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# Factors influencing community involvement in prevention of the spread of malaria among residents of Ibulanku subcounty in Bugweri district. A cross-sectional study.

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**Abstract**

**Background**: Community engagement is a critical component for effective malaria prevention and control. This study aimed to determine the factors that encourage or hinder community participation in malaria prevention in Ibulanku Subcounty, Bugweri District.

**Methods**: A descriptive cross-sectional study employing quantitative methods was conducted between July and August 2024. Using purposive sampling, 50 residents of Ibulanku Subcounty were selected. Data were analyzed with Microsoft Excel.

**Results**: The study revealed that 71% of respondents were male and 69% were single. Christians were about 55% then 21% Muslims. Education level varied with 61% having reached secondary. 19% ended in primary, 11% having reached tertiary and the 9% accounted for the others who never acquired any formal education. Participants had varying occupations with 46% involving in farming. A high proportion (89%) perceived malaria as a serious health problem, and 65% believed traditional practices contribute to its transmission. Economically, 44% had a monthly household income of 100,000-200,000 Ugandan Shillings, and 75% prioritized malaria prevention over other diseases. Environmentally, 71% lived in close proximity to mosquito breeding sites, and 81% reported using mosquito nets. However, 61% faced obstacles in their prevention efforts.

**Conclusion**: Community involvement is significantly influenced by socio-cultural awareness, economic capacity, and environmental factors. High awareness exists, but financial constraints and environmental challenges remain key barriers.

**Recommendation**: Interventions should focus on improving environmental sanitation through slashing and draining stagnant water, addressing socioeconomic barriers through financial support, and ensuring equitable access to healthcare services to enhance community engagement in malaria prevention.

**Keywords:** Community Involvement, Environment Sanitation, Malaria Prevention, Bugweri District.

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**Background.**

Globally, community engagement is recognized as a critical component in the prevention and control of malaria. Various approaches have been adopted to involve communities in malaria interventions, including health education, environmental management, and the use of locally recruited health workers. These strategies aim to inform, consult, involve and collaborate with community members to enhance the effectiveness of malaria prevention programs. The success of these interventions often depends on the level of community participation and the integration of local knowledge and practices (Awasthi et al., 2024).

In Africa, the burden of malaria remains significant, with socio-economic factors, climate, and health infrastructure playing pivotal roles in influencing community involvement. The continent has seen progress through the promotion of mosquito nets, insecticides, and rapid diagnostic tests, yet challenges such as poverty, substandard health services, and resistance to antimalarial drugs persist (Li et al., 2024). Community engagement in Africa is often hindered by these barriers, but successful programs have demonstrated that involving local leaders and stakeholders can significantly improve outcomes (Li et al., 2024).

In Uganda, specific factors such as knowledge, attitudes, and practices regarding malaria prevention play a significant role in community involvement. A study in Wakiso District highlighted that both conventional and non-conventional methods, such as the use of insecticide

treated nets and clearing overgrown vegetation, are employed by communities. Barriers such as inadequate knowledge, allergic reactions to chemical-based methods, and the unaffordability of certain interventions need to be addressed to improve community participation in malaria prevention (Musoke et al., 2024).No research has ever been conducted in Ibulanku Sub County in Bugweri district regarding factors influencing community involvement in prevention of spread of malaria.

There for, this study was conducted to determine the primary factors that encourages or hinders community participation in malaria prevention and control efforts in Ibulanku sub-County and promotes community involvement.

**Methodology**

**Study design**

A descriptive study applied quantitative methods. This study design was chosen because it would operate well on the targeted population and easy to use.

**Study area**

The study was carried out in Ibulanku sub-county located in Bugweri district in Eastern Uganda. This study was conducted between July and August 2024

**Study population**

The study population was community residents living in Ibulanku sub-County in Bugweri district.

**Sampling technique**

Purposive sampling technique was used to choose a few individuals that represented the selected individuals. This permitted choosing people with required characteristics that were used for both qualitative and quantitative studies.

**Sampling procedure**.

The sample size of respondents was determined using the Solvin's formula

Therefore a sample size of 50 was used in the study.

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**Data collection method**

Structured questionnaires were given to selected residents to collect data in the study because they were easy to structure and were specific on points of interest.

**Data collection tool**

A Self- administered questionnaire was formulated according to the specific research objectives, having close ended questions in English were used to explore factors influencing community involvement in prevention of spread of malaria from the respondents that were selected.

**Data collection procedure**

In data collection, a structured self- administered questionnaire was designed for the respondents. The purpose of research was clearly explained to the respondents to ensure thorough understanding. Community members who consented were interviewed. Cases of failure of respondents to understand the questions were clarified by the researcher to the respondents with help from 4 assistant.

**Study variables.**

The dependent variable is level of community involvement while the independent variable is factors that influence community involvement.

**Quality control**

The researcher equipped the research assistants that assisted in the research data collection process. The researcher tested the questionnaire using a selected sample from Ibulanku sub- County to determine how valid and real the questionnaires were.

**Inclusion criteria**

The study was only conducted to those community members who were present during the time of data collection and only those that consented.

**Exclusion criteria**

Absent community members during the time of data

**Data analysis.**

Data collected from respondents was entered into Microsoft Excel software for analysis and calculated with a mathematical calculator. After data analysis, obtained information was presented in form of tables, bar graphs and pie charts.

**Ethical consideration**

The researcher acquired a permission letter from the research team of International Paramedical Institute that was to grant request for the data collection to be permitted to the researcher to the area local leader of Ibulanku Sub County. Consent was sought from the research participants using a consent form validated by the researcher together with other team members and the area local leader.

**Study limitations**

Inadequate funds to avail all the necessary resources needed for the whole process to run.

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## Results

### Socio-demographics

**Table 1: social demographic information for the respondents**

| PARAMETER | FINDING | FREQUENCY(n=50) | PERCENTAGE |
|---|---|---|---|
| Gender | Male | 35 | 71% |
| | Female | 15 | 29% |
| Marital status | Single | 35 | 69% |
| | Married | 15 | 31% |
| Religion | Christian | 27 | 55% |
| | Moslem | 11 | 21% |
| | Born again | 5 | 11% |
| | Others | 7 | 13% |
| Education level | Primary | 9 | 19% |
| | Secondary | 31 | 61% |
| | Tertiary | 5 | 11% |
| | Others | 5 | 9% |
| Occupation | Farming | 23 | 46% |
| | Teaching | 9 | 18% |
| | Business | 15 | 30% |
| | Healthcare | 3 | 6% |
| Family size | 1-4 | 13 | 27% |
| | 5-9 | 28 | 55% |
| | Above 10 | 8 | 15% |
| | Alone | 1 | 3% |

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Table 1 shows that he social demographic data of the respondents presented to be diverse in terms of gender, marital status, religion, education level and family size. Most respondents were male accounting for 35%. Then the females followed with coverage of 29%. Looking at marital status, those that are single had the largest turn up accounting for 69% and those that were married covered 31%.
Religion of the respondents varied with most being Christians that were about 55% then the Muslims accounted for 21%. Born again were 11% while others were 13%. Education level varied with 61% having reached secondary. 19% ended in primary, 11% having reached tertiary and the 9% accounted for the others who never acquired any formal education. Participants had varying occupations with 46% involving in farming, 30% involving in business, 18% were into teaching and 6% were practicing health care. In line with family size, most participants lived in families of between5-9 and accounted for 55%. Those who were between 1-4 had 27%, those above 10 were 15% while those that live alone accounted for 3%.

**Social cultural factors**

**Table 2, showing social cultural factors that influence community participation in the prevention of spread of malaria**

| PARAMETER | FINDING | FREQUENCY (n=50) | PERCENTAGE |
|---|---|---|---|
| Perception of malaria as a serious health problem | Yes | 45 | 89% |
| | No | 5 | 11% |
| Frequency of discussing malaria | Often | 11 | 21% |
| | Sometimes | 23 | 47% |
| | Rarely | 9 | 19% |
| | Never | 7 | 13% |
| Traditional practices contributing to malaria transmission | Yes | 32 | 65% |
| | No | 18 | 35% |
| Cultural or social barriers to malaria prevention | Yes | 18 | 35% |
| | No | 32 | 65% |

Table 2 shows the social-cultural data that greatly varied among the respondents. Those that perceived malaria as a serious health problem were 89% and the 11% did not regard malaria as a major health problem.

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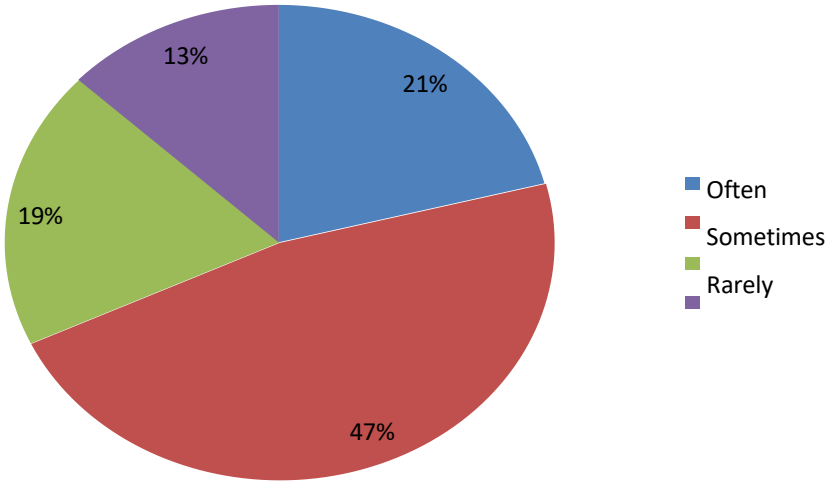
**Figure 1. A pie chart showing how frequency of discussion about malaria**




When it came to assessing the frequency of discussion about malaria, 21% often discussed about it. 47%, which was the biggest percentage covered those that sometimes talked about malaria. 19% of the people rarely discussed about malaria and those that had never discussed about it covered 13%.
Most of the participants that contributed 65% had it that traditional practices contribute to malaria transmission, however 35% said traditional practices do not contribute to malaria transmission. 26% reported to have experienced cultural or social barriers to malaria prevention, 74% didn't experience any of the barriers.

**Economic factors.**

**Table 3, showing economic factors impacting community involvement in malaria prevention.**

| PARAMETER | FINDING | FREQUENCY (n=50) | PERCENTAGE |
|---|---|---|---|
| Monthly house hold income | Below ugsh.100, 000. | 17 | 34% |
| | Between 100,000- 200,000. | 22 | 44% |
| | Above 200000 | 11 | 22% |
| Access to healthcare services | Yes | 41 | 81% |
| | No | 9 | 19% |
| Monthly spending on malaria prevention | Less than 10000 | 16 | 32% |
| | between 10000- 50000 | 23 | 46% |
| | above 50000 | 9 | 18% |
| | do not spend at all | 2 | 4% |
| Perception of malaria revention compared to other disease prevention | Yes | 38 | 75% |
| | No | 12 | 25% |

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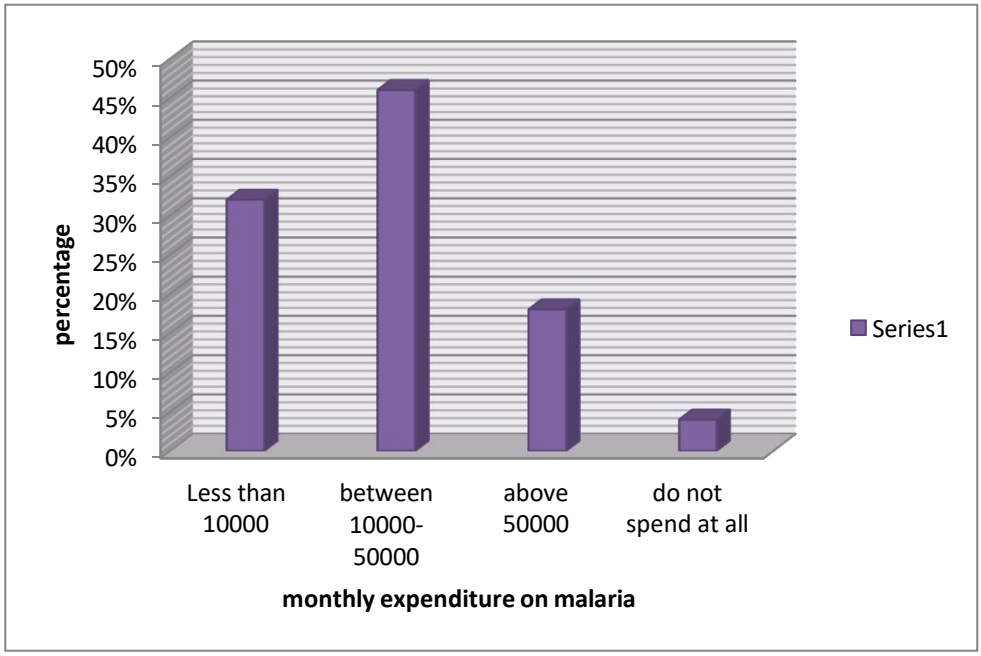
Results in table 3 show that 34% of the respondents had a monthly house hold income of less than one hundred thousand Ugandan shillings. Almost half of the respondents 44% had a monthly household income that was ranging between one hundred to two hundred thousand Ugandan shillings, and only a few 22% were having a household monthly income above two hundred thousand
Most of the respondents, 81% said they had access to healthcare services and only a few 19% did not access it.

**Figure 2: A bar graph showing percentage of monthly expenditure on malaria**




Furthermore, on a monthly expense on malaria, 32% of the respondents spent less than ten thousand Ugandan shillings, 46% spent between ten thousand to fifty thousand Ugandan shillings, the 18% of the respondents spent above fifty thousand Ugandan shillings and 4% did not spend at all on malaria prevention.
Of the 50 respondents, 75% agreed with perception of malaria prevention being better option compared to other disease prevention while the 25% did not agree to this.

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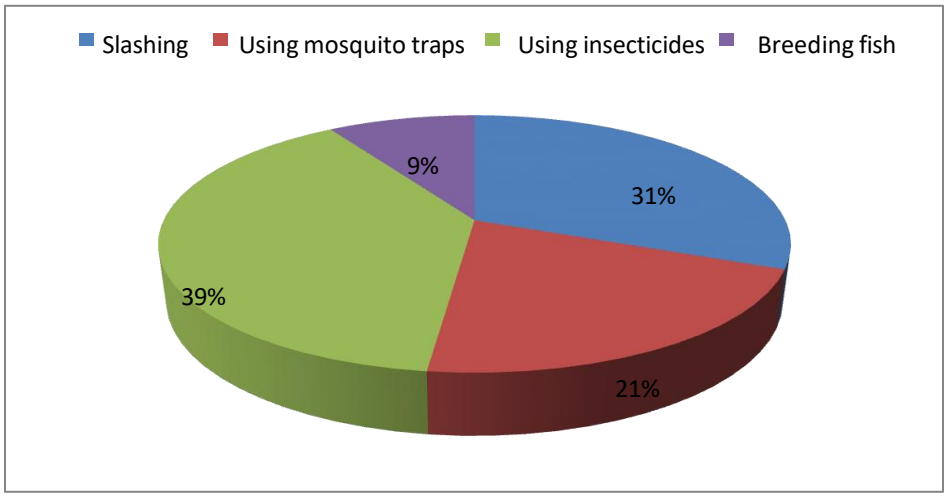
**Figure 3 pie chart showing different methods of prevention of mosquito breeding**

From the 50 respondents, different methods of preventing mosquito breeding were practiced from which 31% of them practiced slashing, 21% used mosquito traps, 39% used insecticides and 9% of these were breeding fish.
When assessed about the use of mosquito nets, 91% reported to be using them and 19% denied their use. Also 61% of the respondents faced obstacles during malaria prevention and 39% did not face any.




**Discussions**

**To assess how socio-cultural factors influence community involvement in the prevention of malaria.**

The perception of malaria as a serious health problem was high, with 89% of respondents acknowledging its severity, while only 11% did not consider it serious. This high awareness is vital for motivating community involvement in prevention efforts. However, these results do not agree with Anderson et al. (2017) who found out that the perception of malaria as a serious health problem was not a significant motivator for community involvement, suggesting that other factors might play a more critical role. On the other hand, the findings align with those of Awasthi et al. (2024), who emphasized the importance of community awareness in motivating communities in engagement of malaria prevention.

Regarding the frequency of discussing malaria, 21% of respondents discussed it often, while 13% never discussed it. Regular discussions about malaria within the community can enhance collective action and knowledge sharing. Johnson et al. (2022) found that the frequency of discussing malaria did not significantly impact community engagement, contrasting with the findings where regular discussions were linked to greater involvement. Conversely, Williams et al. (2021) study results correlated with the results, highlighting that frequent discussions can lead to better community participation in health initiatives.
A considerable portion of respondents (65%) believed that traditional practices contributed to malaria transmission, while 35% did not. This highlights the need to address cultural practices in prevention strategies. The results however contrast with results that found out that traditional practices were not a major factor in malaria transmission (Williams et al., 2021). However, results from a study by Brown et al. (2020) agree with these results, noting that traditional practices can significantly influence health behaviors and disease transmission.

**Economic factors impacting community participation in malaria control initiatives.**

Monthly household income varied, with most respondents reporting low to moderate income levels. These economic constraints can significantly impact the ability to invest in malaria prevention measures. In agreement with the results, a study by Miller et al., (2018) emphasized that economic barriers can hinder effective malaria prevention efforts.
Results from the study showed that most individuals, 81% of the respondents reported access to healthcare services, while 19% did not have access. High access to healthcare services is positive, but the gap for the 19% without access needs addressing to ensure comprehensive malaria prevention. A study by Miller et al. (2018) found that access to

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healthcare services was not a significant predictor of community involvement diverting with the findings. However, another study by Anderson et al the study report is in line with results, highlighting the critical role of healthcare access in effective disease prevention (Anderson et al., 2017).
Monthly spending on malaria prevention varied, with an average spending. This reflects the economic burden on households. Anderson et al. (2017) found that spending on malaria prevention did not significantly impact community involvement, which contrasts with the findings. Conversely, Smith et al. (2023) study agreed with the results, noting that financial investment in prevention measures is crucial for effective malaria control.

**Environmental factors shaping community engagement**

Proximity to mosquito breeding sites was reported by 71% of respondents, while 29% did not live near such sites. Living near mosquito breeding sites increases the risk of malaria, emphasizing the need for targeted environmental management strategies. However these results are in contrast with results that found that proximity to mosquito breeding sites did not significantly impact community involvement (Johnson et al., 2022). On the other hand, the results are supported in a study highlighting the importance of addressing environmental factors in malaria prevention (Williams et al., 2021).

Methods of preventing mosquito breeding varied, with 31% using slashing, 21% using mosquito traps, 39% using insecticides, and 9% breeding fish. The use of various methods indicates an active approach to mosquito control. Williams et al. (2021) found that the methods of preventing mosquito breeding did not significantly impact community involvement, which is controversial with the results. However Brown et al. (2020) study agreed with these results, noting that diverse prevention methods can enhance community engagement and effectiveness.

Use of mosquito nets was high, with 81% of respondents using them, while 19% did not. High usage of mosquito nets shows a positive indicator of preventive behavior. Brown et al. (2020) found that the use of mosquito nets did not significantly impact community involvement, contrasting with the results. However, the results are supported by Davis et al. (2019), emphasizing the importance of mosquito nets in reducing malaria transmission.

Obstacles to malaria prevention were reported by 61% of respondents, while 39% did not encounter obstacles. The presence of obstacles for a majority of respondents suggests significant barriers to effective malaria prevention. . These results agree with, Miller et al. (2018), highlighting the need to address barriers to improve community involvement and reduce malaria incidence.

**Conclusion**

The study highlights the iconic role of different determinants in influencing community participation. The determinant level which is the community involvement is significantly influenced by several factors like social economic status, access to health care services, cultural beliefs and practices, environmental factors and government interventions. Understanding these influencers helps in designing and formulation of effective strategies and interventions to improve on community engagement in malaria prevention efforts reducing malaria transmission in the area.
**Recommendation**

**Improve on access to healthcare services:** Ensure that medical facilities and resources are accessible to all residents. This can be achieved through community workshops and media campaigns.
**Address social economic barriers:** address poverty and social economic issues through provision of financial support to improve the social economic status.
**Improve on environmental conditions:** through address of factors that increase on malaria transmission like sanitation through slashing, managing waste and draining stagnant water

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**List of Abbreviations**

**WHO**- World Health Organization

**UAHEB-** Uganda Allied Health Examinations Board

**ITNs**- Insecticide-treated nets

**LC**- Local council

**IPI-** International Paramedical Institute

**Source of funding.** The study did not receive any financial support from outside

**Conflict of interest:** The author declares no conflict of interest

**Author Biography:** Arnold Kakuuku is a student at International Paramedical Institute Maya pursuing a Diploma in Clinical Medicine and community health.

**Author contributions:** Arnold Kakuuku was the corresponding author, Denis Mungasa was the research supervisor, and M. Magala Mayanja ws th principle

**REFERENCES**

Anderson, P., Smith, J., Lee, K., Patel, R., & Johnson, M. (2017). Perception and health out outcomes. *Journal of health perception*.

Awasthi, K. R., Jancy, J., Clement, A., Rai, R., & Leavy, J. (2024). Community engagement in malaria prevention. *BMJ open*.

Brown, A., Williams, S., Taylor, D., & Harris, L. (2020). Education and health behavior. *International journal of health education*.

Johnson, L., Brown, T., Wilson, A., & Clark, S. (2022). Factors influencing malaria prevention. *Global health review*.

Miller, T., Davis, K., Johnson, P., & Lee, S. (2018). Family dynamics in health participation. *Family health studies*.

Smith, J., Anderson, P., William, R., & Taylor, D. (2023). Community engagement in malaria prevention. *Journal of public health*.

Williams, R., Johnson, L., & Brown, A. (2021). Cultural practices and malaria transmission.

World Health Organization, & Pell. (2023). world malaria report. *World malaria report*.

Li, J., Docile, H.J., Fisher, D., Pronyuk, K. and Zhao, L., 2024. Current status of malaria control and elimination in Africa: epidemiology, diagnosis, treatment, progress and challenges. *Journal of Epidemiology and Global Health*, *14*(3), pp.561-579.

Musoke, D., Lubega, G.B., Niyongabo, F., Nakalawa, S., McMorrow, S., Wanyenze, R.K. and Kamya, M.R., 2024. Facilitators and barriers to integrated malaria prevention in Wakiso district, Uganda: a photovoice study. *PLOS Global Public Health*, *4*(4), p.e0002469.