

Cross-sectional surveys in Bangladesh, India, Ethiopia & Sudan: understanding treatment seeking & household economic burden for VL patients

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Background

- KalaCORE is a UKaid funded initiative to support control and elimination of visceral leishmaniasis in six countries:
 - Bangladesh, India and Nepal - supporting the South Asia regional VL elimination plan to reduce incidence to less than 1/10,000 people
 - Ethiopia, South Sudan and Sudan - enhancing capacity for VL control in the three highest burden countries in East Africa
- Consortium partners: DNDi, MSF, LSHTM, Mott Macdonald
- Working through national control programmes & in-country implementation partners
- Majority of KalaCORE-supported activities aim to improve access to high quality case management of VL (provider- and demand-side)



Study Rationale

- Recent evidence on treatment seeking & economic burden limited
- These surveys provide a baseline to identify where support from KalaCORE to VL control programmes can be targeted to improve patient management and access to care.



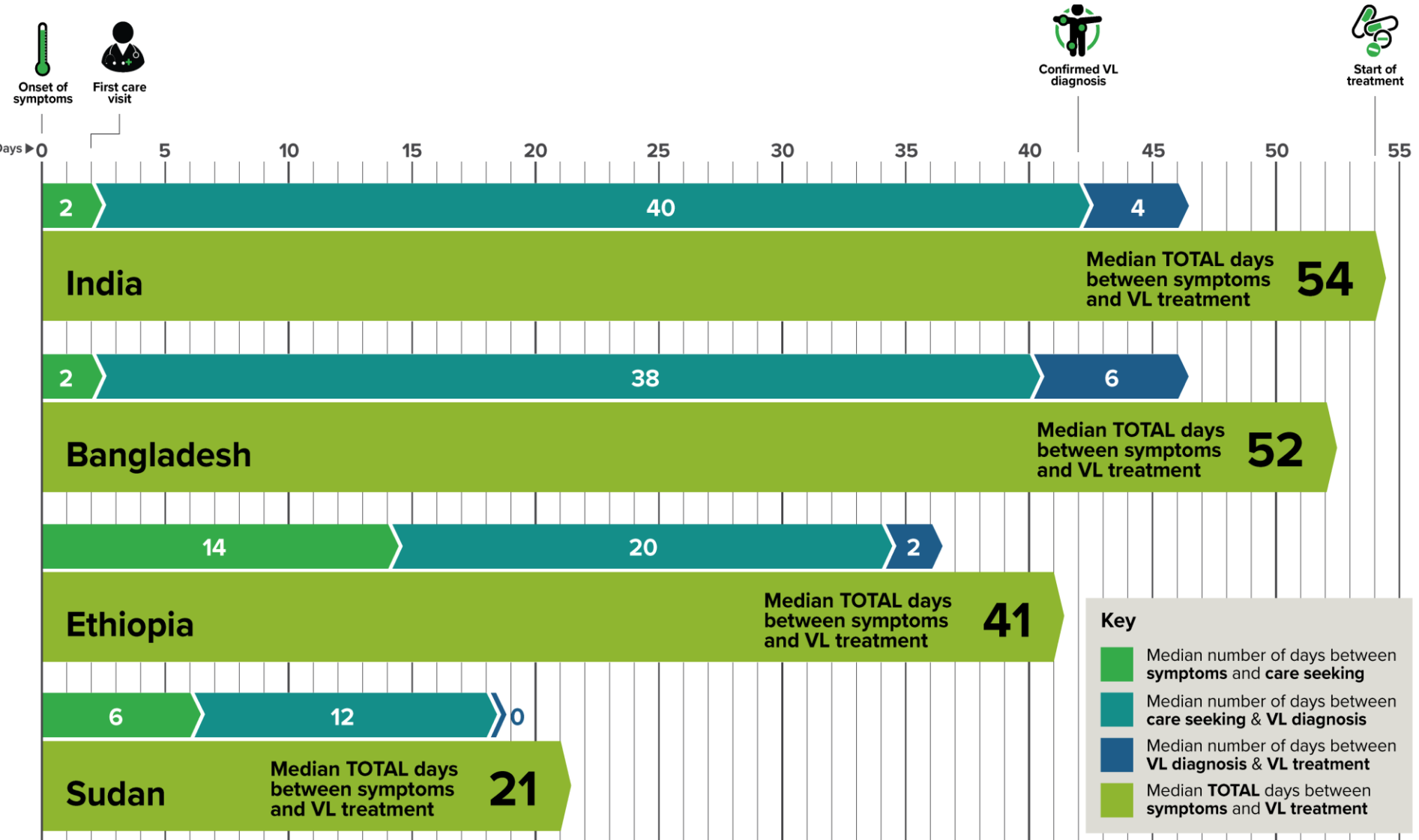
Evaluation design

- Cross sectional patient surveys at baseline and endline in endemic areas of Bangladesh, India, Ethiopia & Sudan
- VL patients recruited from health facilities
 - Sample size calculations were a balance between representativeness, statistical power and operational feasibility
 - Prospective and/or retrospective sampling
 - Max length of recall 3 months
- Structured questionnaire
 - Patient & household characteristics
 - Treatment pathway for current VL illness episode
 - Financial & economic costs of VL illness to the patient/household
- Ethical approval obtained in-country and from LSHTM



	Bangladesh	India	Ethiopia	Sudan
What is the cause of VL				
Sandfly	10.3%	8.1%	10.8%	39.6%
Insect/ mosquito	8.1%	25.6%	36.0%	7.1%
Trees	-	-	21.6%	4.4%
Don't know	80.9%	67.0%	10.4%	51.1%
How can VL be prevented				
Sleep under a net	7.4%	30.0%	48.8%	26.2%
IRS	0.7%	7.4%	6.4%	3.1%
Clean environment	10.3%	18.9%	15.6%	4.4%
Sleep on a bed	-	-	12.0%	-
Don't know	82.4%	66.3%	13.9%	67.6%
Effective treatment for VL				
SSG	12.5%	-	20.4%	21.8%
SSG+PM	-	-	1.6%	16.9%
Injections	-	-	34.0%	-
AmBisome	35.3%	9.8%	-	-
Don't know	52.9%	89.2%	14.5%	64.9%
% respondents seen/heard a health education message about VL <12mo	0.7%	33.7%	21.6%	15.6%

	Bangladesh	India	Ethiopia	Sudan
Number of health facilities	17	12	8	9
Total number of patients sampled	136	297	251	225
Percentage of male patients	61.8%	57.9%	96.4%	68.4%
Median age of sampled patients [IQR]				
Male	30 [14-47]	22 [10-39]	23 [20-29]	13 [7-24]
Female	23 [14-35]	15 [10-32]	26 [16-30]	12 [7-17]
Median number of providers visited during illness [IQR]	5 [3-5]	4 [3-5]	3 [2-4]	3 [2-4]
Place of first VL diagnosis				
Public primary facility	7.4%	16.5%	24.0%	1.8%
Public hospital	53.7%	38.7%	54.4%	82.2%
Private doctor/facility	37.5%	41.4%	6.4%	9.8%
NGO facility/other	1.4%	3.4%	15.2%	6.2%
% treated at same place as VL diagnosis received	36.8%	37.7%	86.5%	76.0%



	Bangladesh	India	Ethiopia ²	Sudan
Mean total MEDICAL cost of illness to household, 2016 USD [95% CI]	123.53 [101.71, 145.35]	63.09 [47.13, 79.04]	39.16 [28.50, 49.82]	75.67 [46.31, 104.87]
Mean total NON-MEDICAL cost of illness to household, 2016 USD [95% CI]	66.47 [34.99, 97.96]	45.04 [29.97, 60.13]	63.41 [44.44, 82.48]	227.47 [79.28, 375.67]
Mean total ECONOMIC cost of illness to household, 2016 USD [95% CI] ¹	360.46 [289.50, 431.41]	259.34 [206.75, 311.93]	177.96 [140.74, 215.22]	322.29 [114.60, 529.98]
% households facing catastrophic EXPENDITURE ³	16.4%	7.2%	7.5%	3.7% ⁵
% households facing catastrophic COSTS ⁴	51.1%	41.1%	35.4%	46.2% ⁵

¹ Economic costs include direct medical & non-medical costs plus lost income for patient (all four countries) and lost income for caretakers (Bangladesh & India only); ² Costs for Ethiopia presented here exclude patients treated at Abdurafi and Gondar hospitals (where all direct VL-associated costs are supported by MSF and DNDi, respectively); ³ Out-of-pocket medical costs exceeded 20% average annual household expenditure; ⁴ Total economic costs exceeded 20% average annual household expenditure; ⁵ Based on data from only 36.9% (81) of patients who were able to estimate household expenditure

	Bangladesh	India	Ethiopia	Sudan
% patients that had to use savings to cover costs	25.7%	42.4%	44.0%	59.6%
% patients that borrowed money to cover costs	69.6%	75.1%	16.0%	46.2%
% patients that sold crops or livestock to cover costs	26.7%	15.4%	12.4%	54.2%



Cost drivers

- In Bangladesh, greatest financial cost categories were: treatment, diagnostics, transport
- In India: treatment, diagnostics, food
- In Ethiopia: food, transport, treatment
- In Sudan: food, treatment, diagnostics
- In all countries: zero/minimal treatment costs at provider where VL treatment received
 - Free treatment policies largely being adhered to
 - Substantial costs for diagnoses & treatment seeking before receiving VL treatment



Challenges in evaluation design

- Focal nature of VL (in time and space)
- Relatively small numbers of patients
- Varying epidemiology across and within countries
 - Risk groups (age, gender, seasonal workers/residents)
 - HIV prevalence, relapses
 - PKDL
- Different treatment policies across countries (length of treatment, inpatient/outpatient)
- Length of illness – issues of recall
- How to measure economic burden on households
- Only measuring those patients that have accessed care



Conclusions

- VL illness results in substantial economic burden for patients and their households, largely due to financial costs incurred before receiving a VL diagnosis and loss of income to patients and/or their caretakers.
- However, financial risk protection (providing free diagnostics and drugs) is insufficient – there is a need for broader social protection to cover non-medical costs and loss of income for patients and caretakers
- The KalaCORE project will contribute to the VL control programmes in Bangladesh, India, Ethiopia and Sudan to reduce the time between onset of symptoms and start of treatment through patient- and provider-side interventions.





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Control and Elimination of
Visceral Leishmaniasis

