

# Assessing the Real-World Impact of Paroxysmal Supraventricular Tachycardia on Quality of Life: A Longitudinal Study With a Focus on Anxiety Burden

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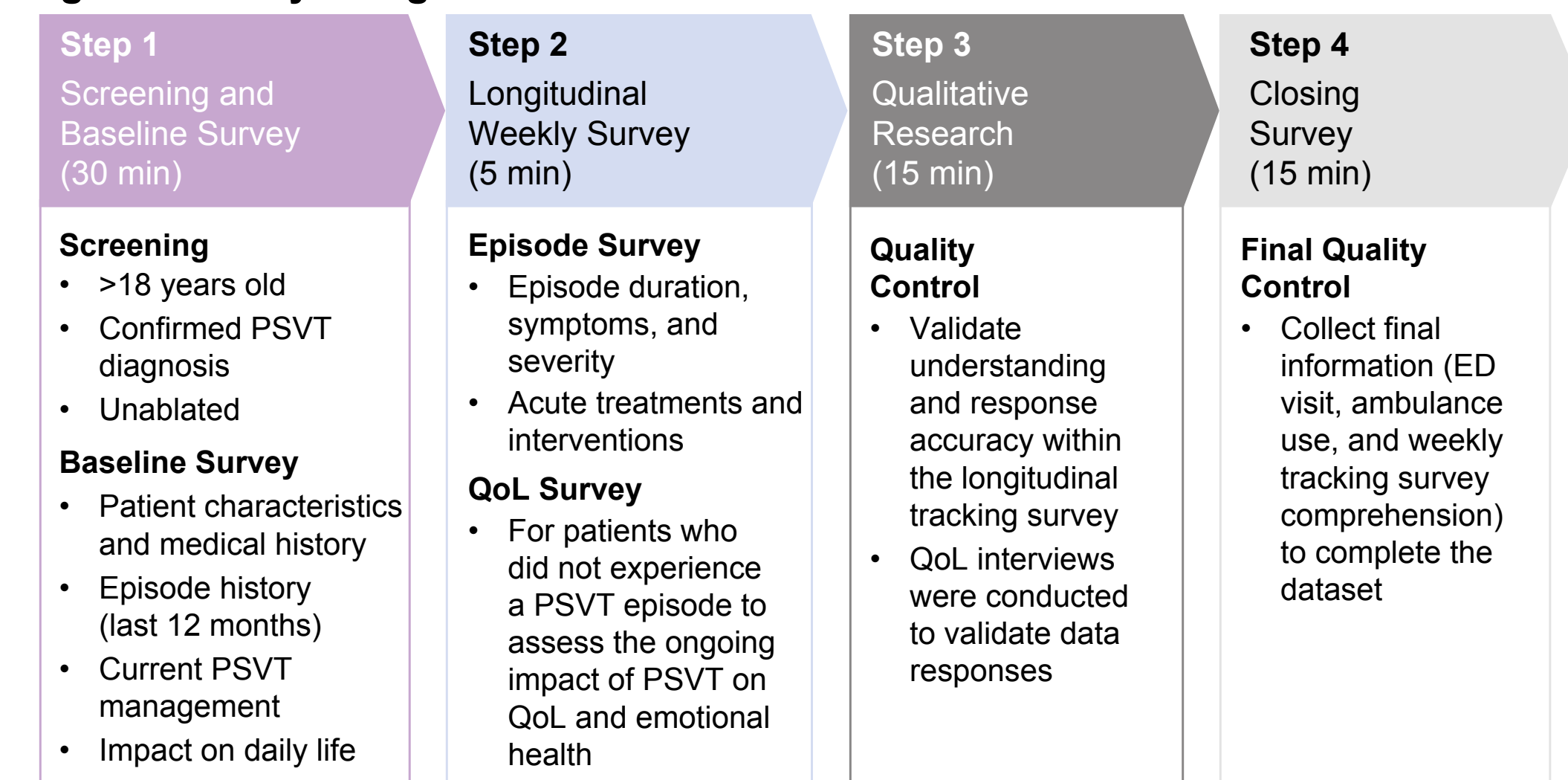
## Introduction

- Paroxysmal supraventricular tachycardia (PSVT) is characterized by the presence of regular and rapid heart rate with abrupt onset and termination, and it can have a substantial effect on patients' quality of life (QoL).<sup>1</sup>
- The QoL impact varies according to the severity, duration, and associated symptomatology of the PSVT episodes.<sup>1</sup>
- These may include restriction of daily activities, adverse events due to medications, impact on mental health, and an anxiety or fear about arrhythmia.<sup>1,3</sup>
- Therefore, a single PSVT episode may cause considerable distress to the patient.
- In this study, we analyzed the levels of anxiety associated with PSVT episodes of varying severity and the impact of PSVT on different aspects of QoL.

## Methods

- Only adult patients (>18 years old) with a confirmed PSVT diagnosis and no history of ablation were included in this study.
- Patients were recruited from general consumer panels, arrhythmia panels, and advocacy groups and were required to complete a screener to affirm their PSVT history.
- Patient surveys were conducted between March and December 2019 and were divided into four phases: a baseline survey (30 minutes), a weekly survey (either as an episode or QoL survey; 5 minutes), a QoL assessment (15 minutes), and a closing survey (15 minutes) (Figure 1).

Figure 1. Study Design



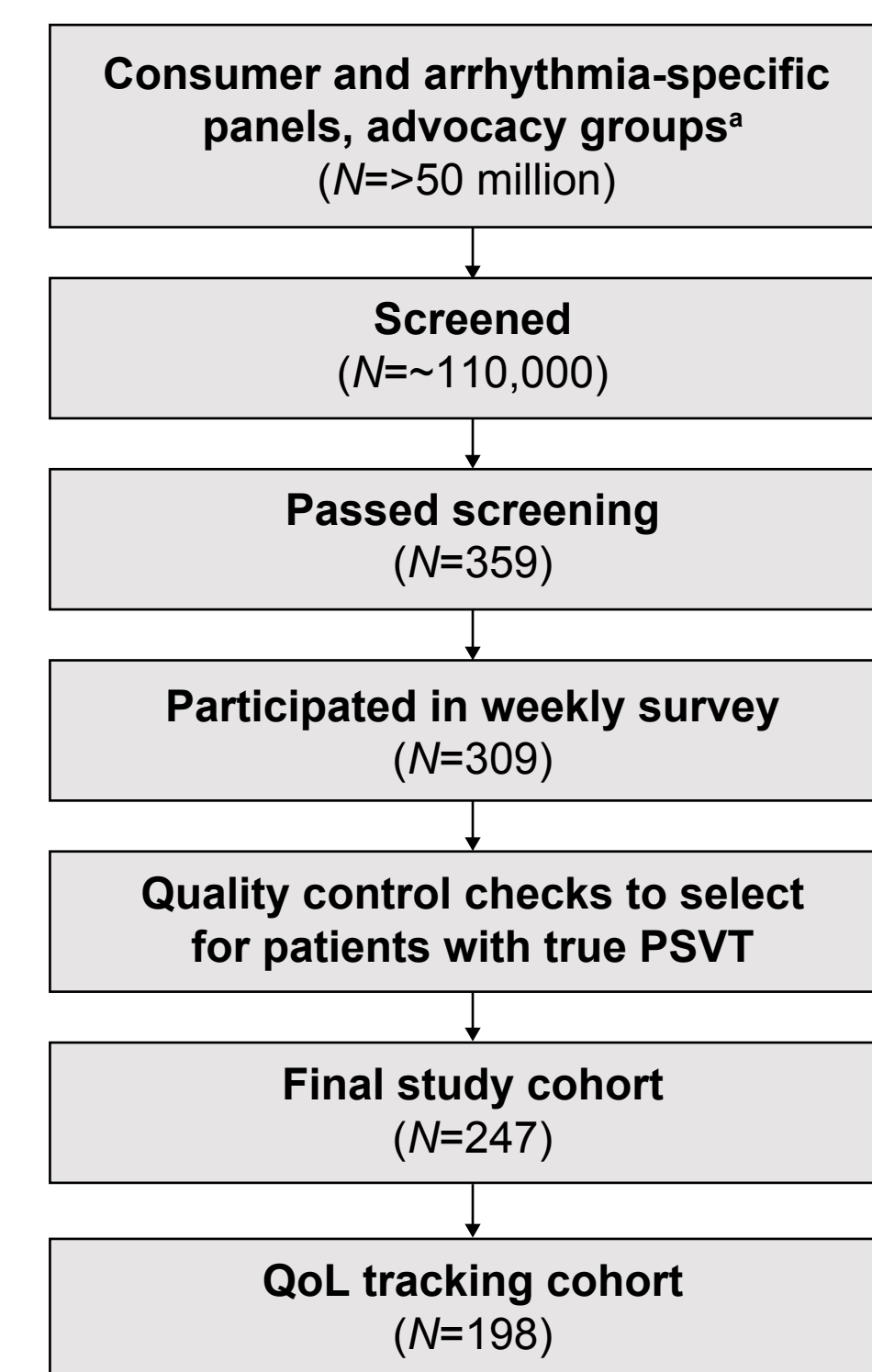
ED, emergency department; min, minute; PSVT, paroxysmal supraventricular tachycardia; QoL, quality of life.

- The baseline survey was designed to understand the PSVT disease landscape: patient history, healthcare resource use, and PSVT characteristics.
- The weekly surveys provided information about the most recent PSVT episodes and management approaches.
- If patients did not experience a PSVT episode before the weekly survey, they participated in the QoL assessment during the weekly survey.
- The weekly QoL survey included:
  - An assessment of anxiety on a scale of 1 to 7, in which 1 represented "not anxious", 4 represented "moderately anxious", and 7 represented "extremely anxious".
  - The World Health Organization QoL assessment (WHOQOL-BREF)<sup>4</sup> was used to analyze the perceived impact of PSVT on different aspects of patients' lives such as capacity for work, activities of daily living, driving, healthcare access, personal relationships, self-image, and sleep. Patients rated their experiences on a scale of 1 to 5, in which 1 represented extreme dissatisfaction and 5 represented extreme satisfaction.
- Data from the QoL surveys were represented descriptively as percentages calculated from the total number of patients completing the QoL survey.

## Results

- 110,000 patients from different panels and advocacy groups were screened for this study.
- After quality control checks for true PSVT episodes, 247 patients were eligible for inclusion and completed the weekly surveys, of whom 80% (198/247) of patients completed the QoL survey when an episode was not experienced in the prior week (Figure 2).
- A total of 2735 QoL surveys were completed with an average of 11 surveys per patient.
- Mean age of patients was 52 years, 72% of the patients were female, and 92% were White (Table).
- Hypertension was the most common comorbidity within the study population (Table).

Figure 2. Patient Screening



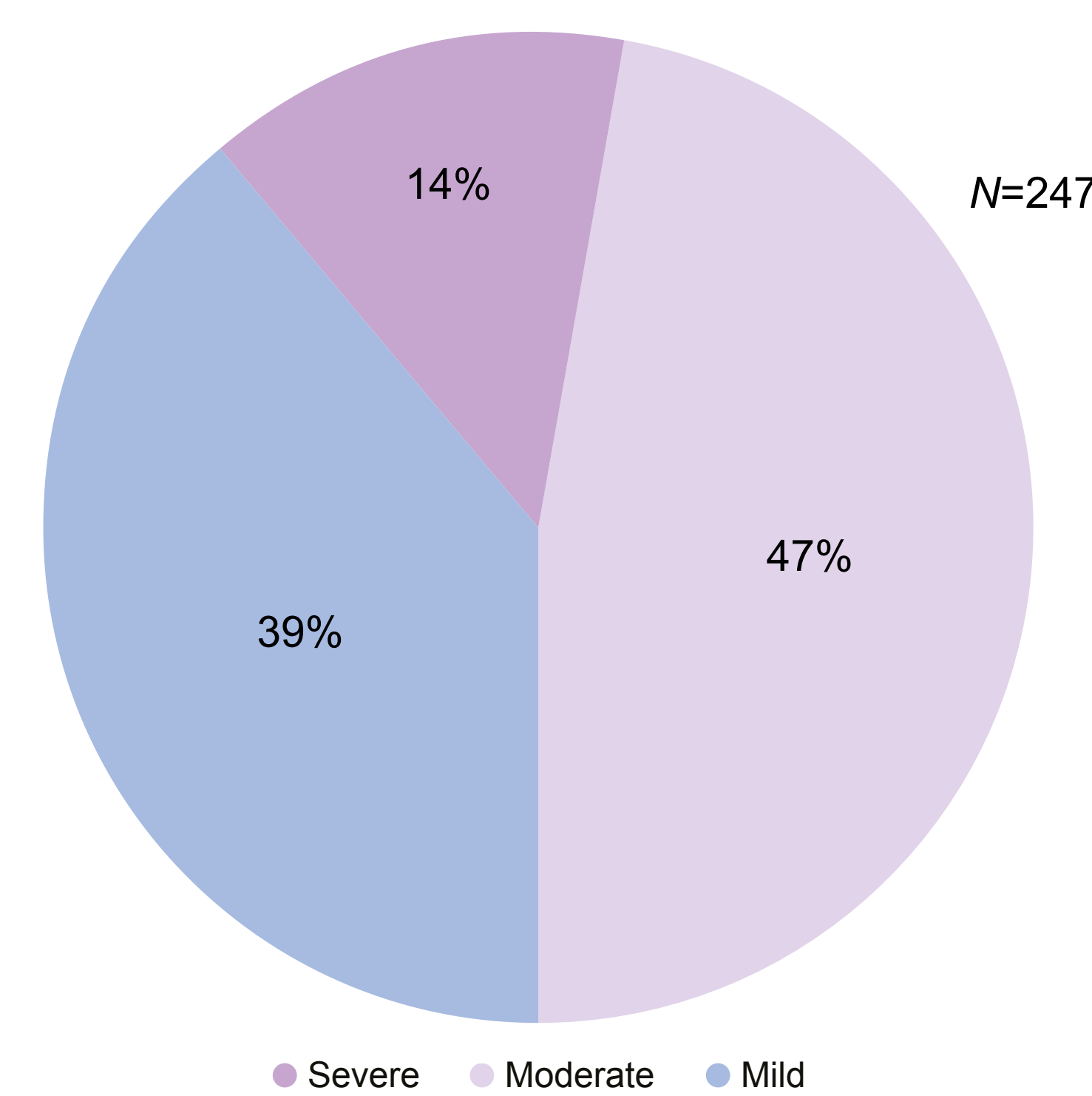
\*Panels and advocacy groups included: Dynata, ROI Rocket, Kantar (LSR), Schlesinger panel, P2S panel, Rare Patient Voice, and Arrhythmia Alliance. PSVT, paroxysmal supraventricular tachycardia; QoL, quality of life.

Table. Patient Characteristics

Characteristics	N=247
Mean age, years	52
Female, n (%)	177 (72)
Ethnicity/race, n (%)	
White	227 (92)
Black	7 (3)
Hispanic	7 (3)
Native American	5 (2)
Asian	5 (2)
Geographical location, n (%)	
United Kingdom	198 (80)
United States	49 (20)
Comorbidities, n (%) <sup>a</sup>	
Hypertension	99 (40)
Atrial fibrillation	42 (17)
Diabetes mellitus (type 2)	27 (11)
Atrial flutter	25 (10)
Congestive heart failure	17 (7)
Valvular disease	15 (6)
Coronary artery disease	10 (4)
Myocardial infarction	10 (4)
Stroke	10 (4)
Cardiomyopathy	10 (4)
Congenital heart defect	10 (4)
Pericarditis	0
None of the above	104 (42)

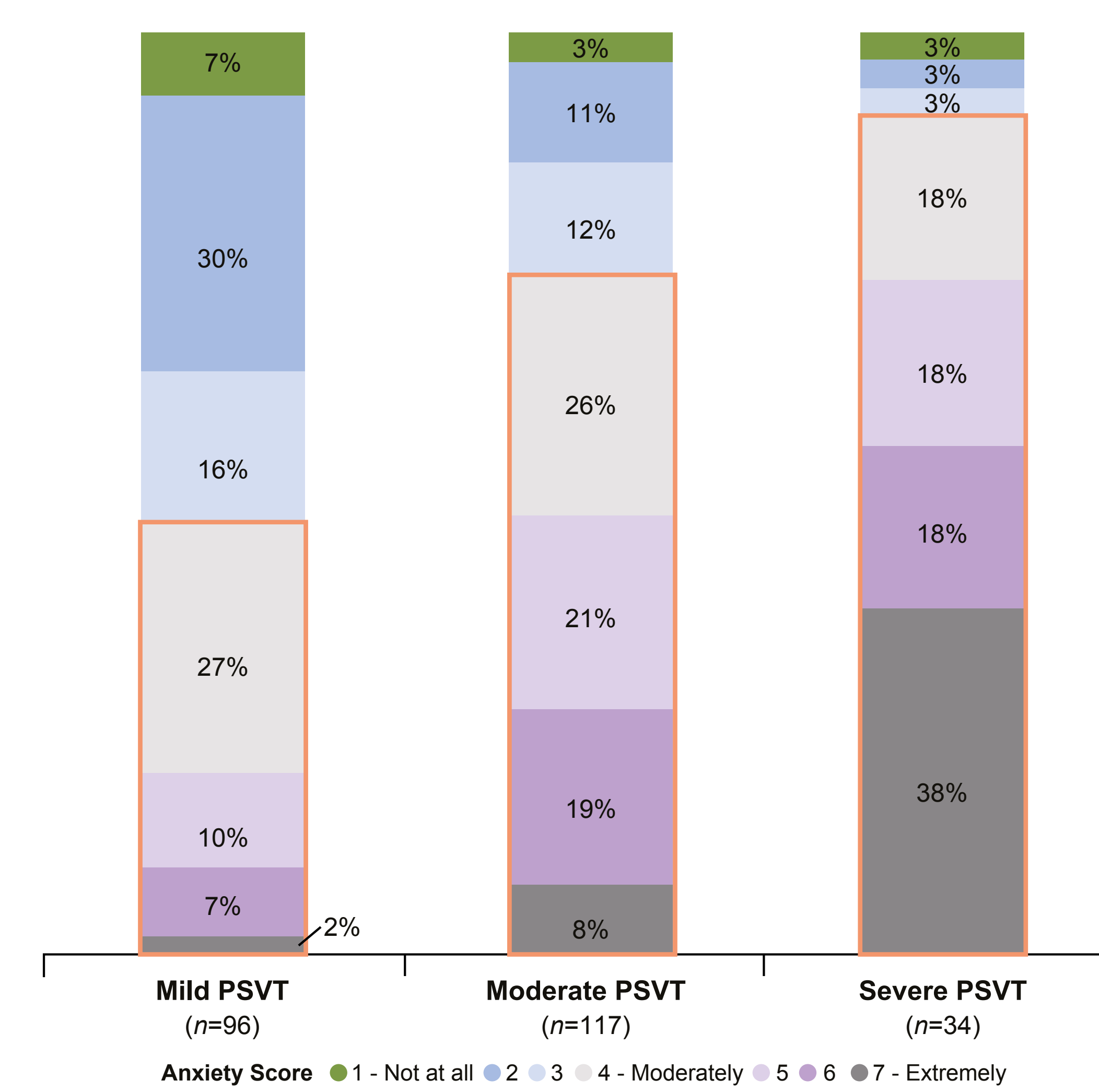
<sup>a</sup>Multiple comorbidities may be reported for a single patient.

Figure 3. Patient-Reported Categorization of PSVT Severity at Baseline



Percentages represent the proportion of patients reporting their PSVT as mild, moderate, or severe out of the patient population (N=247). PSVT, paroxysmal supraventricular tachycardia.

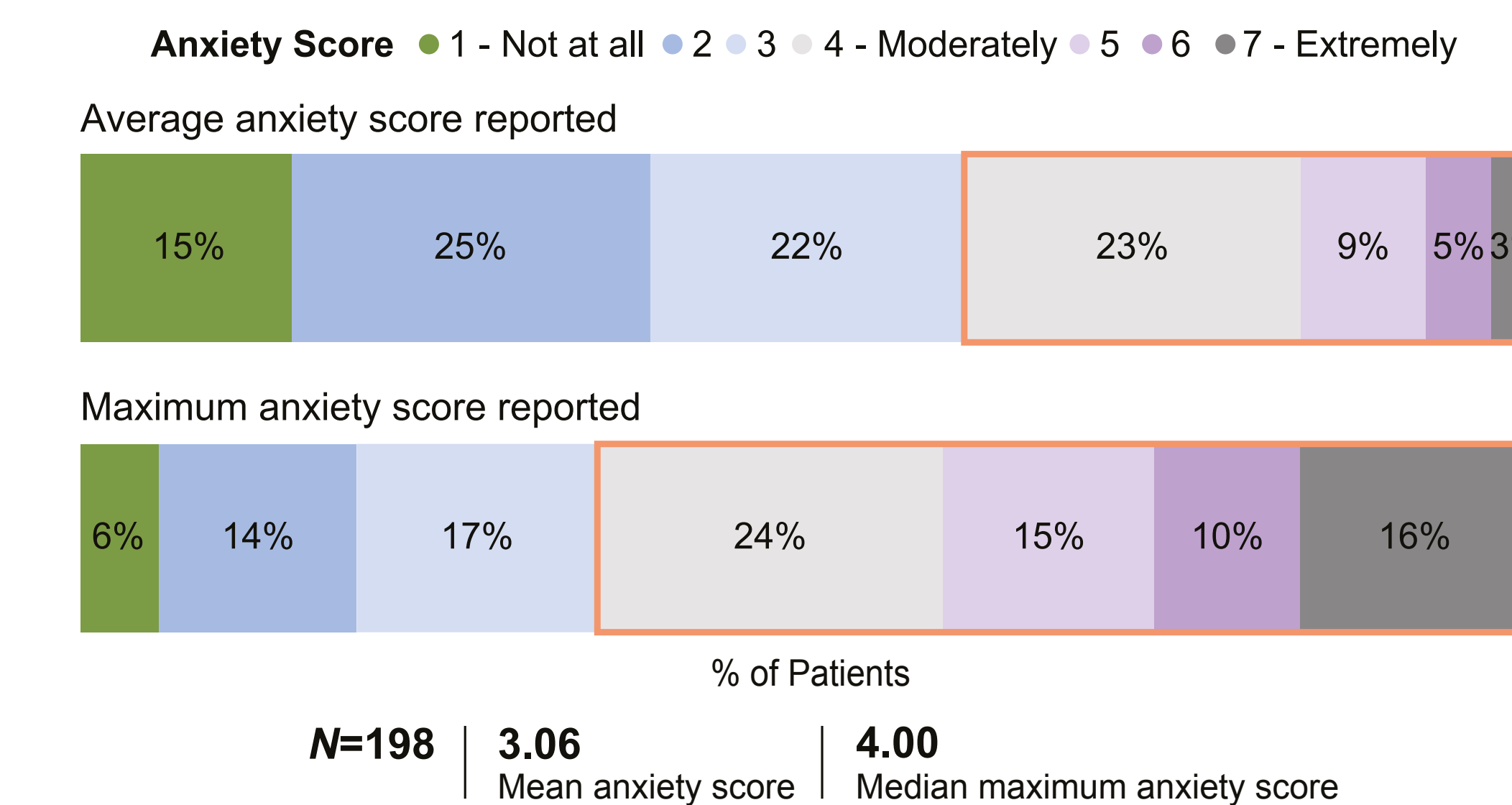
Figure 4. Anxiety Related to PSVT Disease Severity at Baseline



Percentages are calculated from the total number of patients in each of the mild, moderate, and severe PSVT categories and indicate the number of patients experiencing varying levels of anxiety across PSVT severity categories. PSVT, paroxysmal supraventricular tachycardia.

- At baseline, patients classified their PSVT disease state as mild, moderate, or severe; 92% of patients with severe PSVT reported moderate to extreme anxiety (Figure 4) vs 74% in the moderate and 46% in the mild severity groups.
- The baseline level of anxiety about the possibility of experiencing a future episode is correlated with a patient's baseline severity. For instance, high anxiety levels were associated with high severity.
- At baseline, approximately 90% of patients reported experiencing at least one moderate to severe episode.

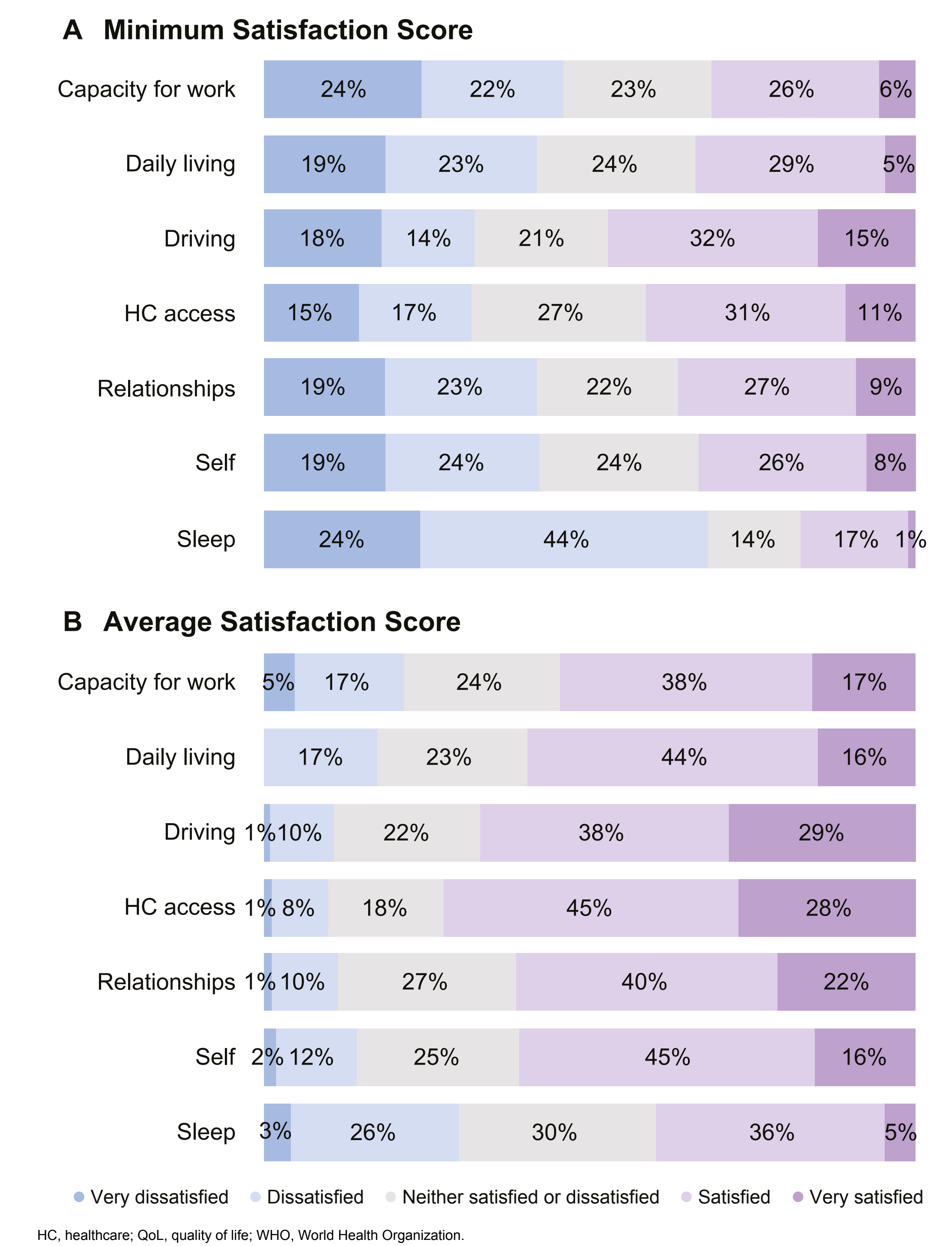
Figure 5. Anxiety Due to PSVT as Reported on Weekly Surveys



Percentages represent the proportion of patients as calculated from the total number of patients providing a QoL survey (N=198). PSVT, paroxysmal supraventricular tachycardia; QoL, quality of life.

- 65% of patients reported moderate to extreme levels of anxiety in between episodes at least once (Figure 5).
- Across weekly surveys, the average self-reported anxiety scores on a scale of 1–7 were highest for patients in the severe PSVT category (3.58), followed by moderate (3.43) and mild PSVT (2.50).
- For the WHOQOL-BREF<sup>4</sup> assessment, satisfaction was categorized as an average score computed for all assessments across weekly tracking and the minimum satisfaction score reported by a respondent across the course of their PSVT.
- 68% of respondents reported dissatisfaction with sleep and >40% reported a level of dissatisfaction in capacity for work, daily living, relationships, and self at least once during the course of the study (Figure 6A).
- Similarly, when assessed across average satisfaction scores, 30% of respondents reported dissatisfaction with sleep and >15% of patients reported dissatisfaction in capacity for work and daily living (Figure 6B).

Figure 6. Life Satisfaction as Assessed by the WHO QoL Assessment



## Limitations

- The weekly QoL survey was designed to assess the impact of PSVT on QoL in between episodes, and therefore may underestimate the QoL impact of PSVT in and around the episode.

## Conclusions

- Patient-reported level of anxiety appears to be correlated with PSVT disease severity.
- PSVT episodes varied in terms of severity and symptomatology and were difficult to predict with each episode; the unpredictability of an occurrence also contributed to the overall anxiety associated with future episodes.
- PSVT impacts vital activities such as sleep and capacity to work, thereby increasing the disease burden and reducing QoL.
- Patients with PSVT experience debilitating symptoms that may lead to psychological burden, impacting QoL and well-being.

## References

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