# Prevalence of Anxiety, Depression, and Attention Deficit Disorder in



UNIVERSITY OF MIAMI
MILLER SCHOOL
of MEDICINE

Patients with Primary Hyperhidrosis



UNIVERSITY OF MIAMI
MILLER SCHOOL
of MEDICINE

Ella Glaser MD<sup>1</sup>, King Rosemary PA-C<sup>2</sup>, Dee Anna Glaser MD<sup>2</sup>

<sup>1</sup>University of Miami Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery <sup>2</sup>Saint Louis University Department of Dermatology

### **Synopsis**

- Primary hyperhidrosis is a chronic and socially disabling disorder with a significant impact on quality of life.
- It has an estimated US prevalence of 4.8% (~15.3 million people).<sup>1</sup>
- Few studies have attempted to estimate the prevalence of mental illness in patients with hyperhidrosis, and the results have been conflicting.<sup>2-5</sup>

# **Objective**

- Estimate the prevalence of depression, anxiety and attention deficit disorder (ADD) in patient was primary hyperhidrosis.
- Understand the correlation between hyperhidrosis location and severity with mental health

#### **Disclosures**

Dr. Dee Anna Glaser is a consultant for Dermira, Inc., and an investigator for Allergan, Atacama Therapeutics, Brickell Biotech, Inc., Galderma, and Revance Therapeutics, Inc. She has received honoraria for consulting with Allergan and Dermira, Inc.

#### **Methods**

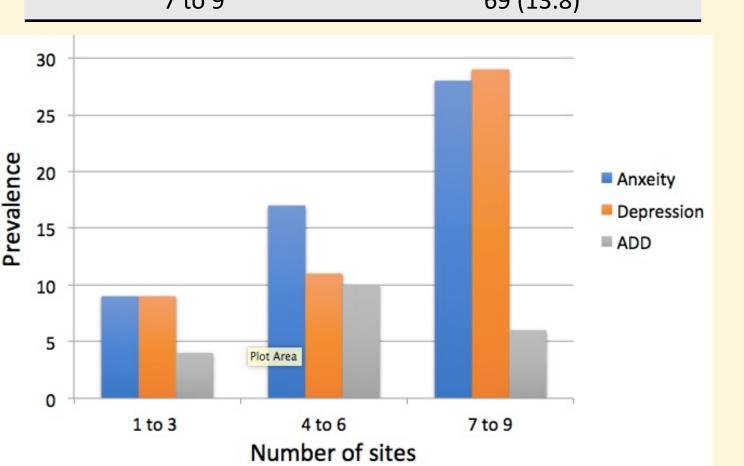
- An IRB approved retrospective review:
- Patients diagnosed with primary hyperhidrosis from 2011-2018 at a single site were identified at time of initial evaluation.
- Age of onset, age at time of initial evaluation, gender, hyperhidrosis locations and disease severity using Hyperhidrosis Disease Severity Scale (HDSS) were recorded
  - HDSS was used as a maker of location severity.
- Patients were considered to have anxiety, depression, and/or ADD diagnosis if: (1 or more)
  - self reported diagnosis on intake form
  - had an ICD9 code of diagnosis clinical note documenting diagnosis
  - taking ADD specific medication

## Results

- 500 patients included
- 13.8% of patients had a diagnosis of anxiety,
   12.4% had depression and 6.4% had ADD
- Positive correlations between the number of anatomical HH sites involved and the prevalence of psychiatric conditions
- no association with overall HDSS severity or location involved with prevalence of psychiatric conditions.

| Psychiatric Diagnosis            | Prevalence (%) |
|----------------------------------|----------------|
| Anxiety                          | 13.8           |
| Depression                       | 12.4           |
| Attention Deficit Disorder (ADD) | 6.4            |

| Characteristic                 | Value      |
|--------------------------------|------------|
| Total number of patients       | 500        |
| Age:                           |            |
| Mean age of onset              | 15         |
| Mean age at time of evaluation | 30         |
| Sex                            | Number (%) |
| Female                         | 356 (71.2) |
| Male                           | 144 (28.8) |
| Number of sites involved       |            |
| 1 to 3                         | 307 (61.4) |
| 4 to 6                         | 124 (24.8) |
| 7 to 9                         | 69 (13.8)  |



#### **Conclusion:**

- There is a significant association between HH and the prevalence of anxiety, depression and ADD regardless of gender or age
- Compared to the nationally reported prevalence of anxiety (5.7%)<sup>6</sup>, depression (7.8%)<sup>7</sup> and ADD (4.4%) <sup>8</sup>, HH patients have a statistically significant higher prevalence than the general public.
  - Our study found the prevalence of anxiety 13.8%, Depression 12.4% and ADD 6.4%
- The severity and/or location of HH do not correlate with prevalence of anxiety, depression and ADD.
  - However, there is a positive correlation between the number of anatomical sites involved and the prevalence of these comorbidities.
- Providers should be aware of the increased prevalence of mental health disorders in patients with hyperhidrosis.

#### References:

- 1. Doolittle et al. *Arch Dermatol Res.* 2016;308(10):743-9.
- Bahar R, Liu Y, Huang Y, et al. The prevalence of anxiety and depression in patients with or without hyperhidrosis (HH). J Am Acad Dermatol. 2016;75:1126-1133
- 3. Braganca GM, Lima SO, Pinto Neto AF, Marques LM, Melo EV, Reis FP. Evaluation of anxiety and depression prevalence in patients with primary severe hyperhidrosis. *An Bras Dermatol*. 2014;89:230-235.
- Weber A, Heger S, Sinkgraven R, Heckmann M, Elsner P, Rzany B. Psychosocial aspects of patients with focal hyperhidrosis. Marked reduction of social phobia, anxiety and depression and increased quality of life after treatment with botulinum toxin A. *Br J Dermatol*. 2005;152:342-345
- 5. Klein SZ, Hull M, Gillard KK, Peterson-Brandt J. *Dermatology and Therapy*, 2020;10:1299-1314
- . Harvard Medical School National Comorbidity Survey (NCS). 2017
- 7. National Survey on Drug Use and Health (NSDUH) 2019
  8. Kessler RC, Adler L, Barkley R, Biederman J, Conners CK, Demler O, Faraone SV, Greenhill
- LL, Howes MJ, Secnik K, Spencer T, Ustun TB, Walters EE, Zaslavsky AM. The prevalence and correlates of adult ADHD in the United States: results from the National Comorbidity Survey Replication. *Am J Psychiatry*. 2006 Apr;163(4):716-23.