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Original Article

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Community and health worker perspectives on resource availability and service accessibility for visceral leishmaniasis management in Baringo County, Kenya

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Conflict of Interest
The authors declare that they have no competing interests.

ABSTRACT

Background: Leishmaniasis remains a neglected tropical disease in endemic counties such as Baringo. Effective control requires timely diagnosis, adequate treatment, reliable commodity supply, trained personnel, and community- level prevention. Services are concentrated in a few facilities, with residents facing long travel distances, stockouts, and limited outreach. This study assessed community and health worker perceptions of access to visceral leishmaniasis (VL) resources and health facility readiness for diagnosis, treatment, prevention, and control.
Methods: A cross-sectional design was used, involving 422 household heads from VL endemic communities and 32 health workers from the Kimalel and Chemolingot health facilities. Data were collected via semi-structured questionnaires and analyzed using descriptive statistics and exploratory χ^2 tests.
Results: Most household (73.7%) respondents knew someone affected by VL; 68.5% reported the affected person received treatment, and 96.2% completed the full dose. However, 70.1% reported no organized VL prevention/control program, and 74.4% accessed facilities on foot. No sex differences emerged for awareness, completion, prevention awareness, or access mode, (all $P > 0.05$). Among health workers, 62.5% had received VL-related training with significant differences by cadre ($\chi^2 = 18.35$, $P = 0.001$), training duration, and organization ($\chi^2 = 32.00$, $P < 0.001$). Commodity source ($\chi^2 = 5.40$, $P = 0.020$), stock-out status ($\chi^2 = 9.41$, $P = 0.002$), clinician availability ($\chi^2 = 4.88$, $P = 0.027$), and laboratory/ pharmaceutical readiness ($\chi^2 = 6.53$, $P = 0.011$) were significant. Outreach involvement and perceived community burden were non- significant ($P = 0.102$ and $P = 0.168$, respectively).
Conclusion: Communities demonstrated familiarity with VL, and treatment completion is high once treatment is started. However, access, prevention outreach, commodity security, and facility readiness remain inadequate. Strengthening diagnostics, ensuring continuous antileishmanial drug and laboratory supplies, expanding refresher training across all

Data Sharing Statement
Data can be found at Masinde Muliro University of Science & Technology., Kakamega Library.

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relevant cadres, and institutionalizing community outreach are necessary to improve VL outcomes in Baringo.

Keywords: Visceral leishmaniasis; Health service accessibility; Diagnosis; Treatment; Neglected tropical diseases

INTRODUCTION

Visceral leishmaniasis (VL) is a serious vector-borne disease that is caused by intracellular protozoa belonging to the genus Leishmania. In East Africa and Asia, VL is primarily caused by Leishmania donovani, which is harbored mainly by humans, whereas in zoonotic transmission settings in Latin America and the Mediterranean region, Leishmania infantum is more prevalent.[1,2] VL can get serious and be fatal if it is left untreated.

VL occurs endemically in arid and semi-arid areas of Kenya, such as Baringo, Turkana, West Pokot, Garissa, and Kitui counties.[3] The disease continues to cause avoidable morbidity and mortality in populations who have limited access to timely diagnosis, reliable treatment, and sustained prevention activities despite control efforts.[1,4,5]

Baringo County is one of the main VL-endemic areas in the country and has ecological, behavioural, and social conditions that support ongoing transmission, including recurrent outbreaks, sandfly breeding sites, pastoral and semi-arid settlement patterns, high-risk housing and outdoor exposure patterns, and long distances to care.[6-9] In a previous Baringo County study, Kiptui et al.[7] reported that VL risk was associated with low education, pastoral livelihoods, mud-walled and cracked houses, animal ownership, animal-waste disposal practices, sleeping outside, sleeping under acacia trees, and the presence of ant hills near homesteads. The term resource accessibility in this manuscript means the availability and effective reach of diagnostic, treatment, prevention, and control resources to affected communities. Facility readiness is defined as the health worker-reported availability of trained staff, laboratory supplies, medicines, diagnostic tools, and outreach activities in the selected facilities.

Trained personnel, reliable diagnosis, uninterrupted medicine supply, surveillance, and community-based prevention are necessary for effective VL management.[10] However, some data available from Baringo County suggests that there is still a lot of unmet need for commodities, access to services, outreach, and training among providers. The study thus centered on what was directly assessed: community-reported access to VL diagnosis, treatment, and prevention resources, and health worker-reported facility readiness in some of the facilities serving the VL-endemic populations in Baringo County.

This study was aimed at providing information on the availability of resources, accessibility of services and preparedness of health facilities for VL diagnosis, treatment, prevention and control in the selected VL-endemic areas and health facilities in Baringo County, Kenya from the perspectives of the communities and health workers.

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METHODS

Study area

The study was carried out in Baringo County, Kenya, in the VL endemic Tiaty and Baringo South sub-counties, which are geographically remote from specialized VL diagnosis and treatment facilities. Pastoralism, agriculture, and sand harvesting are the major economic activities of Baringo County, which is predominantly arid and semi-arid. The manuscript contains only those sections most relevant to VL transmission and access to services. Kimalel Health Centre is a key VL diagnostic and treatment facility, and Chemolingot Sub-County Hospital is an important facility providing screening and referral services to the people from Tiaty and nearby areas.

Study design

A cross-sectional study design was employed to evaluate community-reported availability of VL resources and health worker-reported readiness of the health facilities for diagnosis, treatment, prevention, and control services. The design was suitable for the study to describe the situation at the time of the study. It was a cross-sectional design, however, so it didn't measure changes over time or confirm causal relationships; this is noted in the limitations section.

Study population

The study population included household heads from VL endemic communities in the Tiaty and Baringo South sub-counties, and the Chemolingot Sub-County Hospital health workers and Kimalel Health Centre. Household heads were included if they were 18 years or older, living in a selected village, present at the time of data collection, and were able to provide informed consent. Health workers eligible for participation included clinicians, pharmacists, public health officers, nurses, and laboratory workers who participated in or were aware of VL-related service delivery.

Sampling procedure

Secondary data from Kimalel Health Centre were used to identify the villages with high VL burden that were documented. The high burden villages were chosen for household interviews for reasons of being most affected by VL and for the relevance of the study objectives. Random sampling was used within the targeted villages to identify one eligible household head/guardian for each household. The health worker component was a "facility-level census" of all eligible health workers in the two selected facilities during the study period.

Inclusion criteria

Household participants included those who: resided in Tiaty or Baringo South sub-counties, participated during the data collection period, were household heads or adult guardians, and gave informed consent. Health workers included were those working at the Kimalel Health Centre, Chemilingot Sub-County Hospital, and who belonged to the following cadres: clinical officers, nurses, laboratory workers, pharmacists, and public health officers. The patients' records for secondary data from 2015 to 2019 were selected if they had all the variables required for this study, such as residence, age, sex, and date of diagnosis.

Exclusion criteria

Non-residents of Tiaty and Baringo South sub-counties, persons who did not give consent, and households where no adult household head/guardian was found were excluded.

No patient records were used in the secondary review if they lacked any of the key variables. Interviews were not conducted with health workers outside the cadres involved in VL-related diagnosis, treatment, prevention, or control in the two selected facilities.

Sample size determination

Cochran's formula for estimating sample size was used for the household survey with a 95% confidence level, a 5% margin of error, and an assumed proportion of 0.5. The number of people in the sample was a minimum of 384, with a 10% increase for non-response, resulting in a final household sample of 422.

The health worker component involved all 32 qualified health workers in Kimalel Health Centre and Chemolingot Sub-County Hospital. This was considered a census as the number of health workers relevant to this survey in the selected facilities was small.

All the cadres of health workers that directly interacted with VL diagnosis, treatment, prevention, control, commodity management, and patient referral were included; these included clinical officers, laboratory personnel, pharmacists, public health officers, and nurses.

Data collection tools

Semi-structured questionnaires were used for collecting data from household respondents, and secondary records abstraction forms were used for collecting data from health workers. These tools were modified from published VL studies and from the thesis instruments that studied VL risk factors, access to service, and facility resources, and were adapted to the context of Baringo County. The questionnaires focused on awareness of VL; access to diagnosis, treatment, availability of commodities; training of health workers; outreach activities, and prevention and control services. The tools were pretested in a similar environment in Baringo North for face, content, and construct validity. Wordings, flow, cultural sensitivity, and clarity improvements made. The awareness about VL was assessed from the respondents' knowledge of the disease and their knowledge of people in the community who were affected.[11,12]

Data analysis and presentation

The data collected were cleaned and analyzed using SPSS version 25.0 (IBM Corp., Armonk, NY, USA). Frequencies and percentages were used to summarize community awareness, services, commodities available, training, outreach, and prevention activities for descriptive statistics. Exploratory χ^2 tests were performed to explore relationships between selected categorical variables, such as sex of the respondent, and indicators of key community access, and cadre and VL training status of health workers at a significance level of $P < 0.05$. Inferential results from the health worker sample were drawn with caution, as it was a small facility-based census. To keep the tables in line with the description of the results, the corresponding χ^2 statistics are also recorded in a separate column in the tables that report the results.

Ethical considerations

Ethical approval was given by Masinde Muliro University of Science and Technology Institutional Ethics and Review Committee (MMUST/IERC/087/19) and the National Commission for Science, Technology and Innovation (537010). The purpose of the study, procedures, voluntary participation, and the participant's right to withdraw at any time without penalty were explained. Subjects gave informed written consent before their participation. Personal data were not documented in the analysis files, and all information was confidential and used only for research purposes.

RESULTS

Accessibility to resources for diagnosis, treatment, control and prevention of VL (community feedback)

The community responses regarding awareness, access to treatment, prevention programs and how to access the nearest facility are summarized in **Table 1**. The findings indicate that VL was known mostly in the community; that many affected people sought treatment, and that they finished the course of treatment. However, the community level visibility of prevention and control activities was low, and distance and transport limitations affected access to care, with the majority of respondents saying that they walked to the closest health facility.

The open-ended responses were organized into five themes: Health-system barriers - delayed disease identification/disease access issues; Economic barriers - treatment costs; Geographical barriers/transport barriers - distance/transport difficulties; Social support barriers - lack of caregivers/stigma; Information barriers - limited awareness of VL symptoms, prevention, and where to seek care.

There were no statistically significant gender differences in knowing someone who had suffered from VL ($\chi^2 = 1.90$, $P = 0.169$), reported treatment access ($\chi^2 = 1.70$, $P = 0.428$), awareness of prevention programmes ($\chi^2 = 1.47$, $P = 0.481$), or mode of access to the nearest facility ($\chi^2 = 0.27$, $P = 0.874$). This suggests that access and prevention gaps were experienced broadly across male and female respondents rather than being concentrated in one sex group.

Table 1. Community-reported accessibility to resources for visceral leishmaniasis diagnosis, treatment, control, and prevention by respondent sex (n = 422)

Item	Gender		Total	χ^2 result	*P*-value
	Male	Female			
Do you know of anyone who had suffered from visceral leishmaniasis (termes)				$\chi^2 = 1.90$	*P* = 0.169
Yes	174 (55.9)	137 (44.1)	311 (73.7)		
No	53 (47.7)	58 (52.3)	111 (26.3)		
Did the sick person (visceral leishmaniasis case) receive treatment?				$\chi^2 = 1.70$	*P* = 0.428
Yes	158 (54.7)	131 (45.3)	289 (68.5)		
No	7 (38.9)	11 (61.1)	18 (4.3)		
Don't know	62 (53.9)	53 (46.1)	115 (27.3)		
Did the patient complete the dose?				$\chi^2 = 1.33$	*P* = 0.515
Yes	153 (55.2)	124 (44.8)	277 (96.2)		
No	6 (60.0)	4 (40.0)	10 (3.5)		
Don't know	0 (0.0)	0 (0.0)	0 (0.0)		
Others	0 (0.0)	1 (100.0)	1 (0.3)		
Is there any program that target control and prevention of visceral leishmaniasis?				$\chi^2 = 1.47$	*P* = 0.481
Yes	39 (59.1)	27 (40.9)	66 (15.6)		
No	159 (53.7)	137 (46.3)	296 (70.1)		
Don't know	29 (48.3)	31 (51.7)	60 (14.2)		
How do you access the nearest facility?				$\chi^2 = 0.27$	*P* = 0.874
Foot	168 (53.5)	146 (46.5)	314 (74.4)		
Motorbike	31 (52.5)	28 (47.5)	59 (14.0)		
Car	28 (57.1)	21 (42.9)	49 (11.6)		

Values are presented as number (%).

Accessibility to resources for diagnosis of VL (health professionals)

Table 2 provides health workers' views on diagnostic accessibility, VL training, commodity supply, and stock-outs. Overall, 62.5% of health workers had received training related to VL, with the highest numbers of trained workers being clinicians and laboratory technicians. Most of the training was supported by Kenya Medical Research Institute, IZUMI, and Drugs for Neglected Diseases initiative, while 37.5% of respondents reported no VL-related training. Exploratory χ^2 results showed significant differences across health worker cadre and training status ($\chi^2 = 18.35$, $P = 0.001$), training duration ($\chi^2 = 32.00$, $P < 0.001$), and training organization ($\chi^2 = 32.00$, $P < 0.001$). The source of diagnostic and treatment commodities was also significantly associated with reported availability patterns ($\chi^2 = 5.40$, $P = 0.020$), and VL commodity stock-out status was statistically significant ($\chi^2 = 9.41$, $P = 0.002$). These results suggest that readiness for VL diagnosis was not limited to staff training alone, but was also affected by the organization supporting commodities and the frequency of stock-outs.

Accessibility to treatment for VL

The results from health professionals about treatment-related facility readiness are summarized in **Table 3**. There was a significant number of patients that were being treated on a daily basis by the selected facilities, and most of the respondents said that the clinicians were available to diagnose and treat VL. There were, however significant resource gaps that needed to be addressed. Half of the health professionals reported that laboratory equipment/reagents were not available, and an equal number reported that pharmaceutical drugs were not available. Treatment times reported varied from 17 to 30 days, which may be attributed to differences in treatment protocols and the management of patients. There were significant differences in the reported availability of laboratory equipment and reagents ($\chi^2 = 6.53$, $P = 0.011$) and pharmaceutical drugs ($\chi^2 = 6.53$, $P = 0.011$) by respondent sex; however, these results should be interpreted with caution because the health worker sample was small and drawn from two facilities.

Table 2. Health worker-reported access to VL diagnostic resources, training, commodity supply, and stock status (n = 32)

Item	Yes	No	Total	χ^2 result	*P*-value
Current position in the hospital				$\chi^2 = 18.35$	$P = 0.001$
Clinical officer	8 (25.0)	2 (6.3)	10 (31.3)		
Lab technician	8 (25.0)	2 (6.3)	10 (31.3)		
Pharmacist	4 (12.5)	0 (0.0)	4 (12.5)		
Public health officer	0 (0.0)	6 (18.8)	6 (18.8)		
Nursing officer	0 (0.0)	2 (6.3)	2 (6.3)		
Training duration on VL				$\chi^2 = 32.00$	$P < 0.001$
Minimum 4 days	6 (18.8)	0 (0.0)	6 (18.8)		
Minimum 1 wk	14 (43.8)	0 (0.0)	14 (43.8)		
Not trained	0 (0.0)	12 (37.5)	12 (37.5)		
Training organization				$\chi^2 = 32.00$	$P < 0.001$
KEMRI	7 (21.9)	0 (0.0)	7 (21.9)		
IZUMI	7 (21.9)	0 (0.0)	7 (21.9)		
DNDi	6 (18.8)	0 (0.0)	6 (18.8)		
Not trained	0 (0.0)	12 (37.5)	12 (37.5)		
Supplying organization for diagnostic and treatment commodities				$\chi^2 = 5.40$	$P = 0.020$
Government	5 (15.6)	8 (25.0)	13 (40.6)		
NGO	15 (46.9)	4 (12.5)	19 (59.4)		
VL commodities out of stock				$\chi^2 = 9.41$	$P = 0.002$
Never	0 (0.0)	0 (0.0)	0 (0.0)		
At times	16 (50.0)	3 (9.4)	19 (59.4)		
Not at all	4 (12.5)	9 (28.1)	13 (40.6)		

Values are presented as number (%).
VL = visceral leishmaniasis; KEMRI = Kenya Medical Research Institute, DNDi = Drugs for Neglected Diseases initiative; NGO = Non-Governmental Organization.

Table 3. Health worker-reported accessibility to visceral leishmaniasis treatment services and treatment commodities by respondent sex (n = 32)

Item	Male	Female	Total	χ^2	*P*-value
Patients per day				1.20	0.273
Less than 60	8 (25.0)	8 (25.0)	16 (50.0)		
61 and above	12 (37.5)	4 (12.5)	16 (50.0)		
Availability of clinicians				4.88	0.027
Yes	20 (62.5)	8 (25.0)	28 (87.5)		
No	0 (0.0)	4 (12.5)	4 (12.5)		
Availability of lab equipment and reagents				6.53	0.011
Yes	14 (43.8)	2 (6.3)	16 (50.0)		
No	6 (18.8)	10 (31.3)	16 (50.0)		
Availability of pharmaceutical drugs				6.53	0.011
Yes	14 (43.8)	2 (6.3)	16 (50.0)		
No	6 (18.8)	10 (31.3)	16 (50.0)		
Treatment duration				0.00	1.000
Minimum 17 days	10 (31.3)	6 (18.8)	16 (50.0)		
Minimum 30 days	10 (31.3)	6 (18.8)	16 (50.0)		

Values are presented as number (%).

Table 4. Health worker-reported availability of VL prevention, control, outreach services, and perceived community burden by respondent sex (n = 32)

Item	Response	Male	Female	Total	χ^2	*P*-value
Availability of prevention and control mechanisms	Yes	0 (0.0)	0 (0.0)	0 (0.0)	Not computed	No variation
	No	20 (62.5)	12 (37.5)	32 (100.0)		
Hospital involvement in outreach services for community awareness and VL control	Yes	6 (18.8)	0 (0.0)	6 (18.8)	2.68	0.102
	No	14 (43.8)	12 (37.5)	26 (81.3)		
VL perceived as a community burden	Yes	16 (50.0)	6 (18.8)	22 (68.8)	1.90	0.168
	No	4 (12.5)	6 (18.8)	10 (31.3)		

Values are presented as number (%).
VL = visceral leishmaniasis.

Accessibility to prevention and control and resources of VL

Table 4 presents health worker responses on prevention and control resources. The results show a major gap in preventive and community-level response: all respondents reported that prevention and control mechanisms were unavailable, and most reported that their facilities were not involved in outreach services for community awareness and VL control. At the same time, most health workers still perceived VL as a continuing community burden. Exploratory χ^2 testing showed no statistically significant association between respondent sex and reported outreach involvement ($\chi^2 = 2.68$, $P = 0.102$) or perception of VL as a community burden ($\chi^2 = 1.90$, $P = 0.168$).

The open-ended responses further explained these findings and were organized into four themes. In the first instance, capacity issues were reported by health workers, such as a lack of refresher training and a shortage of staff. Secondly, problems with service delivery were due to a lack of cases being identified, language barriers, and a lack of follow-up. Third, commodity and infrastructure gaps encompassed the limited availability of test kits, reagents, and medicines for the treatment of leishmaniasis (liposomal amphotericin B [AmBisome] and paromomycin, sodium stibogluconate). Fourth, challenges at the community level were poverty, transport, stigma, and lack of knowledge about VL prevention and early health seeking.

DISCUSSION

The majority of household respondents had heard of at least one person who had experienced VL; this indicates that VL is not a remote or unknown illness in the affected communities. This familiarity with the community can be helpful for early care-seeking, as long as it is tied to correct symptom recognition, knowledge of available places for diagnosis, and trust that treatment is available. This high treatment completion rate in those who initiated treatment is encouraging and may be partly due to perceived severity of VL, support from VL caregivers, and the advantages of structured case management at the point of accessing services. But knowledge alone was not enough to ensure prevention, as many respondents indicated minimal organized prevention and control efforts. The finding suggests that there is a mismatch between the community experience of VL and sustained public health action.

The awareness observed in this study was lower than that reported in north-western Ethiopia,[12] with 94% of the respondents, but more important is the interpretation rather than the percentage. If anything, in Baringo, awareness seems to be influenced by exposure to disease in the community as opposed to systematic prevention education. This is important since informal awareness can help individuals identify that there is such a thing as VL, but may not give enough information about early symptoms, vector control, risk reduction, or the need for timely referral. The non-significant χ^2 results across gender also indicate that awareness and access barriers were shared across all respondents and therefore would be a community-wide, not gender-specific, outreach first choice.

The responses indicated that community members did not see many prevention programs and that many respondents walked to the closest facility. This pattern suggests a service model where households are aware of VL, but may not have timely access to diagnosis and treatment. Access to health services, particularly through walking in a sparsely served, semi-arid environment, can delay care, create indirect costs, and worsen outcomes, especially for children, older persons, and very sick patients who need a caregiver or transport support. The attached Baringo County risk-factor paper also showed that exposure is shaped by household and behavioral conditions such as mud-walled or cracked houses, livestock-related activities, sleeping outside, and ant hills near homesteads.[7] These risk conditions strengthen the case for outreach because communities need both treatment access and prevention education that directly responds to the local exposure environment. Since there were no significant gender differences in mode of access, geographical and transport barriers should be treated as community-wide barriers rather than barriers affecting only one sex group.

The results are in line with previous work demonstrating that distance, transport, insecurity, and a low number of service points are key factors that restrict access to VL diagnosis and treatment in rural East African settings.[13,14] The implication is that better treatment outcomes in Baringo County can't be achieved through facility delivery of services alone. There is a need to decrease the delay in seeking care from the time of symptom onset by providing outreach screening, community health education, referral services, and decentralizing diagnostic capacity.

Findings from the health worker responses showed important facility-readiness gaps related to training, reliance on non-governmental suppliers, and frequent shortages or delays in the supply of commodities for diagnosis and treatment. Cadre was significantly associated with VL training status ($\chi^2 = 18.35$, $P = 0.001$), and significant results were also observed for training duration ($\chi^2 = 32.00$, $P < 0.001$) and training organization ($\chi^2 = 32.00$, $P < 0.001$). This suggests that training was concentrated among selected cadres and was strongly shaped by partner-supported programmes. Commodity-related indicators were also significant, including supplying organization ($\chi^2 = 5.40$, $P = 0.020$) and VL commodity stock-out status ($\chi^2 = 9.41$, $P = 0.002$). These findings show that diagnostic readiness depends on both trained personnel and reliable commodities; one cannot compensate for the absence of the other. Clinical and laboratory cadres are central to diagnosis and case management, but VL care also depends on nurses, public health officers, pharmacists, and community-facing workers. Uneven training can therefore create weaknesses in triage, counselling, commodity management, referral, follow-up, and prevention messaging.

The reported reliance on non-governmental/organizations for VL commodities is also pertinent. It implies that the local response is still susceptible to interruptions in donor or partner support, particularly in the provision of test kits, reagents, and medicines against leishmaniasis. Research from East Africa has demonstrated that fragile commodity supply chains and donor-dependent programmes can make it harder to control VL, even in countries where there is knowledge of treatment.[2,15] The fact that half of the health workers reported shortages of laboratory supplies, reagents, and medicines is a point to consider: no health worker will be able to determine the readiness of health facilities. Trained staff and reliable supplies must be present at the same time for readiness.

Another finding indicates why the manuscript title and interpretation were amended to not overstate the capacity assessment of a health system. The study did not measure assets and gaps at the organizational, financing, governance, supply chain, and wider system level; only in two selected facilities. The updated interpretation is thus restricted to the populations and indicators at the facility level tested.

Clinicians were generally available; however, laboratory equipment, reagents, and drugs were not consistently available at the study. This implies that in the absence of commodities for diagnosis and treatment, staffing is not enough. The discovery has real-world implications because management of VL requires the availability of a skilled worker, the availability of reliable diagnostics, and continuous availability of antileishmanial medicines.[16]

This interpretation fits with what is observed in East Africa, where medicines and diagnostics may be available free of charge in public and non-profit healthcare facilities, but a lack of stock often slows down care and is a source of frustration for health workers.[15] The reported treatment duration of 17–30 days further highlights the importance of providing robust counseling, providing support to caregivers, and follow-up, as long treatment periods may be challenging for households with poverty, transport challenges, competing livelihood priorities, etc.

Structured prevention mechanisms and outreach services are rarely in place, according to health professionals. This is one of the most actionable findings of the study, as it indicates the response is still more treatment-focused than prevention. While a treatment-focused model can lead to lower mortality rates if people do achieve care, it can't decrease the risk of transmission, late presentation, stigma, or vulnerability at the household level. In endemic communities, prevention can only be sustained through ongoing health education, vector control messaging, early case detection, referral systems and health facilities, community health workers, county-level health teams, and partner organizations.

This is supported by previous research, which found that VL control in East Africa has been undermined by programmes that depend primarily on passive case detection through facility-based treatment.[1,2] The findings also complement earlier Baringo County evidence showing that VL risk is linked to modifiable household, animal, environmental, and behavioral exposure factors.[7] The Baringo findings, therefore, suggest the need for a balanced response: strengthening facility capacity while also promoting community outreach, prevention education, and surveillance. In the absence of this balanced response, patients may not reach facilities in time, facilities may lack the necessary commodities, and high-risk households may not receive prevention support routinely.

There were several limitations to this study. Firstly, the cross-sectional design only allowed for community and health worker views at one time and was not able to measure seasonal variation, commodity supply changes over time, or causal relationships. Secondly, some of the findings were based on self-reported information, which might have resulted in recall or social desirability bias. Third, the health worker component was a census of two selected facilities and thus was small, and inferential results from this component should be considered exploratory. Fourth, open-ended responses were summarized by themes and not quantified sufficiently to allow for comparisons of the frequency of each barrier. Lastly, the study was conducted in high-burden communities and facilities in Baringo County, and the results may not be representative of all VL endemic areas in Kenya.

The study reveals that VL is still a practical community and facility-level problem in Baringo County. Many community members knew about VL, and reported treatment completion was high among those who initiated treatment; however, access to diagnosis, prevention, and outreach remained inadequate.

Among health workers, the selected facilities showed some readiness for case management through the presence of clinical and laboratory cadres and reported clinician availability. This preparedness was nevertheless weakened by unequal training across cadres, lack of laboratory equipment and reagents, limited availability of medicines, reliance on non-governmental sources for essential commodities, and limited prevention outreach.

These findings complement the earlier Baringo County risk-factor evidence by Kiptui et al.,[7] which showed that VL exposure is linked to household structure, animal-related practices, outdoor sleeping, and environmental conditions around homesteads. When read together, the two papers indicate that VL control in Baringo County requires both risk-factor reduction at community level and stronger service readiness at facility level.

The results highlight four priority interventions: increasing diagnostic and laboratory capacity, sustaining access to antileishmanial medicines and test commodities, providing refresher training for all relevant cadres, and institutionalizing community outreach for early detection, referral, prevention education, and stigma reduction. Future VL responses at county and national levels should move from occasional partner-supported treatment to an integrated program with secure supplies, trained health workers, active outreach, and surveillance in high-burden communities.

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