FACTORS UNDERLYING LATE DIAGNOSIS OF VISCERAL LEISHMANIASIS AMONG CHILDREN IN BRAZIL: A NATIONWIDE STUDY

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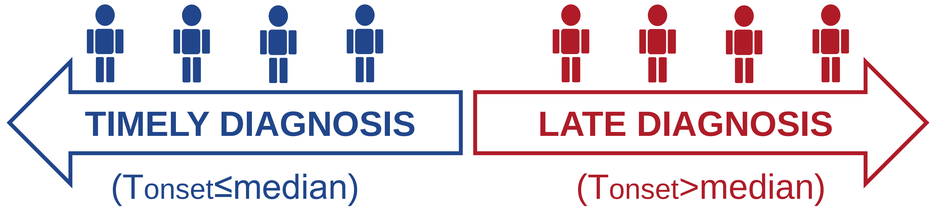
Introduction

- Visceral leishmaniasis (VL) is a systemic disease that is potentially fatal if left untreated.[a]
- In Brazil, deaths due to VL are frequent in children and associated with late diagnosis. Thus, studies addressing the early recognition and management of VL in children are needed.[a]

This study aimed to investigate early clinical and care-related factors underlying the late diagnosis of VL in children <12 years in Brazil.

Methods

- Data from all new VL cases among children living in Brazil and reported from 2007 and 2020 (n=20,601) were collected from the national reporting system.
- The time between the onset of symptoms and the clinical suspicion (i.e., reporting) of VL (Tonset) was calculated for each case.



- The median of the Tonset was used to dichotomize individuals in timely (≤ median) and late (> median) diagnosis.
- A multivariate logistic regression was performed to explore the variables underlying the late diagnosis.

Results

- The median of the Tonset was 17 days (range:0-715 days).
- Patients with late diagnosis presented higher odds of displacement for notification. Clinically, they were more likely to present the following clinical manifestations: fever with splenomegaly, hepatomegaly, weight loss, pallor, weakness, edema, and other associated infections (Table 1).
- The occurrence of fever as an early manifestation was a protective factor for late diagnosis (Table 1).

Table 1: Care-related and clinical variables associated with late diagnosis of visceral leishmaniasis (VL) in children under 12 years old in Brazil during the period 2007-2020.

Variables	Ajusted OR [CI95%]
Displacement[a]	1.46 [1.38-1.54]
Fever with splenomegaly	1.33 [1.22-1.46]
Hepatomegaly	1.24 [1.15-1.33]
Weight loss	1.43 [1.34-1.52]
Pallor	1.27 [1.19-1.37]
Weakness	1.08 [1.01-1.15]
Edema	1.09 [1.02-1.16]
Other associated infections	1.09 [1.02-1.17]
Fever	0.58 [0.48-0.69]

OR: odds ratio; 95%CI: 95% confidence interval.
[a]Defined as the municipality of notification of the case different from the municipality of residence.

Conclusion

- Early clinical and care-related variables are associated with late diagnosis of VL in Brazilian children. This is useful to guide measures aimed at early recognition and clinical management of VL.

Reference

[a]Maia-Elkhoury ANS, Sierra Romero GA, O B Valadas SY, L Sousa-Gomes M, Lauletta Lindoso JA, Cupolillo E, et al. Premature deaths by visceral leishmaniasis in Brazil investigated through a cohort study: A challenging opportunity? PLoS Negl Trop Dis. 2019;13(12):e0007841.