 49(73.1%), whereas electrical outlets were the least reported 5(7.5%). Most respondents reported that medications left within reach were the main hazard causing poisoning, 52(77.6%), while the least reported were sharp objects, 5(7.5%). Slippery floors were the leading environmental hazard, causing falls among children under five (58.2%), followed by unstable furniture (22.4%), electrical outlets (11.9%), and sharp objects (7.5%), highlighting slippery floors as the primary risk factor for home falls. Majority of respondents were female, 45(67.2%), were male, 22(32.8%).

Conclusion:

The study concluded that environmental factors significantly contribute to home accidents among children under five years, with slippery floors, sharp objects, and easily accessible medications identified as the main hazards.

Recommendations:

Ministry of Health (MoH) should develop and disseminate guidelines for child-proofing homes, including safe storage of sharp objects, medications, and cleaning agents, as well as installation of non-slip flooring and safety gates.

Keywords: *Home accidents, Environmental factors, Children under five years, Akere Division.*
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Background

Home injuries and accidents among children below the age of five remain a significant public health concern globally. (Üçüncü et al., 2019). It has been indicated that 95% of injuries result in disability while 40% results into death, especially in the low- and middle-income countries. (Van Malderen et al., 2019). While Home environments are often considered safe spaces, they are the most common setting where young children experience unintentional injuries. These injuries not only lead to serious physical harm and psychological trauma but are also a leading cause of disability and mortality in this vulnerable age group. (Khan et al., 2019). The term home accidents, therefore, refers to events that occur inside the home or near the home that result in an injury. (Al Rumhi et al., 2020).

A report by the Ministry of Health indicates that approximately 40% of children under five admitted with injuries were victims of home accidents. This statistic underscores the significant risk young children face within domestic environments Ministry of Health, 2020).

Environmental factors within the home play a significant role in the occurrence of unintentional injuries among children under five, a particularly vulnerable age group due to their physical development and natural curiosity. According to the World Health Organisation (WHO, 2008), unsafe home environments—including unguarded staircases, open flames, accessible chemicals, and slippery floors—are leading contributors to injuries such as falls, burns, and poisoning. These environmental hazards are often exacerbated in low-resource settings where housing standards and safety awareness may be limited. Findings by

Kiiza et al. (2020) highlighted that most injuries occurred in homes lacking basic childproofing, such as window guards or covered electrical outlets. In many such homes, children were frequently left unsupervised in high-risk areas, increasing the likelihood of accidents. These environmental vulnerabilities are not only preventable but also highly correlated with socioeconomic conditions, including income level, caregiver education, and access to safety resources.

In Uganda, particularly in Kampala, the prevalence of home accidents stands at 497 injuries per 1000 children, constituting 75.5% of all injuries. (Nassuna et al., 2023)In Northern Uganda, particularly in the Apac District, children are at higher risk due to prevalent poverty, traditional housing structures, and limited access to child safety education (Okello et al., 2024). The study aims to identify environmental factors contributing to home accidents among children under five years in Akere Division.

METHODOLOGY

Study design

A community-based cross-sectional descriptive study design with quantitative data collection tools was adopted. This design was preferred because it consumed less time.

The Study setting

The study was conducted in Akere Division, which was part of Apac Municipality in Apac District, Northern Uganda. Apac District was located approximately 115 kilometres northwest of Lira City, the largest urban center in the Lango sub-region. It bordered Oyam District to the north and west, Kole District to the east, and Dokolo District to the southeast. These neighbouring districts shared similar socio-economic and cultural characteristics with Apac, making the findings potentially relevant for the wider region.

The Apac District covered an area of about 2,853 square kilometres, with a predominantly rural population that engaged in subsistence farming, fishing, and trade. Akere Division featured a mix of peri-urban and rural settlements, which were characterized by varied household structures ranging from traditional huts to more permanent dwellings.

The Study population

The study population consisted of children below five years of age living in Akere Division, Apac Municipality, Apac District, along with their primary caregivers.

Sample size determination

The sample size was determined using the Yamane (1967) formula, as below;

$$n = \frac{N}{(1+Ne^2)}$$

Where n = sample size.
N=population size= 80
e = desire level of precision. e=0.05

$$N = \frac{80}{(1+ (80*0.05^{2)})}$$

n = 66.666666

Using the above formula, the sample size was 67 respondents.

The researcher chose this formula because it gives enough number for a reasonable conclusion, depending on the study population. It also reduces error and bias.

The sampling method/procedure

The study employed a simple random sampling technique. The participants were informed about the sampling procedure. The researcher cut small pieces of paper, wrote "Yes" or "No" on each, and placed them in a box. Each participant was then given the opportunity to select a paper at random. All participants who selected a paper that said "Yes" were asked to sign a consent form and participate in the study, while those who selected a paper that said "No" were not included. This sampling technique minimized sampling bias and gave each person an equal opportunity to participate. Data were collected from twelve respondents each day over a period of five days.

Inclusion and exclusion criteria

Inclusion criteria

Households with at least one child aged < 5 years
Resident in Akere Division for at least 6 months

Exclusion criteria

Households where the child is under care in an institution (not a household)
Residents in the Akere Division for less than 6 months

Study variables

Independent variables

In this study, the independent variable was factors

Dependent variables

The dependent variable was home accident

Research instruments/tools

Data were collected using an interviewer-administered questionnaire written in simple and clear language. This method was chosen because questionnaires were easy for the researcher to use and were reasonably priced.

Data collection procedures

An official letter was obtained from the principal of Florence Nightingale School of Nursing and Midwifery requesting permission from the local authority of Akere Division, Apac Municipality, to conduct the research. Data were collected using an interviewer-administered questionnaire with both open- and closed-ended questions. The respondents were interviewed, and the questionnaires were edited and cross-checked immediately after each interview. This process ensured completeness, accuracy,

comprehensiveness, and uniformity without bias. Numbers were assigned to the responses for purposes of analysis.

Data management and analysis

The data collected in raw form were edited, coded, and reviewed daily to ensure accuracy, consistency, and completeness, and this was done immediately after each respondent completed the questionnaire. The questionnaires were stored under lock and key, accessible only to the researcher, and were scheduled to be destroyed three years after the report submission. Analyzed data on the flash disk and computer, which were protected using a personal password to prevent unauthorized access.

During the study, the collected data were cleaned by filling in missing information from respondents, compiling the data, and assigning appropriate codes to make sense of the responses. The compiled data were then analyzed using the Statistical Package for the Social Sciences (SPSS) and later presented in the form of graphs, charts, and tables.

Quality assurance

Validity

The content validity of the study instruments was ensured by including relevant questions from previous research studies, which were reviewed by experts, including the supervisor.

Reliability

Reliability was assessed by piloting the study instrument with six participants over one day at Atik Division, allowing for necessary modifications. Any errors identified during the pilot were corrected in collaboration with the supervisor.

Ethical consideration

During data collection, the respondents' consent was sought before the interview sessions. Privacy, anonymity, and confidentiality were observed throughout the study. The participants had the freedom to skip any items they did not wish to respond to and to withdraw from the study without providing any explanation. The researcher observed the principle of non-maleficence and respected the dignity of the respondents throughout the study.

Results

Demographic characteristics of the participants

Table 1: Demographic characteristics of participants (n=67)

Variables	Category	Frequency (n)	Percentage (%)
Sex	Male	22	32.8
	Female	45	67.2
Age (years)	20–25	18	26.9
	26–30	21	31.3
	31–35	15	22.4
	36 and above	13	19.4
Religion	Christian	40	59.7
	Moslem	15	22.4
	Traditional	8	11.9
	Other	4	6
Cadre (Occupation)	Farmer	25	37.3
	Business	20	29.9
	Medical worker	10	14.9
	Others	12	17.9

Marital Status	Single	12	17.9
	Married	41	61.2
	Separated/Divorced	8	11.9
	Widow	6	9

Source: *Primary source 2025*

Table 1 shows that the majority of respondents were female, 45(67.2%), while the least were male, 22(32.8%). Most respondents were aged 26–30 years, 21(31.3%), whereas the least were aged 36 and above, 13(19.4%). The majority were Christian, 40(59.7%), while the least belonged to other religions, 4(6%). Most respondents were farmers, 25(37.3%), whereas the least were medical workers, 10(14.9%). The majority were married 41(61.2%), while the least were widows 6(9%).

Environmental factors contributing to home accidents among children under five years

Table 2: Environmental factors contributing to home accidents among children under five years (n=67)

Variable	Category	Frequency (n)	Percentage (%)
Hazard causing cuts/lacerations	Sharp objects	48	71.6
	Blunt objects	9	13.4
	Hot surfaces	6	9
	Slippery floors	4	6
Hazard in the bathroom causing slips/falls	Slippery floors	49	73.1
	Sharp objects	6	9
	Electrical outlets	5	7.5
	Unstable furniture	7	10.4
Hazard causing poisoning	Medications left within reach	52	77.6
	Cleaning supplies stored in labeled containers	10	14.9
	Sharp objects	5	7.5

Source: *Primary source 2025*

From table 2, the majority identified sharp objects as hazards causing cuts/lacerations 48(71.6%), while the least identified were slippery floors 4(6%). Slippery floors were the most reported bathroom hazard, causing slips/falls 49(73.1%), whereas electrical outlets were the least reported 5(7.5%). Most respondents reported that medications left within reach were the main hazard causing poisoning, 52(77.6%), while the least reported were sharp objects, 5(7.5%).

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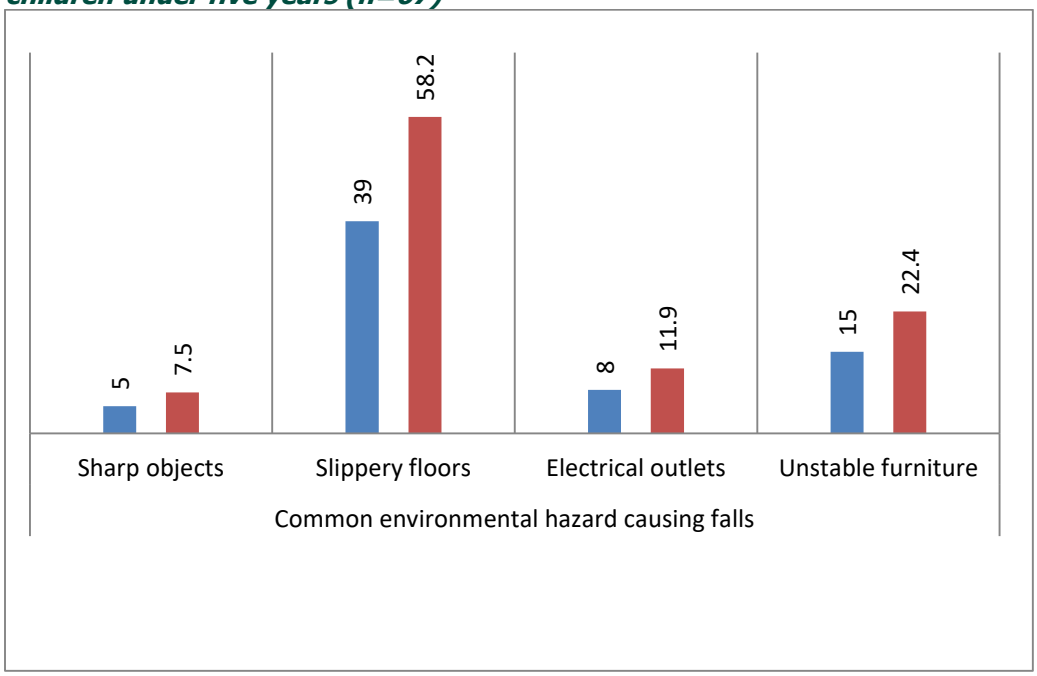
Figure 1: A graph showing the most common environmental hazards causing falls among children under five years (n=67)



Source: *Primary data 2025*

Figure 1: The study found that slippery floors were the leading environmental hazard causing falls among children under five (58.2%), followed by unstable furniture (22.4%), electrical outlets (11.9%), and sharp objects (7.5%), highlighting slippery floors as the primary risk factor for home falls.

Discussion

The majority of respondents identified medications left within children's reach as a key risk factor for poisoning. This suggests that unsafe storage practices in the home significantly increase the likelihood of accidental ingestion among children under five. The implication is that parents and caregivers should be educated on safe storage of medications and other hazardous substances to reduce the risk of home accidents among young children.

The study identified slippery floors as the most common environmental factor causing accidents (58.2%), followed by unstable furniture (22.4%) and electrical outlets (11.9%). This may be because high-risk areas like kitchens and bathrooms are often inadequately child-proofed, and furniture may be unstable in low-resource homes. The results are consistent with studies in Lira District and Uganda (Ministry of Health, 2020; Kiiza et al., 2020), which found that unsafe flooring, unprotected furniture, and exposed electrical outlets significantly contributed to childhood falls. The implication is that preventive measures, including installing safety gates, securing furniture, and educating caregivers on environmental hazards, are necessary.

Conclusion

The study concluded that environmental factors significantly contribute to home accidents among children under five years, with slippery floors, sharp objects, and easily accessible medications identified as the main hazards.

Limitations

The study had several limitations:

The sample size (n = 67) was relatively small, limiting the generalizability of the findings.

The study was conducted in a single division, which may not reflect conditions in other regions or districts.

Data were self-reported and may have been influenced by recall bias or social desirability bias.

The cross-sectional design limited the ability to establish causal relationships between identified factors and home accidents.

The cross-sectional Design study captured information at a single point in time and did not capture enough cases to draw a meaningful conclusion.

Recall Bias**:** Respondents (especially caregivers) might not have accurately remembered or reported details about past home accidents, particularly minor ones. This affected the reliability of the data collected.

Recommendations
Ministry of Health (MoH) should develop and disseminate guidelines for child-proofing homes, including safe storage of sharp objects, medications, and cleaning agents, as well as installation of non-slip flooring and safety gates.

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List of acronyms/ abbreviations

WHO	World Health Organization
SPS	Statistical Package for the Social Sciences

Source of funding
The study was not funded

Conflict of interest
The author did not declare any conflict of interest

Data availability
Data is available upon request

Author contribution
Moses Okello collected data and drafted the manuscript of the study
Ronald Awoi supervised the study

Author biography
Moses Okello is a diploma student of Nursing at Florence Nightingale School of Nursing and Midwifery.
Ronald Awoi is a supervisor at Florence Nightingale School of Nursing and Midwifery.

References
1. Al Rumhi, A., Al Awisi, H., Al Buwaiqi, M., & Al Rabaani, S. (2020). Home accidents among Children: a retrospective study at a tertiary care center in Oman. *Oman Medical Journal*, *35*(1), e85.
2. Khan, S., Tauheed, N., Nawab, S., Afzal, S., & Khalique, N. (2019). Domestic accidents among under-5-year-old children: a study on the modern-day epidemic. *International Journal of Community Medicine and Public Health*, *6*(4), 1529-1535.
3. Nassuna, G., Mukomuzibu, C., & Babirye, M. (2023). FACTORS CONTRIBUTING TO HOME ACCIDENTS IN CHILDREN UNDER 5 YEARS IN BULWA ZONE, LUBAGA DIVISION, KAMPALA DISTRICT. A CROSS-SECTIONAL STUDY. *Student's Journal of Health Research Africa*, *4*(12), 17-17.
4. Okello, B., Awoi, R., & Odella, F. M. (2024). FACTORS AFFECTING THE HEALING OF BURNS AMONG CHILDREN UNDER FIVE YEARS OF AGE IN THE PAEDIATRIC WARD, APAC GENERAL HOSPITAL, APAC DISTRICT. A CROSS-SECTIONAL STUDY. *AfroGlobal Perspectives*, *1*(12), 14-14.
5. Kiiza, C. M., Namara, T., Bakyaita, N., & Kaggwa, E. B. (2020). Frequency and factors associated with hyperglycemia first detected during pregnancy in South-Western Uganda. *BMC Pregnancy and Childbirth*, *20*, 416. https://pubmed.ncbi.nlm.nih.gov/32855973
6. Ministry of Health. (2020). *Annual report on child health and safety*. Ministry of Health, Uganda.
7. World Health Organization. (2008). *World report on child injury prevention*. WHO. https://www.who.int/publications/i/item/9789241563574
8. Üçüncü, M. M., Üçüncü, M. Z., & Toprak, D. (2019). The knowledge, attitude, and behavior of Mothers with children aged 0-6 years on home accidents and preventive measures. *İstanbul Tıp Fakültesi Dergisi*.
9. Van Malderen, C., Amouzou, A., Barros, A. J., Masquelier, B., Van Oyen, H., & Speybroeck, N. (2019). Socioeconomic factors contributing to under-five mortality in sub-Saharan Africa: a decomposition analysis. *BMC Public Health*, *19*, 1-19.

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