HEALTH PSYCHOLOGY

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Psychological models of overeating and obesity

The basic psychological models aimed at an explanation of mechanisms underlying eating disorders and causing a growth of overweight and obesity are considered. The submitted models are focused on one or two of described by T. Van Strien dysfunctions: a restrained, emotional or external style of eating behaviour. The data of foreign and domestic researches studied the influence of diets, distress, personal and family factors on overeating and obesity are cited. It is noted that the further specification of the hypotheses which have been put forward within the framework of various models explaining eating disorders obviously requires carrying out of population researches.

Keywords: *eating disorders, obesity.*

Introduction

Last decade many authors of scientific publications emphasize psychological factors in genesis of forming overweight and obesity. In overwhelming majority of cases the process of forming overweight is considered to be actuated by decrease of physical activity and various eating disorders causing overeating [1, 11, 12, 16, 20, 25].

Clinical forms of eating disorders – anorexia nervosa and bulimia nervosa – have been revealed, but there is also a great number of subclinical variants and displays of disorders of eating patterns, including overeating, a pathological hunger, frequent «snackings», a syndrome of night meal, meal's self-restraint and strategies compensating overeating.

In researches of eating behaviour the Dutch Eating Behavior Questionnaire (DEBQ) for assessment of restrained, emotional, and external eating behavior [21] is frequently used. A restrained eating behaviour is characterized by deliberate efforts directed on achievement or maintenance of a desirable weight by means of self-restraint in food. At an emotional eating behaviour a desire to have a meal emerges from negative emotional states. And at an external one a desire to have a meal is stimulated with not a real hunger, but with an appearance of food, its smell, its texture or with a sight of other people eating food.

Let's consider the basic psychological models aimed at an explanation of mechanisms underlying eating disorders causing a growth of overweight and obesity. The majority of these models are focused on one or two dysfunctions (eating disorders), and for confirmation of set up hypotheses they use data received in studying both

adults and children, as it is considered that the mechanism of development of obesity is identical at children and adults [20]. It is also necessary to note that the researches confirming hypotheses of various models have basically been carried out on female samples and the issue of gender differences in eating disorders resulting in obesity still remains open.

Diets and overeating

Eating disorders can be considered as a result of a socio-cultural pressure since slenderness and beauty have been connected with a social, sexual, interpersonal and professional success in mass media. Models combining teenage and anorexic features have become ideals of female beauty. According to the American researchers the average weight of models is by 23 % less than the average weight of women in population, therefore the ideal of beauty is practically unachievable for many people. Nevertheless, it is known that at present in the USA approximately 25 % of girls and women «are on» a diet in spite of the fact that it has been known for a long time that in most cases keeping to diets subsequently leads to a rebounding weight gain and overeating.

C. Peter Herman and Janet Polivy have offered a boundary model of eating for an explanation that if a diet is strict and «emotional» (it is psychologically experienced as a «suffering»), it will in its time inevitably result in a failure (relapse) in a form of an uncontrollable episode of an excessive overeating [32]. According to this model, between mechanisms of hunger and satiation there is a space which is influenced by cognitive, rather than biological factors. People who «are on» a diet will have the bottom hunger boundary lower, and the upper boundary higher, than people who are not keeping to a diet. Thus, people who are on a diet «impose» on themselves one more upper boundary which is below their biological boundary of satiety and has an authentic cognitive origin. When an attempt of the person who is keeping to a diet to restrain himself/herself in food fails, he/she faces alone his/her biological boundary of satiety which is upper, than the person who is not «keeping to» a diet has. This phenomenon has been named «counter-control», which means that in fact people keeping to a diet wittingly control their food consumption and are inclined to overeat at easing of self-control and experience of stress. Thus, the person who are on a diet will paradoxically have more and more problems with overweight.

The given model is proved with researches in which respondents informed that keeping to strict diets had foregone their first episodes of overeating and frequently occurred in practice cases of a rebounding weight gain after stopping of keeping to diets.

In our country T.G. Voznesenskaya has analyzed the principal causes leading to a relapse of overeating (a dietary failure and overweight) during dietary treatment of obesity [2]. The first reason is an emotional instability arising as a result of following strict diets which has been called «dietary depression». The second reason is connected

with that fact that in the course of time the weight stops losing against the background of continuing therapy. The appearance of «a weight plateau» causes a disbelief in the treatment efficiency and, accordingly, to its cancellation. According to the author's data, obese patients with emotional eating behaviour receiving an isolated dietary treatment experience «dietary depression» symptoms in a varying degree in 100 % of cases. Moreover, 30 % of obese patients without clinically apparent forms of eating disorders against the background of dietary treatment have an appreciable emotional discomfort forcing them to refuse the therapy.

The boundary model is supplemented with the cognitive theory of «perfectionism», which explains the occurrence and the chronological development of bulimia nervosa [3, 27]. There has been made a supposition that perfectionism (in a form of an aspiration to have an ideal figure) and dichotomous thinking (a polarized judgement about one's own body: «ugly corpulent – ideally slim») can generate a concern in the body's form and weight, force patients to keep to a very severe dietary restrictions and start eating failures. There is a hypothesis that following a diet is a form of so-called positive perfectionism which lets patients feel emotions of success, their own force and moral superiority over others in living circumstances which are perceived by them as unavailable for control and, in general, as unsuccessful [3].

However, the boundary model and the theory of perfectionism are mainly used for explaining bulimia nervosa, and it would be strange if they could explain all problems of eating behaviour of obese people.

Distress and overeating

In order to explain emotional eating behaviour resulting in obesity, H.L. Kaplan, H.S. Kaplan have offered a psychosomatic model [28]. The given model combines the social learning theory with the stress concept. According to the psychosomatic model, the stimulus for food intake becomes not a hunger, but an emotional discomfort: a person eats not because he/she is hungry, but because he/she is disturbed, irritated, he/she has a bad mood, he/she is depressed, he/she feels bored, lonely, etc. Figuratively speaking, the person with an emotional eating behaviour «eats up» his/her sorrows, anxieties and troubles the same way as the person who has used to alcohol «washes down» them [2]. Thus, obesity can be a consequence of the learnt inability to distinguish between a hunger and an anxiety state. As a result of it individuals react to stress like to hunger, increasing food consumption and, consequently, they have overweight. Three hypotheses describing psychological benefits from overeating and obesity have been put forward [32]. According to the masking hypothesis obese people used overeating to mask their distress in other areas of their lives. Overeating when distressed, they attribute their distress to their overeating rather than to more uncontrollable aspects of their lives. Thus, the real problem is masked with the problem of overeating or overweight. The hypothesis of comfort postulates that food consumption provides a state of comfort, serves for a consolation and relief of distress of corpulent individuals

or dieters. According to the hypothesis of distraction food consumption can distract from anxieties: food draws attention of corpulent individuals or dieters so much that it can distract them from causing distress circumstances, at least, for the eating period.

The psychosomatic model emphasizes the significance of mother-child relations in the genesis of obesity. If a mother has used feeding for a long time in response to various displays of negative emotions of her child to calm him/her then in the process of his/her growing, the child becomes unable to distinguish between a hunger and other discomfort states. As it is known difficulties in distinguishing between feelings and physical sensations are one of the components of alexithymia.

Many authors noted a prevalence of alexithymia among obese people which, as a rule, is combined with depression. The food consumption for the given patient category is a kind of an internal controller of a psychological tension. K. Wheeler and R.D. Broad consider alexithymia not only as a factor predisposing to obesity, but also s a factor impeding an excess weight loss [35].

Some researchers believe that appetite disorders, behavioural dependence on food, impulsiveness, growth of excess weight are symptoms of depression. The hypothesis about a mediating role of a negative image of one's own body between depression and obesity degree has been put forward [26]. According to this hypothesis obese people are stigmatized on the basis of their appearance. The stigma of abnormal body – obesity – influences social interactions between people. Hence, obese people are less loved and frequently teased that can provoke chronic feelings of depression, guilt and reduced self-appraisal.

It has been found out in longitudinal studies that obese people till the period of weight gain have been less depressed in comparison with people with normal weight. It has also been shown that patients taking part in programs of weight loss frequently have symptoms of so-called dietary depression. In the research of G.J. Musante et. al. [31] the relationship between obesity, depression and overeating has been revealed only at women. While women's eating disorders developed in response to negative emotions such as anger, sadness, inefficiency, loneliness and exhaustion, obese men were inclined to overeat in response to positive affective and social incentives (for example, in a state of excitement or joy, during communication with friends, different actions). In the research of P.R. Costanzo ct al. [23] overeating of both men and women has been connected with depression and failure in keeping to diets. However women in contrast to men were found out to have an interrelation of overeating and a low self-appraisal. Thus, obese men overate in response to strong negative emotions directed outwards whereas women were inclined to overeat in response to internal disgust for themselves.

In our country V.I. Krylov [9] and N.Ju. Krasnoperova [8] distinguished different types of depressions of patients of bulimia nervosa and obesity.

Comorbidity of obesity and depression are admitted by many authors. The results of longitudinal studies show that depression precedes obesity at girls-teenagers, but not at boys, and that obesity precedes depression at adults [25].

Personality and overeating

Within the framework of the personality approach the role of personality in development and maintenance of eating disorders resulting in growing of overweight is investigated. According to the externality theory obese people develop increasing reactivity for food. For these people a smell, an appearance or a presence of food produces a direct reaction which is eating ignoring internal feeling of satiety. They could be characterized as «external-eating» with externality as a personality trait [21]. The typical research of 70th is an experiment with 107 girls aged 9–15 years old [20]. In a summer camp there was an abundance of food during 8 weeks. Children were allowed eating «whatever their hearts desire» without any restrictions. The girls highly estimated in externality subsequently obviously more gained in weight than others. It is necessary to note that regardless externality has not been explained yet by means of any reasonable theory therapeutic techniques focused on reduction of external reactivity for food stimuli are very effective.

In polling measurements obese people are found out to have such a trait as impulsivity and they are more often then others involved in impulsive activity such as drug and alcohol abuse. Bulimia nervosa patients are revealed to have a significant link between impulsivity and children's traumatic experience of violence and humiliation. Anorexia nervosa patients are noted to have no such a link [22].

In domestic medical psychology and psychiatry various researches have investigated: different psychopathological aspects of eating disorders and obesity [5, 7, 8, 9, 13], clinical-psychological characteristics of women with a problem of overweight [1, 14, 10, 17]. The first attempts to investigate coping-strategies (ways of coping with stress) of obese women [15] and children with biliary dyskinesia and obesity [18] have been made. In these researches personal and psychological characteristics have been studied with the help of various clinical tests and techniques: the Minnesota Multiphasic Personality Inventory (MMPI), the Giessen personal questionnaire (Giesener Beshwerdebogen or GBB), the Spielberger State-Trait Anxiety Inventory, the Beck Depression Inventory, the Toronto Alexithymia Scale (TAS), etc. Therefore the results received in the given researches to a greater extent describe a level and a character of psychopathological disorders of obese women rather than specific to the given patient category of features of personality.

At the present time there is an evident shortage of research of obese patients' personality by means of non-clinical methods which do not propose to make any diagnoses. So, only in one research the Sixteen Personality Factor Questionnaire (16 PF) by Raymond B. Cattell and his colleagues was used to define individual-psychological traits of women suffering from exogenous-constitutive obesity of the second and third degree [4]. And it was shown that the averaged psychological profiles of examinees of experimental and control samples (according to Raymond B. Cattell's questionnaire) essentially differed in such factors as «C» (Emotional Stability), «Q3» (Impulsivity) and «MD» (Level of Aspiration, Self-Appraisal).

The alternative approach to the problem of specific personal traits of obese people states that obese people cannot be attributed to a certain personal type as they form a heterogeneous group.

An attempt to set up a typology of personality of obese people has been made in the research by H. Thompson-Brenner [33]. The author distinguishes the following three groups of patients by means of the cluster analysis:

1) the highly functioning / perfectionism-oriented group of people having a high rate in Global Assesment of Functioning Scale, a low incidence of psychiatric hospitalization and essentially lesser personal pathology than people of other groups;
2) restrictive / super-controlling patients show narrowing and restraining of need for pleasure, emotions, relationships, self-reflection, sexuality and profundity of other people understanding that, as a rule, is «playing to the end» or «completing» in the domain of eating disorders;
3) patients of the third group tend to be emotionally unregulated, uncontrolled or impulsive.

The author notes that the above described three patterns are not only clinically identifiable, but they are also similar to the data of previous researchers which used cluster analysis for patients with eating disorders.

Family and overeating

Some authors emphasize the important role of family in development and maintenance of eating disorders and obesity. According to Leann L. Birch's data [19] food is frequently used by parents for strengthening desirable or undesirable behaviour of their children. Parents, awarding children sweets, increase the attraction of sweets in general. Specific interactions between parents and children also explain other forms of the learnt behaviour such as «always to eat up to the end». The author accentuates that such skills as a delay in satisfying the requirements, tolerance of hunger, coping with frustration, resistibility to food persuasions are abilities of self-regulation which are gradually gained by means of education and upbringing. Within this context the permanent eating can be considered as a behavioural deficiency which is an unlearned normal eating habit. The deficiency of eating control of some obese children can included in the general deficiency of self-regulation ability. In such cases obesity treatment undoubtedly assumes an influence on parental skills.

Within the framework of John Bowlby's theory the researches have shown that there is a correlation between eating disorders and disorders of attachment patterns, which are forming in an interaction of a mother and her child. According to the data of these researches anxious-avoiding attachment style prevails among patients with anorexia symptoms, and patients with bulimia symptoms frequently show neglecting and avoiding styles [34]. The other psychoanalytical researches note that a family provoking a development of eating disorders consists of a super-controlling, perfectionism-oriented mother who is not supporting her child' attempts to sepa-

rate, an emotionally refusing father, and a child who feels refused, controllable and inadequate. Researches in the family psychotherapy area have shown that families of obese people are characterized by insufficient correlation between subsystems and a little autonomy of family members. According to W. Kinston's review [29], interactions in families with obese children are more conflict and hostile, moreover, parents frequently reject their children openly.

As a whole family therapists focused on the process of maintenance of the obesity problem by family system instead of studying various aspects of eating disorders. So, William J. Doherty and Jill Elka Harkaway [24] have suggested using the Family FIRO Model for understanding and assessment of the family's way of organizing itself in reply to obesity of one or several of its members. The given model is an adaptation of the FIRO Model introduced by William Schutz to family systems. Three central (core) processes are categorized in family interaction: inclusion describes the family organization and family relations; control refers to interactions connected to the influence and power, and describes family members' way of interacting when they have different needs and purposes; intimacy / affection relates to deep emotional relations among family members and is characterized by a degree of an emotional disclosure. On the basis of clinical experience the authors of the Family FIRO Model specify various family patterns of obesity. So, for example, obesity can be a marker of a union or an alliance in the family, to defend a family border, delaying their child's leaving for an external world, to provide matrimony safety, etc.

In our country coping-strategies in families of children with biliary dyskinesia and obesity [18], interrelations in families of women with bulimia [8], a role of incorrect upbringing in forming personality of patients with eating disorders [9] and obesity [6] have been investigated.

In spite of the fact that some authors consider the family approach to eating disorders' treatment as one of the most prospective, it is necessary to note that researches of the role of family environment in forming eating disorders are not numerous yet. It is probable because measurement of family interaction is very difficult. Besides, all these researches are cross-block and longitudinal researches are necessary in order to understand in what way inefficient parental upbringing and dysfunctional family climate can support or strengthen the problem of obesity.

Conclusion

The variety of the described psychological models of eating disorders once again confirms that psychological mechanisms of development of eating disorders resulting in obesity are more complex, than it seemed to be earlier. Within the framework of the given models the majority of researches was carried out on so-called identified clients – patients of different centers and clinics. Therefore further specification of the hypotheses which have been put forward within the framework of various models explaining eating disorders obviously requires carrying out of population researches.

It is also noted in the foreign scientific literature that researchers have relatively recently begun to study gender aspects of eating disorders. Men are considered to have lower parameters on different test scales estimating eating disorders in comparison with women [30], but such understanding is obviously insufficient and further gender researches are required.

There is no leading theory explaining mechanisms of development of eating disorders and obesity yet, that is why now medical psychologists and psychotherapists have to try various hypotheses about influence of different factors when the next obese person asks for help.

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