

## Treating Anorexia Nervosa through Pharmacotherapy and Psychotherapy

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### Abstract

Anorexia nervosa is a disorder recognized by the Diagnostic and Statistical Manual of Mental Disorder, the Fourth Edition, Text Revision (DSM-IV-TR). It affects more women than men and is characterized by body weight less than 85% of what is considered normal. Anorexics limit their food intake, are constantly on diet, are never satisfied with their appearance, have a disordered body image believing to be overweight, engage in excessive exercising, suffer from long-term depression, and the female anorexics experience amenorrhea (Barlow & Durand, 2005; Kring, Davison, Neale, & Johnson, 2007). Pharmacotherapy and psychotherapy show promising result in treating anorexia nervosa even though the research outcome is not always consistent. This article gives an overview of pharmacotherapy and psychotherapy as primary treatments for anorexia nervosa.

**Key words:** Anorexia nervosa, pharmacotherapy, psychotherapy

### Introduction

Anorexia nervosa is a common psychological disorder among women with its prevalence rate increasing from 0.3% (Hoek & van Hoeken, 2003) to 0.9% (Hudson, Hiripi, Pope, & Kessler, 2007). The onset age of anorexia nervosa varies from study to study and culture to culture. In a study by Carney (2009) the youngest and oldest individuals who contacted the National Association of Anorexia Nervosa and Associated Disorders phone hotline in the US were 7 and 70 years old with a mean age of 26.31 years old. A disorder that once was common among adolescents and young adults is now affecting children and elderly. Mortality rate of anorexia nervosa varies from 5% (Steinhausen, 2002) to 15% (Zipfel et al., 2000) depending on the condition of the person and a variety of other variables.

According to Diagnostic and Statistical Manual of Mental Disorder, Fourth Edition, Text Revision (DSM-IV-TR), there are four criteria for diagnosing anorexia nervosa: (1) Refusal to maintain body weight at or above a minimally normal weight for age and height (e.g., weight loss leading to maintenance of body weight less than 85% of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85% of that expected), (2) Intense fear of gaining weight or becoming fat, even though underweight, (3) Disturbance in the way in which one's body weight or shape is experienced, undue influence of body shape on self-evaluation, or denial of the seriousness of the current low body weight, and (4) In postmenarcheal females, amenorrhea, i.e., the absence of at least three consecutive menstrual cycles.

Anorexia not only affects a person's body shape and weight but also different areas of life from personal to social functioning. For example, anorexics often find sleeping a discomfort, have difficulty falling asleep and staying asleep. They prefer to distance themselves from family and friends and spend most of their time in isolation (Barlow & Durand, 2005; Kring, Davison, Neale, & Johnson, 2007). An American national survey conducted in 2005 revealed that 96% of the population held the belief that anorexia nervosa was a serious illness and 42% indicated that they suffered from anorexia at some point in their lives or they knew someone who was affected by it (GMI, 2005).

Anorexia is associated with other psychological disorders such as anxiety disorder, mood disorder, depression, obsessive-compulsive disorder, and maladaptive personality traits and usually manifests itself during or after stressful life events (Agras, 2001; Attia, Mayer, & Killory, 2001; Johnson, Cohen, Kotler, Kasen, & Brook, 2002). According to the National Eating Disorder Association in 2009 an estimated 10 million women and 1 million men suffer from anorexia and bulimia in the US.

In 1991, Lucas suggested that more and more people are presenting symptoms of anorexia nervosa to a point that being anorexic is reaching an epidemic level. In spite of this serious issue Agras and colleagues (2004) found that there is a lack of controlled treatment research in literature on anorexia nervosa because

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of its seemingly rarity, long period of time required for treatment and a need for in-patient treatment for severe cases.

Treatment for anorexia nervosa has been around for more than three decades and is usually pharmacotherapy, psychotherapy or a combination of the two. Antidepressants and antipsychotics are the most frequent medications used for treating anorexia. However, since medication alone is not effective, a wide range of psychological treatments are included in the course of therapy. Each of these treatment choices is described briefly in the following pages.

## Pharmacotherapy

In treating anorexia nervosa medication is usually prescribed for the purpose of improving symptoms that are present as a result of comorbid disorders such as depression, anxiety, and obsessive-compulsive disorder. For example, antidepressants are prescribed to help with depression symptoms in patients and antipsychotic, minor tranquilizers or antihistamines are used to treat anxiety.

### Depression and Anxiety in Anorexics

Antidepressants and antipsychotics are two major types of medications that are used in treating anorexia nervosa (NICE, 2004). Attia, Mayer & Killory (2001) suggested that opiate antagonist can also be useful in treating anorexia nervosa.

The following two classes of medication are frequently prescribed by the psychiatrists.

- Antidepressants
- Antipsychotics

### Antidepressants

According to NICE (2004) two classes of antidepressants used in treating anorexia nervosa are tricyclic antidepressants (amitriptyline, clomipramine) and Selective Serotonin Reuptake Inhibitors or SSRIs (fluoxetine, citalopram). Past studies have shown a mixed result in effectiveness of antidepressants in treating anorexia. Attia, Haiman, Walsh, and Later (1998), Biederman et al. (1985), Halmi, Eckert, LaDue, and Cohen (1986) and Lacey and Crisp (1980) found that there is no significant difference between the medication and placebo in terms of weight gain in patients. Crisp, Lacey and Crutchfield (1987) studied the effect of clomipramine on anorexic patients. The drug had an effect on patients' appetite but showed no effect on their weight gain compared to the placebo. Moreover, in long-term follow up there were no differences between the medication and placebo group.

Biederman et al. (1985) studied twenty five subjects and divided them in two groups. Eleven subjects received amitriptylin and fourteen subjects received placebo treatment. Eighteen additional subjects who refused to take medication served as control group. The results showed no significant difference between these three groups. The only difference between the medication group and the other two groups was the side effects of medication in the group that took amitriptylin. In another study, Halmi et al. (1986) compared amitriptylin with placebo and serotonin antagonist cyproheptadine. Researchers found no significant difference between the three groups either. However, there the medication group showed decrease in their depressive symptoms which they contributed it to the weight gain rather than the medication itself.

Attia et al. (1998) studied thirty one hospitalised patients and compared fluoxetine with placebo for seven weeks until patients gained normal weight. The results indicated that all patients improved during hospitalization in terms of their weight, mood, eating attitudes and behaviour and OCD-like symptoms. However, there was no significant difference between the medication and placebo group. A year later Kaye et al. (1997) also studied the effect of fluoxetine and placebo on anorexic patients who gained normal weight in one year followed up. Patients in medication group were significantly more likely to be able to maintain their weights near normal range at the end of one year. Similar study by Kaye et al. (2001) showed that proza prevented relapse after individuals had gained normal weight.

### Antipsychotics

Vandereycken and Pierloot (1982) studied the effect of pimozide on 17 patients. They divided these

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hospitalized patients into two groups, 8 received medication and 9 received placebo. The results showed that patients who received medication gained more weight on a daily basis compared to the control group however their attitude toward eating and food did not change. In a study done by Vandereycken (1984) on the effect of sulphiride no difference between medication and placebo was found.

Olanzapine is one the most recent antipsychotic that has been used in treating anorexia nervosa. The results were promising in terms of weight gain and psychological improvement. However, more studies are needed to confirm olanzapine's effectiveness (Hansen, 1999; La Via, Gray, & Kaye, 2000).

#### Other medications

Baranowska, Rozbicka, Jeske and Abdel-Fattah (1984) studied the effect of opiate antagonists (naloxone and oral naltrexone) on anorexic patients and the result showed an improvement in patients' weight gain. Lett et al. (1997, 1998) studied the effect of benzodiazepines such as chlordiazepoxide on food intake in rats and found that benzodiazepines increases food intake in rats. Foltin et al. (1989) also found that benzodiazepines increases food intake in mammals including several species of primates. Although no human study on the effect of benzodiazepines is available, according to Lett et al. (1997) the results can be generalized to human anorexic patients. However, further empirical studies in necessary before any conclusions can be made.

Metoclopramide, bethanecol, cisapride, and domperidone are medications that improve gastric emptying and help the patient to eat more (Mayer & Walsh, 1998). Gross et al. (1981) studied 29 patients who received cisapride or placebo and found that there was no difference in gastric emptying time, physical symptoms, or weight gain between the two groups.

Anorexic patients quite often suffer from starvation, dehydration or over hydration which causes complications in drug absorption and can result in drug toxicity. As it is clear through literature because of their mixed result medication has not been an effective way in treating anorexia nervosa especially in terms of weight gain (De Zwann et al., 2004; Vitiello & Lederhendler, 2000; Wilson and Fairburn, 2002). Given their potential for disturbing side effects, medications in particular antipsychotics are not recommended for the standard treatment of anorexia nervosa.

#### Psychotherapy

The main purpose of psychological interventions is to promote weight gain, sustain a healthy life style and reduce symptoms such as depression and/or anxiety. Having the clients willingly engage in treatment is the priory goal of psychotherapy. Anorexic patients quite often are resentful in accepting the fact that they need help and are suffering from a life-threatening condition, therefore, getting them actively involved and engaged in treatment is the main priority for health-care providers as well as therapists. This can only be done by building a supportive therapeutic relationship with the clients and being sensitive to the nature of their illness. Psychotherapy is being used in in-and out-patient settings with different approaches in each setting however these approaches are not fixed and may be used for either in-or out-patient therapies (NICE, 2004). Examples of in-patient psychotherapy approaches are:

- Family therapy
- Behaviour therapy (systematic desensitization)
- Relaxation training
- Social skills training

Out-patient psychotherapy approaches that are shown successful are:

- Family therapy
- Cognitive behaviour therapy (CBT)
- Interpersonal psychotherapy (IPT)
- Cognitive analytic therapy (CAT)

#### In-patient treatment

Family therapy is a brief approach which is mainly used for in-patient treatment programs. The main purpose of this treatment approach is to enhance the family relation and teach individuals and family members conflict management strategies. The best outcomes have been observed in early stages of

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the disorder where parents actively play a role in supporting and encouraging their child to eat. There are usually 2 to 5 sessions per week and treatment is discontinued after patients show a noticeable progress in physical and psychological well-being. Five-hour psychoeducation is also provided for family members where they learn the relationship between food and the challenges they face within the family in terms of food and eating. After the patient is discharged therapy will continue however it is usually tailored for an out-patient setting. Families and individuals are required to meet with the therapists on a regular basis to carry out the necessary activities requested by the therapist (Raymond et al., 1993).

Systematic desensitization is a form of behaviour therapy that addresses the anxiety in patients. Since anorexic patients have an intense fear of gaining weight and resist eating this approach is used to help them overcome their anxiety (Kring, Davison, Neale & Johnson, 2007). Relaxation training and social skills training are treatment approaches that teach the patients how to relax physically and psychologically and the necessary social skill techniques that they need to face their daily challenges, respectively (NICE, 2004). However, there is little evidence in literature to support the effectiveness of behaviour therapy (systematic desensitization), relaxation training and social skills training (Goldfarb, Fuhr, Tsujimoto & Fischman, 1987; Pillay & Crisp, 1981).

#### Out-patient treatment

Cognitive behaviour therapy is a psychological treatment approach in which individuals learn to monitor their irrational thoughts, feelings and behaviour and replace them with functional thoughts and behaviours (Kring, et al, 2007). Patients also learn how to reduce their stress through thought monitoring and thought replacement. In the case of anorexia, CBT's major goal is to change the patients' mindset about their unhealthy and restrictive diet and replace it with a normal diet and healthy life style. However, anorexic patients usually resist changing their attitudes toward body shape and it is difficult to change their dietary habits as well (Wilson & Fairburn, 1993). Channon and colleagues (1989) compared cognitive behavior therapy and behavior therapy in 24 adult patients. Results showed no significant difference between the two therapies. In another study 33 anorexic patients received either CBT or nutrition counseling for one year. Results indicated that patients who were treated by CBT remained in program longer and had less relapses compared to the other group (Pike et al., 2003).

Russell et al. (1997) studied 21 adolescent patients who were recently discharged from hospital and divided them in two groups. Eleven patients received family therapy and ten patients received supportive psychotherapy for one year. Results showed that individuals who were in family therapy had a significant better outcome compared to supportive psychotherapy group. Cognitive analytic therapy is another form of psychotherapy that is designed to help patients understand and recognize the pattern of their maladaptive behaviours and replace them with more functional behaviours (NICE, 2004). Treasure and colleagues (1995) compared cognitive analytic therapy (CAT) with behavior therapy in 30 adult patients. Result showed no significant differences between the two therapies. Dare et al. (2001) studied eighty four patients who were randomly assigned to four types of treatments. The four treatments were focal psychoanalytic psychotherapy, CAT, FBT and routine outpatient treatment (brief sessions with a trainee psychiatrist). Result showed no significant difference between the three psychotherapies however all three were more effective than the routine treatment.

Interpersonal therapy is a psychological intervention that helps patients identify their current interpersonal problems with their family members and they learn how to overcome these interpersonal issues. This approach was initially developed for treatment of depression however it is now widely used for treatment of various disorders including eating disorders (NICE, 2004; Kring, et al, 2007). Adult studies done by Crisp et al. (1991) and Dare et al. (2001) showed that family therapy has no effect on weight gain by the end of the treatment or during follow-ups.

Research shows that none of the psychological interventions including CAT, CBT, IPT, and family therapy is superior to any other in treating anorexic patients (Bachar, Latzer, Kreitler & Berry, 1999; Crisp et al, 1991; Dare et al., 2001). Eisler et al. (2000) and Robin et al. (1999) studied children and adolescents and found no difference in family therapy versus individual therapy. Wallin (2000) argued that in children and adolescents providing body awareness therapy is not superior to family therapy alone. Family therapy can be effective in young, non-chronic individuals (Le Grange, Eisler, Dare, & Russell, 1992).

Similar to medications, psychotherapy interventions alone are not effective either especially in high risk patients. Therefore, the best approach in treating anorexic patients is a combination of medication and psychotherapy depending on the individual's needs.

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## Conclusion

In conclusion, diversity in patient factors such as culture, age of onset, family background, socioeconomic status, comorbidity with other psychological illnesses make it difficult to challenging for researchers and clinicians to propose a one size fits all treatment approach for anorexia nervosa. For patients who do not require hospitalization, outpatient psychological treatment may be as, or more, effective than admission. For those admitted to hospitals, no particular psychological treatment has been shown to be effective more effective than others.

Anorexia nervosa is one of the psychological disorders with high comorbidity rate which affects the effectiveness of medication intake. Most anorexic patients suffer from depression therefore it is not clear whether antidepressants have an effect on anorexia directly or indirectly through improving depressive symptoms. Another caution that practitioners must take into consideration is the side effect of medication used for treating anorexia especially the cardiac side effects. Therefore medication should not be used as the sole or primary treatment for anorexia nervosa. Most important of all, word of mouth medication recommendations should be avoided by survivors of anorexia and their families to those struggling with this illness.

Baran, Weltzin, and Kaye (1995) studied differences between premature discharged patients and those who were fully recovered. They found out that patients who were discharged after achieving their target weight had fewer relapses compared to the other group. However, long-term hospitalization can cause burden for both families and health care system. Ben-Tovim (1997) said according to national health care systems anorexic patients cause the highest average cost by diagnosis and according to McKenzie & Joyce (1992) duration of hospitalization for anorexic patients is higher than any other psychiatric disorder including schizophrenia.

Anorexia nervosa and other eating disorders has become nightmare of many women, and men, and as the saying goes prevention is better than cure. The purpose of this review was to present a brief summary of the available treatments for anorexia. Looking into causes such as society's definition of beauty and thinness, impact of media and interestingly seemingly innocent "Barbie Dolls" is an equally fascinating area to review.

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