Clementine
A Monte Nido Affiliate

Treatment Outcomes | 2021

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Clementine Programs Treatment Outcomes

January 2018 – December 2021

Overview

In 2018 Monte Nido and Affiliates (MNA) began a comprehensive research study, approved by an Institutional Review Board, in order to assess treatment outcomes in our programs. Specifically, our Clementine patients who consent to participate in our research study complete a series of questionnaires upon admission, transfer to a new level of care (stepping up or down), as well as upon discharge from the program. Additionally, we obtain follow-up data for patients who consent at specified time-points after their discharge. The surveys administered represent the gold standard of assessments for eating disorder pathology as well as depression, anxiety, and trauma.

The purpose of these questionnaires is multifaceted. Primarily, it represents our commitment to personalized treatment planning. This data provides a snapshot of each patient's distinctive symptom presentation on measures of eating disorder symptoms, depression, anxiety, functional impairment, and trauma reactivity. This information deepens our understanding of the clinical challenges specific to each patient and serves as a roadmap for exploration of the factors that may be maintaining the eating disorder. Data guides the clinical teams in developing a shared language for each patient's experience, to build engagement and design more effective treatment plans.

In addition to guiding treatment planning, this data allows leadership at Clementine Programs to track program effectiveness and identify areas for program development. As a company, we are continually evaluating whether we are providing the most effective and evidence-based interventions to our patients. Last, this data is collected with the hope and expectation of contributing to a growing body of research and advancing the field of eating disorders forward.

Sample

The patient sample for January 2018-December 2021 included data for 1220 adolescents from nine different Clementine programs: 228 patients discharged from Clementine Briarcliff Manor, 227 from Clementine Portland, 162 from Clementine Malibu Lake, 161 from Clementine Pinecrest, 151 from Clementine Twin Lakes, 129 from the Clementine The Woodlands, 90 from Clementine Atlanta, 60 Clementine Naperville and 12 from Clementine Fairfax.

These patients ranged in age from 11 to 17 years old with the average being 15.
The average length of stay was 49 days.

The Clementine sample included patients with the following Eating Disorder diagnoses: 48.6% Anorexia Nervosa - Restricting Type, 17.5% Anorexia Nervosa - Binge/Purge Type, 7.7% Bulimia Nervosa, 1.8% Binge Eating Disorder, 1.4% ARFID, and 23% OSFED.

Importantly, this group of patients also presented with multiple co-morbidities. For example, approximately 87% were diagnosed with an anxiety disorder and over 83% were diagnosed with a mood disorder.

Weight Change Data

Statistically significant changes (increases) were observed in Body Mass Index (BMI), BMI Percentiles, and % of 50th percentile BMI between admission and discharge for patients with all eating disorder diagnoses (Table 1) and with Anorexia Nervosa- Restricting Type (Table 2).

Table 1. Change on BMI, BMI Percentiles, and % of 50th Percentile BMI for All Eating Disorder Diagnoses from Admission to Discharge Jan 2018 – Dec 2021

Sample Size = 1099	ADMISSION	DISCHARGE
BMI	19.6	21.9**
BMI Percentiles	36.7	59**
% BMI 50th Percentiles	97.7	108.7**

** = Statistically significant change from admission to discharge at the p < .01 level

Table 2. Change on BMI, BMI Percentiles, and % of 50th Percentile BMI for Patients with Anorexia Nervosa – Restricting from Admission to Discharge Jan 2018 – Dec 2021

Sample Size = 522	ADMISSION	DISCHARGE
BMI	17.3	20**
BMI Percentiles	18.8	47**
% BMI 50th Percentiles	86.6	99.8**

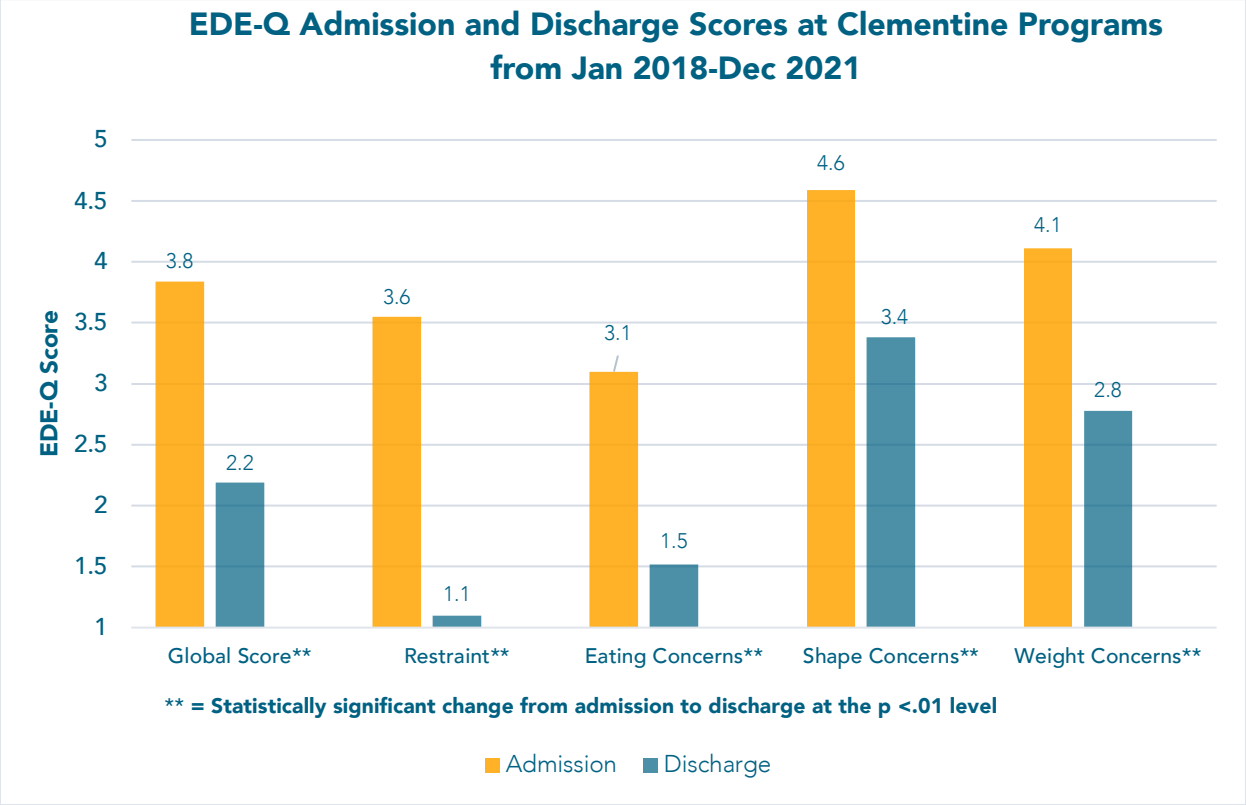
** = Statistically significant change from admission to discharge at the p < .01 level

Eating Disorder Symptoms

Eating Disorder Symptoms were measured using the Eating Disorder Examination Questionnaire (EDE-Q), a 28-item, self-report measure assessing the core features of eating disorder psychopathology. It is the gold-standard self-report assessment that has demonstrated reliability, validity, and correlation with the lengthier assessments of eating disorder symptomology. This assessment tool measures a range of symptoms including fear of weight gain, self-induced vomiting, and loss of control with food, thus capturing the complexity and unique features of each individual's eating disorder.

Results indicate that on average, Clementine patients experienced clinically and statistically significant reductions in eating disorder symptoms from admission to discharge. On average,

patients presented at admission with severe eating disorder symptoms relative to adolescent female community norms. Upon discharge, average patient scores on the EDE-Q were reduced significantly on all scales, suggesting clinically meaningful improvements. The graph below provides mean admission and discharge scores at Clementine in comparison with community norms.



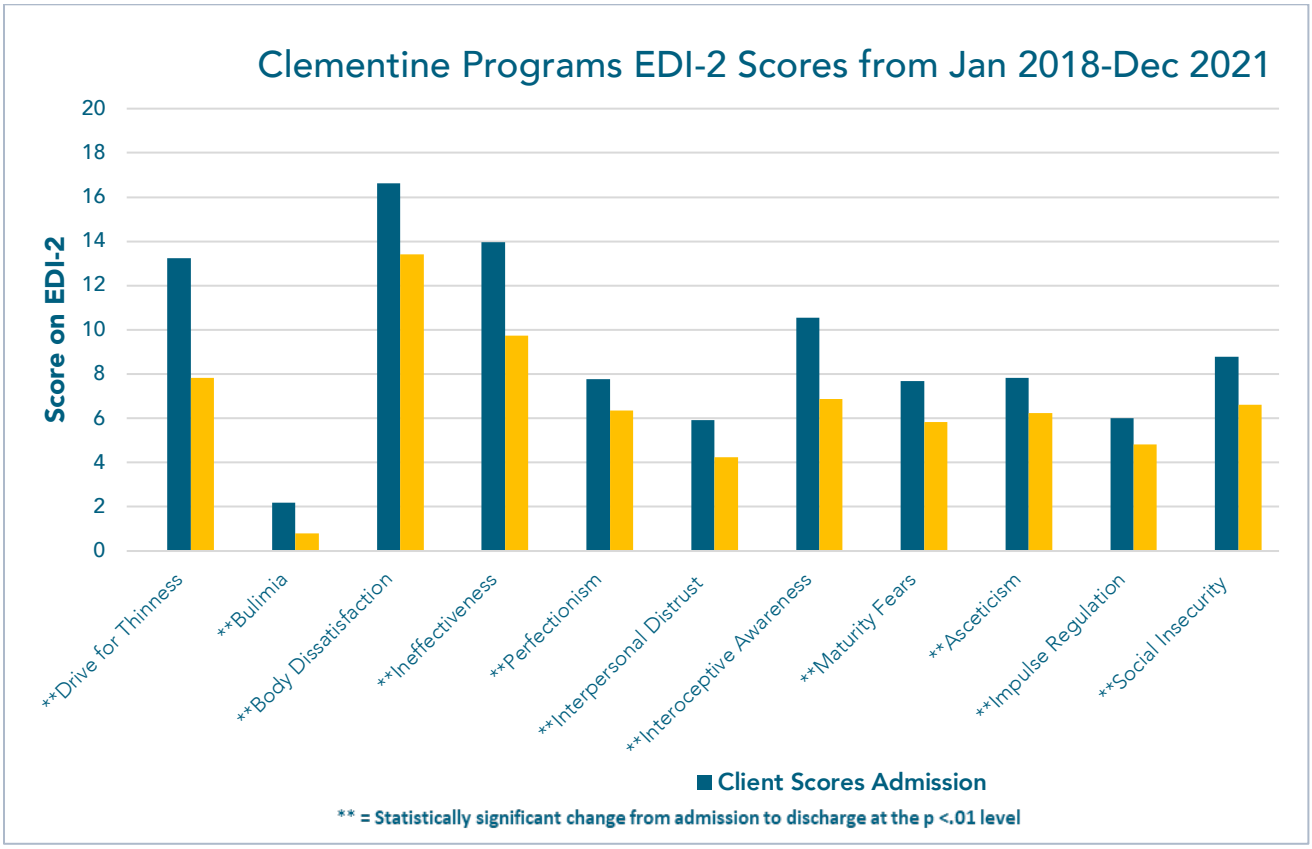
Eating Disorder Inventory (EDI-2)

Eating disorder symptomology was also assessed using The Eating Disorder Inventory (EDI-2). The EDI-2 is a self-report measure of symptoms frequently related to anorexia nervosa or bulimia nervosa. This measure was designed to be an aid to forming a diagnosis and not as the exclusive basis for making a diagnosis. It is extremely valuable in guiding treatment planning and clinical work. The EDI-2 provides information regarding the psychological and behavioral dimensions of eating disorders. It has 91 items and 11 subscales. The subscales and a brief description of what they measure are as follows:

1. Drive for thinness (DT): an excessive concern with dieting, preoccupation with weight, and fear of weight gain.
2. Bulimia: episodes of binge eating and purging.
3. Body dissatisfaction: not being satisfied with one's physical appearance.
4. Ineffectiveness: assesses feelings of inadequacy, insecurity, worthlessness, and having no control over their lives.
5. Perfectionism: not being satisfied with anything less than perfection.

6. Interpersonal distrust: reluctance to form close relationships.
7. Interoceptive awareness: the ability to discriminate between sensations and feelings, such as hunger and satiety.
8. Maturity fears: the fear of facing the demands of adult life.
9. Asceticism: reflects a tendency to find value in self-deprivation, as well as denial and control of feelings, wants, desires, and urges.
10. Impulse Regulation: the ability to regulate impulsive behavior, especially binge behavior.
11. Social Insecurity: estimates social fears and insecurity.

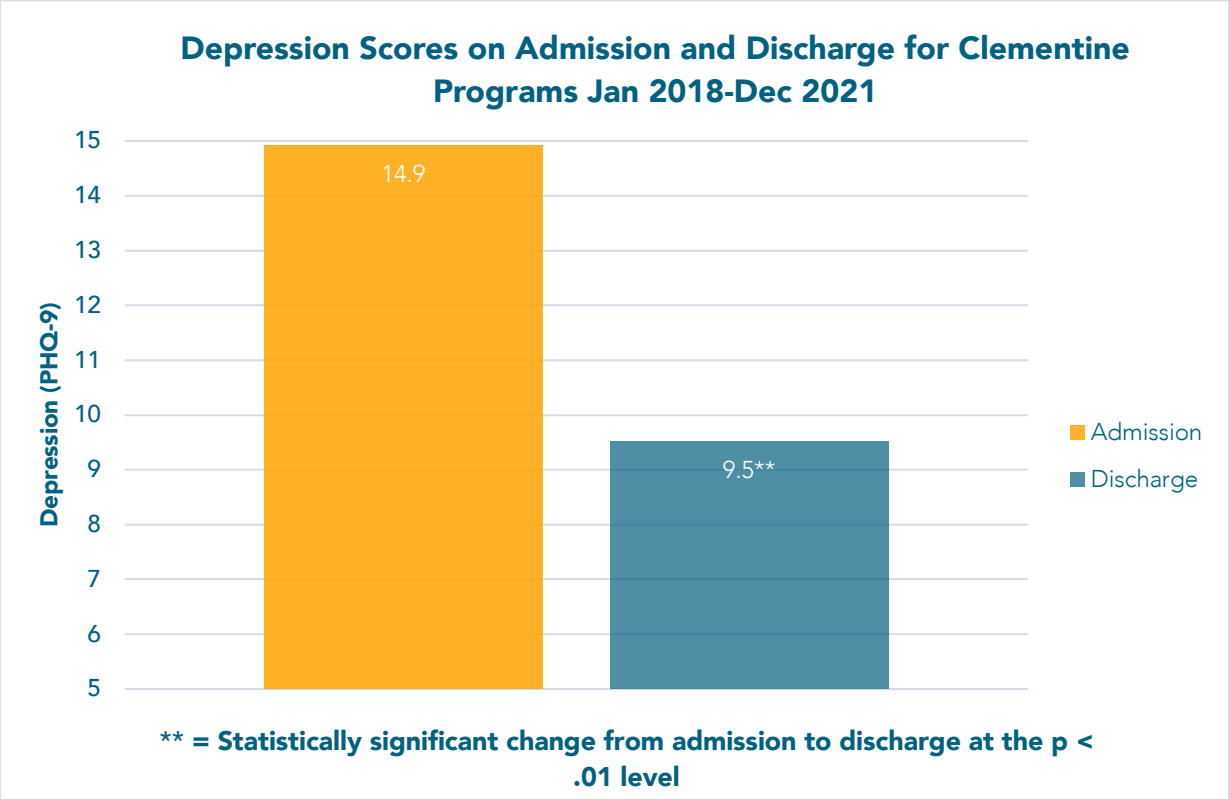
Results indicate that Clementine patients demonstrated statistically significant reductions at the $p < 0.01$ level on all subscales from admission to discharge.



Of note, in order to most accurately compare our patients' scores with the EDI-2 eating disorder norming sample, we did not include patients diagnosed with ARFID or BED in these specific analyses. Some caution is warranted in interpretation as the norms for this measure are for adult individuals. That being said, these graphs are illustrative of the particular areas of difficulty for our clients as well as the improvement from admission to discharge.

Depression

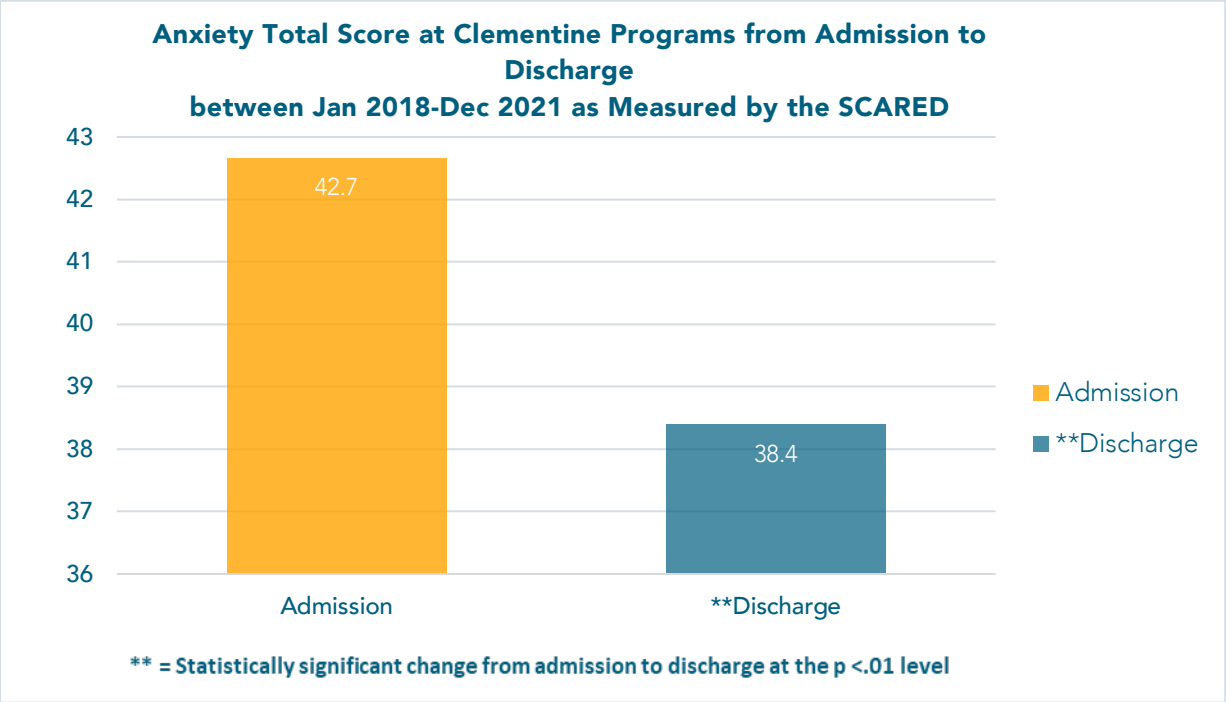
Symptoms of depression were assessed using the Patient Health Questionnaire-9 (PHQ-9), a nine-item, validated tool used for screening and measuring the severity of depression. Overall, results show clinically and statistically significant depression symptom reduction for our Clementine patients. On average, scores on the PHQ-9 indicated patients admitted to treatment with symptoms of depression that may warrant a diagnosis of Depression based on clinical assessment and discharged without symptoms consistent with a diagnosis of Depression. The graph below represents changes in depression scores.

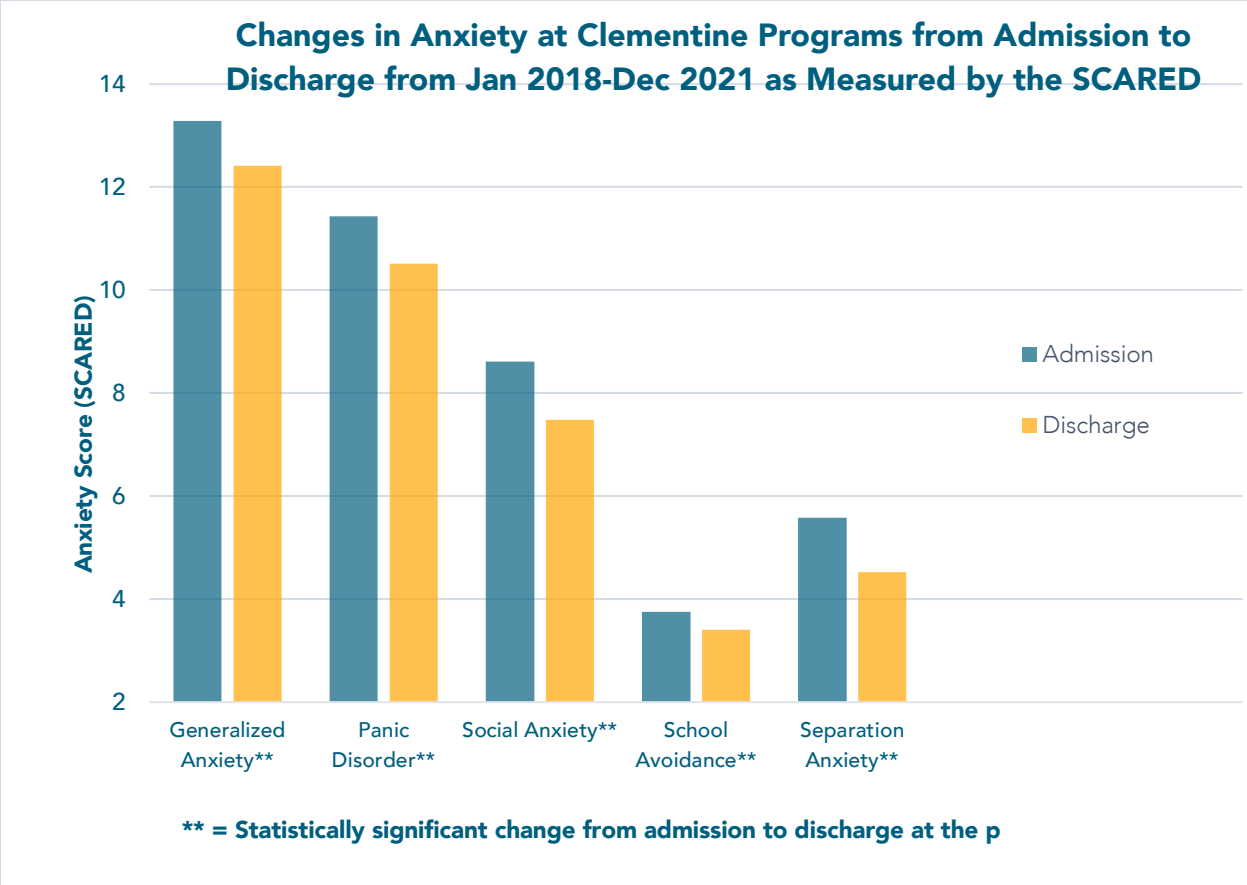


Anxiety

Symptoms of anxiety are measured using the Screen for Child Anxiety Related Disorders (SCARED), a 41-item, validated self-report instrument used to screen for childhood anxiety disorders. This tool generates a Total Score and 5 Factor scores: Panic Disorder or Significant Somatic Symptoms, Generalized Anxiety Disorder, Separation Anxiety, Social Anxiety Disorder, and Significant School Avoidance.

Scores indicated that Clementine patients experienced statistically significant reductions in overall anxiety from admission to discharge (as measured by the total score), as well as on all factor scores.





Posttraumatic Stress Disorder (PTSD)

Clementine has also been systematically assessing for the presence and severity of PTSD and its symptoms. The presence of significant life events that either happened to an individual or was witnessed (DSM-5 Criterion A) was recorded at admission using the Childhood Trauma Questionnaire (CTQ). Other PTSD symptoms were assessed at admission and discharge using the PTSD Symptom Checklist for DSM-5 (PCL-5) (DSM-5 Criteria B-E). Preliminary results indicate that approximately 39% of individuals admitted to Clementine met the criteria for the diagnosis of PTSD.

Treatment of PTSD and Complex PTSD

Monte Nido and Affiliates (MNA), which includes Clementine, has developed an integrated treatment program to properly assess and treat the high rates of severe trauma, PTSD, dissociation, and related comorbidities that often accompany eating disorder symptoms, especially those who have not responded to outpatient care. Trauma and PTSD are known factors that can often lead to treatment dropout or failure. In concert with expert consultation, Clementine has trained its psychotherapy staff to utilize and integrate Cognitive Processing Therapy (CPT) into the overall, individualized, and integrated treatment plan for such patients.

The below research articles, published in peer-reviewed journals, demonstrate MNA's research findings regarding the high prevalence of PTSD among eating disorder patients. Through this work, MNA's research is advancing the field of eating disorders treatment.

1. Brewerton TD, Perlman MM, Gavidia I, Suro G, Genet JJ, Bunnell D: The Association of Traumatic Events and PTSD Severity of Eating Disorders and Comorbid Symptoms in Residential Treatment Centers. International Journal of Eating Disorders 2020; 53:2061-2066 (published online November 7, 2020). Doi: 10.1002/eat.23401.

2. Brewerton TD, Suro G, Gavidia I, Perlman MM: Sexual and Gender Minority Individuals Report Higher Rates of Lifetime Traumas and Current PTSD Than Cisgender Heterosexual Individuals Admitted to Residential Eating Disorder Treatment. Eating and Weight Disorders 2022; 27(2): 813-820 (published online May 31, 2021). Doi: 10.1007/s40519-021-01222-4.

3. Brewerton TD, Gavidia I, Suro G, Genet JJ, Perlman MM, Bunnell D: Provisional PTSD Is Associated with Greater Eating Disorder and Comorbid Symptom Severity in Adolescents Treated in Residential Care. European Eating Disorders Review 2021; 29(6): 910-923 (published online September 16, 2021). Doi: 10.1002/erv.2864.

4. Brewerton TD, Suro G, Gavidia I, Perlman MM: Eating Disorder Onset During Childhood Is Associated with Higher Trauma Dose, Provisional PTSD, and Severity of Illness in Residential Treatment. European Eating Disorders Review 2022; 30(3): 267-277 (published online February 26, 2022). Doi: 10.1002/erv.2892.

5. Brewerton TD, Perlman MM, Gavidia I, Suro G, Jahraus J: Headache, Eating Disorders, PTSD, and Comorbidity: Implications for Assessment and Treatment. Eating and Weight Disorders 2022; (published online May 23, 2022). Doi: 10.1007/s40519-022-01414-6.