

EQUINE ASSISTED THERAPY AND EXERCISE WITH EATING DISORDERS:
A RETROSPECTIVE CHART REVIEW AND MIXED METHOD ANALYSIS

by

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ABSTRACT

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Eating disorders are a group of devastating mental illnesses that chronically affect millions of young women and men of all ages and ethnicities in industrialized nations. Mainstream treatment approaches thus far have proven to have variable efficacy and outcomes and new behavioral interventions such as equine assisted therapy and exercise deserve to be considered as a viable intervention with this population.

The area of equine assisted therapy in the field of eating disorder research has received disproportionately little attention. Given the number of residential treatment facilities that integrate it into their treatment for eating disorders, evidence of its safety and efficacy is warranted. Exercise, however, has been investigated with eating disorder patients. Empirical evidence indicates physical activity intervention is not only safe for this population, it improves a range of biopsychosocial outcomes. Yet exercise is not a standard adjunct treatment for people with eating disorders as it is mainly viewed as a part of the pathology of the mental illness or as a method of weight loss for a proportion of this population. Reframing physical activity in terms of how it benefits patients will be a challenge for clinicians without further evidence.

In this study, equine therapy notes at a residential treatment facility were examined to determine type (ground vs. mounted and group vs. one on one), duration, and intensity of physical activities, as well as perceived improvements in psychological well-being. Patient demographics and scores for the Beck Depression Inventory – II and Eating Disorder Inventory - 2 provided further data to determine whether equine assisted therapy and the physical activity during sessions were associated with improved outcomes for patients.

Results indicate physical activity involved in equine therapy is safe and plays a role in eating disorder symptom improvements. The amount of energy spent in physical activity in equine assisted therapy was associated with 14.3% of improvements seen in Beck Depression Inventory – II discharge scores; length of stay and physical activity were associated with 24.8% of improvements in Eating Disorder Inventory - 2 scores. The qualitative analysis revealed themes of improved psychological well-being from equine assisted therapy for those patients whose length of stay was 30 days or more: asserting needs, identifying contributing factors to the eating disorder, asking for help, problem solving, thinking positively, and verbalizing feelings of frustration.

The key findings illuminate the value of equine assisted therapy with the eating disorder population. In conclusion, this type of therapy is valid and will help clinicians to better identify those patients who would benefit the most from equine assisted therapy. Furthermore, the positive association of physical activity with improved mood and eating disorder symptoms legitimizes exercise as an intervention. These are exciting and promising findings for patients with eating disorders and clinicians alike who wish to include physical activity with equine assisted therapy in treatment plans.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	iii
ABSTRACT.....	iv
LIST OF ILLUSTRATIONS.....	ix
LIST OF TABLES.....	x
Chapter	Page
1. INTRODUCTION.....	1
1.1 Statement of the Problem.....	2
1.2 Review of the Eating Disorder Literature.....	3
1.2.1 Diagnostic Criteria and Clinical Characteristics.....	3
1.2.2 Prevalence and Demographics.....	4
1.2.3 Prognosis and Comorbidities.....	6
1.2.4 Treatment Strategies.....	8
1.2.5 Exercise and Eating Disorders.....	10
1.2.6 Purpose of the Study.....	13
2. METHODOLOGY.....	14
2.1 Methodological Approach.....	14
2.2 Research Design.....	14
2.2.1 Participants and Setting.....	14
2.2.2 Measurements.....	15
2.2.3 Procedure.....	17
2.2.4 Quantitative Data Analysis.....	17
2.2.5 Qualitative Data Analysis.....	17
3. RESULTS.....	19

3.1 Quantitative Analysis.....	19
3.1.1 Demographics.....	19
3.1.2 Body Measurements.....	20
3.1.3 Length of Stay.....	21
3.1.4 Equine Therapy Activities.....	22
3.1.5 EDI-2 and BDI-II.....	24
3.1.6 METs and Change Scores.....	25
3.1.7 METs as a Predictor of BDI-II and EDI-2 Improvements.....	25
3.1.8 Program Satisfaction Survey.....	28
3.2 Qualitative Analysis.....	29
3.2.1 Equine Therapy Form.....	29
3.2.2 Program Satisfaction Survey.....	32
4. DISCUSSION.....	35
4.1 Safety of Physical Activity with EAT.....	35
4.2 Efficacy of Physical Activity with EAT.....	35
4.3 EAT Program Survey.....	36
4.4 Limitations of the Study.....	37
4.5 Implications for Social Work.....	38
4.6 Conclusions and Future Directions.....	38
APPENDIX	
A. DSM IV CRITERIA FOR EATING DISORDERS.....	40
B. EATING DISORDER INVENTORY - 2.....	42
C. BECK DEPRESSION INVENTORY - II.....	44
D. COMPENDIUM OF EQUINE RELATED ACTIVITIES.....	47
E. EQUINE ACTIVITY LEGEND.....	49
F. REMUDA RANCH PROBLEM LIST.....	54

G. ACTIVITY STATUS GUIDELINES.....	66
H. PATIENT ACTIVITY GUIDELINES FOR EQUINE THERAPY.....	68
REFERENCES.....	70
BIOGRAPHICAL INFORMATION.....	79

LIST OF ILLUSTRATIONS

Figure		Page
3.1	Graphical representation of frequency of problem areas addressed in EAT	23

LIST OF TABLES

Table		Page
3.1	Demographic Characteristics by Eating Disorder Diagnosis.....	19
3.2	Anthropometric Characteristics by Eating Disorder Diagnosis.....	20
3.3	Length of Stay by Eating Disorder Diagnosis.....	21
3.4	Equine Therapy Activities.....	22
3.5	Mean EDI-2 and BDI-II Scores.....	24
3.6	Eating Disorder Outcomes, Diagnosis, Length of Stay, and METs: Correlations and Descriptive Statistics.....	26
3.7	Regression Analysis for Study Variable Effects on Eating Disorder Outcomes.....	27

CHAPTER 1

INTRODUCTION

As a public health concern, eating disorders (EDs) are a prevalent psychiatric illness in as many as 10 million people in the U.S., with a high cost to society and to the quality of life of the individual, as well as their families and friends. Behavioral eating and exercise disturbances seen in those with EDs result in major impairment of physical health and psychological adjustments. Mainstream treatment approaches thus far have proven to have variable efficacy and outcomes (Berkman et al., 2006) and new behavioral interventions such as exercise deserve to be considered as a viable intervention with this population.

Despite the known health benefits of regular physical activity in both clinical and community populations, controversy still exists as to whether exercise is appropriate in the treatment of EDs, especially for anorexia nervosa (Kaye et al., 1988; Long & Hollin, 1995; Thien et al., 2000; Touyz et al., 1993). A position statement published by The National Athletic Trainer's Association reflects this concern, recommending that certified athletic trainers who work with athletes with EDs should "enforce limitations of physical workouts based on recommendations of caregivers and to intervene when training expectations are potentially dangerous or detrimental" (Bonci et al., 2008, p. 88). No mention is made of the role these professionals can play to model healthy exercise and provide exercise prescription to foster an improved rate of treatment and recovery for this population.

While several studies have focused on the phenomenon of exercise abuse in this population (Kaye et al, 1998; Mond et al., 2006; Shroff et al., 2006), the role physical activity plays in treatment of ED is gaining more interest in the literature. Particular attention has been paid to the effectiveness of more traditional forms of exercise interventions to improve a range of biopsychosocial outcomes (Hausenblas, Cook, & Chittester, 2007). Yet little is known about the value of "alternative" physical activities such as yoga, water aerobics, neuromuscular

integrative action (known as “NIA”), Feldenkrais method of movement, and equine assisted therapy (EAT) so often incorporated into treatment plans at many residential ED facilities. Additionally, as these forms of recreational exercise have become more available in the communities to which clients return home, it is important to know their overall treatment efficacy and understand which treatment outcomes may be improved and maintained.

1.1 Statement of the Problem

Research into the influence exercise has on ED patients’ treatment response is limited, yet growing. Historically, the predominant view is exercise is a part of the pathology of EDs. A new view of exercise is emerging where it is not only acceptable for ED clients to engage in, it is a necessary part of treatment as it has been shown to help shape emotional regulation (Geller et al., 2000) and self-validation (Hall et al., 2007). While preliminary ED research proves it is safe and has positive effects, reports in the literature do not yet offer a clear picture of who would benefit from which modes of activity, when exercise is most beneficial in the course of treatment, and how much is optimal. Specifically, there is a need to establish whether there is a dose-response relationship between the exercise amount and improvement in ED symptoms for each subtype in this population (Hausenblas, 2008). Only through collecting this type of evidence can it be determined whether exercise is a viable, mainstream treatment for eating disorders.

Furthermore, research into the efficacy of EAT with eating disorders is lacking. According to Cumella (2003), the majority of animal-assisted psychotherapy studies utilize dogs and none have examined EDs themselves. Individuals, treatment facilities, and the insurance industry want clear outcomes of helpful and long-lasting change that justify any ED treatment, including physical activities related to EAT. There is a need to identify specific benefits of EAT with this population to begin to fill the gap in the literature.

1.2 Review of the Eating Disorder Literature

1.2.1 Diagnostic Criteria and Clinical Characteristics

Two specific ED diagnoses, Anorexia Nervosa (AN) and Bulimia Nervosa (BN), are listed in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR)* (American Psychiatric Association [APA], 2000). An Eating Disorder Not Otherwise Specified (EDNOS) diagnostic category captures those individuals with disordered eating patterns that do not meet the full criteria for AN or BN. While the familiar Binge Eating Disorder (BED) is listed as one of six examples of a presentation of EDNOS, the *DSM-IV-TR* states it is a disorder that requires further study and proposes it as a new diagnostic entity in the *DSM-V*.

Appendix A presents the specific *DSM-IV-TR* diagnostic criteria that most researchers use when studying ED. The eating disorders discussed in this study focus specifically on AN, BN, and BED. Generally speaking, AN is characterized by a person's significant and unwarranted weight loss and refusal to maintain a body weight within a normal healthy range for their frame. Adolescents with AN are still growing and therefore fail to make important physiological increases in height, weight and bone density. Denial of the psychiatric illness, extreme fear of weight gain, disturbance in the way in which one's body size and shape are perceived, and perpetuation of weight loss through purging or restricting behaviors are common distinguishing traits of a person with AN.

BN involves a pattern of binge eating in combination with detrimental compensatory behaviors aimed at preventing weight gain. A person with BN can remain within a normal weight range for their frame or be overweight. Similar to AN, individuals are overly concerned about their body shape and size and base their self-worth and self-value upon their weight and shape. A person with BN experiences a sense of lack of control over eating during a binge episode and feels tremendous guilt and shame about their behaviors. An added complexity that

is important to note is people with AN and BN often cross over into the “typical” fasting, bingeing, and purging behaviors of the other disorder at some point in the duration of their disorder (Tozzi, et al., 2005). Purging behaviors seen in both populations include vomiting, misuse of laxatives, diuretics, and enemas, and excessive exercise.

BED is marked by regular binge eating behavior with a sense of being out of control over ability to stop eating or to choose how much to eat. Body weight for people with BED can vary from a normal weight range for their frame to severely obese for their frame. While feelings of disgust and guilt typically follow a binge episode, the regular use of unhealthy compensatory behaviors is not associated with BED.

1.2.2 Prevalence and Demographics

Lifetime prevalence estimates in the U.S. for AN, BN, and BED are 0.9%, 1.5%, and 3.5% among women, and 0.3% 0.5%, and 2.0% among men (Hudson, et al., 2007). It is likely there are many more individuals who do not meet the standardized criteria for an eating disorder, yet rely on both unhealthy eating practices and unhealthy weight control practices in attempt to maintain a desired health or weight. Subthreshold eating disorder behaviors such as these put an individual at risk for developing a diagnosable ED. Prevalence data on these clinically significant subthreshold conditions in fact indicate the lifetime prevalence of partial AN is an estimated 2.6%; 3.1% for partial BN; and 4.5% for any binge eating behavior (Favaro et al., 2004; Hudson et al., 2007). Given the obesity epidemic this country is facing, it is not surprising community studies have found between 5% and 8% of obese individuals meet criteria for BED (Bruce & Agras, 1992; Bruce & Wilfley, 1996).

As noted above, females make up the majority of those with ED. It is a common stereotype that only affluent white adolescent and young adult females who have an excessive preoccupation with food and body appearance engage in disordered eating. Female athletes involved in “thin-build”, weight class, endurance, and aesthetic sports such as running, gymnastics, ballet, etc. as well as male body builders and wrestlers are also commonly

recognized to have ED (Garner, 1998; Sundgot-Borgen, 2004). However, several studies have emerged to paint a very different picture where both males and females of various ages, socioeconomic backgrounds, sexual orientations, and diverse cultural, racial and ethnic groups experience disturbed eating behaviors and attitudes.

For example, males make up a considerable 5 -20% of the total eating disorder population (Braun et al., 1999; Carlat & Camarg, 1991; Woodside et al., 2001). Clinical and community sampling of these men indicate 14-42% are gay or bisexual (Carlat et al., 1997; Herzog et al., 1984; Olivardia et al., 1995). These epidemiological studies characterize males as rarely suffering from BN, more from AN (10 – 20% of cases), and most frequently with BED (gender ratio is nearly one-to-one). Cumella's (2003) research indicates men often try to enhance sports performance and obtain a bigger, more muscular frame, which may help to explain why BED is so prevalent in men.

Interestingly, in their review of ED and socioeconomic status, Gard and Freeman (1996) report, "Since 1983, 13 studies have failed to find a relationship between high socioeconomic status and eating disorders and of these, 5 studies have found the opposite to be true." One such study on BED points to lower socioeconomic status as a risk factor (Langer et al., 1992; Warheit et al., 1993) and another indicates there are few differences in prevalence across race or ethnic groups (Yanovski et al., 1993).

Another case in point is the important research focusing on minorities in the U.S. to determine to what extent they are affected by ED. A recent study with African American women demonstrates bingeing and purging is at least as common as in white women (Striegel-Moore & Smolak, 2001). Additionally, Marcus et al. (2007) report African American women are more likely to report fasting than other ethnicities in a multiethnic community sample of midlife women. A study that looked at eating disturbances in the Hispanic and Native American youth populations found the rates of self-induced vomiting and binge eating were at similar rates as white youth (Smith & Krejci, 1991). Asian females have also been shown to be as concerned or

more concerned as white females about their weight and shape (Hall, 1995). According to Story, et al. (1995), binge eating is more prevalent in Asian and Pacific Islander female adolescents, such as Hawaiians and Samoans, than white female adolescents. Industrialized cultures share common risk factors for ED and minorities who are younger, heavier, better educated, and identify with White, middle-class values are not immune (Crago, et al., 1996).

Finally, research on age is likely to change the perception of EDs as well. While the *DSM-IV-TR* suggests the age of onset for AN, BN, and BED is mid-to late adolescence or early adulthood, Bryant-Waugh & Lask (2002) echo many clinicians who are reporting clinical observations and case studies to the contrary. They report presentation of AN in a child 7 years of age and high peaks of incidence around 12 years of age, in both girls and boys. However, no empirical research on the incidence or prevalence of widely accepted “childhood-onset eating disorders” exists at the time of this writing. Likewise, despite increased awareness of EDs occurring in middle-aged and older adults (Brandsma, 2007; Harris & Cumella, 2006; Zerbe, 2003), epidemiological studies have not been conducted. Vrabel et al. discuss the ways older ED patients may differ from their younger counterparts and the need for research on the following: longer duration of ED illness, marital status, social class, work functioning, and death of child or parent (2008).

1.2.3 Prognosis and Comorbidities

The literature on the course and outcome of ED is variable, however a 2003 review estimates half of the adolescents and adults treated “do well”, 30% continue to have symptoms, and 20% do poorly over time (Fisher, 2003). This review looked at over 4 decades of follow-up studies and found adolescents with anorexia nervosa are the most studied. A more recent study also highlighted the wide range of reported recovery data, stating “Follow-up studies have shown that 30-75% of patients recover from anorexia (AN) and between 50 and 70% from bulimia nervosa (BN)” (Vrabel et al., 2008). Fisher (2003) reports adolescents appear to have a better prognosis than adults, albeit the difference of how much better is yet unknown.

Several reports indicate AN is associated with the highest mortality rate (approximately 6%) of any psychiatric disorder, attributable to high suicide rates and deaths from electrolyte imbalances and starvation (Sullivan, 1995; Harris & Barraclough 1998; Herzog & Greenwood, 2000). To put this in perspective, this rate is about 12 times higher than the annual death rate due to all causes of death among females in the general population aged 15-24 (Sullivan, 1995). While BN and BED have a better prognosis in terms of mortality, people with any ED have been found to have remarkably high rates of comorbidity with other *DSM- IV-TR* disorders.

In adolescents, disordered eating has been linked to serious risk-taking behaviors such as drug, alcohol and tobacco use, delinquency, unprotected sexual activity, dating violence, and suicide attempts (Neumark-Sztainer et al., 1996). This often translates into the comorbid psychopathologies that are so widespread in residential and inpatient samples. Common comorbid conditions reported in a U.S. population based study of people with an ED include anxiety disorders (47.9% to 80.6%), mood disorders (42.1% to 70.7%), impulse control disorders (30.8% to 63.8%), and substance abuse (23.3% to 36.8%). A striking 33.8% to 64.4% of that sample had three or more disorders (Hudson et al., 2007). Recently, a community-based study on comorbid medical and psychiatric conditions in the BED population revealed body dysmorphic disorder, kleptomania, irritable bowel syndrome, and fibromyalgia co-occurred significantly with BED, along with the psychiatric disorders mentioned above (Javaras et al., 2008).

There are similar findings in clinical populations. Kaye et al. (2004) reported the prevalence of anxiety disorders is 41% in all three subtypes with the majority of subjects reporting the onset in childhood, prior to their ED diagnosis. An interesting longitudinal study of the ED clinical population revealed those with more obsessional/perfectionistic personality types are more protected against the development of substance abuse (Thompson-Brenner et al., 2008). The authors also concluded a history of substance abuse is the most important predictor of future abuse. A meta-analysis conducted by Rosenvinge et al. (2000) revealed the average

percentage of comorbid personality disorders was 58% as compared to 28% in non-ED groups. Milos et al. (2003) investigated associations between comorbidity and current and past ED treatment in a sample of 248 women and found a high rate of Axis I (71%) and Axis II (68%) disorders. More treatment encounters and more intense treatment settings were linked to ED subjects with greater comorbidities.

1.2.4 Treatment Strategies

According to the U.S. Department of Health and Human Services's National Guideline Clearinghouse website, there are 7 evidence-based clinical practice guidelines available to health care professionals who work with the ED population. Included in this list is the most widely used, *Practice Guidelines for the Treatment of patients with eating disorders, third edition*, published by the APA, which outlines the basics of psychiatric management, choosing a treatment site, and choices of specific treatments (2006). The APA's standardized treatment strategies are "based on the best available data and clinical consensus" and involve: a) Nutrition Rehabilitation, b) Psychosocial Interventions, and c) Medications (2006, p. 7). Several other well-researched resources also present data on contemporary approaches to ED treatment. Three examples are *Handbook of Treatment for Eating Disorders* (Garner & Garfinkel, 1997), *Eating Disorders and Obesity: A Comprehensive Handbook* (Fairbun & Brownell, 2002), and *Management of Eating Disorders* (Berkman et al., 2006).

Berkman et al. (2006) systematically reviewed treatment studies published from 1980 to 2005 to determine the evidence for efficacy of treatment for Eds. They reported on 30 treatment studies for AN and concluded the following: 1) cognitive-behavioral therapy (CBT) is proven to be helpful in reducing relapse risk with adults only after weight restoration and malnutrition are corrected, 2) family therapy that has parents control food intake of their child or adolescent is efficacious for weight gain and psychological improvements in those who are younger and still living at home, and 3) no medication has yet been proven to help with weight gain, either alone or with psychotherapy for AN treatment. After reviewing 47 treatment studies

for BN, they report the following on treatment evidence: 1) fluoxetine at 60 mg/day for 6 to 18 weeks is a proven treatment to reduce bingeing and purging and associated depression in the short term, 2) CBT along with Interpersonal and Dialectical behavioral therapies (IPT and DBT) are effective at improving BN symptoms, and 3) evidence is lacking or too weak thus far to indicate that a combined intervention of pharmacological and psychotherapies is effective. Regarding BED, their review of 25 treatment studies revealed 1) in short-term trials, selective serotonin reuptake inhibitors versus placebo lead to greater rates of reduction in eating, weight, and psychiatric symptoms for people who were overweight, 2) CBT administered in group settings or individually is effective at reducing bingeing (but not weight), and one DBT study indicates the same, and 3) studies show providing both drug and CBT may play a role in weight loss and binge eating, however it is not yet known which medications are best nor the most effective dosages and durations.

A few novel interventions in the literature were captured by Berkman et al. (2006) such as light therapy, crisis prevention, and guided imagery for BN and self-help and virtual reality for BED. However, studies on exercise intervention as a treatment did not meet the inclusion criteria set for the review of the literature and were not reviewed. The subject of exercise in treatment is given a cursory look in APA's guidelines section for nutrition rehabilitation (2006). Exercise assessment and monitoring are discussed and suggestions for normalization of appropriate activity are given for AN, BN, and BED populations. Supervised exercise as a treatment is a topic in *Handbook of Treatment for Eating Disorders* (Garner & Garfinkel, 1997) for people with AN and BN who overexercise. In Fairbun & Brownell's book, a chapter titled "Exercise in the Management of Obesity" provides general exercise guidelines solely for the purposes of weight loss (pp. 518-523).

Given exercise plays a large role in any ED (Geller et al., 2000; Pendelton et al., 2002; Sundgot-Borgen et al., 2002; Szabo & Green, 2002; Calogero & Pedrotty, 2004; Chantler et al., 2006; Hall et al., 2007), it is surprising it has not yet reached mainstream status in their

treatment. The literature on exercise and EDs supports adding an exercise component to treatment yet thus far does not provide a clear consensus for what treatment should look like for each subtype (Hausenblas et al., 2008). However, reports are slowly establishing that exercise in medically approved conditions is a valid and effective treatment worth further investigation.

1.2.5 Exercise and Eating Disorders

The bulk of the research to date has focused on the role excessive exercise plays as a risk factor for the development and the maintenance of an ED (Crisp et al., 1980; Touyz et al., 1993). It is estimated overexercise occurs in 40-55% of women with AN, especially the purging subtype, and in 20-24% of women with BN (Shroff et al., 2006). Kaye et al. (1998) found patients with AN who over-exercised required a greater number of calories to gain an equal amount of weight as AN patients with low levels of physical activity or healthy female volunteers. Studies indicate excessive exercise is associated with a longer length of hospitalization (Solenberger, 2001), earlier time to relapse (Carter et al., 2004), and higher levels of comorbidities (Shroff et al., 2006). The potential negative impact on bone health has been a concern as well (Rosenblum & Forman, 2003). Conclusions have been drawn that exercise is solely a compensatory behavior that should be discontinued during treatment since it is associated with the pathogenesis and progression of EDs.

Yet exercise has been suggested in the literature as an adjunct therapy for over 10 years (Beumont et al., 1994). Also, studies show exercise programs involved in treatment of EDs improve program compliance in patients with AN without adversely affecting the rate of weight gain after four to six weeks (Touyz et al., 1993), three months post discharge from outpatient treatment (Thien et al., 2000), and four years following discharge from outpatient treatment (Long & Hollin, 1995). The complex role of physical activity in this population is just beginning to be understood.

Birmingham et al. (2005) found the caloric requirements are not associated with exercise behavior for weight gain in patients with AN. Several studies found ED symptoms are

not directly linked to exercise behaviors such as intensity level, type, frequency, and duration (Adkins & Keel, 2005; Boyd et al., 2007; Mond et al., 2004; Pinkston et al., 2001; Hausenblas & Downs, 2002). Instead, as with disordered eating behaviors, it appears the pathological motivation behind the excessive exercise, and not the physical activity per se, is the connection to ED symptoms. A few studies have already begun to identify mechanisms behind this type of motivation. Compulsivity is seen in those with an ED who overexercise (Adkins & Keel, 2005; Boyd et al., 2007) and higher levels of compulsive exercise are linked to inflexibility to tolerate and regulate various emotional states (Geller et al., 2000). Shroff et al. (2006) found perfectionism and rigidity are a common characteristic seen in those with an ED who use exercise solely as a means to control weight and shape. Mond et al. (2006) reported an intense feeling of guilt is experienced by ED patients when the exercise bout is delayed or interrupted. As studies reveal more of the psychological issues underlying harmful exercise behaviors, the notion that exercise can be re-examined to serve as a treatment for ED is coming to light.

For those people with an ED who are not involved in any physical activity of any type, it is just as important to consider exercise as an adjunct to their treatment. In further support of this idea, several controlled clinical studies have shown how effective exercise is as a monotherapy and as an augmentation to standard therapies to treat people diagnosed with anxiety and depressive disorders (Dunn et al., 2001, 2002, 2005; Trivedi et al., 2006). Richardson et al. (2005) discuss the benefits and achievability of integrating exercise into mental health services for people with serious mental illnesses like schizophrenia, bipolar, and clinical depression.

Likewise, the research examining the effects of an exercise intervention for the ED clinical population is proving it can improve ED symptoms for all subtypes. Not surprisingly, most of the literature has focused on the effects of exercise in the AN population. In Canada, Thien et al. (2000) studied whether a graded exercise program used in treatment of AN improved quality of life and without decreasing the rate of gain of body fat. Three months of

combined aerobic and anaerobic physical activity with 5 AN subjects indicated improvements were made in quality of life scores and body mass index (BMI); however the changes were not significantly different from those of the 7 control subjects with AN. In 2002 in South Africa, Szabo & Green aimed to examine an 8-week resistance training program as a therapeutic intervention for hospitalized AN patients. With just 2 hours a week of weight bearing exercises (2-3 sets of 8-15 repetitions for 17 exercises), improved scores on the Beck Depression Inventory (BDI) and Eating Disorder Inventory (EDI) scales were reported in both control and exercise groups. Chantler et al. (2006) studied the same subjects to determine whether muscular strength gains could be made with people who have severe protein-energy malnutrition due to AN. They found significant gains in both upper and lower body strength can be made in this population after only eight weeks. A study in Japan by Tokumura et al. (2003) examined the use of exercise training as a treatment for children and adolescents with AN. After 6-12 months of riding a stationary bicycle 5 times a week for 30 minutes each bout, subjects increased their BMI and exercise capacity compared to controls with AN who did not exercise. Also, the physical activity did not affect ED relapse or the recovery of menstruation.

Studies with exercise in the BED and BN populations have promising findings as well. In 2002, Sundgot-Borgen et al. investigated the effect of physical activity as an experimental treatment condition compared to CBT in 15 normal weight Norwegian women aged 18-29 with BN. They report a 16 week program of combined aerobic and anaerobic exercises is more effective than CBT in improving aerobic fitness, body composition, drive for thinness, and frequency of bingeing, purging, and laxative abuse. Levine et al. (1996) were the first to evaluate an exercise intervention for obese women with BED. Seventy-seven subjects engaged in a 24-week walking program 3 to 5 times a week to burn a goal of 1,000 calories each week. Similar to the BN study, subjects who exercised had a significant reduction in frequency of binges compared to subjects who did not exercise. A second study on BED and exercise was reported in 2002 (Pendelton et al.) to examine the additive effects of CBT and

exercise, as well as the benefits of a maintenance phase. It was found those who exercised 45 minutes three times a week (brisk walking twice and cardiovascular equipment once a week) in addition to CBT had greater reductions in binge eating frequency compared to subjects who received only CBT. Extending duration of treatment by 6 months provided for larger weight loss and greater abstinence rates.

Finally, a six-month study at a U.S. residential treatment facility examined the effects of an exercise program on reducing exercise abuse in 127 AN, BN, and EDNOS patients (Calogero & Pedrotty, 2004). The program format incorporated 1-hour bouts of activity four times a week and additional time to process thoughts, feelings, and behaviors about exercise and the body. They report those subjects with AN in the exercise group gained 40% more weight compared to AN subjects who did not exercise. Disordered thoughts, feelings, and behaviors about exercise decreased significantly as measured by the Obligatory Exercise Questionnaire.

1.2.6 Purpose of the Study

Given the dearth of EAT studies with the ED population, and the absence of such studies on the physical activity effects on ED and mood symptoms in residential treatment facilities, the aim of the current study was two-fold: (1) to investigate the efficacy of the exercise typical of equine therapy as an adjunct treatment of EDs and (2) to explore the terms used in the equine therapy notes indicative of themes or patterns of psychological benefits of EAT, which were based on the perception of the clinician and documented in the equine therapy note. In addition to the major aim, a minor aim was to investigate responses to the two EAT-related program satisfaction survey questions. I formulated the following hypothesis based on the current body of knowledge: The physical activity involved in EAT would be associated with improvements of ED and mood symptoms. I further hypothesized equine therapy notes for longer-term (30 days or more of EAT) patients in the active phase of EAT will show themes of improved psychological well-being.

CHAPTER 2

METHODOLOGY

2.1 Methodological Approach

The study design was a mixed method approach using a retrospective examination of patient records. The nine-step method put forth by Gearing, et al. (2006) to maximize the benefits and minimize the limitations of chart reviews was closely followed. As the authors noted, retrospective chart reviews remain an important methodology in psychiatry and mental health disciplines. Through a systematic process, retrospective chart reviews can successfully extract relevant data to inform and add to therapeutic practice in the field of ED.

This study involved the use of existing data, documents, and records. “Existing” means that materials were already in existence at the time of the UT Arlington Institutional Review Board application. The researcher herself (Carrie Lutter) and an assistant traveled to the Remuda Ranch eating disorder residential treatment facility in Wickenburg, Arizona during the month of June 11, 2008 to June 14, 2008 to collect the data. This study collected only information that was recorded in charts from December 9, 2005 to April 18, 2008. Information recorded by the researcher and the assistant did not identify any of the subjects. No Individually identifiable data elements were recorded, and no linking list of any sort was kept that would enable someone to look up the code number assigned to a subject and determine the identity of that subject. To be clear, it was not possible to figure out which data belong to a patient, once the data was recorded.

2.2 Research Design

2.2.1 Participants and Setting

The Institutional Review Board of The University of Texas at Arlington and of Remuda Ranch Programs for Eating Disorder approved this retrospective chart review. Data was manually accessed is from patient records located in Wickenburg, Arizona at the Remuda

Ranch Center for Anorexia and Bulimia. Remuda Ranch is an inpatient residential treatment facility for adult and adolescent females with EDs. Each patient has a comprehensive treatment team which includes licensed clinical social workers who facilitate individual and group therapy sessions. The sample included 72 inpatient records of women aged 18 to 64 years admitted between December 9, 2005 and April 18, 2008. Data from records of these women with a length of stay 30 days or greater and a primary diagnoses of anorexia nervosa (AN), bulimia nervosa (BN), or eating disorders not otherwise specified (EDNOS) as defined by the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR)* was included.

2.2.2 Measurements

Eating Disorders Inventory (Appendix B)

The Eating Disorders Inventory (EDI-2; Garner, 1991; Garner, Olmstead, & Polivy, 1983) is a 91-item self-report measure used to assess the psychological and behavioral symptoms of EDs. It contains 11 subscales, three of which assess attitudes and behaviors concerning eating, weight, and shape (Drive for Thinness, Bulimia, Body Dissatisfaction), five of which assess psychological traits or general organizing constructs related to EDs (Ineffectiveness, Perfectionism, Interpersonal Distrust, Interoceptive Awareness, Maturity Fears), and three provisional subscales (Asceticism, Impulse Regulation, Social Inhibition). A higher score indicates a higher degree of psychopathology. The EDI-2 takes approximately 20 minutes to complete. The EDI-2 is a standardized scale that has been validated and been shown to be reliable in mostly female samples. It is highly used by clinicians and researchers in the ED field. In this study, the EDI-2 subscale scores were summed for both admission and discharge data. A change score was used to provide a reference point of where each subject started and ended. This was computed by subtracting the discharge score from the admission score.

Beck Depression Inventory (Appendix C)

The Beck Depression Inventory (BDI-II; Beck, Brown, G., & Steer, 1996) is a 21-item self-report measure of depressive symptoms. Each answer is scored on a scale value of 0 to 3 and summed for a total score. The standard cutoff points are 0–13: minimal depression; 14–19: mild depression; 20–28: moderate depression; and 29–63: severe depression. Higher total scores indicate more severe depressive symptoms. The BDI-II takes approximately 5-10 minutes to complete. The BDI-II is one of the most widely used assessment instruments for measuring severity of depression. It is a standardized scale that has been validated and been shown to be reliable. Clinicians and researchers alike use the BDI-II in various parts of the world. In this study, the BDI-2 scores were summed for both admission and discharge data. A change score was used to provide a reference point of where each subject started and ended. This was computed by subtracting the discharge score from the admission score.

Compendium of Physical Activities (Appendix D)

The Compendium of Physical Activities (Ainsworth et al., 1993, 2000) is used in epidemiologic studies to standardize the assignment of metabolic equivalent (MET) intensities in physical activity. This study used it to code physical activity in the equine therapy sessions. METs were used to assign intensity units to the physical activity with horses and to develop a way to represent energy expenditure for each session. The MET scores ranged from 1 to 4.5, depending on the equine activity. Total METs were computed by multiplying the length of the session in minutes by the MET value of the equine physical activity. The MET scores for each session were summed to give a total MET score for each subject.

Program Satisfaction Survey

At discharge, patients at Remuda fill out a satisfaction survey. Two questions on the survey ask about their experience with equine related activities: “Rate and comment on the effectiveness of the Equine Program” (where 1 is not effective and 10 is very effective) and “In what ways could the Equine, Challenge Course and Recreation Programs be improved?”.

2.2.3 Procedure

A random sample of 100 charts was drawn from 516 total records. Two data collectors manually recorded information about equine activities for 72 charts in the time they were at Remuda. Equine progress notes were used to determine type (ground vs. mounted and group vs. one on one), duration, and intensity of physical activities, as well as perceived improvements in psychological well-being. Every equine session was documented and included the date, time, and length of the session, the name of the activity, the focus of the problem areas, an assessment of patient's demeanor, and plans for future sessions. All other data collected for the 72 charts, including demographic and clinical characteristics and was accessed from Remuda's electronic database. Data relative to age, marital status, ethnicity, education level, ED diagnosis, weight, height, BMI, body composition, clinical disorders (*DSM-IV-TR* Axis I category), substance use, and personality disorders (*DSM-IV-TR* Axis II category), EDI-2, BDI-II, and equine program satisfaction was obtained. Patient confidentiality was maintained by randomly assigning a number to each patient record without recording specific identifying information.

2.2.4 Quantitative Data Analysis

The data analysis for this research used the computer statistical software package SPSS Windows. The statistical procedures included descriptive statistics and regression analyses. To look for trends and outcomes, the total sample and sample broken into their ED diagnoses were analyzed on several variables. Likewise, the EDI-2, BDI-II, METs, and the equine effectiveness ratings were analyzed in this way.

2.2.5 Qualitative Data Analysis

Equine related information was collected in the medical records of each patient from the Equine Therapy and Program Satisfaction Survey forms. The forms were analyzed using narrative analysis and thematic coding strategies as appropriate to the data according to the principles of phenomenology (Moustakas, 1994; Padgett, 1998). Data were typed into Microsoft Excel spreadsheets and transcript form and reviewed for the lived experiences of the patients

while in treatment. Equine Therapy notes were then examined for trends in psychosocial improvements. Lastly, thematic patterns from the Program Satisfaction Survey related to physical activity during treatment at Remuda were explored.

CHAPTER 3

RESULTS

3.1 Quantitative Analysis

3.1.1 Demographics

The mean age of the total sample was 26 years (SD = 7.5, range = 18 - 50 years). The ethnic-racial composition of the patients was 91.5% White, 1.4% Black, 1.4% Asian or Pacific Islander, 1.4% American Indian or Alaskan Native, and 4.2% Unknown/Mixed. Seventy-six percent of the subjects were not married, 20% were married, and 4% were divorced. Forty-one percent of the subjects had some college education, 31% had a Bachelor's degree, 24% had a high school diploma or equivalent, 3% had post graduate work and 1% had less than a high school education. Thirty-five percent of the sample had the ED diagnosis of EDNOS, 34% BN, and 31% AN.

Table 3.1 details demographic characteristics by ED diagnosis for the sample. This sample reflects what the literature reports on Black women being more likely to report fasting (Striegel-Moore & Smolak, 2001), where 100% of the black patients had the diagnosis of AN. Likewise, it is interesting to note 100% of the Asian and Pacific Islander patients had the diagnosis of EDNOS which is in keeping with the study by Story, et al. (1995) indicating binge eating has been found to be more common in female Asian and Pacific Islander populations than white females.

Table 3.1 Demographic Characteristics by Eating Disorder Diagnosis

	Anorexia Nervosa	Bulimia Nervosa	Eating Disorders Not Otherwise Specified
<i>N</i>	23	24	25
Age at Admission	27 ± 7 years (Range: 18 - 50)	25 ± 6 years (Range: 18 – 46)	27 ± 9 years (Range: 18 – 48)
Education			
<i>Less than high school</i>	-	-	4.0%

Table 3.1 - Continued

<i>High school graduate</i>	34.8%	25%	12.0%
<i>Some College</i>	30.4%	37.5%	56.0%
<i>College Graduate</i>	34.8%	33.3%	24.0%
<i>Graduate-level</i>	-	4.2%	4.0%
Ethnic Background			
<i>White</i>	91.3%	87.5%	96.0%
<i>Black</i>	4.3%	-	-
<i>Asian or Pacific Islander</i>	-	-	4.0%
<i>American Indian or Alaskan Native</i>	-	4.2%	-
<i>Unknown/Mixed</i>	4.3%	8.3%	-
Marital Status			
<i>Never married</i>	82.6%	91.7%	56.0%
<i>Married</i>	17.4%	4.2%	36.0%
<i>Divorced</i>	-	4.2%	8.0%

3.1.2 Body Measurements

Anthropometric data by eating disorder diagnosis are reported in Table 3.2. According to the American College of Sports Medicine (ACSM), body fat measurements provide a more accurate picture of health status than do body mass index (BMI) measurements (American College of Sports Medicine, 2005). While BMI is one indicator of health risk, it does not distinguish between fat, muscle, and bone, and is more appropriately used in epidemiological studies and with obese individuals. Experts do not yet agree on an optimal healthy level of body fatness, however the current ACSM recommendations for adult men is to have between 10 and 22% body fat, and between 20 and 32% body fat for adult women. Body fat data were the focus of analysis to discern whether patients in this sample were truly improving in their health.

Table 3.2 Anthropometric Characteristics by Eating Disorder Diagnosis

	Anorexia Nervosa	Bulimia Nervosa	Eating Disorders Not Otherwise Specified
N	23	24	25
Weight			
<i>Pretreatment</i>	90 ± 15 pounds (Range: 67 - 118)	133 ± 29 pounds (Range: 87 - 203)	114 ± 14 pounds (Range: 87 - 144)
<i>Discharge</i>	108 ± 12 pounds (Range: 84 - 131)	136 ± 25 pounds (Range: 93 - 192)	124 ± 12 pounds (Range: 98 - 149)
Percent Body Fat			

Table 3.2 - Continued

<i>Pretreatment</i>	5% ± 5% (Range: 0 – 17%)	19% ± 5% (Range: 10 –31%)	14% ± 7% (Range: 2 - 28%)
<i>Discharge</i>	9% ± 5% (Range: 2 – 20%)	20% ± 6% (Range: 4 – 33%)	17% ± 6% (Range: 6 – 27%)
Body Mass Index (BMI)			
<i>Pretreatment</i>	15 ± 2 (Range: 12 – 18)	22 ± 4 (Range: 17 – 30)	19 ± 2 (Range: 14 - 25)
<i>Discharge</i>	18 ± 1 (Range: 15 – 21)	22 ± 3 (Range: 19 – 29)	21 ± 2 (Range: 17 – 24)

While all three ED diagnosis groups had pretreatment percent body fat measurements below the recommended range, as expected, the AN group was the most severe with a mean of 5%. Paired sample t-Tests suggest there is a statistically significant change in body fat percent in the desired direction from pretreatment to discharge for the AN and EDNOS diagnosis groups at the .001 level of significance (AN: $t = -2.99$; $p < .001$ and EDNOS: $t = -4.13$; $p < .001$). The AN mean percentages indicate the desired outcome of an increase in body fat percent; pretreatment mean = 5%, discharge mean = 9%. Likewise, body fat increased for patients with EDNOS; pretreatment mean = 14%, discharge mean = 17%.

3.1.3 Length of Stay

The average length of stay (LOS) for the entire sample was 51 days (SD = 9), with a range of 45 – 90 days. Table 3.3 provides length of stay means for each ED diagnosis. Often thought of as the most clinically challenging ED patients, it is not surprising those diagnosed with AN stay an average of 2 months while the other subgroups are in treatment fewer days. An ANOVA was run to determine if there was a statistically significant difference in the days each subgroup was in treatment. At the .001 level of significance, there was only a statistically significant difference between the length of stay for AN compared to the other two subgroups ($F = 38.508$, $p < .001$). Post hoc tests indicate similar mean length of stay days for the BN and EDNOS subgroups.

Table 3.3 Length of Stay by Eating Disorder Diagnosis

	Anorexia Nervosa	Bulimia Nervosa	Eating Disorders Not Otherwise Specified
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Table 3.3 - Continued

N	23	24	25
Length of Stay	60 ± 9 days (Range: 45 - 90)	45 ± 1 days (Range: 45 - 52)	49 ± 7 days (Range: 45 - 60)

3.1.4 Equine Therapy Activities

The mean number of sessions the sample participated in was 9.24 (SD = 3.45, range = 1 - 20). The AN subgroup participated in an average of 10.35 sessions (SD = 4.28, range = 1 - 16); BN averaged 9.42 session (SD = 3.11, range = 4 - 20); and EDNOS averaged 8.04 (SD = 2.56, range = 2 - 13). An ANOVA showed there was no difference in the number of EAT sessions for each ED subgroup ($F = 2.867, p = .064$).

Table 3.4 shows the majority of patients participated in group, ground and mounted equine therapy activities. See Appendix E for Remuda's explanation of each activity and the corresponding MET score in the Equine Activity Legend.

Table 3.4 Equine Therapy Activities

N	Count	Frequency
N	72	72
Type of Equine Session		
<i>Group</i>	72	100%
<i>One on One</i>	27	38%
<i>Ground</i>	63	88%
<i>Mounted</i>	67	93%
Name of Equine Activity		
<i>1 If I were a Horse</i>	13	18%
<i>2 Horseshoe Activity</i>	4	6%
<i>3 Kaleidoscope Horse</i>	6	8%
<i>4 My Horse Models</i>	3	4%
<i>5 Horse Canvas</i>	24	33%
<i>6 Silly Horse</i>	4	6%
<i>7 Leading Exercise</i>	21	29%
<i>8 Equine Orientation</i>	9	13%
<i>9 Serenity Halter Walk</i>	1	1%
<i>10 Fruits of the Spirit</i>	2	3%
<i>11 Life's Little Obstacles</i>	4	6%
<i>12 My World</i>	16	22%
<i>13 Grooming</i>	34	47%
<i>14 Ground Driving</i>	7	10%
<i>15 Tack Renewal</i>	2	3%
<i>16 Horse Spa Day</i>	6	8%
<i>17 Extended Appendage</i>	2	3%
<i>18 Musical Horse</i>	6	8%
<i>19 Leisure Trail Ride</i>	46	64%

Table 3.4 - Continued

20 Red Light/Green Light	5	7%
21 Nature Trail Ride	15	21%
22 Trust Trail Ride	32	44%
23 Challenging Trail Ride	1	1%
24 Lunge Line Training	11	15%
25 Equine Freeze Frame	1	1%
26 Serenity Ride	3	4%
27 River Ride	28	39%
28 Basic Equitation Skills	61	85%
29 Trading Places	1	1%
30 Intermediate Skills	33	46%
31 Follow the Leader	14	19%
32 Family Week Rodeo	50	69%

As Figure 3.1 shows, an overwhelming majority of equine therapy notes addressed the same three problem areas as labeled by Remuda: # 3 (mood issues), # 5 (ineffective behaviors), # 6 (relationship issues), regardless if they were one on one or group sessions. The other problem areas were only addressed in one on one sessions and included those above as well as #1 (health issues), #2 (nutrition issues), #4 (spiritual issues), # 7 (aftercare issues), #8 (family week issues), #9 (anxiety issues), # 10 (trauma issues), and # 11 (substance abuse). See Appendix F for Remuda’s description of the problem areas.

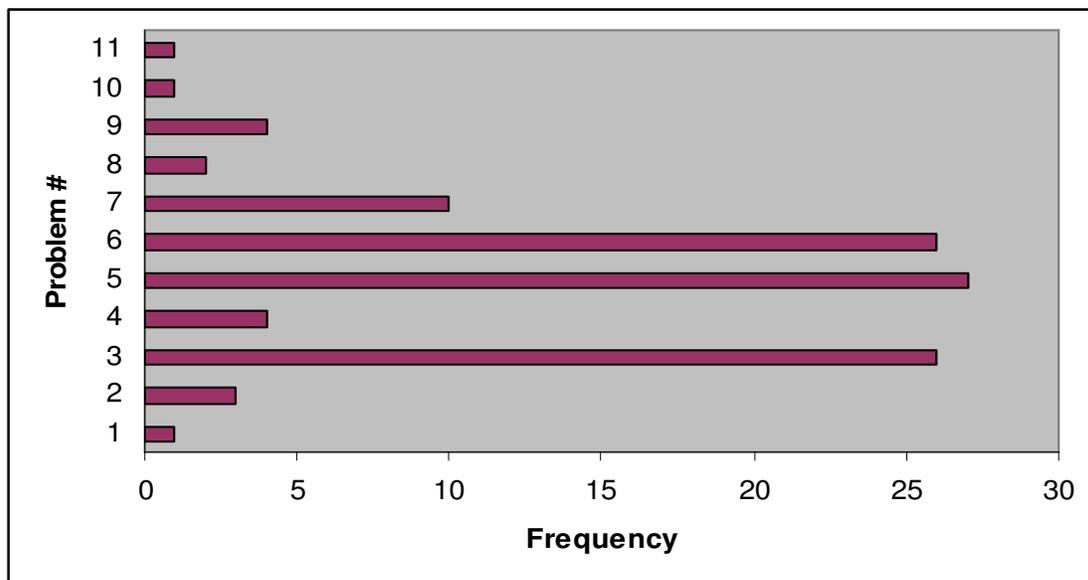


Figure 3.1 Graphical representation of frequency of problem areas addressed in EAT.

3.1.5 EDI-2 and BDI-II

Table 3.5 provides mean EDI-2 and BDI-II scores for the entire sample, along with the Beck depression level to which the scores correspond. EDI-2 scores reveal patients started with higher scores at admission and at discharge they were lower, indicating improvements in ED psychopathology. BDI-II scores indicate severe depression at admission and mild depression at discharge. Using a paired samples t-test, there were highly statistically significant differences between EDI-2 ($t = 9.14$; $p < .001$) and BDI-II ($t = 6.42$; $p < .001$) admission and discharge scores.

Table 3.5 Mean EDI-2 and BDI-II Scores

Total Eating Disorder Sample		
	Admission	Discharge
N	72	72
EDI-2 Score	104 ± 40 Range: (11 – 186)	72 ± 46 Range: (6 – 189)
BDI-II Score	31 ± 12 Range: (5 - 59)	16 ± 14 Range: (0 - 53)
BDI-II Depression Level	Severe	Mild

Paired sample t-tests found that at the .001 level of significance, there is a statistically significant difference between BDI-II admission and discharge scores for those people with the AN diagnosis ($t = 5.97$; $p < .001$), BN diagnosis ($t = 8.55$; $p < .001$), and EDNOS diagnosis ($t = 3.29$; $p < .001$) who received treatment at Remuda. Mean scores indicate a reduction in depression symptoms, which is the desired outcome (admission mean = 29, 33, 30, discharge mean = 15, 14, 19 for AN, BN, and EDNOS respectively). Similarly, there is a statistically significant difference between EDI-2 admission and discharge scores for the patients with AN ($t = 4.51$; $p < .001$) and BN ($t = 7.94$; $p < .001$), but not EDNOS ($t = 3.29$; $p = .15$). Mean scores show a reduction in ED symptoms, which is the desired outcome (admission mean = 99, 123, discharge mean = 61, 67 for AN and BN respectively).

3.1.6 METs and Change Scores

The sample's mean MET score, a representation of the level of physical activity involved in EAT, was 2072 (SD = 891, range = 120 – 5145). For the AN subgroup, the mean MET score was 2320 (SD = 1073, range = 120 – 3922); for BN subgroup, the mean MET score was 2172 (SD = 848, range = 675 – 5145); and for the EDNOS subgroup, the mean MET score was 1748 (SD = 655, range = 382 – 3120). Comparing the means of the subgroups, it appears AN and BN engaged in similar equine physical activity levels which was more than the EDNOS subgroup. However, a one-way Analysis of Variance indicates at the .05 level of significance, there is not a statistically significant difference in MET scores among the three ED groups ($F = 2.832$; $p = .066$). Therefore all subgroups worked at similar activity intensities during equine therapy sessions throughout their stay in treatment.

The sample's mean BDI-II and EDI-2 change scores were 14 (SD = 13, range = -28 – 43) and 33 (SD = 43, range = -143 – 108) respectively. The mean BDI-II and EDI-2 change scores for the AN subgroup were 13 (SD = 14, range = -7 – 43) and 33 (SD = 35, range = -27 – 108) respectively. The mean BDI-II and EDI-2 change scores for the BN subgroup were 19 (SD = 11, range = 2 – 38) and 57 (SD = 35, range = 12 – 108) respectively. The mean BDI-II and EDI-2 change scores for the EDNOS subgroup were 11 (SD = 17, range = -28 – 43) and 10 (SD = 48, range = -143 – 82) respectively. ANOVA results indicate no difference in BDI-II change scores between the subgroups ($F = 2.455$, $p = .093$) and a statistically significant difference in EDI-2 change scores at the .001 level between BN and EDNOS subgroups only ($F = 8.491$, $p < .001$). Post hoc tests show the BN subgroup had significantly higher mean EDI-2 change scores compared with the EDNOS subgroup, and therefore reported more improvement in their ED symptoms from admission to discharge.

3.1.7 METs as a Predictor of BDI-II and EDI-2 Improvements

The idea that the physical activity portion of EAT in ED treatment is associated with an improvement of ED and depression symptoms was explored through regression analyses. Other variables of interest were examined as well. For BDI-II, the ANOVA indicated the change

score model was not significant ($F = 2.344, p = .081$). Therefore, the BDI-II discharge score was analyzed for association with the METs variable. Of the key variables included in the regression models, METs were related to BDI-II discharge scores ($r = -.372, p < .005$) and EDI-2 change scores ($r = .335, p < .005$), while BDI-II discharge scores were also related to EDI-2 change scores ($r = -.582, p < .005$), and LOS was related to EDI-2 change scores ($r = -.265, p < .01$) and eating disorder diagnosis ($r = .681, p < .005$). Table 3.6 reports Pearson correlations among study variables.

Table 3.6 Eating Disorder Outcomes, Diagnosis, Length of Stay, and METs: Correlations and Descriptive Statistics ($N = 72$)

Variables	1	2	3	4	5
1. BDI-II Discharge Score	-	-.582**	-.047	.015	-.372**
2. EDI-2 Change Score	-.582**	-	-.002	-.265*	.335**
3. Eating Disorder Diagnosis ^a	-.047	-.002	-	.681**	.192
4. Length of Stay	.015	-.265*	.681**	-	.136
5. METs	-.372**	.335**	.192	.136	-
<i>M</i>	16.32	32.79	.32	51.35	2072.19
<i>SD</i>	13.66	43.34	.47	9.03	891.50

Note: ^aEating Disorder Diagnosis: 0 = Bulimia Nervosa and Eating Disorder Not Otherwise

Specified, 1 = Anorexia Nervosa.

* $p < .01$ (1-tailed). ** $p < .005$ (1-tailed).

Table 3.7 shows the results of regression analyses testing the effects of the study variables on BDI-II discharge scores and EDI-2 change scores. In the first step of each regression equation, ED diagnosis was entered. In step 2, LOS was entered. In the third and final step, total METs was entered.

Results show 14% of differences in BDI-II discharge scores for the sample are associated with the final model which included METs ($R^2 = .14$; Adjusted $R^2 = .11$). METs is a statistically significant predictor of BDI-II discharge scores ($B = -.01$; $\beta = -.38, p = .002$). As METs increase, BDI-II discharge scores decrease, indicating a greater improvement in depression symptoms.

Table 3.7 Regression Analysis for Study Variable Effects on Eating Disorder Outcomes (N = 72)

Variable	B	SE B	β	t	p	ΔR^2	R ²	F	Model p
BDI-II Discharge Score						.012	.002	.15	.70
Eating Disorder Diagnosis ^a	-1.36	3.47	-.05	-.39	.70				
BDI-II Discharge Score						.023	.006	.22	.81
Eating Disorder Diagnosis ^a	-3.09	4.77	-.11	-.65	.52				
Length of Stay	.13	.25	.09	.53	.60				
BDI-II Discharge Score						.106	.143	3.79	.01
Eating Disorder Diagnosis ^a	-1.05	4.50	-.04	-.23	.82				
Length of Stay	.14	.23	.09	.59	.56				
Total METs	-.01	.002	-.38	-3.30	.002				
EDI-2 Change Score						.014	.000	.00	.99
Eating Disorder Diagnosis ^a	-.14	11.03	-.002	-.01	.99				
EDI-2 Change Score						.105	.130	5.15	.008
Eating Disorder Diagnosis ^a	30.82	14.16	.33	2.18	.03				
Length of Stay	-2.36	.74	-.49	-3.21	.002				
EDI-2 Change Score						.215	.248	7.47	.000
Eating Disorder Diagnosis ^a	24.82	13.39	.27	1.85	.07				
Length of Stay	-2.38	.70	-.50	-3.45	.001				
Total METs	.02	.005	.35	3.27	.002				

Note: ^aEating Disorder Diagnosis: 0 = Bulimia Nervosa and Eating Disorder Not Otherwise Specified, 1 = Anorexia Nervosa.

Regression analyses for EDI-2 change score indicate in model 2, when LOS entered the equation, the model accounted for 13% of the variance ($R^2 = .13$; Adjusted $R^2 = .11$). LOS has a statistically significant negative relationship to EDI-2 ($B = -2.36$; $\beta = -.49$, $p = .002$). When LOS enters the equation, ED diagnosis becomes significant, indicating the AN diagnosis is

significantly related to the EDI-2 change score ($B = 30.82$; $\beta = .33$, $p = .03$). As patients' LOS increases, their EDI-2 change scores decrease, indicating less improvement in ED symptoms with a longer treatment stay. Model 3, which had LOS and METs, accounted for 25% of the variance in EDI-2 change score differences ($R^2 = .25$; Adjusted $R^2 = .22$). METs are a statistically significant predictor of EDI-2 change scores ($B = .02$; $\beta = .35$, $p = .002$). When LOS and METs enter the equation, ED diagnosis is not significant ($B = 24.82$; $\beta = .27$, $p = .07$). When length of stay is controlled for, results show as METs increase, EDI-2 change scores increase. This suggests a greater improvement in ED symptoms is associated with greater physical activity in EAT.

A concern in this study is that the longer a patient stays in treatment, the higher their MET totals would be, possibly skewing results of ED and mood symptoms. A correlation analysis was run to determine if there was an association between length of stay and METs. It was found there is not significant relationship between the two ($r = .136$, $p = .255$). It is also possible those patients with prior riding experience may participate in EAT activities that require more skills and higher levels of physical intensity. However, for this sample an independent t-test indicated there was no significant difference in METs between those with and without prior riding experience ($t = -.549$, $p = .580$).

3.1.8 Program Satisfaction Survey

One patient (ID 69) did not rate or comment on the equine program and therefore was not included in the data analyses. The mean score for the question "Rate the effectiveness of the Equine Program" was 7.6 (SD = 2.6, range = 1 to 10), indicating this sample of 71 patients viewed equine therapy as beneficial to their treatment. A one-way ANOVA was run to determine whether people with different ED diagnoses rated the program differently. Results show there was no significant difference in scores among the three groups ($F = 1.129$; $p = 0.33$). An independent t-test was used to see if prior riding experience played a factor in effectiveness scores. Results show there was no significant difference in effectiveness scores between those with and without prior riding experience ($t = -1.419$, $p = .16$). A correlation

analysis suggests there is not significant association between the METs (amount of physical activity with EAT) and the effectiveness rating ($r = .097, p = .423$). Therefore, regardless of the total physical exertion a patient had with the horses, their prior riding experience, and their ED diagnosis, patients viewed EAT as an effective program at Remuda.

3.2 Qualitative Analysis

My personal world view has influenced the focus of qualitative analysis. Prior clinical experience with the ED population as a registered dietitian, professional fitness instructor experience, and recent internship experiences with ED clients in a private practice setting shaped my interpretations of the EAT program. I am very interested in the ways physical activity are positive mediators in treatment and recovery. More attention to the process of normalization of physical activity with this population is needed. In my own experience, it is an area that I have addressed with clients and can be modeled in residential treatment facilities like Remuda. EAT is an excellent treatment option as it allows for patients to gain new insights into their ED patterns and behaviors while modeling a healthy range of physical activity.

3.2.1 Equine Therapy Form

The time, length, and date of the session, and whether the session was a group or one on one activity were documented at the top of each page. The activities specialist completed the following sections of the note: "Related to problem #", "D" (data), "A" (assessment), and "P" (plan). Information in the data section included the name of the equine activity in which the patient participated, the focus of the activity, a description of the activity, and any instruction, explanation, and encouragement the patient was given by the staff. Either the activity specialist or the patient's therapist completed the one on one EAT notes together or alone by the therapist. The 72 Equine Therapy forms reviewed had descriptions for 32 different equine activities.

The assessment section described the patient's mood, behavior, and what they exhibited in terms of relationship interactions. The patient's affect and mood during EAT was mostly reported as "Joyful, Cheerful, and Appropriate"; patient's behavior was typically

discussed as “Focused, Engaged, and Confident”; and as a rule, patient’s were described as exhibiting a “good/moderate/minimal level of: Ability to problem solve, Communication, Concern with performance and appearance, Interest, Interaction, Motivation, Participation, Pattern of perfectionism and inflexibility”.

The plan section of each note recurrently used the phrase, “The patient will continue in program as scheduled to increase”, and then recommended at least 3-4 of the following psychosocial concepts to address in future sessions: “Range of affect, Assertiveness, Appropriate expression of needs, Ability to problem solve, Ability to trust and take risks, Communication, Communication Skills, Constructive use of leisure time, Enjoyment, Goal directed behaviors, Learn new skills and responsibility, Motivation towards healthy life skills development, Relaxation, Self confidence, Self confidence and sense of mastery, Stability of mood and behaviors”.

Direct quotes from patients were not found in the notes to provide their personal experience of how EAT helped them with their ED symptoms. However, the documentation from the viewpoint of the activities assistants and therapists in both the group and one on one EAT notes highlight several themes of psychosocial improvement they observed in the patients: *Identifying Contributing Factors to EDs*: One on one EAT sessions helped patients see the underlying aspects of their EDs when they named the horses with two descriptors of their ED such as fear, guilt, control, shame, body image, mistrust in people, etc. Visualizing their EDs in this new way was beneficial to the patient.

Engaging in Social Interactions: Many patients with EDs isolate themselves for various reasons and lose important contact with acquaintances, friends, significant others, and family. They close doors to any possibility to new relationships. The group rides during EAT speak to the saying “There is power in numbers” where patients are together with their peers and practicing healthy relationship skills. A benefit of engaging in physical activities such as this is decreased social isolation.

Asserting Needs through Effective Communication: The ability to first identify and then express your own needs is a skill that is not well developed in some patients with EDs. While directing a horse, the patient gets in touch with any emotions they feel and practices verbalizing those emotions to the therapist, for example. Interaction with the horses during EAT offers unique ways for patients to engage in nonverbal communication and assert themselves with the horse.

Acceptance and Flexibility: ED patients often place undue pressure on themselves to be perfect in every situation. EAT allows them to be around a non-judgmental being while grooming and riding, helping them with self-acceptance. A one on one note gave an account of a patient who had a hard time accepting her therapist being 10 minutes late to the session. The two processed the patient's feelings and helped her practice flexibility in thoughts about herself and others.

Patients identify analogies from the experiences that are helpful to their recovery through one on one EAT activities. The following is a good example of such session:

Equine Experiential 1:1

Patient 97

DOS: 2/1/08

TIME: 60 minutes

RELATED TO PROBLEM #: 3 (mood Issues); 5 (Ineffective Behaviors); 6 (Relationship Issues)

D: Today's equine experiential one on one was "My World". Session began with patient identifying five things that were important to her which were then represented by five barriers of feed within the round pen which was to represent her world. Patient identified two underlying aspects of her eating disorder which she defined as fear and control which were then represented by two horses. Patient was also able to identify two support people for her when she returns home which were represented by this therapist and activities staff. Patient was given instruction that she was to stand upon the bale of hay in the center of the round pen which was to represent her life. Patient was informed that the horses which were the two aspects of her eating disorders would be brought into the round pen which was her world and her task was to protect the five barrels of feed which were the important things in her life and also to protect her life which was the bale of hay she was standing upon. Patient was told that her support people were only able to do what she had asked and that neither she nor the support were able to touch the horses just like people can not really touch control or fear and lastly patient was not to step off the bale of hay as that would represent stepping off her life which would mean death. **Patient initially began asking for help from her support** to be able to attempt distracting her eating disorder from the important things in her life. **Patient did try several things** from clapping to saying things to being a barrier and using continual movement by her support people to try to protect her important things. Patient did receive feedback from her support people that they were put in unsafe positions to try to protect her important things. **Patient was able to articulate.** Patient also received feedback from her support people that they were

getting tired and exhausted from continually moving and distracting her eating disorder. Patient did state becoming frustrated because of not being able to control the situation. **Patient also stated being frustrated** with the feedback from one support person in her life feeling that the eating disorder was separating their relationship and getting between their relationships. **Patient did identify that the picture as it looked in the round pen was representative of her life and her eating disorder. Patient was able through questions regarding what she could do, how she felt, and wanted to do, recognize that the important things in her life were on the outskirts of her world and asked her support to bring them closer. Patient was then able to recognize better being able to manage the situation when that occurred and having her support close to her also. Patient was then able to process the experience and the frustration she was having.** Patient did ask during this process time if other peers doing this same experiential started with bringing things in closer. Patient as she continued to talk was able to state that that would be comparison and she did not want to know the answer and that just as everyone's recovery is different so is the experiential. Patient was asked to journal regarding this situation and was able to make several observations regarding the experiential.

The patient's therapist completed the note and remarked under the assessment section, "Patient was able to make parallels to how things can be different from before she had her eating disorder". The patient demonstrated several other areas of improvement (see bolded text above) that will be beneficial to her recovery such as asking for help, problem solving, thinking positively, and verbalizing feelings of frustration.

3.2.2 Program Satisfaction Survey

To keep the focus on physical activity with EAT, comments from the Program Satisfaction Survey were examined for themes related to that construct. While terms such as "exercise" or "physical activity" were not specifically found, the theme that emerged was the desire of the patient to engage in more overall or equine specific activity in terms of length of time and/or frequency. A request for more equine activities was made by 13 patients. A common complaint was expressed well by patient 30 when she said, "I felt that we were never given enough time to really learn. The sessions were too short, and new girls were always joining our group so we never progressed." When asked about ways the Challenge Course and Recreation Programs could be improved, 12 patients suggested an increase in general recreation activity offered at Remuda. Patient 64 provides a good summary of those comments with her answer to, "Have more time at each of them. More intense recreation."

Other themes that emerged from the survey were: 1) Have more activities for those who can't ride due to heat or osteoporosis:

Patient 94, "I feel that there should be more therapeutic things/ more options for individuals who can not ride the horses."

Patient 90, "Other options for those with osteoporosis who can't ride the horses."

Patient 3, "Having more activities for those who cannot ride"

2) Listen to patient suggestions:

Patient 100, "The Recreation programs could be improved by taking suggestions from the residents."

Patient 74, "More equine and challenge course; and either no recreation programs or someone who plans it well according to advice and suggestions from the adults of what they would like to do and what would be fun to them."

3) Treat patients as adults:

Patient 8, "Activities that involve coloring horse cut-outs, and parading around chapel in cowboy hats and bandanas with toy stick horses are unacceptable for teenage and adult women all the way up into their sixties. It is demeaning and is in no way beneficial."

Patient 88, "In equine, they do not respect us as adults."

Patient 34, "Perhaps look for activities that are more appropriate for ADULTS."

Patient 85, "I'm not sure how you could make the activities more geared towards adults, but I don't like feeling like I am being treated like a child."

Patient 42, "New rec program all together...I often feel stupid and ridiculous when I am at rec...we are not children!"

Based on these comments, a good portion of patients would have preferred increased time with and intensity of physical activity, whether with EAT or other recreational activities. The EAT program was not tailored to include patients who can not participate in the mounted group activities if they happened to be planned on the same day the patient is scheduled for an EAT

session. Patients with osteoporosis were limited to ground activities in EAT (See Appendix ___ for Remuda's and were seeking a more productive use of their time and/or other ways to be active. This response could be part of the psychology of some women with EDs who become invested in many ambitious goals and activities. These patients may not yet be comfortable with a self-concept that allows for downtime. At the same time, they may be feeling excluded from their peers who do participate in the EAT session.

A plausible explanation for comments related to being treated as adults is the sense of independence and dependence with which many women with EDs struggle. Maintaining a high degree of independence is often a goal as they expect themselves to be unrealistically self-reliant. Having proven to themselves they do not need nurturance, affection, or protection from others, they perceive being "child-like" during recreational activities as a demeaning experience.

CHAPTER 4

DISCUSSION

4.1 Safety of Physical Activity with EAT

The safety of exercise during treatment for the ED population historically has been questioned, especially for those with AN. This study supports findings from those previously mentioned (Thien et al., 2000; Szabo & Green, 2002; Tokumura et al., 2003; Calogero & Pedrotty, 2004; Chantler et al., 2006) that exercise used in treatment of people with AN enhanced quality of life without impeding gain of body fat. At statistically significant levels, body fat increased and BDI-II and EDI-2 scores for patients with AN were improved. Patients with BN and EDNOS also showed improvements in these treatment outcomes with no impairment from the physical activity during the EAT sessions. This finding adds evidence-based knowledge to the literature to help allay concerns that supervised exercise programs harm people in treatment for an ED. Just as importantly, it provides evidence that physical activity involved in grooming and riding a horse for 30 to 90 minutes is safe for people who suffer with an ED.

4.2 Efficacy of Physical Activity with EAT

The results of this study indicate physical activity involved in equine therapy plays a role in ED symptom improvements. METs, representing the amount of energy spent in physical activity in EAT, were significantly related to improvements in BDI-II discharge scores and EDI-2 change scores, even with a small total sample size of 72. These are exciting and promising findings for patients with EDs and clinicians alike who wish to include physical activity with EAT in treatment plans.

While physical activity with EAT is associated with a portion of improvement in patients' depression symptoms, the METs made a larger impact on their ED symptoms. One plausible explanation for this observation is that physical activity is better suited to the concrete subscales of the EDI-2 concepts than the more abstract constructs of mood on the BDI-II. For example a

mind-body connection during physical activity is helpful to address Interoceptive Awareness, which is an individual's ability to discriminate between sensations and feelings and between the sensations of hunger and satiety for eating disorder patients. When a patient engages in any physical activity, they are generally more aware of their own physical bodily sensations. As a consequence, they perceive, interpret, and act on their heightened sense of what and how they are feeling as they move in various ways. A therapist can tie this situation into a discussion about the patient's difficulty with experiencing and expressing emotional and physiological states.

The qualitative analysis proved themes of improved psychological well-being were found in the equine therapy notes for those patients whose length of stay was 30 days or more. Many of the psychotherapeutic benefits of EAT in the treatment of EDs as identified by Cumella (2003) were documented in the one on one EAT sessions in this study. With the quantitative analyses, the association the physical activity portion of EAT has with improved ED outcomes is another benefit to include. There is no doubt of the therapeutic value of EAT in treating ED patients.

4.3 EAT Program Survey

The analysis of the EAT program survey indicates several patients were interested in more time with the horses either participating in other ground activities altogether or in those with more rigorous mounted activities. An evaluation of how to best utilize the current EAT staff or assess the need to hire more staff is recommended to address the treatment needs all patients at Remuda.

Another suggestion is for Remuda is to revisit the EAT schedule and consider having standard alternative physical activities for patients with osteoporosis or coded "yellow" in activity status (See Appendix G for Remuda's Activity Safety Status Guidelines and Appendix H for Remuda's Patient Activity Guidelines for Equine Therapy). The North American Riding for the Handicapped Association, Inc. (NARHA) describes many equine activities and therapies designed for people with disabilities and diverse needs. An example from this organization that

Remuda could utilize for their patients with osteoporosis is therapeutic carriage driving. NARHA's website highlights the benefits of this activity: "Using a horse and carriage gives participants an alternative or an addition to riding, opening up the world of horses to those who may be unable to ride due to weight, balance, fatigue, fear of heights, the inability to sit astride, or other issues. Therapeutic driving is all about imparting knowledge of safety, horses, harnessing, and driving skills to children and adults using teamwork." Also, ground EAT activities such as grooming and tacking can be provided with EAT staff who are not on the group rides. This would allow for EAT to continue with those patients and help them to feel included rather than punished and frustrated.

4.4 Limitations of the Study

Several limitations of the study need to be acknowledged. Retrospective chart reviews do not allow for random assignment of patients to an experimental and control group. Therefore there is a possibility other program interventions provided at Remuda Ranch interacted with the effects of EAT found in this study.

While many demographic characteristics of this sample were analyzed, level of income was notably absent. This data was not available for analysis in the study, leaving open the question of whether all income levels have equal access to the physical activity involved in EAT treatment at a residential facility such as Remuda Ranch. It is likely ED patients in the U.S. with low and middle incomes may not have adequate finances or insurance coverage for this effective care.

The equine therapy notes had a few drawbacks. The standardized form did not provide enough detailed information to ascertain specific differences in patient progress. Only the one on one session notes presented any information about explicit ways patients were improving. The dependency on these EAT notes for pertinent data was another limitation to the study. Due to the fact there were only two one on one EAT activities, "My World" and "Life's Little Obstacles" this may have limited the types of psychological improvement that may have been seen with other EAT activities.

The Compendium of Physical Activities is a system that standardizes the MET intensities of physical activities does not determine the precise energy cost of physical activity within individuals. The values do not take into account individual differences in body mass, adiposity, age, and gender. Therefore, the energy spent by patients with AN versus patients with BN for the same activity can actually be large. Also, the true energy cost for individuals in this sample with EDs may or may not be close to the MET level offered in the Compendium.

4.5 Implications for Social Work

For social workers who work with patients with EDs, this study provides valuable information that may be entirely novel, or may add to their knowledge base of EAT and/or physical activity. Raising clinicians' awareness of EAT and exercise as a valid treatment modality for their patients empowers their efforts to maximize their effectiveness.

In keeping with social work values, the physical activity involved in EAT is a compelling therapeutic method to increase a patient's sense of personal power and efficacy. In essence, they gain a new understanding of themselves in relation to their EDs through EAT sessions via two mechanisms: human-animal interaction and physical activity.

The patient comments from the qualitative results are clinically important for social workers as well. Social workers in this field may be more likely to ask their own patients about any desires to incorporate more EAT or supervised physical activity in their treatment plan. Subsequently, patient adherence may increase with this approach. The act of listening to the needs and concerns of a patient and, as appropriate, adapting treatment, shows respect for the inherent dignity and worth of that person. This is another ethical principle of the profession.

4.6 Conclusions and Future Directions

This study presented some of the first data in the literature about EAT with the ED population at a residential setting. Physical activity involved with EAT was significantly associated with improved ED symptoms of adult women with AN. Improvements in psychological well-being from EAT were clearly delineated. The findings were very promising and warrant future research.

The need for well-designed controlled randomized trials in this area is immense. In the residential setting this may not be feasible or ethical. However a study comparing the various types of recreation activities offered at residential treatment centers may provide further information about EAT's effectiveness.

A randomized study of EAT with the ED population on an outpatient basis is realistic. In any future studies assessing the status of exercise behaviors before the intervention will provide information for who EAT is best suited. Suggested measurement instruments include those used in this study as well as the Obligatory Exercise Questionnaire (Pasma & Thomson, 1988), which measures behaviors and attitudes related to exercise, and the Reasons for Exercise Inventory (Silberstein, Striegel-Moore, Timko, & Rodin, 1998), which measures the importance of different motivations for exercise. A closer analysis of which subscales on the EDI-2 are impacted by physical activity the most would be worthwhile. Also, utilizing technology such as a pedometer and heart rate monitor would enable researchers to accurately measure physical activity for each participant during EAT. Asking the study participants' views of the benefits they experience with EAT would also be important information to gather. Assessing for a dose response with variations in time, intensity, and frequency is important. Finally, gathering information about binge/purge subtypes of each ED will determine if EAT is of equal benefit to all who suffer from EDs.

APPENDIX A

DSM IV CRITERIA FOR EATING DISORDERS

DSM –IV Criteria for Anorexia Nervosa (AN)
(American Psychiatric Association, 1994)

A. Refusal to maintain a minimally normal body weight for age and height (less than 85% of expected)
B. An intense fear of gaining weight or becoming fat even though underweight
C. A distorted experience of one's body weight or shape, undue influence of body weight or shape on self evaluation, or denial of the seriousness of current low body weight.
D. In postmenarcheal females, the absence of at least three consecutive menstrual cycles (i.e. amenorrhea)
Types: Restricting Type: During current episode of AN, individual has not engaged in binge-eating or purging behavior. Binge-Eating/Purging Type: During current episode of AN, individual regularly engaged in binge-eating and purging behavior

DSM-IV Criteria for Bulimia Nervosa (BN)
(American Psychiatric Association, 1994)

A. Recurrent episodes of binge eating. Binge eating episode is characterized by both: 1. Eating, within any two hour period, an amount of food that is definitely larger than what most people would eat during a similar period of time and under similar circumstances 2. A sense of lack of control over eating during the episode (e.g. a feeling that one cannot stop eating or control what or how much one is eating)
B. Recurrent compensatory behavior in order to prevent weight gain (i.e. self induced vomiting; misuse of laxatives, diuretics, enemas, or other medications; fasting; or excessive exercise)
C. The binge eating and compensatory behaviors both occur, on average, at least twice a week for 3 months
D. Self-evaluation is unduly influenced by body shape and weight.
E. The disturbance does not occur exclusively during episodes of Anorexia Nervosa.
Types: Purging Type: during the current episode of BN, the individual has regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas. Nonpurging Type: during the current episode of BN, the individual has used other compensatory behaviors, such as fasting or excessive exercise, but has not regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas.

DSM-IV Criteria for Eating Disorder Not Otherwise Specified (EDNOS)
(American Psychiatric Association, 1994)

For eating disorders that do not meet criteria for AN or BN. Examples include:
1. For females, all of the criteria for AN are met except the individual has regular menses
2. All criteria for AN are met except that, despite significant weight loss, the individual's current weight is in the normal range.
3. All criteria for BN are met except binge eating and compensatory behaviors occur less than twice a week or for a duration of less than three months.
4. Regular use of compensatory behavior by an individual of normal body weight after eating small amounts of food
5. Repeatedly chewing and spitting out, but not swallowing, large amounts of food.
6. Binge-eating disorder: recurrent episodes of binge eating without regular use of compensatory behaviors characteristic of BN.

APPENDIX B

EATING DISORDER INVENTORY-2

The Eating Disorder Inventory-2 (EDI-2) contains eleven scales. Scores in the eating disorder range on each scale indicate the presence of the following problems:

Drive for Thinness: a drive to be thin, including a preoccupation with weight and body shape and excessive concern with dieting.

Bulimia: bulimic issues, including a tendency toward episodic binge-eating that may be followed by some form of purging.

Body Dissatisfaction: dissatisfaction with the overall shape and size of her body.

Ineffectiveness: low self-esteem, including feelings of insecurity, worthlessness, emptiness, general inadequacy, and lacking control over events in her life.

Perfectionism: perfectionism, including unrealistically high expectations of herself and the belief that others, such as parents (and teachers), may expect superior achievement from her.

Interpersonal Distrust: interpersonal distrust, involving alienation from other people and a reluctance to form close relationships.

Interceptive Awareness: alexithymia, involving confusion and apprehension in recognizing and accurately responding to emotional and physiological states.

Maturity Fears: maturational fears, including a belief that the demands of adulthood may be overwhelming coupled with a strong desire to retreat to the security of childhood.

Asceticism: tendency to seek virtue through the pursuit of spiritual ideals such as self-discipline, self-denial, self-restraint, self-sacrifice, and control of bodily urges.

Impulse Regulation: tendency toward impulsivity, substance abuse, recklessness, hostility, destructiveness in interpersonal relationships, and self-destructiveness.

Social Insecurity: the belief that social relationships are tense, insecure, disappointing, unrewarding, and generally of poor quality.

Garner, D. M. (1991). *Professional manual for the Eating Disorders Inventory-2*. Lutz, FL:

Psychological Assessment Resources, Inc.

APPENDIX C

BECK DEPRESSION INVENTORY - II



Beck Depression Inventory

Baseline

V 0477

CRTN: _____ CRF number: _____

Page 14

patient inits: _____



Date: _____

Name: _____ Marital Status: _____ Age: _____ Sex: _____

Occupation: _____ Education: _____

Instructions: This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the **one statement** in each group that best describes the way you have been feeling during the **past two weeks, including today**. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

<p>1. Sadness</p> <p>0 I do not feel sad.</p> <p>1 I feel sad much of the time.</p> <p>2 I am sad all the time.</p> <p>3 I am so sad or unhappy that I can't stand it.</p> <p>2. Pessimism</p> <p>0 I am not discouraged about my future.</p> <p>1 I feel more discouraged about my future than I used to be.</p> <p>2 I do not expect things to work out for me.</p> <p>3 I feel my future is hopeless and will only get worse.</p> <p>3. Past Failure</p> <p>0 I do not feel like a failure.</p> <p>1 I have failed more than I should have.</p> <p>2 As I look back, I see a lot of failures.</p> <p>3 I feel I am a total failure as a person.</p> <p>4. Loss of Pleasure</p> <p>0 I get as much pleasure as I ever did from the things I enjoy.</p> <p>1 I don't enjoy things as much as I used to.</p> <p>2 I get very little pleasure from the things I used to enjoy.</p> <p>3 I can't get any pleasure from the things I used to enjoy.</p> <p>5. Guilty Feelings</p> <p>0 I don't feel particularly guilty.</p> <p>1 I feel guilty over many things I have done or should have done.</p> <p>2 I feel quite guilty most of the time.</p> <p>3 I feel guilty all of the time.</p>	<p>6. Punishment Feelings</p> <p>0 I don't feel I am being punished.</p> <p>1 I feel I may be punished.</p> <p>2 I expect to be punished.</p> <p>3 I feel I am being punished.</p> <p>7. Self-Dislike</p> <p>0 I feel the same about myself as ever.</p> <p>1 I have lost confidence in myself.</p> <p>2 I am disappointed in myself.</p> <p>3 I dislike myself.</p> <p>8. Self-Criticalness</p> <p>0 I don't criticize or blame myself more than usual.</p> <p>1 I am more critical of myself than I used to be.</p> <p>2 I criticize myself for all of my faults.</p> <p>3 I blame myself for everything bad that happens.</p> <p>9. Suicidal Thoughts or Wishes</p> <p>0 I don't have any thoughts of killing myself.</p> <p>1 I have thoughts of killing myself, but I would not carry them out.</p> <p>2 I would like to kill myself.</p> <p>3 I would kill myself if I had the chance.</p> <p>10. Crying</p> <p>0 I don't cry anymore than I used to.</p> <p>1 I cry more than I used to.</p> <p>2 I cry over every little thing.</p> <p>3 I feel like crying, but I can't.</p>
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Subtotal Page 1

Continued on Back

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0154018392
NR15645



V 0477

Beck Depression Inventory

Baseline

CRTN: _____ CRF number: _____ Page 15 patient inits: _____

11. Agitation

- 0 I am no more restless or wound up than usual.
- 1 I feel more restless or wound up than usual.
- 2 I am so restless or agitated that it's hard to stay still.
- 3 I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest

- 0 I have not lost interest in other people or activities.
- 1 I am less interested in other people or things than before.
- 2 I have lost most of my interest in other people or things.
- 3 It's hard to get interested in anything.

13. Indecisiveness

- 0 I make decisions about as well as ever.
- 1 I find it more difficult to make decisions than usual.
- 2 I have much greater difficulty in making decisions than I used to.
- 3 I have trouble making any decisions.

14. Worthlessness

- 0 I do not feel I am worthless.
- 1 I don't consider myself as worthwhile and useful as I used to.
- 2 I feel more worthless as compared to other people.
- 3 I feel utterly worthless.

15. Loss of Energy

- 0 I have as much energy as ever.
- 1 I have less energy than I used to have.
- 2 I don't have enough energy to do very much.
- 3 I don't have enough energy to do anything.

16. Changes in Sleeping Pattern

- 0 I have not experienced any change in my sleeping pattern.
- 1a I sleep somewhat more than usual.
- 1b I sleep somewhat less than usual.
- 2a I sleep a lot more than usual.
- 2b I sleep a lot less than usual.
- 3a I sleep most of the day.
- 3b I wake up 1-2 hours early and can't get back to sleep.

17. Irritability

- 0 I am no more irritable than usual.
- 1 I am more irritable than usual.
- 2 I am much more irritable than usual.
- 3 I am irritable all the time.

18. Changes in Appetite

- 0 I have not experienced any change in my appetite.
- 1a My appetite is somewhat less than usual.
- 1b My appetite is somewhat greater than usual.
- 2a My appetite is much less than before.
- 2b My appetite is much greater than usual.
- 3a I have no appetite at all.
- 3b I crave food all the time.

19. Concentration Difficulty

- 0 I can concentrate as well as ever.
- 1 I can't concentrate as well as usual.
- 2 It's hard to keep my mind on anything for very long.
- 3 I find I can't concentrate on anything.

20. Tiredness or Fatigue

- 0 I am no more tired or fatigued than usual.
- 1 I get more tired or fatigued more easily than usual.
- 2 I am too tired or fatigued to do a lot of the things I used to do.
- 3 I am too tired or fatigued to do most of the things I used to do.

21. Loss of Interest in Sex

- 0 I have not noticed any recent change in my interest in sex.
- 1 I am less interested in sex than I used to be.
- 2 I am much less interested in sex now.
- 3 I have lost interest in sex completely.

3456789 10 11 12 ABCDE

Subtotal Page 2
 Subtotal Page 1
 Total Score

NR15645

APPENDIX D

COMPENDIUM OF EQUINE RELATED ACTIVITIES

METS	Heading	Description
4.0	sports	horseback riding, general
3.5	sports	horseback riding, saddling horse,
6.5	sports	horseback riding, trotting
2.5	sports	horseback riding, walking
6.0	occupation	horse grooming
8.0	occupation	horse racing, galloping
6.5	occupation	horse racing, trotting
2.6	occupation	horse racing, walking

Ainsworth BE. (2002, January) The Compendium of Physical Activities Tracking Guide. Prevention Research Center, Norman J. Arnold School of Public Health, University of South Carolina. Retrieved June 17, 2008 from the World Wide Web.

APPENDIX E

EQUINE ACTIVITY LEGEND

Group, Ground, 1 MET

- 1 "If I were a horse" activity – markers are used to color a cartoon horse; a story is written with the group.
- 2 Horseshoe art activity– encourages creativity in group interaction. Due to inclement weather the directive was to create a piece of fun art using a variety of horseshoes, paint, and craft material. Use of imagination is encouraged.
- 3 Kaleidoscope Horse experiential – challenge patients' perspective and gain insight on biblical truth that God sees each one of us as perfect b/c we are His creation. Due to inclement weather the directive was to work together as a team to create a drawing of a horse by taking turns drawing individual body parts of the horse until all the parts are connected and the drawing was complete. An ideal diagram of a horse was used as a guide and for comparison purposes.
- 4 My horse models – create statues of the horse using modeling clay to practice appropriate social skills while working together in group-like atmosphere.

Group, Ground, 2 METs

- 5 Horse Canvas experiential – encourages relaxation and enjoyment and social interaction. Listen to soft music while applying color and design on horse's coat with chalk and water. Communicate verbally and non-verbally with horse to build mutual trust. Be aware of position in relation to horse to keep from getting stepped on. Keep eyes forward as leading horse through various patterns.
- 6 "Silly Horse" equine activity – apply clips, pony tail holders, and ribbons to the horse's mane and tail. Engage in childlike play and draw creative pictures on the horse to create a humorous effect. Present the silly horse to the rest of the group.
- 7 Leading Exercise – learn new skills and the importance of assertive communication to increase confidence and mutual understanding. Learn how to approach and position on near side of horse and safely hold the lead rope with right hand and the free end of the rope with the left. Be aware of position in relation to horse to keep from getting stepped on. Keep eyes forward as leading horse through various patterns.
- 8 Equine Orientation - become familiar with horse learn procedures to safely groom and ride. Orientation to stable facility, assisted by staff for correct fitting of boots and riding helmet. Instructed on correct and safe procedures of handling and grooming horse. Saddling procedure demonstrated by staff and importance of using a saddle partner for safety purposes was discussed. Learned how to lead a horse through mounting block and correctly mount horse. Learned centered riding at walk and rising trot.
- 9 Serenity Halter Walk – lead horse on a quiet walk to arena. With another group member, release 2 horses in arena and watch to the horses communicate, eventually turning to playful communication including running and bucking. Notice differences in personality between two horses. Experience peace, serenity, enjoyment, and an opportunity to spend quiet moment with horse and have an enjoyable experience watching horses play. Helpful for stress reduction and

distraction.

- 10 Fruits of the Spirit – encourage team building and relaxation in group setting. Choose a horse and one of the fruits of the spirit found in Galatians 5:22-23. Decorate chosen horses to represent the fruit using various implements such as ribbons, bows, flowers and sidewalk chalk. Encouraged to communicate with team members during activity, as well as to relax, enjoy, engage in social interaction and focus on the knowledge of the fruits of the spirit in the bible.

One on one, Ground, 2 METs

- 11 Life's Little Obstacles – obstacle course is arranged to represent life where poles on the edges are boundaries. Feed in the center of life is a metaphor for important things to the patient. Goal is to walk horse through a day in life to see what it's like. The patient is asked to give the "obstacles" a name.
- 12 My World Activity – label 2 horses 2 concepts patient struggles with in eating disorder (e.g. body image and shame) and identify 4 things important (e.g. family, sense of humor, friends, the Lord), which are represented by hay. The patient's support system (e.g. the Lord and therapy program) is represented by staff members. Patient stands in middle of arena on hay and must ask support system (staff) for help to keep eating disorder concepts (2 horses) from destroying (eating) the 4 things most important to her (hay).

Group, Ground, 3.5 METs

- 13 Grooming – patient is reminded to be observant of horse's body language and be aware of her position in relation to the horse while grooming. Often listening to soft music while braiding and decorating mane and tail with ribbons and bows. Communicate both verbal and non-verbally to build mutual trust.
- 14 Ground driving – learn teamwork in a supportive and safe environment through grooming, harnessing, ground driving, which builds confidence and provides a relaxing leisure activity. Grooming the harness pony, learning features of harness and equipment demonstration to know proper placement and adjustment of harness. The patient learns to communicate her needs as she works as a team to harness and drive pony.
- 15 Tack renewal activity – encourage patient to be mindful of the horse's basic needs and benefits of following step by step process of cleaning and conditioning tack. Remove old hair and dirt from cinch and saddle pad to allow horse to move freely and have healthy coat under the pressure of the saddle.
- 16 Horse Spa Day Experiential – encourage relaxation, enjoyment, social interaction. Groom and massage horse, apply hoof dressing to all four hooves. Encourage to acknowledge that horses enjoy nurturing and can establish trust through kindness and touching. Be aware of position in relation to horse to keep from getting stepped on. Keep eyes forward as leading horse through various patterns.

Group, Mounted, 2 METs

- 17 "Extended Appendage" experiential – saddle a horse by holding hands with peers. The person stands in the middle of a ring and directs others set on either side who

are acting as arms via step by step instructions. Rules determined and discussed in advance. The person chooses consequences for violations of rules.

Group, Mounted, 2.5 METs

- 18 Musical Horse – game of musical chairs walking horse around circle of traffic cones. To encourage enjoyment, laughter and social interaction. May involve dancing with horse. Be aware of position in relation to horse to keep from getting stepped on. Keep eyes forward as leading horse through various patterns.
- 19 Leisure Trail Ride – trail etiquette is staying at walk while going up and down hills and being aware of spacing for a safe distance between each horse. Verbalize benefits of effective communication and maintaining slow steady pace on trail and in life in general.
- 20 Red light/green light equine activity – Use horses as members of your team to experience child-like fun and increase communication skills and social interaction while doing the red light/green light childhood game.
- 21 Nature Trail Ride – encouraged to ask questions about plants/wild life and ride safely at a leisurely pace, while participating in group discussion.
- 22 Trust Trail Ride – develop trust with horse and willingness to take risks by riding over more challenging terrain. Correct body position when riding up and down hills, leaning slightly forward when climbing and backward when descending hill. Breathe deeply, maintain relaxed central position in saddle and light contact on reins to keep horse at a walk.
- 23 Challenging trail ride – Work on experiencing steeper hills and going up and down a little steeper terrain along with cactus.
- 24 Lunge Line Training – safely hold and use lunge line and whip to encourage direction and response from the horse. Verbal and non-verbal communication skills used to transition from one gait to another. Learn importance of verbal and nonverbal cues to increase attentiveness, mutual understanding and relaxed transition. Patient works to be consistent with cues and aware of horse's position.
- 25 Equine Freeze Frame – silent drama skit involving freezing into various positions with the horse, enabling the team partner to write a story based on the drama taking place. The patient also participates as the author of the story. Encourages creativity, enjoyment and humor.
- 26 Serenity Ride – increase awareness of surroundings and meditate on the serenity of God's creation. As the ride proceeds through a section of the canyon trail, patient is encouraged to be silent and use their senses to experience the surroundings. The group pauses to recite the serenity prayer and at the completion of the ride, each person describes their experience to the group.

Group, Mounted, 3 METs

- 27 River Ride – describe differences in the river terrain as compared to other desert trails and why the differences are important. Be aware of spacing and maintain a

safe distance as ride alongside other riders in group.

- 28 Basic equitation skills – learn basic riding aids in order to effectively communicate to horse at a walk and rising trot. Encouraged to use legs, hands, feet and seat to communicate and move in harmony with horse. By applying a releasing pressure a consistent pace is maintained that will enhance ability to ride balanced and relaxed. Patients are often asked if they feel they are communicating effectively and what they may need to do differently to encourage desired responses from horses. Six foot distance between riding horses is maintained while riding in the group.

Group, Mounted, 3.5 METs

- 29 Trading Place – learn the responsibility of safety and spacing when riding in a group and to improve skills used to rein the horse and regulate pace. Trade places with a team member at various gaits.

Group, Mounted, 4 METs

- 30 Intermediate Equitation Skills/ transition arena session – increase effective use of riding skills and demonstrate ability to maintain a quality proceeding gait before advancing to the next. Transition smoothly from walk to trot and back to walk. Keep body centered with equal pressure in each stirrup and hold reigns steady with horse's head and neck movement. Respecting boundaries and maintain a safe distance between horses.
- 31 Follow the leader exercise – use creative thinking and recognize importance of looking ahead and working together as a team. Encouraged to alternate with team members in leadership roles and lead group in freestyle patterns around the arena while using transitioning gaits from walk to trot. Be aware of position in relation to horse to keep from getting stepped on. Keep eyes forward as leading horse through various patterns.

Group, Mounted, 4.5 METs

- 32 Family Week Rodeo – reigning pattern activities group and individually in figure 8 and clover leaf patterns in unison to music in safe manner.

APPENDIX F

REMUDA RANCH PROBLEM LIST

Problem Number:

- 1 Health Issues
- 2 Nutrition Issues
- 3 Mood
- 4 Spiritual
- 5 Ineffective Behaviors
- 6 Relationship
- 7 Aftercare
- 8 Family Week*
- 9 Anxiety
- 10 Trauma
- 11 Substance Use

*Except for Family Week, definitions of each problem area are defined by Remuda on the following pages.

Problem #: 2 Date Defined: MR#: oN/A MTP o N/A CSR
o N/A DR

Problem:		NUTRITION ISSUES			
#	As most significantly evidenced by the following issues:				
<input type="checkbox"/>	1	Weight status:	<input type="checkbox"/> underweight @ < 85% IBW	<input type="checkbox"/> overweight @ > 120% IBW	
<input type="checkbox"/>	2	Altered body composition			
<input type="checkbox"/>	3	Food restriction			
<input type="checkbox"/>	4	Bingeing:	<input type="checkbox"/> x/day	<input type="checkbox"/> x/week	<input type="checkbox"/> x/month
<input type="checkbox"/>	5	Purging :	<input type="checkbox"/> x/day	<input type="checkbox"/> x/week	<input type="checkbox"/> x/month
<input type="checkbox"/>	6	Laxative abuse:	<input type="checkbox"/> x/day	<input type="checkbox"/> x/week	<input type="checkbox"/> x/month
<input type="checkbox"/>	7	Caffeine abuse:	<input type="checkbox"/> amount	<input type="checkbox"/> frequency	
<input type="checkbox"/>	8	Fluid:	<input type="checkbox"/> increase	<input type="checkbox"/> decrease	<input type="checkbox"/> amount
<input type="checkbox"/>	9	Ritualistic food behaviors			
<input type="checkbox"/>	10	Over-exercise:	<input type="checkbox"/> hrs/day	<input type="checkbox"/> hrs/week	
<input type="checkbox"/>	11	Diet pill use			
<input type="checkbox"/>	12	Diuretic use			
<input type="checkbox"/>	13	Vegetarianism assessed to be clinically significant aspect of eating disorder.			
<input type="checkbox"/>	14	Misuse of over-the-counter	<input type="checkbox"/> medications	<input type="checkbox"/> vitamins	<input type="checkbox"/> supplements
<input type="checkbox"/>	15	Use or abuse <input type="checkbox"/> nicotine <input type="checkbox"/> alcohol			
<input type="checkbox"/>	16				

- GOAL(S)**
- Patient will demonstrate effective eating behaviors.
 - Patient will progress towards established discharge goal weight and / or maintain established weight range.
 -

Review Status Codes: Achieved **SI** = Slightly Improved **I** = Improved **GI** = Greatly Improved **U** = Unchanged **D** = Deteriorating **R** = Referred

Staff Initials	Date Initiated	Target Date	#	OBJECTIVES Patient will be able to...	Review Dates & Status Codes									
			1	Follow prescribed meal plan.										
			2a	Decrease eating disorder behaviors from admit: (list)										
			2b											
			2c											
			3	Progress towards optimal body compositions.										
			4	Progress towards established weight range.										
			5	Maintain weight within established weight range.										
			6	Demonstrate an understanding of nutrient & energy needs.										
			7	Consumes proper fluid intake necessary for bodily functions.										
			8	Acknowledge food rituals & food fears & demonstrate willingness to change behaviors.										
			9	Demonstrate an understanding of the hazards of substance abuse for weight manipulation.										
			10	Practice an activity plan in congruence with current weight.										
			11	Demonstrate understanding of menu planning and food portioning to meet nutritional needs.										
			12											
			13											



Problem #: 4 Date Defined: MR#: N/A MTP N/A CSR N/A DR

Problem: **SPIRITUAL ISSUES**

As most significantly evidenced by the following issues:

<input type="radio"/>	1	Confusion over beliefs and values regarding relationship with God or a spiritual community.
<input type="radio"/>	2	Confusion regarding identity in Christ <input type="radio"/> resulting in meaninglessness and loss of purpose.
<input type="radio"/>	3	Feelings of alienation from and/or anger at God or spiritual communities.
<input type="radio"/>	4	Ambivalence about or denial of the existence of God.
<input type="radio"/>	5	Incongruity between lifestyle and reported values.
<input type="radio"/>	6	Belief/fear regarding punishment by God.
<input type="radio"/>	7	Problems with forgiveness: <input type="radio"/> self <input type="radio"/> others <input type="radio"/> God
<input type="radio"/>	8	
<input type="radio"/>	9	

- GOAL(S)**
1. Develop a meaningful and trusting personal relationship with God.
 2. Develop ability to have meaningful relationships with others in Christian / spiritual community.
 - 3.

Review Status Codes: Achieved SI = Slightly Improved I = Improved GI = Greatly Improved Unchanged Deteriorating Referred

Staff Initials	Date Initiated	Target Date	#	OBJECTIVES Patient will be able to...	Review Dates & Status Codes			
			1	Verbalize how Biblical principles apply to her life and issues related to recovery.				
			2	Identify distortions affecting her relationship with God.				
			3	Verbalize an understanding of how God's grace can reduce her feelings of shame and alienation and increase self-forgiveness.				
			4	Verbalize a sense of hope.				
			5	Demonstrate congruence between reported values and related behaviors.				
			6	Verbalize how sin can negatively impact her life as well as her relationship with herself, others and God.				
			7	Verbalize a desire for a closer relationship with God.				
			8	Identify the basic principles of forgiveness.				
			9	Identify the connection between her spiritual beliefs and her emotions.				
			10	Identify relevant 12-step principles from Christian perspective.				
			11					
			12					
			13					

DISCHARGE / OUTCOME CRITERIA

Review Status Codes: Achieved SI = Slightly Improved I = Improved GI = Greatly Improved Unchanged Deteriorating Referred

#	CRITERIA	Review Dates & Status Codes			
		CSR1	CSR2	CSR3	DR
1	Patient verbalizes improved relationship with God.				
2	Patient verbalizes an understanding, implementation, and practice of God's love and grace.				
3	Patient reports an understanding of the need for balance between beliefs and actions.				
4	Patient verbalizes an understanding of self-forgiveness.				
5	Patient demonstrates ability to integrate Christianity into daily life.				
6	Patient demonstrates ability to integrate her chosen spiritual principles into daily life.				
7					
8					



Problem #: 6 Date Defined: MR#: N/A MTP N/A CSR N/A DR

Problem: **RELATIONSHIP ISSUES**

As most significantly evidenced by the following issues:

<input type="radio"/>	1	<input type="radio"/> Social anxiety shyness timidity that presents itself in most social situations.
<input type="radio"/>	2	Hypersensitivity to criticism or disapproval of others.
<input type="radio"/>	3	Problems establishing or maintaining healthy intimate relationships trust
<input type="radio"/>	4	Frequent conflict with <input type="radio"/> parent(s) spouse siblings significant others.
<input type="radio"/>	5	Dependency issues as evidenced by: enmeshment codependency other:
<input type="radio"/>	6	Communication problems with family spouse significant other
<input type="radio"/>	7	Marital separation and/or divorce.
<input type="radio"/>	8	Promiscuous relationships.
<input type="radio"/>	9	Involved in an abusive relationship <input type="radio"/> physical abuse <input type="radio"/> verbal abuse <input type="radio"/> sexual abuse
<input type="radio"/>	10	Excessive involvement in work or activities that results in avoidance of significant others.
<input type="radio"/>	11	Unresolved issues related to parental separation or divorce.
<input type="radio"/>	12	Identity/adjustment concerns as evidenced by: separation/individuation issues gender issues peer issues
<input type="radio"/>	13	Maturation issues
<input type="radio"/>	14	Symptoms of problematic attachment/bonding with significant others.
<input type="radio"/>	15	
<input type="radio"/>	16	

- GOAL(S)**
1. Establish / Re-establish meaningful relationships with appropriate boundaries and mutual benefits
 2. Ability to engage in healthy social relationships as defined in this document
 - 3.

Review Status Codes: Achieved **SI** = Slightly Improved **I** = Improved **GI** = Greatly Improved **U** = Unchanged **D** = Deteriorating **R** = Referred

				OBJECTIVES		Review Dates & Status Codes														
Staff Initials	Date Initiated	Target Date	#	Patient will be able to:																
			1	Verbalize how participation in social and support groups can enhance her life.																
			2	Demonstrate an increasing ability to connect with others by verbalizing her point-of-view, emotions and feedback for others in home group or similar group.																
			3	Develop a positive self-talk dialogue that will help her overcome fear of interacting with others.																
			4	Identify her own role in the family conflicts and how family issues impact and are related to her own behaviors.																
			5	Develop a plan, according to her age-specific developmental level, to increase her level of independent functioning, (e.g. Adults: finding and keeping a job, saving money, socializing with friends and finding her own housing; Adolescents: becoming involved in socially healthy peer relationships, being responsible in academic work and assuming developmentally appropriate role in the family).																
			6	Identify personal areas that need work in order to improve her relationships, and develop skills to make these changes.																
			7	Identify underlying beliefs that foster a fear of developmentally appropriate decision making, develop CBT strategy to decrease this tendency, practice CBT decision making skills as appropriate in treatment.																
			8	Patient will identify & verbalize needs of both partners have in the relationship and develop a plan to mutually meet needs with the ability to develop workable compromise in areas of conflict.																
			9	Identify the positive & negative aspects of her present relationships.																
			10	Identify age appropriate level of functioning. In terms of separation individuation issues, a behavior and skills.																
			11	Verbalize an understanding of her beliefs regarding criticism by others and develop CBT strategies to make changes were needed.																



Problem #: 9 Date Defined: _____ MR#: _____ N/A MTP N/A CSR
 N/A DR

Problem:		ANXIETY ISSUES
#	As most significantly evidenced by the following issues:	
<input type="checkbox"/> 1	Frequent subjective experiences of anxiety	
<input type="checkbox"/> 2	Physical manifestations of anxiety: restlessness sleep disturbance exaggerated startle response fatigue muscle tension other	
<input type="checkbox"/> 3	Psychological manifestations of anxiety: worry difficulty concentrating irritability other	
<input type="checkbox"/> 4	Spontaneous panic experiences with: <input type="checkbox"/> anticipatory anxiety <input type="checkbox"/> worry about implications of the attack <input type="checkbox"/> agoraphobia <input type="checkbox"/> changes in behavior <input type="checkbox"/> other:	
<input type="checkbox"/> 5	Obsessions that are: <input type="checkbox"/> time-consuming <input type="checkbox"/> distressing <input type="checkbox"/> interfere with functioning <input type="checkbox"/> recognized as unreasonable <input type="checkbox"/> other	
<input type="checkbox"/> 6	Compulsions that are: <input type="checkbox"/> time-consuming <input type="checkbox"/> distressing <input type="checkbox"/> interfere with functioning <input type="checkbox"/> recognized as unreasonable <input type="checkbox"/> other	
<input type="checkbox"/> 7		
<input type="checkbox"/> 8		

GOAL(S)	
1.	Reduce overall level, frequency, intensity and interference of the anxiety, obsessions and/or compulsions so that daily functioning is less impaired.
2.	Identify and address the core conflict that is the source of anxiety.
3.	

Review Status Codes:		Achieved	SI = Slightly Improved	I = Improved	GI = Greatly Improved	Unchanged	Deteriorating	Referred											
Staff Initials	Date Initiated	Target Date	#	Patient will be able to:	Review Dates & Status Codes														
			1	Identify 3 behavioral and 3 cognitive strategies to reduce or eliminate the irrational anxiety.															
			2	Identify a major life conflict as a contributing factor to worry and anxiety.															
			3	Verbalize an increased understanding of at least 3 beliefs that contribute to worry and anxiety.															
			4	Increase daily social involvement by attending program as prescribed.															
			5	Be able to understand CBT strategies for the treatment of panic disorder and to utilize these to divert or cope with panic attack.															
			6	Understand the principles of exposure with response prevention in the reduction of OCD symptoms as well as it's use to treat other anxiety disorders, such that she can begin to use it in treatment and at home.															

DISCHARGE / OUTCOME CRITERIA		Review Status Codes:						
Review Status Codes:		Achieved	SI = Slightly Improved	I = Improved	GI = Greatly Improved	Unchanged	Deteriorating	Referred
#	CRITERIA	CSR1	CSR2	CSR3	DR			
1	Patient understands underlying factors of anxiety.							
2	Patient's anxieties have diminished to allow higher daily functioning.							
3								
4								



MULTIDISCIPLINARY TREATMENT PLAN

Problem #: 10 Date Defined: MR#: o N/A MTP o N/A CSR
o N/A DR

Problem:		TRAUMA ISSUES
#	As most significantly evidenced by the following issues:	
<input type="checkbox"/> 1	o Hypervigilance fear helplessness horror sweats anxiety irritability muscle tension restlessness poor concentration	
<input type="checkbox"/> 2	Recurrent and intrusive distressing recollections and/or dreams of the event(s)	
<input type="checkbox"/> 3	Efforts to avoid thoughts, feelings, and conversations of trauma	
<input type="checkbox"/> 4	o Restricted range of affect exaggerated startle response	
<input type="checkbox"/> 5	flashbacks hallucinations o Illusions	
<input type="checkbox"/> 6	Subjective sense of numbing	
<input type="checkbox"/> 7	Pervasive feelings of anger, rage, or fear when relating to others	
<input type="checkbox"/> 8	Extreme difficulty in becoming intimate with others	
<input type="checkbox"/> 9	Pervasive pattern of promiscuity or the sexualization of relationships	
<input type="checkbox"/> 10	Reports of: o physical abuse o sexual abuse o emotional/verbal abuse o neglect	
<input type="checkbox"/> 11	Persistent or recurrent experiences of depersonalization, like feeling detached from or outside of one's processes or body during which reality testing remains intact	
<input type="checkbox"/> 12	o Dissociative state confusion	
<input type="checkbox"/> 13	Inability to recall important personal information that is too extensive to be explained by ordinary forgetfulness	
<input type="checkbox"/> 14	Active or passive suicidal ideation, attempts, gestures, past history of same	
<input type="checkbox"/> 15	Ideas of harm to o self others	
<input type="checkbox"/> 16	o Exposed to a traumatic event that did or could have resulted in death, serious injury to self or others, or that involved a threat to the physical integrity to self or others. o Exposed to a traumatic event or ongoing situation that did not involve the threat of death, serious injury or danger to physical integrity	
<input type="checkbox"/> 17		

GOAL(S)

1. Recognize and accept the trauma issue(s).
2. Increase capacity for intimacy in relationships.
3. Identify personal resources that will contribute to recovery from the trauma experience(s).
4. Patient will alleviate suicidal /parasuicidal impulses/ideation and return to highest level of previous daily functioning.

Review Status Codes: Achieved **SI** = Slightly Improved **I** = Improved **GI** = Greatly Improved **U** = Unchanged **D** = Deteriorating **R** = Referred

Staff Initials	Date Initiated	Target Date	#	OBJECTIVES	Review Dates & Status Codes																		
			1	Be able to verbalize traumatic experience(s) in 1:1 with treatment provider(s) and/or groups.																			
			3	Identify the cycles of trauma.																			
			4	Decrease emotion of shame by being able to verbally affirm self and receive affirmations from others.																			
			5	Identify and express emotions and other symptoms associated with major traumatic incident(s).																			
			6	Identify the role of forgiveness in the healing process.																			
			7	a) Identify trauma triggers, b) understand how these triggers became capable of triggering emotional distress, c) understand how these triggers can be weakened, and d) understand how to use grounding skills and CBT skills to reduce emotional distress caused by these triggers.																			
			8	Understand the concept of exposure with response prevention and how it can related to the reduction of trauma symptoms.																			
			9	Understand the connection between the trauma and her eating disorder, such that she can verbalize the trauma related function that the eating disorder fills (e.g., avoiding sexual maturation through starvation).																			
			10																				
			11																				
			12																				
			13																				



Problem #: 11 Date Defined: MR#: N/A MTP N/A CSR
 N/A DR

Problem:		SUBSTANCE USE	
#	As most significantly evidenced by the following issues:		
1	List substances/frequency: alcohol: experimentation use abuse dependence marijuana: experimentation use abuse dependence nicotine: experimentation use abuse dependence other illegal drug(s): experimentation use abuse dependence name/frequency: _____ prescription drug(s): experimentation use abuse dependence name/frequency: _____ Over the counter drug(s): experimentation use abuse dependence name/frequency: _____		
2	Denial that substance issues are a problem in spite of feedback from peers and/or caregivers.		
3	Emotional withdrawal symptoms: depression anxiety anger irritability insomnia hypersomnia energy decreased appetite changes anxiety other:		
4	Physical withdrawal symptoms: temperature increased pulse increased elevated blood pressure tremors gooseflesh yawning agitation sweating other:		
5			
6			
7			

GOAL(S)

- Detoxify safely from substance
- Educate on substance use
- Self assessment of motivation for substance use recovery
- Demonstrate effective use of CBT skills to replace substance use

Review Status Codes: Achieved SI = Slightly Improved I = Improved GI = Greatly Improved Unchanged Deteriorating Referred

Staff Init-ials	Date Init-iated	Tar-get Date	#	OBJECTIVES Patient will be able to:	Review Dates & Status Codes																		
			1	Acknowledge the harmful consequences of her substance use.																			
			2	Verbalize time line of substance use history.																			
			3	Identify the purpose that the substance use served in her life, such she can identify trigger situations and plan for alternative behaviors.																			
			4	Self monitor urges and use as related to patients emotional status.																			
			5	Demonstrate new behavioral coping strategies (CBT skills) to replace substance use.																			
			6	Identify vulnerability prompting events, thoughts, feelings and behaviors that lead to the substance use.																			
			7	Identify current stage of change related to ineffective behavior (substance use).																			

DISCHARGE / OUTCOME CRITERIA

Review Status Codes: Achieved SI = Slightly Improved I = Improved GI = Greatly Improved Unchanged Deteriorating Referred

#	CRITERIA	Review Dates & Status Codes			
		CSR1	CSR2	CSR3	DR
1	Patient is able to verbalize the relationship between substance use and feelings.				
2	Patient is able to verbalize stressors contributing to continued substance use.				
3	Patient is able to verbalize a list of alternative coping strategies leading to being free of substances.				
4	Patient is able to verbalize basics of Overcomers Outreach and its role in recovery from substances.				



MULTIDISCIPLINARY TREATMENT PLAN

APPENDIX G

ACTIVITY STATUS GUIDELINES

RED – This activity status is for the purpose of insuring medical and food plan stabilization. Activities for this status will be minimal and accompanied by medical monitoring interventions as appropriate.

Admission Red: All new admits begin at Red status until ordered otherwise by the PCP.

New admissions on red status with pending labs, attend orientation programs (nursing, clinical, nutrition) unless otherwise ordered by PCP. Under certain circumstances, patients may participate in activities such as chapel, school and non-active recreation. This exception is ordered by the PCP and applies to admission red status only.

Interventional Red: Intervention Red status contains interventions that are considered reactive in nature based on patient behaviors. Patients must be transported when outside the living area. Patients should attend chapel and home group, if medically stable, **but no other** regular program activities. Staff will provide patient with instructions to sit quietly with assignments. The patient will be instructed to stay seated unless accompanied by staff. Whenever possible, providers will come to the patient for appointments on the designate unit; else the patient will be transported to appointments. No off-site passes are allowed. Attendance at Family Week is not allowed; onsite arrangements for Truth in Love must be arranged. Interventions may include bed rest or medical monitoring.

YELLOW – Activities for this status are moderate with no additional monitoring unless ordered. This status may serve as a transition from Red to Green or as a cautionary status due to medical decline and/or trend of eating disordered behaviors. Interventions are considered reactive in nature, based on patient behaviors.

- **Moderate Program** includes adaptations to active programs such as Recreation, Body Image, Challenge Course (high challenge course only) and Equine in order to insure the maximum safety. Equine programs for yellow activity status must be ground activities only. **Yellow activity status may also need transportation ordered to conserve energy.**

GREEN – This status includes full program without restrictions or modifications with exception of an unsigned waiver for mounted equine, in which case, only ground equine activities are approved. Interventions are considered proactive in nature (based on patient request for support) and may include but are not limited to Nutrition Monitoring.

APPENDIX H

PATIENT ACTIVITY GUIDELINES FOR EQUINE THERAPY

RED: No Equine

YELLOW: Moderate Equine Program includes ground activities such as grooming, harness driving, lariat activity, lunge line training, and moderately active experiential exercises on the ground only.

GREEN: Active Equine Program with accommodations for Full and Limited Program. Activities include trail rides, arena riding (at the walk, rising trot, and canter), and experiential exercises (mounted and ground).

Limited Green Equine Program is accommodated by using a mounting block for mount and dismount from horse (osteopenic patients with a signed consent form) and by limiting riding time as needed (limited physical ability).

Note: Patients weighing greater than their IBW will be assessed by Equine staff for patient's physical ability and comfort level as needed.

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BIOGRAPHICAL INFORMATION

Carrie Lutter received her Bachelor of Science in Psychology from the University of Texas at Arlington in May 1996. She has been a certified personal trainer (The Cooper Institute for Aerobics Research) and certified professional aerobic instructor (Aerobics and Fitness Association of America) since 1996. After training at the University of Texas Southwestern Medical Center at Dallas for two years, she received a Bachelor of Science in Clinical Dietetics and has been a registered and licensed dietitian since October of 2000. She is completing her Master of Science in Social Work with a direct practice mental health specialty.

Her research interests include exercise and nutrition behaviors related to prevention and treatment of eating disorders. Her immediate future plans are to provide psychotherapy and medical nutrition therapy for persons with disordered eating and body image concerns, while working towards her LCSW credentialing. She is committed to offering therapy and nutrition education based on current scientific literature that fosters lifestyle changes. Her long-term plans may include pursuing a Ph.D. after working as a Social Work therapist and Registered Dietitian to gain clinical expertise.