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The role of psychological factors in aetiopathogenesis and management of obesity related diseases

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ABSTRACT

The obesity is a challenging problem in to-days world which if left un tackled leads to a variety of associated illnesses like Hypertension, Diabetes mellitus, Cardiovascular disorders, Cerebro vascular accidents etc. The common etiological factors which are implicated include sedentary life style, genetic factors, dietary factors and endocrine factors, but the psychological factors are often overlooked which are the most important factor perpetuating binge eating behaviour. The emotional instability, depression, stress, sexual abuse etc, often result in compulsive over eating leading to obesity. Thus the comprehensive management of obesity and the associated illnesses should include the proper tackling of these psychological components apart from other common therapies. The present article critically analyses the role of these factors in the causation of obesity and its different management strategies which includes sattvavajaya as an Ayurvedic technique.

Key words: Obesity, Depression, Hypertension, Psychosomatic, Sattvavajaya, Behavior modification.

INTRODUCTION

The obesity refers to excessive accumulation of fat in fat depots resulting in more than 20% excess of the expected body weight. The etiological factors may range from sedentary habit, genetic factors (50.70%) to endocrine factors (like hypothyroidism, Cushing syndrome etc) and psychological factors. As a result of emotional instability, overeating may develop as a habit, which may lead to obesity (Andress ,1985). Thus, obesity results from the interaction of genetic, metabolic, environmental and psychosocial factors.

Depression is important psychological factors which does not only refers to feeling gloomy for certain period but is the result of certain chemical changes that take place in brain (Gupta ,1998). Depression is commonly associated with loss of appetite, but in a significant minority it is associated with increased appetite and weight gain. The increase in weight gain experienced further leads to feeling of worthlessness and medications used to treat depression can lead to even greater weight gain.

Binge eating disorder or compulsive overeating is the eating of large amount of food more frequently with a sense of lack of control over eating during the episode. It is estimated that over 30% of individuals being seen in non-medical weight reduction programmes are suffering from binge eating disorder which is frequently set off by stressful situations (Flint ,1994). Sexual abuse in women is often associated with eating disorders and obesity. Additionally there is some experimental evidence that increase in stress hormones such as cortisol, which results from extreme physiological stress can induce the proliferation of fat cells and predispose stress victims

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to the development of obesity. Stopping of smoking also leads to weight gain (Kaplan & Sadock, 1995).

Gross obesity produces chemical and physical stresses that aggravate or cause a number of disorders including osteoarthritis and sciatica. Varicose veins thrombo-embolism, hernias and cholelithiasis are also common. Cardiovascular complications include hypertension and atherosclerosis. There may be angina pectoris, cardiac failure in middle aged individuals. Myocardial infarction and thrombo-embolism may also develop. Diabetes mellitus, atherosclerosis, hyperlipidemia, cholesterol stones and gout can develop as metabolic complications. From aesthetic point of view these individuals are very unhappy. Different psychosomatic problems may also develop. Obese individuals are also vulnerable to various types of injuries and accidents due to slow movements and mechanical difficulty.

It is important to note that the most important obesity related diseases like Diabetes mellitus, hypertension, coronary artery disease (CAD), thrombo-embolism, cerebrovascular accidents (CVA's) etc. have been included under the umbrella of psychosomatic disorder as stress and psychosocial factors are important as precipitative or exacerbative factors in these disorders. These are the same factors, which if tackled properly has the potential to modify the entire course of obesity and related disorders (Kaplan & Sadock, 1995).

Obesity, Stress and psychosomatic ILLNESSES

Psychosomatic disorders a term coined by Heinroth (1918) are those disorders in which psychosocial factors are very important. Broadly applied, this term can encompass all physical illnesses. The definition includes those disorders which are either initiated or exacerbated by the presence of meaningful psychosocial environmental stressors. W.H.O. international classification of diseases (ICD-10) includes these disorders under the category of psychological behavioral factors associated with disorders (Ahuja, 2006).

Franz Alexander, the father of psychosomatic medicine, initially described the seven classical psychosomatic illnesses- Essential hypertension, Bronchial asthma, Ulcerative colitis, Peptic ulcer, Neuro-dermatitis, Thyrotoxicosis and Rheumatoid arthritis. Beginning from these seven classical illnesses of Alexander the, the number of these illnesses has continued to increase by leaps and bounds, as the evidence for their psychosocial causation become more evident. At present the list of psychosomatic illnesses is vertically endless. The Alexander gave his specificity hypothesis, which states that if a specific environmental stressor or emotional conflict occurs, it results in a specific illness in a genetically predetermined organ (Ahuja, 2006).

George Engel (1977) gave a bio-psychosocial model to explain the complex interaction between biological, psychological and social spheres resulting in a psychosomatic illness. This view point has become very popular (Ahuja, 2006). It has been found that certain type of personality traits are very common in the patients of coronary artery disease (CAD), which are collectively known as coronary prone type A behavior (Friedman and Rosenman.) The type "A" behaviour is characterized by time

urgency and excessive competitiveness and hostility. There is always a hurry to finish the task in hand and there is need to win always, with a mistrust for other people's motives. Rage ensues, if the person is interrupted from achieving objective.

All the above outcomes are to increasing stress, which is in response of body to various environmental, physical and social situations. Stress related complications of obesity affect not only the industry, economy and education but the complete human life. Although one cannot quantitatively assess but stress seems to be involved in much of unhappiness in humans. Ayurveda describes that aetiological factors of diseases are mainly of three kinds- Indriyatha Atiyoga, Ayoga and Mithyayoga; Karma Atiyoga, Ayoga and Mithyayoga and Kala Atiyoga, Ayoga and Mithyayoga. (Singh, 1998).

Indriyatha Atiyoga, Ayoga and Mithyayoga are a kind of unhealthy act caused by the association of unsuitable objects of senses to five sense organs. Similarly abnormal karma refers to the indulgence in the activities of vak (speech), Manas (mind) and sharira (body) is excessive, inadequate and perverse activities. The kala refers to time and seasonal factors. Acharya Charaka has said that the parinam i.e. transformation is the quality of the time. It is one of the basic substances and transforms all dead of creatures in to good and bad results as and when to be enforced. It is pertinent to state that all these causative factors ultimately results in a stress diathesis and produce illnesses (Singh, 1986).

Sattvavajaya (Ayurvedic Psychotherapy) and behaviour modification in obesity related disorders

The purpose of Sattvavajaya, behavior- life style modification therapy is to help patients change behavior that contribute to their obesity and initiate new dietary and physical activity behaviors needed to loose weight (Tripathi and Singh, 1992). Behavior therapy for obesity should involve: developing specific and realistic goals that can be easily measured e.g. walking for 20 minutes; developing a reasonable plan for reaching these goals and prevent relapse; making incremental changes rather than large changes, so patients can have successful experiences that can be used as a foundation for additional lifestyle alterations and these goals for the treatment of obesity usually includes the following components: Self monitoring is the most important component which involves keeping daily records of food intake and physical activity and checking weight regularly; Self monitoring records can provide information needed to identify links in the behavior chain that can be targeted for intervention. In addition, a record keeping enhances compliance with dietary and physical activity interventions; Problem solving is a systematic method of analyzing problems and identifying possible solutions; Contingency management involves developing methods to help recovery from episodes of overeating or weight regain; Stimulus control is the process of avoiding triggers that prompt eating (Kaplan & Sadock 1995). Stress management is used to decrease the negative impact of stress on positive behavior patterns; Social Support from family members and friends is important for modifying lifestyle behaviors and Cognitive restructuring teaches patients to think in a positive manner and to correct thought that undermine weight management

efforts. Cognitive techniques also help patients accept realistic, but less than desired, weight losses. Inappropriate feelings of failure after achieving modest but clinically important weight loss lead to relapse and weight regain (Kaplan & Sadock, 1995).

Relaxation Techniques

The important relaxation techniques which are clinically useful are -Jacobson's progressive relaxation technique, Yoga, Autohypnosis, Transcendental meditation, Biofeedback, Individual psychotherapy (Krishna Murali & Singh, 1992).

Relaxation Techniques of Yoga

The important yogic techniques which are clinically useful can be grouped under- Asanas (Physical postures), Pranayama (Breath control), Nadi Shodhana, Ujjayi Pranayama, Yoga Nidra (Technique of Yogic Relaxation) and Dhyana (Meditation).

Yoga Nidra is a systematic method of inducing complete physical, mental and emotional relaxation which has been derived from Tantric classics. It has been developed and brought into practical form by Swami Satyananda of Bihar School of Yoga, Munger. It is practiced into four phases of: Samkalpa (Resolution), Rotation of consciousness, Awareness of Breath, Feelings and sensation and Visualization (Krishna Murali & Singh, 1992).

It has been found extremely effective technique for the management of psychosomatic diseases and prevention and management hypertension, Diabetes mellitus, Coronary artery diseases and other obesity related disorders and is being practiced in the clinical settings with fruitful results.

CONCLUSION

Hypertension, Diabetes mellitus, Cardiovascular disorders, Cerebro vascular accidents etc. are important accompaniments of the obesity, which itself is a challenging problem in present day society. Sedentary life style, genetic

factors, dietary factors and endocrine factors are the chief etiological factors, but the psychological factors are often overlooked which are the most important factor perpetuating binge eating behaviour. The emotional instability, depression, stress, sexual abuse etc, often result in compulsive over eating leading to obesity and its complications. Therefore the management of obesity and the associated illnesses should also include the management of psychological components apart from other commonly used therapies. These should include the Ayurvedic psychotherapy (Sattvavajaya), behavior modification techniques like stimulus control, stress management, cognitive restructuring, and the various types of relaxation techniques including yoga.

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