

COMMUNITY-RELATED FACTORS CONTRIBUTE TO HOUSEHOLD STORAGE OF MEDICINES AMONG RESIDENTS OF KAPEKE VILLAGE IN KIBOGA DISTRICT. A CROSS-SECTIONAL STUDY

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Abstract

Background

In Sub-Saharan Africa, a systematic review in different countries revealed a high prevalence of irrational household medication storage, ranging from 35.1% to about 100%. The study aims to assess the Community-related factors contributing to household storage of medicines among residents of Kapeke village in Kiboga district.

Methodology

The study used a cross-sectional design and a simple random sampling technique on a sample of 50 respondents. Data was collected using questionnaires with semi-structured and open-ended questions written in English. The data was then analyzed manually and systematically by compiling it in the form of percentages, bar graphs, tables, and pie charts.

Results

Most of the respondents (44%) were within the age bracket of 32- 38 years, whereas the least (10%) were within the age bracket of 18-24 years. The majority of the respondents (60%) had places of residence located in villages, (58%) obtained medicines from drug shops, (72%) the size of their family was >5 members, and (44%) stored medicines in drawers at home. Most respondents (64%) didn't have any family members working at the health facility. Most respondents (44%) reported that they store unused medicines in drawers at home.

Conclusion

The focal community-related factors were places of residence, access to medicines through the counter, and family size as

Recommendations

Prescribing physicians and pharmacists should inform patients on how to properly store medications at home, especially those who have any of the risk factors identified here.

Keywords: *Community-related factors, Household storage of medicines, Residents of Kapeke village in Kiboga district.*

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Background

In Sub-Saharan Africa, a systematic review in different countries revealed a high prevalence of irrational household medication storage, ranging from 35.1% to about 100%. The common household-stored classes of drugs were systemic anti-infective drugs for the nervous system, gastrointestinal, cardiovascular, and respiratory systems (Afarzadeh *et al.*, 2021). In Uganda, the country's gross domestic product (GDP) per capita stands at a lowly USD 910, and 21% of the population lives below the poverty line. With most of the country's population unable to finance all their socioeconomic needs, the availability of affordable health care is essential to maintaining a healthy people. Regarding healthcare, medicines are found to be unaffordable to a large proportion of the population; in such a situation, Ugandans below the poverty line have a tendency to poor health-seeking

behaviors, such as storage of unused drugs at home that promotes self-medication with related complications (UBOS, 2020). A report on the economic burden of unused medicines and its causes in households of the Perinthalmanna region revealed that the number of members in a family didn't affect the cost of unused medicines. Of the total sample population, 90% did not have any medical professional in their family, in contrast to 10% who had a medical professional in their family who stored medicines at home (Chandrasekhar *et al.*, 2020). In China, the storage environment was one of the most important factors influencing medicine home storage; few of the respondents (10%) paid attention to the medicine storage temperature but not enough (Verfasst *et al.*, 2019). Study findings from medication use and storage and their potential risks in US Households revealed that a total of 147 medications (31.7%) were

stored on open counters in bathrooms, kitchens, or bedrooms, which would be more accessible than those stored in drawers, closets, or cabinets. Two households submitted different numbers of responses for the frequencies and locations of their medications and yielded different sample sizes (Suhak *et al.*, 2022).

In Mwanza, Tanzania, on disposal practices of expired and unused medications among households, results indicated that 70.19% of respondents were having medications at the time of visiting. Storage of medicine practices was more common among community members who resided in village settings (52%) than urban settings (48%). Most of the households stored medications in cupboards (37.3%) and tins (36.1%) (Marwa *et al.*, 2021). Among households in Jimma City, southwest Ethiopia, the presence of family members working in the health sector and the number of family members were significantly associated with unused medication storage practice. The percentage of heads of household who did not have a family member working in the health sector and who did not store unused medications was 59.8% compared to those who had a family member working in the health sector. Moreover, households that possessed a family size greater than five members were 2.325 times more likely to store unused medication than a family size of fewer than three members (Andualem *et al.*, 2024). The study aims to assess the Community-related factors contributing to household storage of medicines among residents of Kapeke village in Kiboga district.

METHODOLOGY

Study design

A descriptive cross-sectional study design was used to collect basically quantitative data. This is simply because it is suitable for the collection of data at one point in time in a dynamic population.

Study area

The study was conducted in Kapeke village in Kiboga district. Kapeke is a village in Kasenge Parish in Kiboga, central Uganda, and has an elevation of 1,113 meters. Kapeke is situated near the villages of Sseesa and Kyayimba, as well as the localities of Kalyamwanyi and Kayera. Kiboga is situated 7 km southwest of Kapeke. It has an estimated population of 9500 males and 8500 (52.8%), females (47.2%)

Study population

The study was composed of individuals aged 18-45 years in Kapeke village in Kiboga District.

Sample size estimation

The sample was estimated using $S=QR/T$ (Burton, 1965)

Where;

S=Sample size required

Q= Total number of days spent in data collection

R= Maximum number of people per day

T= Maximum time the interviewer spent on each participant

Q=5 days

R= 10 people

T=1hr

S= $5*10/1$

=50

Sampling technique

A simple random sampling technique was used to select respondents. This technique was preferred because it is cheap and convenient since each study participant had an equal and fair chance of being selected to participate.

Selection criteria

Inclusion criteria

The inclusion criteria were comprised of individuals aged 18-45 years with sound minds who admitted to having kept drugs in their homes in Kapeke village and were voluntarily willing to participate in the study.

Exclusion criteria

Those adults in the sample who were unable to participate or continue with the study were excluded.

Study variables

Dependent variable

Household storage of medicine

Independent variables

Individual, community, and health facility-related factors contribute to household medicine storage use.

Data collection methods

Data was collected using semi-structured questionnaires with open and closed-ended questions and also interviews with those respondents who were not able to read and write.

Data collection tool

Data for the quantitative part of the study was collected using semi-structured questionnaire with both open and closed questions written in English language and later translated in local language (Luganda). This data collection tool was preferred because it's cheap, takes little time, it's easy to administer, eliminates bias and provides quicker information.

Data collection procedure

The researcher presented a letter of introduction from the school to the Chairman LC I, who helped to introduce the researcher to the residents of Kapeke as our respondents. Upon reaching the respondents, the researcher, with her assistants and with the guidance of community health workers, introduced themselves to seek the respondent's consent, preferably at their home place or workplace.

Following the provision of the questionnaires, participants were provided with verbal explanations on how to answer the questions on each objective. Those who were not able to read and write were interviewed by the researcher or an assistant while noting down the questionnaire. The questionnaires were collected after completion for management and analysis.

Quality control

The data collection tools were discussed with the research supervisor to ensure accuracy and appropriateness. The relevance, reliability, and suitability of the research tool were assured through pre-testing of the questionnaire among 15% of the sample respondents in Ssemunyanya village, Wakiso district. There, the questionnaires were edited to fill in all the missing information, and ambiguous questions were removed.

Two research assistants were trained in the data collection process to avoid many errors, and ample time was given to collect data.

Data analysis and presentation

Data was analyzed manually by use of tally sheets and entered in the Excel computer program to generate tables, graphs, and pie charts using the computer Microsoft Excel program word with a narrative following.

Data management

After checking for completeness and accuracy, the filled-in questionnaire was kept under lock and key, and those with mistakes were corrected before respondents could leave the session and, thereafter, were kept for privacy and confidentiality.

Results

Demographic data

Table 1: Shows the distribution of respondents according to demographic data (N=50)

Response	Frequency (f)	Percentage (%)
Gender		
Female	29	58
Male	21	42
Total	50	100
Age (years)		
18-24	05	10
25-31	11	22
32-38	22	44
39-45	12	24
Total	50	100
Religion		
Protestant	09	18
Catholic	25	50
Muslim	03	6
Others	13	26
Total	50	100
Education levels		
Never went to school	03	6
Primary	8	16
Secondary	28	56
Tertiary/ university	11	22
Total	50	100
Occupation		
Employed	12	24
Un employed	11	22
Self employed	27	54
Total	50	100
Marital status		
Single	06	12
Married	39	78
Divorced/separated	03	6
Widowed	02	4

Total	50	100
Tribe		
Mutoro	07	14
Munyankole	08	16
Muganda	20	40
Others	15	30
Total	50	100

In Table 1, more than half of the respondents (58%) were females, whereas the minority (42%) were males by sex. The study results also revealed that most of the respondents (44%) were within the age bracket of 32- 38 years, whereas the least (10%) were within the age bracket of 18-24 years. The study further revealed that half of the respondents (50%) were Catholics by religion, whereas the least (6%) were Muslim by religion. Study results about education levels showed that more than half of the

respondents (56%) had attained a secondary level of education, whereas the least (6%) had never gone to school. The study concealed that half of the respondents (54%) were self-employed, whereas the least (22%) were unemployed. Study results showed that the majority of the respondents (78%) were married, whereas the minority (2%) were widows. Based on the study results, most of the respondents (40%) were Baganda by tribe, whereas the least (14%) were Batoro by tribe.

COMMUNITY-RELATED FACTORS CONTRIBUTING TO HOUSEHOLD STORAGE OF MEDICINES

Figure 1: Shows the distribution of respondents according to the location of their homes (N=50)

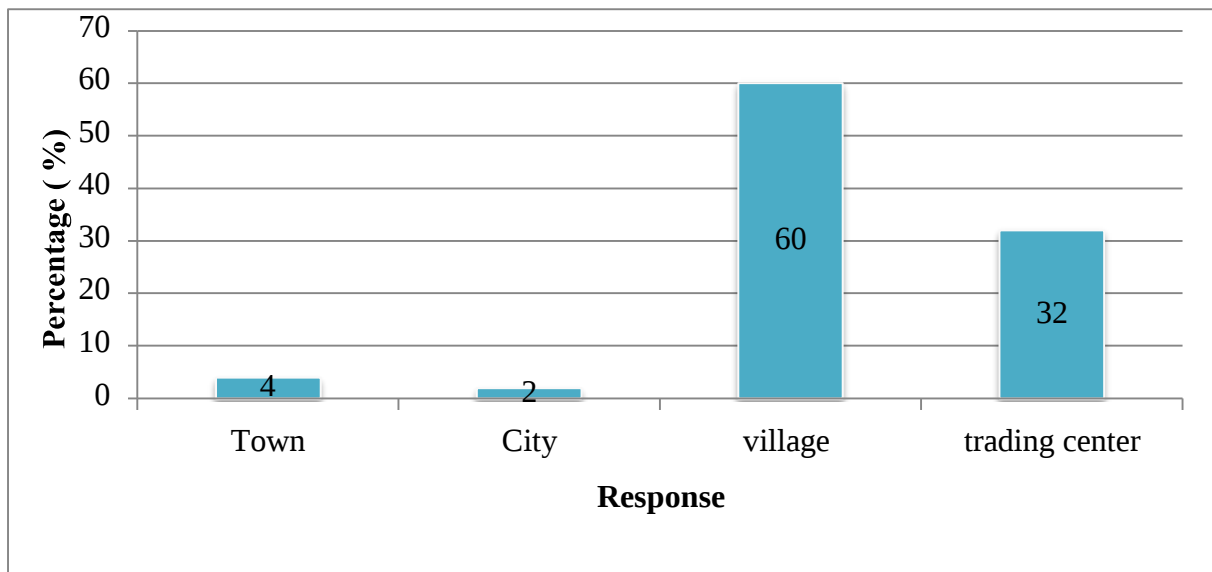


Figure 1, majority of the respondents (60%) places of residence where located in villages whereas the minority (2%) places of residence where located in cities.

Table 2: Shows the distribution of respondents according to where they obtain medicines within their community (N=50)

Response	Frequency (f)	Percentage (%)
Drug shops	29	58
Pharmacies	15	30
Health facility	06	12
Total	50	100

Table 2, more than half of the respondents (58%) reported that they obtain medicines from drug shops whereas the least (12%) obtain medicines from health facility.

Figure 2: Shows the distribution of respondents according to the size of their family (N=50)

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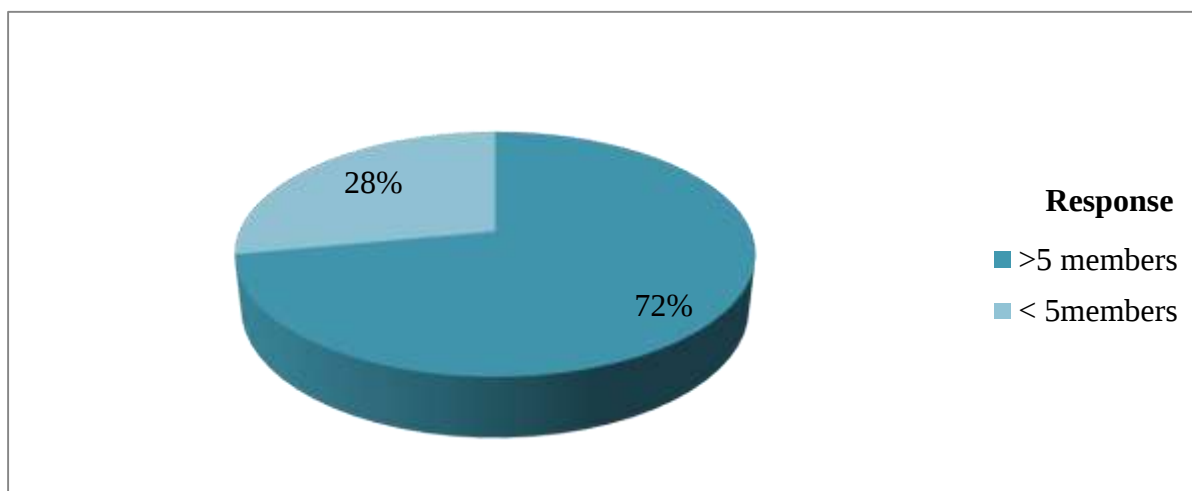


Figure 2, majority of the respondents (72%) reported that the size of their family was >5 members, whereas the minority (28%) reported < 5 members.

Table 3: Shows the distribution of respondents according to whether they had any of their family members working at any health facility (N=40)

Response	Frequency (f)	Percentage (%)
No	32	64
Yes	18	36
Total	40	100

Table 3 shows that more than half of the respondents (64%) didn't have any family member working at the health facility, whereas the least (36%) reported that they had family members working at health facility.

Figure 3: Shows the distribution of respondents according to where they store medicines at home (N=50)

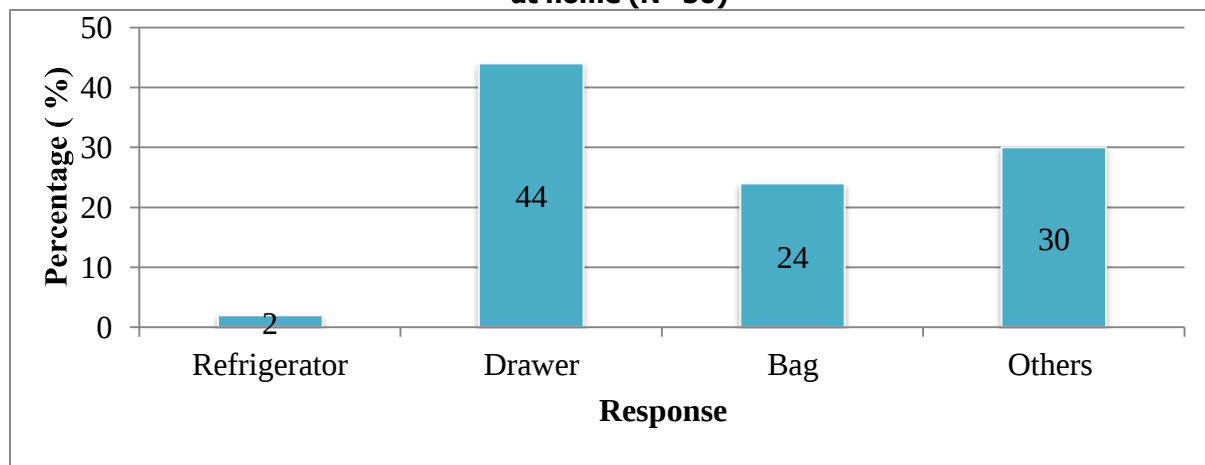


Figure 3, most of the respondents (44%) reported that they store unused medicines in drawers at home, whereas the least (2%) reported refrigerators as a place to keep unused medicines.

Discussion

Community-related factors contributing to household storage of medicines

Given the study results, the majority of the respondents' (60%) places of residence were located in villages. Therefore, in circumstances where respondents live in village settings, they are most likely to face challenges of receiving timely access to health care services due to long distances, and this could be one of the reasons why they possess the behaviors of storing medicines at home. This is in agreement with Marwa *et al.* (2021), where results showed that storage of medicine practices was more common among community members who resided in village settings (52%) than urban settings (48%). Nevertheless, more than half of the respondents (58%) reported that they obtain medicines from drug shops. This implies that within their community, drug shops provide easy access to over-the-counter medicines, and households end up storing unused medicines at home. The study results diverged with those of Dawit *et al.* (2020), where 486 (95.9%) of the respondents reported that they collected their medicines from community health facilities (pharmacies).

Notably, the majority of the respondents (72%) reported that the size of their family was >5 members. This signifies the reason why they store unused medicines due to the large number of the family with family heads having low employment levels who find it difficult to provide healthcare support. The study results were consistent with Andualet *et al.* (2024), whose findings depicted that households that possessed a family size greater than five members were 2.325 times more likely to store unused medication than a family size of fewer than three members. The study revealed that most of the respondents (44%) stored medicines in drawers at home. The storage conditions determine the safety of drugs, but despite this, the storage of unused medicines implies the household's health status. This was not in line with Suhak *et al.* (2022), where 31.7% were stored on open counters in bathrooms, kitchens, or bedrooms.

Conclusion

The focal community-related factors were places of residence, access to medicines through the counter, and family size as

Recommendations

Prescribing physicians and pharmacists should inform patients on how to properly store medications at home, especially those who have any of the risk factors identified here.

The Ministry of Health and NDA to provide easy access to timely and stocked health care services.

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List of abbreviations

LC	:	Local Council
NDA	:	National Drug Authority
UBOS	:	Uganda Bureau of Statistics

Source of funding

The study was not funded

Conflict of interest

The author did not declare any conflict of interest

Author contributions

Faith Batamuliza collected data and drafted the manuscript of the study.

Dr. Mulodokayi Niwagiira supervised all stages of the study.

Ethical considerations

The researcher obtained an introductory letter from the school approved by the principal, which in turn was used to get permission from the LC1 chairperson of Kapeke village, who later introduced the researcher to the residents. Written consent was obtained from the respondents for their approval to be part of the study. Participants were assured of confidentiality and anonymity.

Informed consent

The researcher commenced by introducing and explaining the topic and objectives to the participants. The respondents were informed that participation was voluntary, and an informed consent form was signed. The researcher affirmed to the respondents that the information given was strictly confidential, and serial numbers instead of respondents' names were provided.

Data availability

Permission to reuse published work can be sought from the Kampala School of Health Sciences.

Author Biography

Faith Batamuliza is a student of a diploma in pharmacy at Kampala School of Health Sciences.

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