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Research Article

Aesthetic Care in Cognitive-Behavioral Therapy for AN in China

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Abstract: Anorexia nervosa (AN) is a mental disorder, affecting mainly females in society. Understanding partially the factor of the disorder, researchers also designed several therapies to alleviate AN. Cognitive-behavioral therapy (CBT), which focuses on changing thought patterns of patients, and addressing inappropriate behaviors, is one of the beneficial therapies. In China, females whose disorder are caused by environmental factors are highly recommended to have CBT. To successfully realize the use of CBT to AN, we have to understand the strategy and treatment.

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1 Introduction

Anorexia nervosa(AN) is a serious mental disorder, affecting various people in our society. While it affects numerous people from different ages, sexes, countries, young women, young adults and adolescent girls are seriously at risk. In adults, the sex ratio is 1:8, with much more females afflicted[1]. One research from Franko, who studied AN in females for about 11 years, indicates that the mortality of female patients is 7.4%, with 4/10 death due to suicide[2]. In the past 15 years, the rate of patient in whole number remains steady, but the rate of girls between ages of 15-19 increased at a high speed[3]. AN also holds the highest mortality among all mental diseases, being extremely dangerous to patients, especially females, for environment factors and mainstream aesthetics especially[4]. This research will study Cognitive-behavioral therapy (CBT) to treat AN among females in China, highlighting the function of aesthetics in the treatment, to help more Chinese females who are suffering AN.

2 Classification

AN holds the central feature of low body weight or low body-mass index (BMI). Diagnostic and Statistical Manual (DSM) and International classification of diseases(ICD)[5] are the prevalent diagnostic criteria for AN.

(Table 1: Diagnostic criteria for anorexia nervosa according to DSM-IV & DSM-5 and Table 2: Diagnostic criteria for anorexia nervosa according to ICD-10 & ICD-11(proposed criteria) are listed below)

Table 1. Diagnostic criteria for anorexia nervosa according to DSM-IV & DSM-5

DSM-IV	DSM-5
A. A refusal to maintain bodyweight at or above a minimally normal weight for age and height (e.g. weight loss leading to a maintenance of bodyweight less than 85% of that expected, or failure to make expected weight gain during period of growth, leading to bodyweight less than 85% of that expected).	A. Restriction of energy intake relative to requirements, leading to a significantly low bodyweight in the context of age, sex, developmental trajectory, and physical health. Significantly low weight is defined as a weight that is less than minimally normal or, for children and adolescents, less than that minimally expected.
B. Intense fear of gaining weight or becoming fat, even though underweight.	B. Intense fear of gaining weight or of becoming fat, or persistent behavior that interferes with weight gain, even though at a significantly low weight.
C. Disturbance in the way in which one's bodyweight or shape is experienced, undue influence of bodyweight or shape on self-evaluation, or denial of the seriousness of the current low bodyweight	C. Disturbance in the way one's bodyweight or shape is experienced, undue influence of body shape and weight on self-evaluation, or persistent lack of recognition of the seriousness of the current low bodyweight.
D. In postmenarcheal females, amenorrhea—ie, the absence of at least three or more consecutive menstrual cycles. (A woman is considered to have amenorrhea if her periods occur only following hormone—e.g. estrogen administration).	D. …
DSM criteria were taken from the American Psychiatric Association's Diagnostic and Statistical Manual of Mental disorders. DSM-IV-TR, Fourth Edition. Reprinted with permission from the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (Copyright ©2013). American Psychiatric Association. All Rights Reserved.	

Table 2. Diagnostic criteria for anorexia nervosa according to ICD-10 & ICD-11(proposed criteria)

ICD-10	ICD-11 (proposed criteria)
A. Weight loss, or in children a lack of weight gain, leading to a bodyweight of at least 15% below the normal or expected weight for age and height.	A. Significantly low bodyweight for the individual's height, age, and developmental stage (BMI less than 18·5 kg/m² in adults and BMI-for-age under fifth percentile in children and adolescents) that is not due to another health condition or to the unavailability of food.
B. The weight loss is self-induced by avoidance of "fattening foods".	B. Low bodyweight is accompanied by a persistent pattern of behaviors to prevent restoration of normal weight, which may include behaviors aimed at reducing energy intake (restricted eating), purging behaviors (e.g. self-induced vomiting, misuse of laxatives), and behaviors aimed at increasing energy expenditure (e.g. excessive exercise), typically associated with a fear of weight gain.
C. A self-perception of being too fat, with an intrusive dread of fatness, which leads to a self-imposed low weight threshold.	C. Low bodyweight or shape is central to the person's self-evaluation or is inaccurately perceived to be normal or even excessive.
D. A widespread endocrine disorder involving the hypothalamic-pituitary-gonadal axis, manifest in the female as amenorrhea, and in the male as a loss of sexual interest and potency (an apparent exception is the persistence of vaginal bleeds in anorexic women who are on replacement hormonal therapy, most commonly taken as a contraceptive pill).	D. …
E. Does not meet criteria A and B of bulimia nervosa (F50.2).	E. …
ICD criteria have been taken from the WHO International Statistical Classification of Diseases.11 *Proposed ICD-11 criteria have been taken from ICD-11 Beta Draft. BMI=body-mass index.	

Different people may hold different eating restriction-behaviors, remissions, and severity specifiers. Amenorrhea is omitted by the new DSM-5 diagnostic criteria and ICD-11 since only females who can menstruate, normally age between 12 and 50, may show amenorrhea[6]. AN patients who are males, adolescent girls who are not at the stage of menarche, or due to other reasons are, therefore, included in the new criteria, and an atypical AN cause restrictive behaviors but not fit the low-weight criterion are also included in DSM-5[7]. Severity of AN are also classified into 4 levels by use of the patients' BMI: extremely severe level with BMI<15 kg/m², severe level with BMI 15–15·99 kg/m², moderate level with BMI16–16·99 kg/m², and mild level with BMI ≥17 kg/m².

DSM-5 are more prevalent in world and ICD-11 is just under proposal, although in China, now DSM and ICD are both in use. So DSM-5 are more suitable for AN in China.

3 Comorbidity

In the fear of gaining weight and a fattening body image, AN may lead to various eating-restriction behaviors, as well as purging, excessive sporting, and other atypical behaviors[8-9].In addition, AN patents' cognitive and emotional functioning are severely disturbed by the eating disorder. AN leads to both psychiatric comorbidities and somatic

comorbidities[10-11].

Mood disorder includes, especially, commonly major depressive disorders[12], anxiety disorder[13], obsessive-compulsive disorder (OCD)[14], and autism spectrum disorders. Bulik CM, Klump KL, and Thornton L also find that prevalence of alcohol misuse is between 9% and 25% in AN patients[15]. Koch SV, Larsen JT, and Mouridsen SE confirmed in their research autism spectrum disorder may associate with AN and in their relatives; however, unfortunately, the relation between the two mental disorders has seemed to be non-specific yet[16].

Patients also suffer from somatic complications in several organ systems[17]. Dizziness, fatigue as well as syncope are common in the early and acute stage[18]. Almost all organs will be affected if AN lasts long time or appears chronically[19]. Reduced bone density in females is the most prevalent somatic problem, with up to 21% of patients have osteoporosis and more than 54% have osteopenia of the lumbar spine[20]. Cerebral changes, gastric problems, dental caries, anemia, and immune competence decline are also common[21]. Stephan Zipfel in 2015 also pointed that problems in endocrine system and reproductive function may lead to, sometimes, amenorrhea, hypothyroidism, and even depression[22].

Herzog W confirmed that AN in adults commonly may relapse or protract, and it is the same to older adolescents[22], and severity, especially without treatment, are extremely high[23-24]. Thus, effective treatments for patients, especially females, are therefore urgently need.

3.1 Risk factors

The causes and mechanisms underlying AN are not fully understood nowadays, but researchers think it is basically caused by a combination of genetic factors, psychological factors and environment which including Gender factors, family, peers, media, and culture transitions.

3.2 Gene

Strober M discovered AN strongly familial[25] and Yilmaz Z pointed that heritability of AN estimates range from between 28% and 74%[26].

3.3 Psychological factors

Some researchers believed that some personality trait, for example, obsessive opinions, anxiety and perfectionism is likely to make the person more vulnerable. And some researchers has linked this to the neurobiological area[27-28].

3.4 Gender

Gender is likely to be one risk factor of AN[29], females has been shown reliably to be at risk. Stice E, Marti CN, Durant S pointed that body dissatisfaction is identified as a factor for any development of eating disorder[30], and almost all AN patients show dissatisfactions to their body image[31]. Study from Zaccagni showed that the percentage of people who satisfied with their bodies in males to females is 13% to 33%[32]. These dissatisfaction are often associated with overcritical idea toward body image. In fact, 78% of high BMI index females, 30% within healthy range, and 10% with low BMI want to be thinner[33]. Females are definitely vulnerable, with internalization to be thin, to be so-called beautiful. In addition, homosexual males have reported with a higher level of body dissatisfaction than heterosexual men[34].

3.5 Families

Family influences, peers, and media also make up the constellation of environmental factors. Benedikt, who studied body image, reported that girls with a mother who is extremely concerned about body image are prone to be in disturbance later, and the mother's overcritical ideas towards body that thinness is beauty, may give rise to a higher probability of daughter's severe dietary restrictions or other weight-loss behaviors[35]. Moreover, making fun of one family member's body image is also a risk factor of body image dissatisfaction, and usually accompanied with depressive feelings, making the member susceptible[36].

3.6 Peers and media

Peer-factors are also important. Being surrounded by thinner people[37], negative peer relationships may worsen the mental condition[38]. Media, which likely to be in favor of body images approximately similar to those of AN patients[39], are considered as one factor, even making more adolescent, young girls suffer from dissatisfaction of body images[40].

Although risk factors associated with internalization to be thin and environmental factors have not been confirmed for AN, they hold their own potential influence, making females more vulnerable to AN, especially those who are genetically vulnerable.

3.7 AN in China

Culture transition plays key role in different countries in AN patients. AN also increases in countries under industrialization, urbanization, and globalization, showing that cultural transitions, including the adoption of so-called western eating habits (even life habits) as well as esthetics which emphasizes thinness, might sometimes trigger eating disorders in genetically susceptible individuals[22]. Ag u¨era Z, Brewin N, and Chen J's study in 2017, showed that AN among Chinese and British, Spanish AN patients, is to some extent associated with Western culture's influence, and according to their findings, Chinese people are likely to deny having AN[41]. While western people who have eating disorder mainly suffer from fat phobia, depression, and other mental illness, Chinese patients may have other reasons and risk factors[42]. Therefore, western culture factor and western aesthetics seem to be important. More researches should be done to figure out whether this hypothesis is right or wrong.

3.8 Treatment

Several ways to treat AN now mainly includes nutritional treatment, Family-based treatment, Pharmacological treatments and Cognitive-behavioral therapy (CTB).

3.9 Nutritional treatment

Nutritional treatment is one of the most important therapy to alleviate AN, since AN patients are usually in malnutrition, especially for those whose symptom is extremely severe. From the research done by Cristina Cuerda, Maria F. Vasiloglou and Loredana Arhip, nutritional therapy, especially using tube feeding strategy, help patients who is severely ill restore weight successfully in a short period of time[43]. Also in most situation, nutritional treatment is always combined to other counselling treatments to treat moderate level AN[44].

3.10 Family-based treatment (FBT)

FBT is thought to be one of the most rather successful therapy to treat AN, especially for those adolescent girls. Started from 1987, when Szemukler along with other researchers together highlighted the importance of FBT in their paper[45], numerous people have developed FBT in the last 20 years. James Lock in 2010, who compared the efficiency of FBT and adolescent-focused individual therapy (AFT), reevaluated the high efficacy of FBT in adolescents[46].

China is a country whereadolescent girls mainly have relatively close relationship to their parents, making FBT is thought to be successful in treating Chinese young patients.

3.11 Pharmacological treatment

There is no specific pharmacological treatment for AN, but comorbidities can be treated by certain drugs. Drugs to treat or alleviate AN is still under investigation.

4 Cognitive-behavioral therapy (CBT)

4.1 Introduction

CBT is a popular therapy to treat AN and other mental disorders caused by AN, focusing on changing the thought patterns of patients, and addressing inappropriate behaviors that patients present[47]. CBT is mainly based on a trans-diagnostic interpretation[48], and is highly individualized and flexible[49], and therefore highly linked to personal opinion to beauty and aesthetics. Duckworth wrote in his paper that CBT is aiming at solving the problem, making patients play an active role and reshaping the inappropriate belief with their doctors[48].

CBT for anorexia origins from Beck's therapy to treat depression[50], and developed by Fairburn and his colleagues who described enhanced cognitive therapy, CBT-E, in details[51]. According to CBT-E, the treatment is outpatient but settings can also changed into inpatient or day patient. There is no age limit for patients who participate in CBT-E[52].

However, Fairburn CG. And his colleagues' study suggested adolescents usually achieve target BMI earlier than adults, though the percentage of dropping-out was similar, in fact about 15 weeks earlier[52].

Another study on out-patient CBT done by Stein Frostad, which includes 44 patients in the 40 session-treatment, showed an effective result that after 12 months, 22 patients who complete the treatment achieved significant weight gain (36.4, 50.0 and 77.3% achieving target BMI of >18.5% after 3, 6, and 12 months)[53].

4.2 Treatment[54]

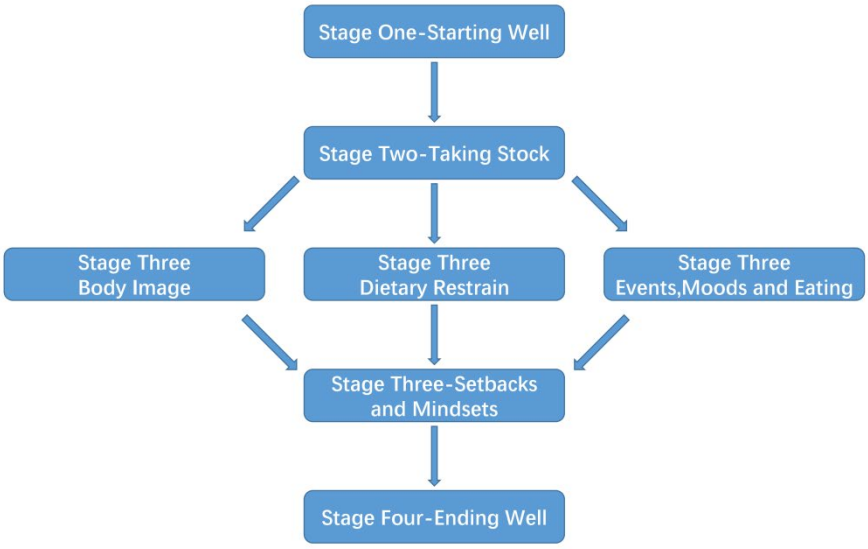

Figure 1. Map of CBT

CTB's treatment usually involves four stages, and usually includes 40 to 50 minute-sessions over 40 weeks. (map of CBT is listed above)

Stage 1

The first stage mainly focuses on starting well, engaging patients and make sure later engaging of those patients. Educating patients about body weight and weight change (including weight gaining), reducing patients' fears about weight-gaining is a part of therapists' job at this stage. Forming a formulation suitable for the patient, introducing a healthy eating pattern, and creating a self-monitoring pattern are also included. However, therapists do not consider what the patient is eating or how much (composition, quality, or quantity).

Stage 2

The second stage, which is a transition of the whole process, continues treatments and procedures at stage one. Therapist should review the treatment with patients. By doing so, therapist can make sure what may cause the whole treatment non-effected, and can design treatments in the next stage. Taking stocks at the second stage is also for deciding whether patients can finish the following treatments.

Stage 3

Third stage is the main part and the most important part of the treatment. In this stage, treatments are more personalized. Therapists at this stage mainly focus on mechanisms that caused the patient's eating disorder. Three treatment modules—body image dissatisfaction, previous dietary restrain, and event or mood associated eating disorder—are for addressing different patients' appropriate mental patterns.

The first module, which is very prevalent to treat patients, are highly associated with aesthetic care, making patients to accept the new body image and aesthetics[55]. With new mental patterns, patients can probably change the inappropriate mental patterns which maintains AN. AN patients (especially young women) usually have negative appraisal of internal body image, which cause them afraid to eat. The key treatment in this module is to teach patients have their own ideal as to how they should look and are more concerned with a failure to achieve their own aesthetic standard than with being punished for failing to achieve the ideals of others[56].Because of cultural differences, aesthetic therapy in China should has their own characteristic. More researches should be done to figure out whether which aesthetic module is suitable in for Chinese AN patients.

Stage 4

The forth stage is ending well, which mainly associated with trying to prevent the risk of relapse and address latent setbacks. The stage is to ensure that the treatments effects, usually including a 20-week post-treatment.

5 Conclusion

China now has already have knowledge of AN. Some risk factors to AN have also been grasped, so-called western culture and western lifestyle is one of them. Researchers have developed several ways to treat the mental disorder and show effects among patients. However, CBT is one of the most popular

treatment in China, showing it benefits in changing the thought patterns of patients. Aesthetics in CBT is agreed to alleviate the disorder which is caused by cultural differences, helping patients with its own characteristics. Nevertheless, Aesthetic care is not perfect, suiting all patients, we still need developing therapies to treat AN with fast, lasting effects.

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