

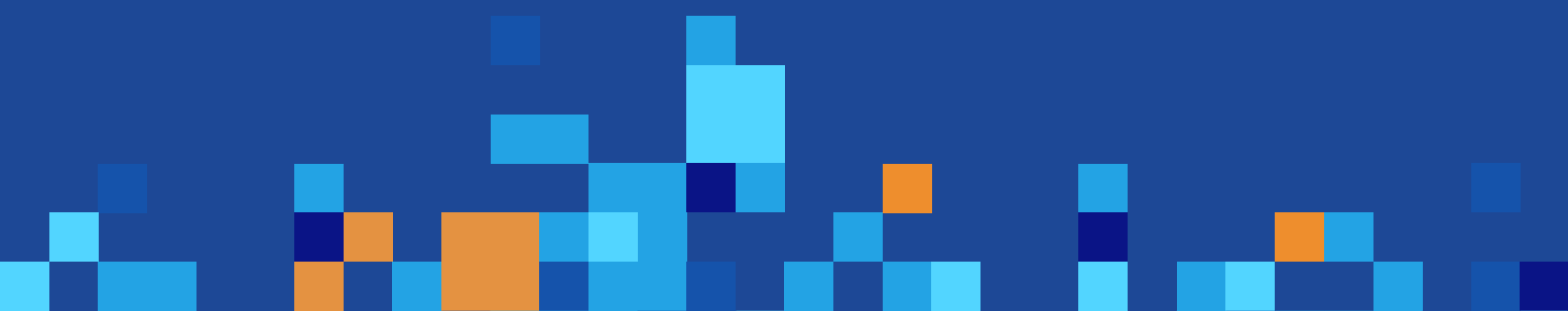
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Certificamos que

ALEJANDRO MARCEL HASSLOCHER-MORENO

ha participado en carácter de Asistente durante el XXI Simposio Internacional organizado por la Fundación Mundo Sano, llevado a cabo los días 14 y 15 de noviembre de 2023, en el Centro Cultural de la Ciencia (C3), Buenos Aires, Argentina.

A handwritten signature in black ink, appearing to read "Silvia Gold".

Dra. Silvia Gold
Presidenta
Fundación Mundo Sano

A handwritten signature in black ink, appearing to read "Marcelo Abril".

Lic. Marcelo Abril
Director de Programas y Proyectos
Fundación Mundo Sano

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Acceso a la Salud: modelos de atención, prevención y promoción

Obstructive sleep apnea and its association with different forms and severity of Chagas disease

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Chagas disease (CD) is an infection caused by the parasite *Trypanosoma cruzi*, which has acute and chronic phases. Obstructive Sleep Apnea (OSA) increases cardiovascular risk. Although CD is widely studied in terms of clinical manifestations, treatment and diagnosis, there are few findings in the literature that evaluate its association with OSA. CD is still a disease with high morbidity and mortality rates, mainly due to its chronic cardiac form. OSA is associated with increased cardiovascular risk and metabolic dysfunction and, therefore, may have a negative impact on the evolution of patients with CD. In our literature search, we found only two studies that associate OSA with CD. The objective of this study was to identify the prevalence of Obstructive Sleep Apnea and its association with different forms of Chagas disease. Comparative prospective cross-sectional observational study in patients with CD treated at the LapClin-Chagas. Patients were invited during the medical appointment to participate in the study, and those who agreed, were submitted to the STOP-BANG Questionnaire (STQ) and Epworth Questionnaire (EQ). Clinical, epidemiological, and

complementary exam data were collected from the medical records of all patients included. Ninety-nine patients were included in the study. Of these, 67% are female and the average age is 68 years. The median STQ score was 4 (ranging from 1 to 7) and 79.8% of the patients had a score greater than 2. The mean STQ score was higher in men than women (p value 0.047). Patients with a score on the EQ greater than 10 had a higher score on the SBQ (p value 0.006). The median EQ score in patients with STQ score less than or equal to 2 was 5.50 and 7 in patients with STQ score greater than 2. There was no association between the SBQ score and the clinical forms of Chagas disease. 97% of patients never underwent polysomnography and only one patient has a diagnosis of OSA and uses CPAP. There was no association between the SBQ score and the clinical forms of Chagas disease. However, there was an association with male gender and excessive daytime sleepiness diagnosed by EQ. We observed that most patients never underwent polysomnography, which shows low awareness of these patients about this disease.

Obstructive sleep apnea and its association with different clinical forms and severity of Chagas disease.

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Introduction

Chagas disease (CD) is an infection caused by the parasite *Trypanosoma Cruzi*, which has acute and chronic phases. Obstructive Sleep Apnea (OSA) increases cardiovascular risk.

Although CD is widely studied in terms of clinical manifestations, diagnosis, and treatment, there are few findings in the literature that evaluate its association with OSA.

CD is still a disease with high morbidity and mortality rates, mainly due to its chronic cardiac form. OSA is associated with increased cardiovascular risk and metabolic dysfunction and, therefore, may have a negative impact on the evolution of patients with CD.

In our literature search, we found only two studies that associate OSA with CD.

The objective of this study was to identify the prevalence of risk to Obstructive Sleep Apnea and its association with different forms of Chagas disease.

Figure 1: STOP-Bang Questionnaire

S	Do you snore loudly (louder than talking or loud enough to be heard through closed doors)?	Yes	No
T	Do you often feel tired, fatigued, or sleepy during daytime?	Yes	No
O	Has anyone observed you stop breathing during your sleep?	Yes	No
P	Do you have or are you being treated for high blood pressure?	Yes	No
B	BMI more than 35 kg/m ² ?	Yes	No
A	Age over 50 year old?	Yes	No
N	Neck circumference greater than 40 cm?	Yes	No
G	Gender male?	Yes	No

Table 1: Frequency of Stop-Bang score of 96 patients with Chagas disease.

SBQ Score	Frequency	Percentage (%)
1 – 2	17	17.7
3 – 4	47	49.0
5 – 8	32	33.3
Total	96	100.0

Methodology

Comparative prospective cross-sectional observational study in patients with CD followed at the LapClin-Chagas.

Patients were invited during the medical appointment to participate in the study, and those who agreed, were submitted to the STOP-BANG Questionnaire (SBQ) (figure 1) and Epworth Sleepiness Scale (ESS).

Clinical, epidemiological, and complementary exam data were collected from the medical records of all patients included.

Results

96 patients were included in the study.

- 67% are female. The average age is 68 years.
- The median SBQ score was 4 (ranging from 1 to 7) and 79.8% of the patients had a score greater than 2 (table 1).
- The mean SBQ score was higher in men than women (p value 0.047).
- Patients with a score on the ESS greater than 10 had a higher score on the SBQ (p value 0.006).
- Excessive daytime sleepiness was associated with SBQ >2 (p value 0.018) (table 2).
- The median ESS score in patients with SBQ score less than or equal to 2 was 5.50 and 7 in patients with SBQ score greater than 2.
- There was no association between the SBQ score and the clinical forms of Chagas disease.
- 97% of patients never underwent polysomnography and only one patient has a diagnosis of OSA and uses CPAP.

Table 2: Excessive daytime sleepiness (EQ >10) and its association with STOP-Bang Questionnaire score of 95* patients with Chagas disease.

	STOP-Bang≤2 n(%)	STOP-Bang>2 n(%)	P value
ESS ≤10	14 (20.0)	56 (80.0)	0,018
ESS >10	2 (8.0)	23 (92.0)	

* 1 missing due to failure to fill out the ESS.

Conclusion

There was no association between the SBQ score and the clinical forms of Chagas disease. However, there was an association with male gender and excessive daytime sleepiness diagnosed by ESS.

We observed that the vast majority of patients never underwent polysomnography, which shows low awareness of these patients about this disease.