

A Critical Examination of Postural Orthostatic Tachycardia Syndrome (POTS): “Debunking the Myth”

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Abstract

The recognition of Postural Orthostatic Tachycardia Syndrome (POTS) has sparked debate about its legitimacy, diagnostic criteria, and underlying mechanisms. This review critically examines controversies surrounding POTS, including professional perspectives on diagnosis and pathophysiology, the influence of social media on perceptions, and the evidence supporting its classification as a distinct syndrome.

Keywords: orthostatic; tachycardia; syndrome; pathophysiology

Introduction

The recognition of Postural Orthostatic Tachycardia Syndrome (POTS) has sparked debate about its legitimacy, diagnostic criteria, and underlying mechanisms. This review critically examines controversies surrounding POTS, including professional perspectives on diagnosis and pathophysiology, the influence of social media on perceptions, and the evidence supporting its classification as a distinct syndrome. The analysis also addresses challenges such as diagnostic ambiguity, varied patient presentations, and the impact of misinformation on both medical skepticism and patient understanding.

Postural Orthostatic Tachycardia Syndrome (POTS) is characterized by an excessive increase in heart rate upon standing, often with symptoms such as dizziness, palpitations, and fatigue (Blitshteyn, 2022). While POTS has gained recognition in recent years, particularly within the fields of cardiology and autonomic neurology, skepticism remains regarding its legitimacy and pathophysiology. For instance, Magnus Group (2025) notes that TikTok content on POTS varies widely in quality and often lacks accuracy, raising concerns about misinformation in patient education. Some creators portray POTS as a sign of exceptionalism or

heightened sensitivity (Bryarly et al., 2019), a depiction criticized for trivializing the condition and fostering unrealistic expectations about diagnosis and treatment.

One of the primary challenges in diagnosing POTS is the lack of clear diagnostic criteria. The condition is typically defined as a sustained increase in heart rate of ≥ 30 bpm within 10 minutes of standing, accompanied by symptoms such as orthostatic intolerance, palpitations, and fatigue (Chen et al., 2020). However, this definition is not universally accepted, and many clinicians argue that the diagnostic criteria are too broad, is a physiological phenomenon and nonspecific.

Given the complexity and heterogeneity of POTS, clinicians should adopt a critical and nuanced approach. Caution is warranted to avoid overdiagnosis and overtreatment, especially without clear diagnostic criteria or evidence based therapies. Effective evaluation and management require a comprehensive, multidisciplinary strategy

Pathophysiology of POTS

The pathophysiology of POTS remains incompletely understood, yet current evidence suggests it is multifactorial, involving an interplay between autonomic dysfunction, autoimmunity, and hypovolemia. As described by Blitshteyn (2022), POTS is characterized by a sustained heart rate increase of ≥ 30 bpm within 10 minutes of standing, frequently accompanied by symptoms such as dizziness, palpitations, and fatigue.

Autonomic dysfunction, particularly sympathetic denervation, is a hallmark of POTS. Studies such as Li, Qiu, and Gao (2025), for instance, have shown that patients with POTS exhibit impaired sympathetic vasoconstriction, leading to decreased venous return and cardiac output. This is often accompanied by increased parasympathetic activity, which can further exacerbate the tachycardia (Raj et al., 2020). In some cases, the autonomic dysfunction in POTS is thought to be related to impaired baroreflex sensitivity, which normally helps to regulate blood pressure and heart rate (Mandel et al., 2017).

Additionally, autoimmunity has been increasingly recognized as a potential contributing factor to POTS. Studies such as those by Bellocchi et al. (2022) have identified autoantibodies targeting various receptors and proteins in the autonomic nervous system, including adrenergic and muscarinic receptors. Notably, such autoantibodies may contribute to the development of POTS by disrupting normal autonomic function. Patients with POTS have a higher prevalence of autoimmune disorders, such as diabetes, neuropathy, Hashimoto's thyroiditis, and rheumatoid arthritis (Aboseif et al., 2023).

Hypovolemia, or reduced blood volume, is common in POTS and is linked to decreased cardiac output and compensatory heart rate increases (Wei et al., 2025). Ranada (2025) suggests this may result from impaired vasopressin release, causing increased urine production and further reducing blood volume. POTS has long been debated in the medical community, with multiple theories proposed to explain its pathophysiology.

To begin with, in the 1990s, POTS was often attributed to anxiety and a hyperadrenergic state, with some researchers suggesting that patients with POTS were simply experiencing a manifestation of anxiety disorders. Subsequently, studies have shown that POTS is a distinct clinical entity that is not solely caused by anxiety or a hyperadrenergic state. Patients with POTS exhibit abnormal autonomic nervous system function, including impaired baroreflex sensitivity and abnormal vasoconstriction (Li, Qiu & Gao, 2025).

Some researchers have attributed POTS to physical deconditioning, metabolic syndrome and insufficient exercise (Walsh et al., 2025). While lack of physical activity may contribute to certain symptoms, it is not the primary cause. Studies indicate that POTS involves abnormal autonomic nervous system function, which cannot be explained by physical deconditioning alone (Raj et al., 2020).

Furthermore, some researchers, for instance, Quigley, Noble, and Ansari (2024) argue that POTS was caused by hypermobility and Ehlers-Danlos, a condition characterized by excessive laxity of

the connective tissue. While some patients with POTS may exhibit hypermobility, it is not a universal feature of the disorder. On the other hand, the study by Mandel et al. (2017) has indicated that POTS is not caused by Ehlers-Danlos or other connective tissue disorders.

Clinical Assessment, Diagnostic and Therapeutic Criteria, and Challenges

For a presumed diagnosis of POTS, clinicians must ensure that the patient meets various criteria. To begin with, there must be a rise in heart rate of >30 bpm for adults or >40 bpm for individuals aged 12-19 within 10 minutes of standing or head-up tilt. Moreover, the patient must indicate no orthostatic hypotension with a drop in BP of ≥ 20 mmHg. Thirdly, the patient must present with frequent symptoms while standing, with rapid improvement upon returning to the supine position. Notably, the duration

of symptoms must persist for at least 3 months, and, lastly, the patient must not present with other conditions that could lead to sinus tachycardia. For example, a heart rate exceeding 120 beats per minute is no longer a diagnostic criterion (Qu & Hakonarson, 2024). Tachycardia is a primary feature of POTS, but central nervous system symptoms such as fatigue, dizziness, cognitive dysfunction, and sleep disturbances are often most troublesome for patients (Blitshteyn, 2022).

One primary reason for skepticism among physicians is the heterogeneous nature of POTS symptoms and their overlap with other conditions. POTS patients often present with a variety of nonspecific symptoms that can easily be misattributed to anxiety, lifestyle factors, or other neurologic disorders (Walsh et al., 2025). Patients with POTS may also have other presumed diagnoses, including but not limited to Fibromuscular dysplasia, Ehlers-Danlos Syndrome, and fibromyalgia. It is important to recognize that conditions such as anxiety, chronic pain, and deconditioning can contribute to or worsen POTS. Symptom overlap with other medical conditions complicates diagnosis. As Qu and Hakonarson (2024) note, this complexity highlights the need for a comprehensive, patient-centered, and multidisciplinary diagnostic approach.

Concerns have arisen about patients being diagnosed with POTS without meeting established criteria, often due to misunderstandings within the medical community. For example, individuals with orthostatic intolerance but not excessive tachycardia, or those with tachycardia from medications or prolonged bed rest, may be misdiagnosed (Raj et al., 2020). Symptom variability, differences in diagnostic tests, and individual resting heart rates should be carefully considered during assessment (Raj et al., 2020).

Confusion over nomenclature and terminology contributes to POTS misdiagnosis (Raj et al., 2020). Disagreements persist about whether POTS is strictly a cardiovascular disorder or also involves systemic symptoms, particularly in patients with comorbidities like Ehlers-Danlos syndrome. These cases may require more precise diagnoses due to differing prognosis and treatment responses (Raj et al., 2020).

The Canadian Cardiovascular Society (CCS), upon appointing a primary panel, also emphasized the importance of defining not only POTS but also related syndromes that may not meet the established diagnostic criteria but still require treatment, such as some forms of orthostatic intolerance (Boris et al., 2024). They intentionally did not expand the definition of POTS beyond the American Autonomic Society's definition but did attempt to clarify aspects of it, thereby acknowledging the complexity of POTS.

As a result of the broader spectrum of disorders in relation to POTS, the misdiagnosis of POTS and the related spectrum of orthostatic tachycardia and intolerance disorders continues to play a major role in the overall skepticism and challenges in the diagnosis and treatment of POTS (Raj et al., 2020).

Controversies & Clinical Skepticism

There is also a perception that POTS may not be a distinct syndrome, but rather a cluster of symptoms linked to other underlying conditions (Ranada, 2025). This interpretation is supported by the heterogeneous clinical presentations and frequent comorbidity with disorders such as Ehlers-Danlos syndrome, fibromuscular dysplasia, mast cell activation syndrome, fibromyalgia, anxiety, and autoimmune diseases. Such diagnostic ambiguity creates challenges for physicians, who often find it difficult to distinguish POTS from other overlapping symptom complexes or to determine if it represents an independent entity or a broader spectrum of dysautonomia (Qu & Hakonarson, 2024). In addition, epidemiological studies report a higher prevalence of POTS among Caucasian populations, yet the underrepresentation of other racial or ethnic groups in research raises concerns about possible health disparities. This disparity may reflect genetic susceptibility, environmental factors, and systemic barriers to healthcare, including clinician awareness and diagnostic practices. However, current literature does not provide

conclusive evidence that higher prevalence is due solely to genetic or biological factors, and the lack of diversity in research populations may hinder a comprehensive understanding of POTS. Therefore, more inclusive research and thorough analysis of existing data are necessary to accurately determine the true distribution of POTS.

The development and prevalence of POTS may be influenced by genetic factors that affect the autonomic function, blood volume, or cardiovascular response. Environmental factors such as diet, stress, and activity levels can further modulate these genetic traits, although they vary across racial and ethnic populations (Qu & Hakonarson, 2024). Nevertheless, the limited healthcare access, cultural differences in symptom reporting, as well as potential healthcare biases contribute to the misdiagnosis and disparities in the recognition and treatment of POTS in certain populations. Usually, the condition and aetiology of POTS arise from a complex interplay of physiological, immunological, and neurological factors (Sundarrajan, Ravichandran & Ramachandran, 2024).

Additionally, autoimmune responses targeting the autonomic nervous system or other self-antigens may contribute to POTS. In most cases, this condition is characterized by a higher prevalence of autoimmune markers and comorbid autoimmune disorders such as Hashimoto's thyroiditis and rheumatoid arthritis. Triggers like long Covid-19, HPV vaccination, infections, or trauma can lead to immunological changes associated with POTS (El-Rhermoul et al., 2023). Autoantibodies, including ganglion acetylcholine receptors and G-protein-coupled receptor autoantibodies, have also been identified. Fortunately, immunomodulatory treatments targeting these autoantibodies have shown promise in alleviating symptoms.

Inflammation also plays a significant role in POTS. For example, elevated autoimmune and inflammatory markers and a higher prevalence of co-occurring inflammatory conditions show the relationship between POTS and inflammation. In this case, small fiber neuropathy, mast cell activation syndrome, chronic fatigue syndrome/myalgic encephalomyelitis, and infections like Lyme disease are potential inflammatory conditions that are closely associated with POTS (Blitshteyn, 2022). These conditions highlight the contribution of immune and inflammatory mechanisms to POTS pathophysiology.

Additionally, the endocrine system can influence POTS by disrupting the hormonal regulation of blood pressure and heart rate. Abnormalities in the renin-angiotensin-aldosterone system and adrenal glands are implicated in POTS (Sundarrajan, Ravichandran & Ramachandran, 2024). However, endocrine conditions such as pheochromocytoma, which causes excess epinephrine and tachycardia, are usually ruled out in POTS diagnosis.

Moreover, controversial reports have suggested a potential link between POTS and HPV vaccination, with one proposed mechanism being molecular mimicry, in which antibodies may cross-react with G-protein-coupled receptors (GPCR). However, this theory is considered insufficient because the rapid onset of POTS following vaccination occurs too quickly for IgG antibodies to develop (Qu & Hakonarson, 2024).

As noted in the Canadian Cardiovascular Society position statement, one challenge in diagnosing and treating POTS is that it is not a single disease but rather a broad spectrum of disorders, some of which align with the original definition of POTS while others do not (Raj et al., 2020). The new classification which has been developed by the Writing Committee based on expert opinion is aimed at enhancing a better characterization of the disorder in addition to the traditional POTS definition, the suggested diagnostic spectrum of orthostatic tachycardia and orthostatic intolerance include POTS Plus, Postural Symptoms Without Orthostatic Tachycardia (PSWT), Postural Symptoms Without Orthostatic Tachycardia Plus (PSWT Plus) and Postural Tachycardia of Other Cause (PTOC) (Blitshteyn, 2022). With the classification and nomenclature of the

subtypes of POTS, this may further create skepticism and contribute to the complexity and ambiguity of POTS.

Neurology perspective: Lack of Consensus on Pathophysiology

The unclear pathophysiology of POTS contributes to skepticism among neurologists. While some evidence links POTS to dysautonomia, blood volume abnormalities, and hyperadrenergic states, these mechanisms are not universally accepted (Blitshteyn, 2022). The diagnostic criteria, which rely on a heart rate increase of ≥ 30 bpm within 10 minutes of standing, are criticized for lacking specificity and being influenced by factors such as anxiety, dehydration, and physical conditioning. The absence of a definitive diagnostic standard makes POTS a diagnosis of exclusion, increasing the risk of misclassification.

Neurologists may question the validity of POTS as a distinct entity because there is no clear, agreed-upon biological marker or diagnostic test. Besides, this lack of consensus can create an impression that POTS is more of a catch-all diagnosis rather than a distinct syndrome with a defined physiological basis (Raj et al., 2020). Autonomic neuropathies can also develop acutely or chronically, with acute-onset cases linked to paraneoplastic syndrome, Guillain-Barré syndrome, Sjögren's disease, toxins, or infections. On the other hand, chronic cases are often associated with autoimmune disorders and diabetes. These neuropathies disrupt the autonomic nervous system, affecting blood flow and heart rate regulation, which may contribute to POTS (Qu & Hakonarson 2024).

Despite its widespread recognition, POTS remains contentious regarding its pathophysiology, diagnostic criteria, and epidemiology. On one hand, some researchers underscore progress in elucidating potential mechanisms, pointing to autonomic dysfunction, autoimmunity, and hypovolemia as contributing factors supported by emerging evidence. On the other hand, critics argue that such mechanisms often rely on inconsistent or inconclusive data, with findings frequently varying across studies and patient cohorts (Qu & Hakonarson, 2024). The heterogeneity of POTS patients and the variability of symptoms further complicate the identification of a single, unified mechanism. Thus, a critical analysis of both supportive and skeptical perspectives is essential in assessing the existing evidence, as ongoing debate continues to shape our understanding of POTS pathophysiology.

Another factor influencing neurologists' attitudes toward POTS is its potential overlap with psychosomatic disorders. Many patients with POTS report heightened anxiety and psychological distress, which further complicates the clinical picture (Boris et al., 2024). For example, some neurologists may attribute symptoms to anxiety or other psychological factors rather than recognizing POTS as a distinct physiological condition. This view may be reinforced by the fact that many patients with POTS are young women, a group often subjected to biases that can obscure underlying neurological disorders. As observed by Boris et al. (2024), somatic manifestations, functional neurological complaints, confounded by social media hysteria, can make POTS a difficult diagnosis. With this, the increasing prevalence of POTS diagnoses is, in part, a consequence of misdiagnosis and overdiagnosis. For instance, patients with anxiety disorders, vasovagal syncope, or other conditions may be mislabeled as having POTS, thus reinforcing a myth that lacks a scientific basis.

Physicians should prioritize evidence-based medicine and address unsubstantiated claims. It is our responsibility to provide accurate diagnoses and effective treatments, rather than perpetuating a flawed concept that may lead to misdiagnosis and inadequate care.

Neurology Perspective: ADHD, Depression, Anxiety Treatments, and Autonomic Dysregulation

There has been a growing body of research and related evidence underscoring that psychotropic medications that are commonly recommended for ADHD, anxiety, and depression could result in secondary POTS-associated symptoms. For example, stimulants,

including amphetamine and methylphenidate derivatives, are effective for ADHD; there are fears that they could heighten sympathetic tone while also exacerbating palpitations, orthostatic intolerance, and tachycardia intolerance (Williams et al., 2023). Additionally, SNRIs and SSRIs, commonly used for anxiety and depression, attune norepinephrine and serotonin pathways that interact with autonomic regulation. As such, they may alter baroreflex sensitivity and the sympathetic-parasympathetic balance, thereby resulting in dysautonomia-like manifestations (Walsh et al., 2025).

In clinical practice, such overlaps could pose diagnostic challenges. For this reason, some young patients presenting with palpitations, fatigue, and dizziness while on psychotropic medications are sometimes miscategorized as manifesting somatoform disorder and undertreated anxiety. Besides, Attard et al. (2023) note that some autonomic side effects of SNRIs and SSRIs medications could unmask or mimic POTS, thus compromising the clinical goals and picture. Nonetheless, the psychosomatic stigma centered around young women presenting with these symptoms often results in misdiagnosis and dismissal. Consequently, this reinforces skepticism around POTS as an accredited entity.

Neurologists emphasize the need to distinguish primary POTS from secondary autonomic dysregulation caused by medications. Karim et al. (2023) highlight the importance of thorough medication review and autonomic testing. Interdisciplinary collaboration among cardiology, neurology, and psychiatry is essential to enhance patient safety and address challenges. Recognizing medication-induced dysautonomia can prevent unnecessary POTS diagnoses and ensure appropriate interventions, such as dose adjustments, supportive therapy, or medication changes (Qu and Hakonarson, 2024).

Cardiology perspective

The majority of concerns among professionals concerning patients being diagnosed with POTS without meeting the diagnostic criteria is often due to misunderstandings of the criteria within the medical community. Some patients, for example, with orthostatic intolerance but not excessive tachycardia or those with conditions that exacerbate tachycardia, such as medications and prolonged bed rest, might be incorrectly diagnosed with POTS (Raj et al., 2020).

Orthostatic tachycardia symptoms can vary daily and depend on the diagnostic method used, such as stand tests versus head-up tilt tests (Raj et al., 2020). Individuals with low resting heart rates may not meet POTS criteria despite a normal heart rate increase upon standing. Accurate diagnosis requires careful consideration of symptom variability, test type, and resting heart rate (Raj et al., 2020). POTS is primarily characterized by dysautonomia, which disrupts the balance between sympathetic and parasympathetic activity, impairing heart rate and blood pressure regulation (Qu HQ, Hakonarson H. 2024).

Sympathetic denervation, which is characterized by reduced sympathetic nerve activity, contributes to autonomic dysfunction in POTS by disrupting the coordination between the nervous and cardiovascular systems (Blitshteyn, 2022). In this case, the denervation often results in reduced venoconstriction in the lower extremities, thus leading to thoracic hypovolemia. In some patients with neuropathic POTS, mild small-fiber neuropathy is present. It involves abnormalities in unmyelinated nerve fibers in the skin, which are linked to reduced postganglionic sympathetic innervation of the myocardium of the heart (Qu & Hakonarson, 2024). Thoracic hypovolemia is a key factor in POTS. It involves reduced blood volume in the thoracic cavity, leading to decreased venous return (Wei et al., 2025). Notably, it is associated with increased splanchnic blood flow, blood pooling in the lower extremities, dehydration, and insufficient fluid intake. POTS risk increases by 3.9 times in children who consume less than 800 mL of water per day. Also, intermittent IV saline infusions have been shown to significantly reduce symptoms and improve the quality of life.

The unclear pathophysiology of POTS contributes to the perception that it is a broad, non-specific diagnosis rather than a distinct syndrome with a defined physiological basis.

Role of Beta Blockers and Ivabradine

Beta blockers, particularly propranolol, are commonly used for symptomatic management of POTS. Raj (2020) reports that propranolol can improve palpitations and quality of life, including exercise tolerance. However, nonselective beta blockers may worsen fatigue, reduce exercise capacity, and increase hypotension risk (Marti et al., 2024). Lower doses of propranolol may be more effective, as higher doses can suppress compensatory mechanisms needed to maintain blood pressure (Richalet, Hermand & Lhuissier, 2024).

Ivabradine, a selective inhibitor of the IF current in the sinoatrial node, may offer a therapeutic alternative to beta blockers. Unlike beta blockers, ivabradine lowers heart rate without significantly affecting blood pressure or myocardial contractility (Abseer et al., 2022), making it suitable for patients who cannot tolerate beta blockers due to fatigue, bradycardia or hypotension. Studies, including Taub et al. (2021), suggest ivabradine may improve quality of life and reduce orthostatic tachycardia, though randomized controlled trial data are limited and long-term safety remains under investigation. The choice between ivabradine and propranolol should be individualized based on patient tolerance and comorbidities, highlighting the need for tailored therapy in POTS.

Gaps and Variability in Research and Literature

Variability in research findings has fueled skepticism about POTS, especially among clinicians. Some studies report significant symptom improvement with treatment, while others show minimal or inconsistent benefits. This inconsistency undermines confidence in current therapies and raises concerns about the rigor and generalizability of the studies. Many studies use small samples, vary in their diagnostic criteria, or assess subjective outcomes, limiting the ability to draw definitive conclusions. The lack of large, randomized controlled trials further fragments the evidence base, hindering robust meta-analyses and standardized care protocols. As a result, specialists remain cautious about the reliability of the literature and the validity of POTS as a distinct diagnosis.

Heterogeneity among patients, cohorts, and outcomes hinders robust conclusions in POTS research. Inconsistent participant inclusion further limits scientific understanding. The burden of POTS symptoms is high, particularly in relation to orthostatic intolerance when compared to other long-term conditions. Unfortunately, there are no effective randomized controlled trials of treatment to reduce symptoms in POTS. The ongoing challenge to produce consistent, standardized data highlights significant research gaps (Boris et al., 2024). Most studies focus on sample size, follow-up duration, and variable diagnostic criteria, resulting in conflicting conclusions about treatment efficacy.

The lack of large, randomized controlled trials weakens the evidence base and perpetuates uncertainty in the medical community. Promising interventions such as beta blockers, midodrine, or ivabradine have not consistently demonstrated benefits in rigorous studies (Marks, 2024). This unpredictability undermines clinician confidence, particularly among those who rely on evidence-based practice.

Social Media Influence

Reasons Behind POTS' Popularity on TikTok

Social media platforms such as TikTok have become influential sources of health information, with users sharing personal experiences and symptoms. This trend has increased awareness and self-diagnosis of conditions like POTS.

TikTok is one of the fastest-growing influential social media platforms with over 150 million U.S. users. It has significantly influenced American culture and health communication, with users sharing personal

experiences (Eaton, 2024). Its popularity, especially among adults under 30, has made it a go-to platform for spreading information, including health-related content, such as diagnoses and symptoms. The number of U.S. adults using it for news has tripled from 2020 to 2022 (Kirkpatrick & Lawrie, 2024). Americans increasingly turned to TikTok for health information during the COVID-19 pandemic, with medical professionals and institutions using the platform to disseminate pandemic-related guidance. Today, TikTok's health-related content covers a wide range of topics. For instance, studies show that users appreciate accessing health advice there, with 1 in 5 Americans and 1 in 3 from Generation Z consulting TikTok for health information before seeing a physician. Most POTS content on TikTok is created by non-clinicians, who may not have the necessary knowledge or training to provide accurate information. As such, TikTok is more likely to disseminate incorrect or misleading information.

TikTok, through its engaging video format, fosters authentic communication and makes health-related content memorable through combined visual and verbal information. While TikTok's platform effectively spreads "credible" health information, research shows that 1 in 5 TikTok videos contain misinformation (Kirkpatrick & Lawrie, 2024). This highlights the essential need for further research into how young women use TikTok for health information and their perceptions and behaviors regarding the content they encounter.

Strengths

Relatable Content - Users share relatable symptoms and experiences, creating a sense of community.

Influencer Culture- Influencers and content creators raise awareness, sharing personal stories.

Weaknesses

Misdiagnosis and Misattribution- Non-experts misinterpret symptoms, attributing them to POTS.

Medical Gaslighting- Patient reports feeling dismissed or misdiagnosed by healthcare professionals.

Sensationalism and clickbait: Some creators may prioritize sensational or provocative content to attract views and engagement, rather than providing accurate and reliable information.

While personal stories can be powerful and relatable, they may not be representative of the broader POTS community or accurate in terms of medical information.

Algorithmic amplification: TikTok's algorithm may amplify certain types of content, including misinformation, if it is more engaging or provocative.

While social media has popularized information about POTS and general health, it also presents challenges for physicians. Patients may arrive with misconceived notions or self-diagnoses based on unreliable content, potentially complicating the clinical evaluation. To address these challenges, clinicians and healthcare systems could collaborate to actively disseminate evidence-based material on widely used platforms, ensuring that accessible health information is both accurate and comprehensible. By engaging with digital communities, medical professionals may be able to guide public discourse and reduce the prevalence of misinformation, ultimately facilitating more effective patient-provider interactions.

The confusion of mistaking one illness for another is more common than you can imagine. "In addition, 12 videos (24%) mentioned a link between MCAS (Mast Cell Activation Syndrome), FMD (Fibromuscular dysplasia), fibromyalgia, POTS, and EDS (Ehlers-Danlos syndrome). In this case, misinformation trends included inaccuracies about symptoms, diagnostic methods, triggers, and treatment options. These misleading videos could contribute to confusion among patients seeking reliable

information about their condition. On social media, self-diagnosis is due to the recurring misinformation produced based on a short list of symptoms. Misinformation may lead people to misinterpret their symptoms or delay seeking medical attention, consequently worsening their condition. Relying on inaccurate advice may lead to ineffective or even harmful treatments. Additionally, the spread of misinformation can contribute to stigma and skepticism around POTS, making it harder for people to access legitimate care and support.

To address these issues, it is essential to encourage the use of reputable medical organizations and healthcare professionals as information sources. Supporting fact-based content from credible medical professionals (Boris et al., 2024) and promoting critical evaluation of health information, especially on social media, are also important.

Conclusion

Skepticism about POTS among medical professionals stems from factors such as heterogeneous clinical presentations, lack of consensus on pathophysiology, inconsistent research findings, and overlap with psychosomatic disorders. Addressing these challenges through rigorous research, improved diagnostic criteria, and increased awareness may clarify POTS within the medical community. Future progress in biomarker discovery, diagnostic standardization, and innovative therapies could transform perceptions of POTS. Ongoing interdisciplinary collaboration will be crucial for developing patient-centered care models and improving outcomes for those affected.

References

1. Aboseif, A., Bireley, J. D., Li, Y., Polston, D., & Abbateamarco, J. R. (2023). Autoimmunity and postural orthostatic tachycardia syndrome: Implications in diagnosis and management. *Cleve Clin J Med*, 90(7), 439-447.
2. Abseer, K. S., Midhun, M., Venkatesh Bhat, K., & PK, S. (2022). A long-term study on the effectiveness and safety of Ivabradine versus Metoprolol on Heart rate and LVEF in post-myocardial infarction patients-A tertiary hospitalbased study. *Bangladesh Journal of Medicine*, 33(3), 252-258.
3. A., Attard, S., Stanniland, C., Iles, A., Rajappan, K., Moazami, S., & MacLennan, F. (2023). Management of psychiatric conditions in patients with comorbid postural orthostatic tachycardia syndrome: A literature review and case Vignette. *The Primary Care Companion for CNS Disorders*, 25(1), 45268.
4. Bellocchi, C., Carandina, A., Montinaro, B., Targetti, E., Furlan, L., Rodrigues, G. D., ... & Montano, N. (2022). The interplay between the autonomic nervous system and inflammation across systemic autoimmune diseases. *International Journal of Molecular Sciences*, 23(5), 2449.
5. Blitshteyn, S. (2022). Is postural orthostatic tachycardia syndrome (POTS) a central nervous system disorder? *Journal of Neurology*, 269(2), 725-732.
6. Boris, J. R., Shadiack III, E. C., McCormick, E. M., MacMullen, L., George Sankoh, I., & Falk, M. J. (2024). Long term POTS outcomes survey: Diagnosis, therapy, and clinical outcomes. *Journal of the American Heart Association*, 13(14), e033485.
7. Bryarly, M., Phillips, L. T., Fu, Q., Vernino, S., & Levine, B. D. (2019). Postural orthostatic tachycardia syndrome: JACC focus seminar. *Journal of the American College of Cardiology*, 73(10), 1207-1228.
8. Chen, G., Du, J., Jin, H., & Huang, Y. (2020). Postural tachycardia syndrome in children and adolescents: Pathophysiology and clinical management. *Frontiers in Pediatrics*, 8, 474.

9. Eaton, S. J. (2024). Digital Storytelling: Rhetorical Purpose, Modes, and Community Across POTS-Centered Instagram Accounts.
10. El-Rhermoul, F. Z., Fedorowski, A., Eardley, P., Taraborrelli, P., Panagopoulos, D., Sutton, R., ... & Dani, M. (2023). Autoimmunity in long COVID and POTS. *Oxford Open Immunology*, 4(1), iqad002.
11. Garlapow, M. (2025, March 19). Study finds TikTok videos on MCAS are filled with misinformation. *SM Companion*.
12. Karim, S., Chahal, A., Khanji, M. Y., Petersen, S. E., & Somers, V. K. (2023). Autonomic cardiovascular control inhealth and disease. *Comprehensive Physiology*, 13(2), 4493-4511.
13. Kirkpatrick, C. E., & Lawrie, L. L. (2024). TikTok as a source of health information and misinformation for young women in the United States: survey study. *JMIR Infodemiology*, 4(1), e54663.
14. Magnus Group. (2025, September 15–17). Assessing quality of content on TikTok: Postural orthostatic tachycardia syndrome. Presented at the 5th Edition of the International Heart Congress, Madrid, Spain. Magnus Conferences.



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