

Eating Disorders Center of Denver Partial Hospitalization Program Outcome Study

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The Eating Disorders Center of Denver has a continuing interest in assessing effectiveness of its treatment programs. All patients participating in the Partial Hospitalization Program (PHP) are asked to take a series of psychological tests as part of the intake and discharge protocol. At the time these data were initially analyzed a total of 102 Pre-treatment and Post-treatment records had been entered. Analysis of current admission and discharge data indicates that the average length of stay (LOS) for PHP patients was 58.6 days.

TESTS:

Every patient admitted to PHP regardless of age and gender are asked to take the Temperament Character Inventory (Cloninger, 1993), The Self Harm Inventory (Sansone, Sansone, and Wiederman, 1995) and Eating Disorder Inventory-3 (Garner, 2004). For purposes of this outcome study only the data analysis from the EDI-3 is reported. The Eating Disorder Inventory-3 (EDI-3) is an expanded and improved version of the widely used Eating Disorder Inventory (EDI) and Eating Disorder Inventory-2 (EDI-2) developed as a standardized clinical evaluation of symptomatology associated with eating disorders (Garner, 1984; 1991). The 91-item questionnaire assesses psychological and behavioral traits related to eating disorder development and maintenance. The EDI-3 Subscales are as follows: Drive for Thinness (DT), Bulimia (B), Body Dissatisfaction (BD), Eating Disorder Risk Composite (EDRC), Low Self-Esteem (LSE), Personal Alienation (PA), Interpersonal Insecurity (II), Interpersonal Alienation (IA), Interoceptive Deficits (ID), Emotional Dysregulation (ED), Perfectionism (P), Asceticism (A), Maturity Fears (MF), General Psychological Maladjustment Composite (GPMC).

ANALYSIS:

Repeated measures ANOVAs were conducted to determine the significance of pre- and post-treatment EDI-3 subscale scores on 102 PHP patients. These results are presented in the charts provided. Asterisks indicate when there was a significant difference between pre- and post-treatment scores. In order to determine the role that the length of stay in treatment might have on these subscale changes, linear regressions were conducted. Length of stay was entered as the independent variable and the change scores (Time 2 score minus Time 1 score) were entered as the dependent variable. For the

group with Anorexia Nervosa, length of stay predicted change scores for the Bulimia subscale and for the EDRC composite scale such that a longer length of stay predicted a larger change on these scales. Length of stay did not predict any other changes scores. To determine the role of weight gain might have on these subscale changes for the AN group, linear regressions were conducted. Percentage weight gain ((post-treatment weight/pre-treatment weight)x100) was entered as the independent variable and the subscale change scores were entered as the dependent variable. Percentage weight gain predicted change scores for the Maturity Fears subscale such that a greater percentage of weight gain from pre- to post-treatment predicted a larger change on the Maturity Fears subscale from pre- to post-treatment. Finally, in order to determine the effect of length of stay on the percentage weight gain in the AN group, a linear regression was conducted. Length of stay was entered as the independent variable and percentage weight gain was entered as a dependent variable. Length of stay predicted percentage weight gain such that a longer length of stay predicted a greater percentage weight gain from pre- to post-treatment.

RESULTS:

As seen in Figure 1, Figure 2 and Figure 3, all of the EDI-3 subscale measures for each eating disorder diagnosis (AN, BN, and EDNOS) exhibited significant improvement (all values $p < .001$) from pre- to post-treatment. These data present strong evidence for the effectiveness of the Partial Hospitalization Program at the Eating Disorder Center of Denver. Significant changes unrelated to specific treatment focus at EDC-D are as follows:

- 1. Greater weight gain for the anorexic patients predicted greater improvement on the scale measuring Maturity Fears.**

As patients allow their weight to normalize they are encouraged to give up a prepubertal appearance and hormonal status. EDC's educational groups addressing definitions of feminine identify, role changes and the development of an authentic self help patients gain the skills to cope with the developmental expectations associated with adulthood.

- 2. All of the scales on the EDI-3 showed statistically significant improvement from pre to post-treatment.**

These measures showed improvements which represent not only a significant decrease in eating disorder symptoms but also the presence of qualitative change in the patients psychological functioning which goes beyond reduced concern about body weight and shape.

We believe the design of EDC's partial program, the skill building focus of our groups, and our model of treatment contribute to the significant changes reflected in this study. One key component of EDC's PHP is that the patients spend 10 hours/day in program and then return to an "independent living" residence in the evening. This allows patients to consume all of their calories required each day within the confines of the program. The program has a high degree of patient acceptance because it is less confining than inpatient treatment. This arrangement provides the opportunity to practice skills learned in program; to identify communication problems with family members or roommates; and to

practice interpersonal skills. The partial design of the program provides the needed structure and interpersonal support while encouraging self-responsibility because staff members are not available to directly supervise behavior outside of regular hours of treatment, except in emergencies.

The results of this study reflect significant decrease in interpersonal alienation and interpersonal insecurity. It is our clinical experience that it is the combination of program structure, skill building, and independent living that fosters this increase in personal responsibility and competency, the decrease in withdrawal and social isolation, and the increase in the ability to use others to establish an interpersonal experience and environment that can facilitate recovery.

3. All three eating disorder subgroups (AN, BN, and EDNOS) showed statistically significant decrease in scores on the Eating Disorder Risk Composite Scale (EDRC).

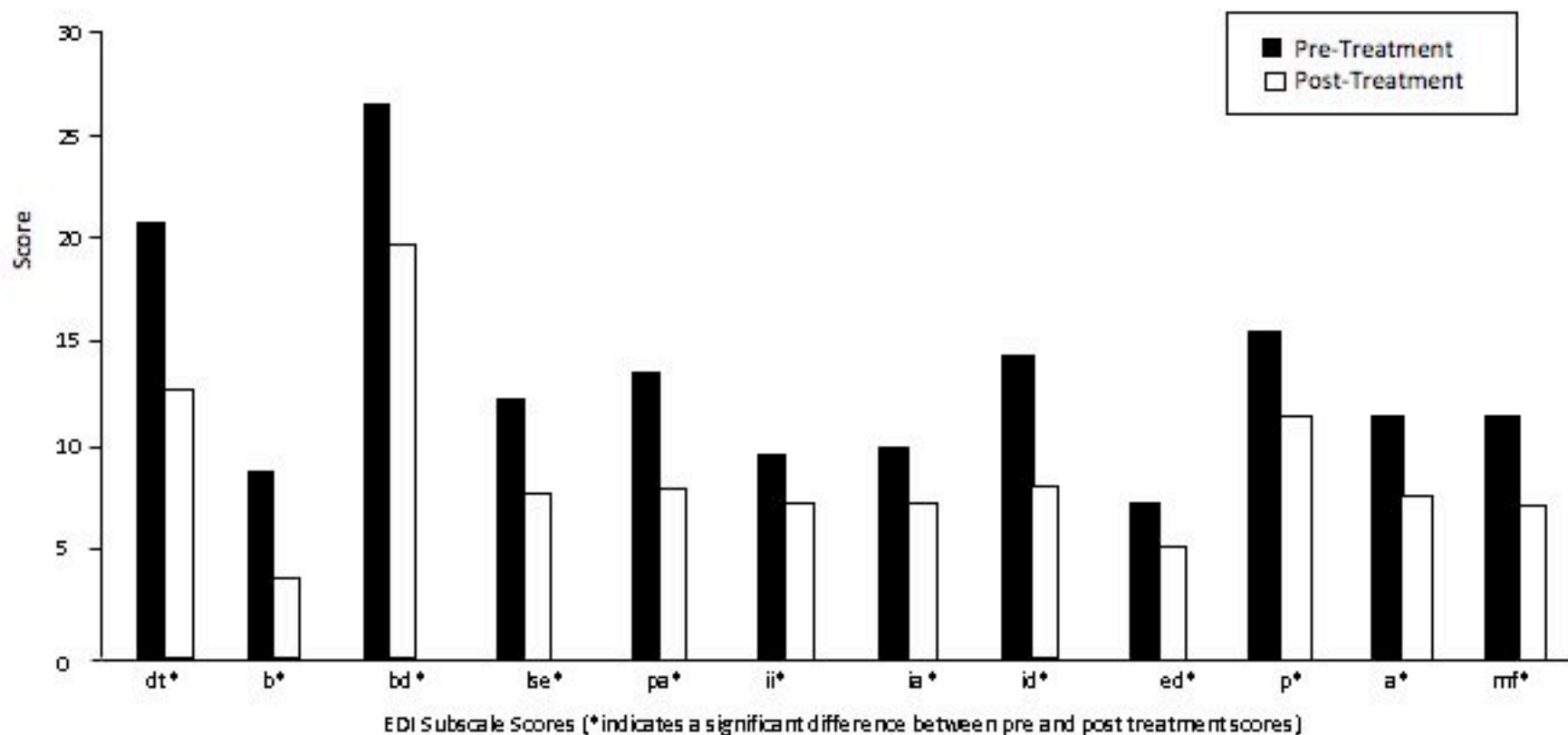
The EDRC provides a global measure of eating and weight concerns. As a pre-treatment measure the consistent elevation of this score reveals the extreme eating and weight concerns that consist of fear of weight gain, desire to be thinner, binge eating tendencies, and body dissatisfaction that all of our patients experience.

To address these critical components of the eating disorder EDCD uses a two-part approach. The 1st step of the treatment is to normalize eating and body weight by the application of psychoeducational principles of nutritional rehabilitation and education about the inherent problems associated with eating disorders. Treatment is delivered in group, individual, and family therapy formats and pharmacological treatments provided as needed. The 2nd component of this broad-spectrum approach is an emphasis on CBT, DBT and Mindfulness to address core psychopathological, interpersonal, and family themes that have led to the development and maintenance of the primary eating disorder behaviors. The significantly lower post-treatment scores on the EDRC demonstrates the effectiveness of this treatment approach.

Overall, the data from this preliminary study show significant mean reduction in EDI-3 scales and composites are demonstrated from pretreatment to posttreatment evaluation.

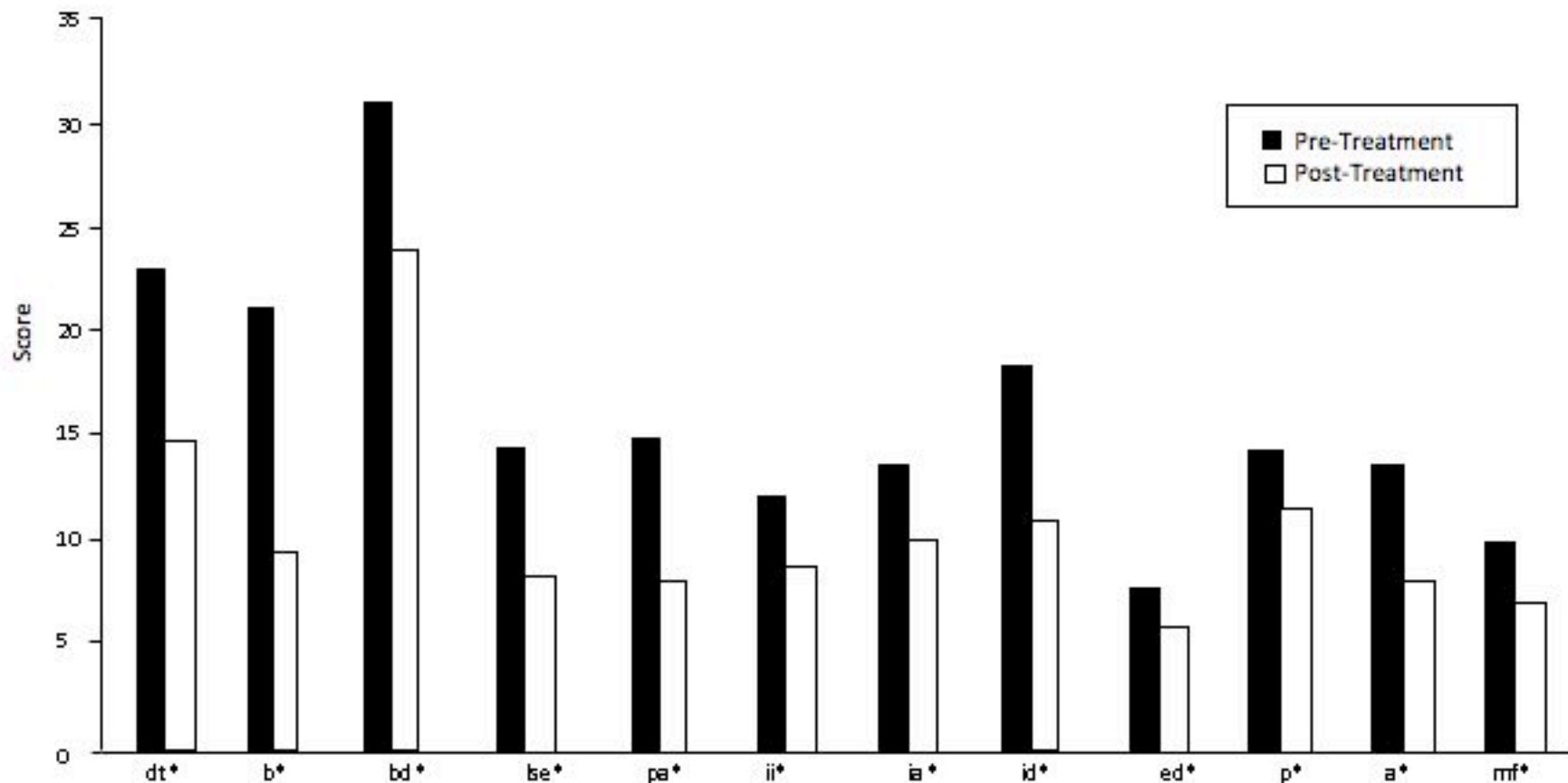
EDI SUBSCALE SCORES (Anorexia Nervosa)

Figure 1



EDI SUBSCALE SCORES (Bulimia Nervosa)

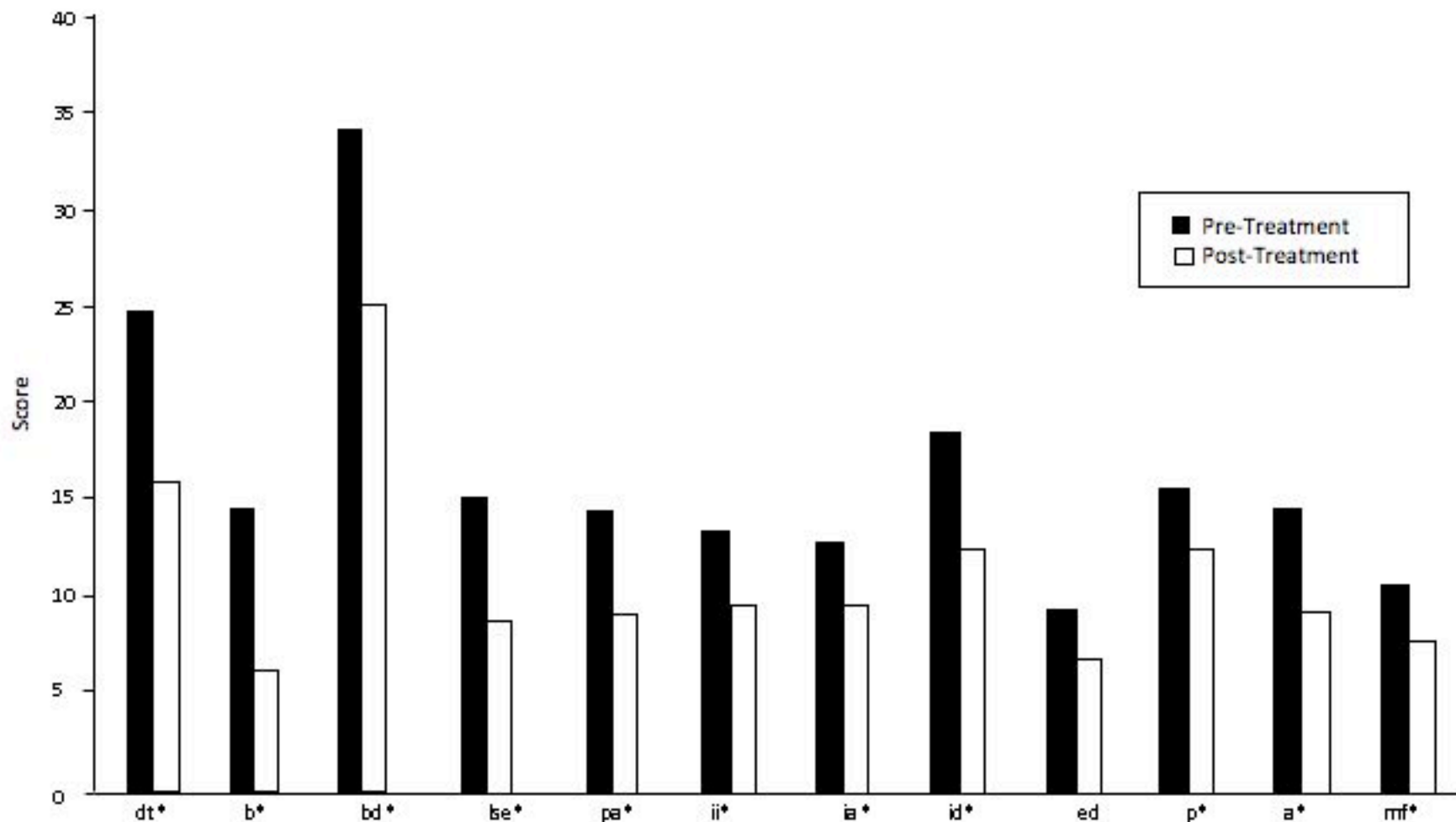
Figure 2



EDI Subscale Scores (* indicates a significant difference between pre and post treatment scores)

EDI SUBSCALE SCORES (EDNOS)

Figure 3



EDI Subscale Scores (* indicates a significant difference between pre and post treatment scores)

EATING DISORDER RISK COMPOSITE (EDRC) SCORES

