

# A Silent Threat: Seroprevalence of Chagas Disease in Latin Americans Living in Long Island, New York

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## Background:

- Chagas Disease (CD), a neglected tropical disease of Latin America (LA) is caused by the parasite *Trypanosoma cruzi*, transmitted by the triatomine insect (kissing bug), and known to cause cardiomyopathy (CMP), megacolon or achalasia.
- Despite the population of Latin Americans, by birth or descent, in Long Island (LI), New York (NY) approximating 20%, information regarding prevalence of CD in this region is scarce.

## Aim:

- This study aims to determine the seroprevalence and risk factors for *T. cruzi* infection among hispanics in LI.

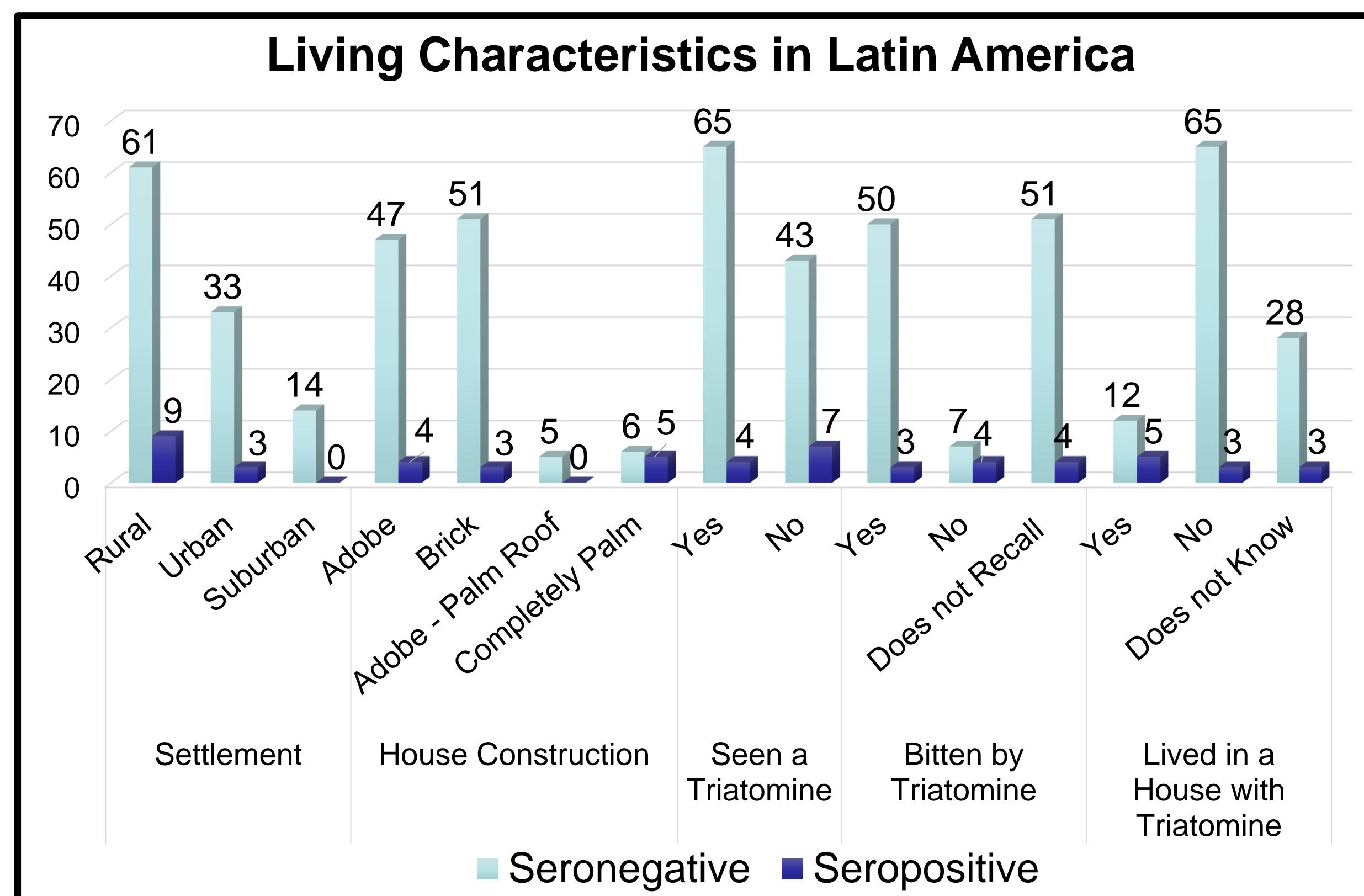
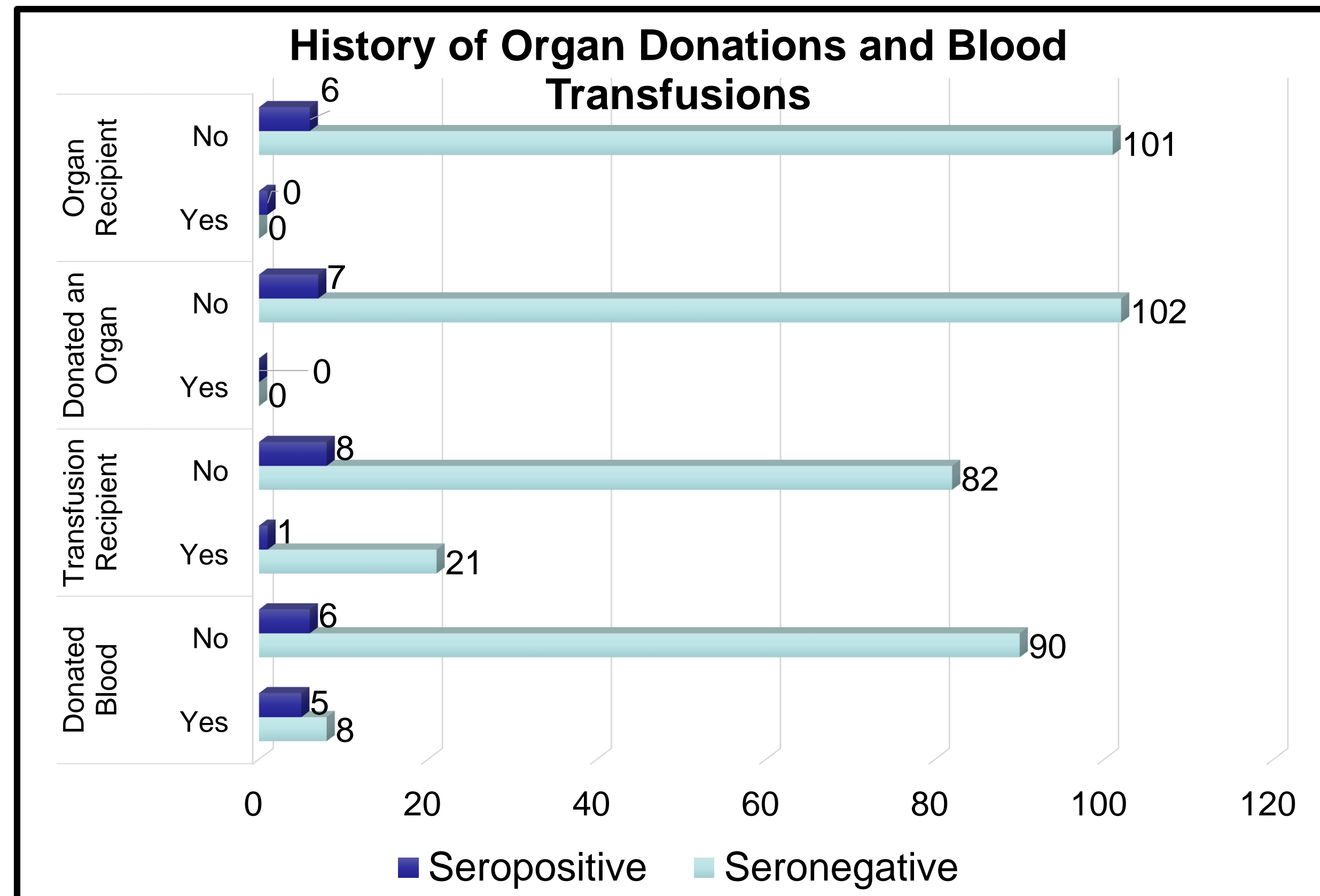
## Methods:

- This is a cross-sectional study.
- Inclusion criteria:
  - Birth or living in LA for > 3 years.
  - Mother born or lived in LA for ≥3 years.
  - Residency in Suffolk County, LI.
- Patients were screened by Chagas Detect™ Plus Rapid Test (immunochromatographic strip assay for the qualitative detection of human IgG antibodies to *T. cruzi*; InBios Rapid test).
- Seropositivity was confirmed by enzyme immune assay and immunoblot.
- Participants answered a questionnaire regarding demographics and risk factors of CD.

## Results:

- A total of 121 subjects (55.4% male) were tested from February 2018 to February 2020.
- Twelve were seropositive confirmed cases (9.9%; 66.7% male), with 9 cases from El Salvador (75%, p=0.06).
- Factors associated with infection were:
  - Living in a palm house (OR=14.1, CI 2.7-74.7)
  - History of triatomine bite (OR=9.5 CI=1.75-51.7)
  - Living in a house with triatomine (OR= 9.02, CI=1.9 – 42.8)
  - Having relatives diagnosed with Chagas (OR= 7.6, CI=1.4 – 39.2).

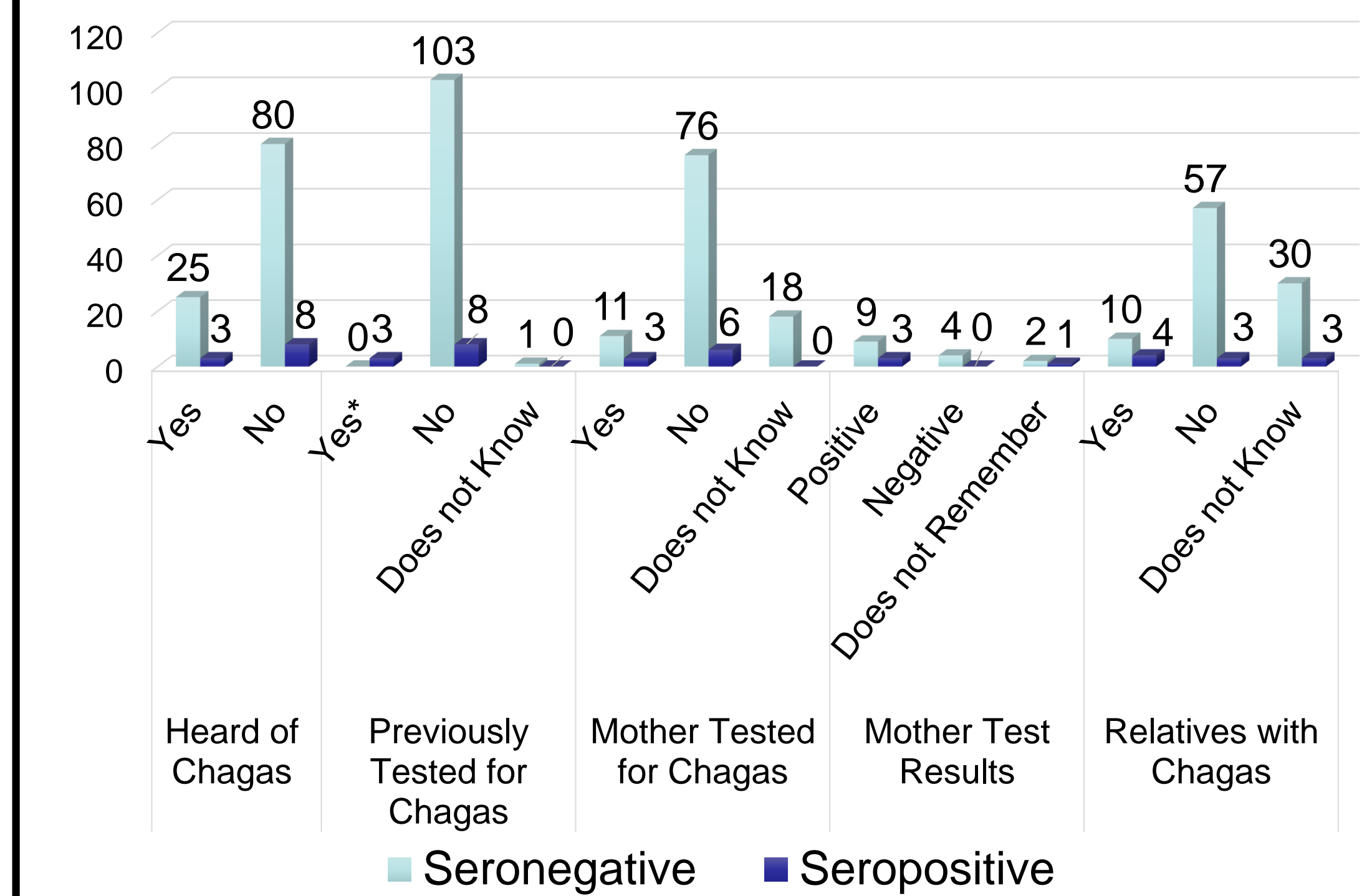
- T. cruzi* infected were most likely to have donated blood (OR=9.4, 95% CI=2.3-3.6).
- Two cases (16.6%) had CMP and did not qualify for treatment.
- One had gastrointestinal disease (8.3%). Eight started treatment with benznidazole.



## Chagas Disease Screening Demographics

N= 121	Negative (N=109)	Positive (N=12)	P-Value
<b>Gender</b>			
Male	59 (54.13)	8 (66.67)	0.5448
Female	50 (45.87)	4 (33.33)	
<b>Born in Latin America?</b>			
No	9 (8.26)	0 (0.0)	0.5964
Yes	100 (91.74)	12 (100.0)	
<b>If Yes, Name of Country</b>			
Argentina	1 (1.00)	1 (8.33)	0.0627
Ecuador	15 (15.0)	1 (8.33)	
El Salvador	35 (35.0)	9 (75.0)	
Guatemala	13 (13.0)	1 (8.33)	
Honduras	8 (8.0)	0 (0.0)	
Mexico	27 (27.0)	0 (0.0)	
Colombia	1 (1.0)	0 (0.0)	
<b>Highest Level of Academic Education</b>			
Finished University	4 (3.81)	1 (11.11)	0.3708
Technical Institute	15 (14.29)	2 (22.22)	
High School	33 (31.43)	4 (44.44)	
Lower than High school	44 (41.90)	2 (22.22)	
None	9 (8.57)	0 (0.0)	
<b>Actively Working</b>			
No	53 (50.48)	1 (11.11)	0.0340
Yes	52 (49.52)	8 (88.89)	
<b>Health Insurance</b>			
No	59 (56.73)	4 (36.36)	0.2199
Yes	45 (43.27)	7 (63.64)	
<b>Type of Insurance</b>			
Private	6 (15.0)	1 (16.67)	1.0000
Public	34 (85.0)	5 (83.33)	
<b>Language Use</b>			
Good English and Spanish	11 (10.28)	1 (11.11)	0.2387
Basic English and Spanish	23 (21.50)	4 (44.44)	
Only Spanish	73 (68.22)	4 (44.44)	
<b>Good Communication with Physicians</b>			
No	18 (17.14)	3 (33.33)	0.5672
Sometimes	32 (30.48)	3 (33.33)	
Almost Always	47 (44.76)	3 (33.33)	
Does not go to Doctors	8 (7.62)	0 (0.0)	

## Previous Experience with Chagas Disease



## Conclusions:

- In conclusion, we found a prevalence of 9.9% of *T. cruzi* infection in this high-risk population of LI.
- Two cases were diagnosed with CMP during this screening study highlighting that there are unrecognized cases of CD in this region where 20% are Hispanics.
- Such high prevalence and unrecognized disease, highlights the importance of raising awareness among providers of early screening and to prevent potential deadly outcomes.

## References

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## Disclosure

No disclosures

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