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Effects of Binge Eating on Psychological, Physical Health among Different Ethnic Groups of Karachi

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Abstract

Objective: To see the effect of binge eating on psychological as well as physical health among the different ethnic groups of Karachi.

Method: The study was attempted to examine the differences of the level of stress, anxiety and physical illness between the binge eaters and non-binge eaters. Sample was drawn conveniently from the public and private sector universities and different residential area of Karachi like Lyari, Orangi, Korangi, Landhi, Garden west/east, Gulshan Iqbal, Agra Taj, Rinchorline, PECHS and PIDC. 120 individuals participated between the ages of 18 to 35 year. The Perceived Stress Scale (PSS) was developed. The questions in this scale ask about feelings and thoughts during the last month. Binge Eating Scale is a sixteen-item questionnaire used to assess the presences of binge eating behavior indicative of an eating disorder. It was devised, Patient Health Questionnaire (PHQ) is developed by ACN Group. It is used for assessing physical illness and Short anxiety self-test is developed, which assess anxiety. To find out the differences ANOVA and t-test was calculated through the SPSS 22.0

Result: Of the 120 participants, 60 (50%) were males and 60 (50%) were females. Out of 120 participants there were 31 (25.8%) were binge eater and 89 (74.2) were non binge eater. There were 39 (32.5%) were married and 81 (67.5) were single. There were significant differences on the score of binge eating scale, patient health questionnaire-phq scale and self-anxiety test between binge and non-binge eater but there was a weak significant difference on the score of perceived stress scale. There was a significant difference among the different ethnic groups on binge and non-binge eating.

Conclusion: It is concluded that binge eating effects the psychological as well as physiological health of individual and ethnicity also plays a role in eating behavior.

Keywords

Binge eating; Stress; Anxiety; Physical illness; Ethnic groups; Gender

Introduction

Having a disorder is neither a life-style choice, a 'diet gone wrong', nor an effort to pay attention. A person with an eating disorder has a mental health condition. Eating disorders are serious, potentially fatal conditions, and most people with eating disorders need psychological treatment and/or physical health treatment (e.g nutritional advice) to promote recovery. Eating disorders involve an unhealthy preoccupation with eating, exercise and bodyweight/shape. Distorted thoughts and emotions about body image and self-worth can lead to marked changes in eating and exercise behaviors these may include excessive dieting, fasting, over exercising, using medications (e.g slimming pills, diuretics, laxatives), vomiting or binge eating. An unhealthy relationship with food is often an attempt to deal with emotional issues such as negative feelings and low self-esteem. Eating disorders are common and increasingly prevalent. It is not uncommon for an individual to progress from one disorder to a different. Eating disorders can affect people from many age group, gender, socioeconomic and cultural background. There are three types of eating disorder, Anorexia nervosa; distorted body image and obsessive fear of gaining weight, extremely limited food intake and/or increased levels of exercise. Can lead to a dangerously low body weight, malnutrition and starvation. Second is Bulimia nervosa often starts with dieting to lose weight, as binge eating followed by vomiting, fasting, over exercising, or using laxatives/diuretics as a means of purging. The binge/purge/exercise cycle can become increasingly compulsive and uncontrollable overtime and last is binge eating disorder eating excessive amounts of food, often when not hungry, as a distraction from other problems, but followed by feelings of intense guilt, shame and self-hatred after binging. May involve sporadic fasts and repetitive diets. These disorders have significant signs of behavioural, physical and emotional disturbance and these disorders may be caused by behaviors such as dieting or overeating excessively; eating very quickly or very slowly; engaging in repetitive or obsessive behaviours relating to body shape and weight (e.g weighing) it could be depicted by physical illness as changes in or loss of menstrual patterns; fainting; swelling around the cheeks or jaw, calluses on knuckles, or damage to teeth due to vomiting and by emotional sign as thinking and talking a lot about body image, body weight and food; expressing extreme dissatisfaction with body or having a distorted body image; becoming irritable or withdrawing from family and friends; feeling anxious or depressed and having suicidal thoughts or behaviour. These disorders are links to other psychological disorders (such as anxiety and stress) and physical diseases.

There are many researches which are relating to binge eating and psychological and physical illness which showed culture to culture, gender to gender, age to age and ethnic group to ethnic differences. Psychological treatment for eating disorders begins to address eating patterns and related thoughts, feelings and behaviors by helping people find new ways of thinking about and handling issues such as self-esteem, control, perfectionism and family problems. This can include individual and group therapy and psycho-education (information on psychological issues). Psychological therapies are also used to treat anxiety and depression.

There are many researches on the binge eating and psychological disorder as well as physical illness. There are many researches on binge eating and anxiety disorder that due to binge eating people develop anxiety disorder. Anxiety is quite just feeling stressed or worried. Anxious feelings are a normal reaction to a situation where

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a person feels under pressure and usually go away once the stressful situation has passed, or the 'stressor' is removed. A research was done on "binge eating as escape from self-awareness" [1] it stated that cognitive avoidance theory supports the role of anxiety in the binge eating process by suggesting that individuals engage in binge eating episodes in order to escape from this state [2] had researched on "physical activity as a moderator of the association between anxiety sensitivity and binge eating" it stated that indication supports a bent among those with high anxiety sensitivity to believe that eating can function as a tool to regulate affect; they are more likely to express an urge to eat when experiencing negative affect.

Reichborn, et al. [3] researched on "genetic and environmental influences on binge eating in the absence of compensatory behaviors" it stated that how anxiety and BEB link to each other as genetic data has supported that individuals with BEB are at an increased risk for symptoms of anxiety, independent of BMI. Bulik et al. [4] researched on "medical and psychiatric morbidity in obese women with and without binge eating" which stated that individuals who have engaged in binge eating episodes are approximately 1.7 times more likely to report anxiety than those who have not.

Anxiety and binge eating behavior share similarity as researches conducted by Sassaroli S et al. [5] On "worry and eating disorders: A psychopathological association" which found that levels of worries are similar between individuals with eating and anxiety disorders.

Bing eating behavior also link to the stress and emotional disturbance. Several studies have been done on them as Stone and Brownell [6] stated in the book of "The stress-eating paradox" that emotional arousal has been associated with both increased or decreased food intake and weight; but little is known about the mechanisms that determine the direction of change. Rand et al. [7] predictors of stress-induced eating is important, as stress can trigger relapses of Obesity. Lingwiler et al. [8] had researched on "affective and cognitive antecedents to eating episodes in bulimia and binge eating" which stated that bulimic episodes as physical response to worry may help explain why some people tend to eat while others lose their appetite after stress. The purpose of this study was to identify whether stress reactivity, both biological and psychological responses, distinguish stress over-eaters from under-eaters. Specifically, it was hypothesized that prime cortisol reactivity may cause eating in response to worry, given the relations between cortisol with both stress and mechanisms affecting hunger. A recent national survey documented that 39% of individuals overeat, or increase consumption of energy dense foods in response to worry.

Sieber and Jessica [9] stated in their research that "in the fast-paced society we sleep in, many individuals experience high levels of stress daily, creating the potential to significantly contribute to unhealthy dietary behaviors both immediately and long-term". There are articles and researches on gender differences and bed as Spitzer et al. [10] researched on the bed and gender differences and concludes as that "available estimates are that ladies are roughly 1.5 times more likely to possess bed than men". Spurrell et al. [11] researched on "age of onset for binge eating" and it's concluded that men had a significantly greater history of drug abuse problems and ladies reported a stronger urge to deal with negative affect by eating. Another report from this bed patient study group noted that men and women didn't differ significantly in age of onset of binge eating, age of onset of dieting, or in whether binge eating or dieting problems began first. Hay [12] had conducted a research on the epidemiology of disorder behavior it concluded as female binge eaters could also be more susceptible to extreme dieting or weight compensatory behaviors than their male counterparts.

Binge eating also links to physical illness as many studies and researches supported the connection between the physical illness like menstrual cramps, stomach ache, bowl problems and other diseases are results of binge eating. Stemmermann et al. [13] had researched on "gastrointestinal disturbance in eating disorder" during which they stated that "symptoms of the upper and lower gastrointestinal tract are described in Anorexia and Bulimia nervosa. Studies that specialize in general outcome and medical comorbidity describe a worse outcome within the binge eating/purging subtype of anorexia compared to the restricting subtype. Both Anorexia subtypes experience substantial delays in gastric emptying also as constipation. These gastrointestinal disturbances may play a task in Anorexia patients' difficulties with re-feeding and weight restoration. Bulimia nervosa patients showed increased gastric emptying capacity, with delayed gastric emptying and diminished gastric relaxation. Additionally, diminished release of cholecystokinin and abnormalities in enteric autonomic function were found in Bulimia nervosa patients. These factors may play a task within the perpetuation of the disease. Gastrointestinal disturbances develop secondary to the disordered eating behavior and therefore the concomitant malnutrition and subside mostly with the resumption of normal food intake and weight. Knowledge of those changes could also be of critical importance in avoiding misdiagnosis and successful therapy". Stemmermann et al. [13] researched on "relative impact of smoking and reduced pulmonary function on peptic ulceration risks; a prospective study of Japanese men in Hawaii" which found that the centre of the 1980's it had been believed that the main causes were stress, the genetically linked secretions of excessive stomach acid, eating an excessive amount of fatty, rich and spicy foods and drinking an excessive amount of alcohol. It's quite common that in ED patients with longer duration of the disease, dental erosion was significantly more common. Last, oral health problems frequently affect ED patients, and this must be considered in patient assessment and treatment decisions.

There's also link between the binge eating and ethnos varies within ethnic group as researches suggested that the observation of developmental differences in binging between whites and African Americans corresponds to their physical maturational divergence. These findings underscore the necessity for population-based surveys that sample binge eating across age, gender, and ethnicity [14]. In another research literature associated with ethnic differences in dieting, binge eating, and purging behaviors among American females was reviewed. Relevant publications were located by means of computer searches utilizing Medline and psycinfo databases and the bulk of the dieting studies that are published so far indicate that this behavior is more prevalent among White females while most studies of binge eating and purging behaviors indicate that these behaviors are as common among minority females as among White females. Bouchard et al. [15] stated that the ethnic differences in prevalence have engendered a debate to elucidate these dissimilarities. One explanation focuses on the possible genetic differences which will predispose minority women to realize weight. It's clear that obesity features a strong genetic component.

All the researches have described that there's relationship among binge eating anxiety, stress, physical illness, gender and ethnic groups, this study is conducted to explore the connection between the stress, anxiety ethnos, physical illness with binge disorder or behavior within

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the Pakistan context that people are binge eater or not or do they experiences anxiety, stress, physical illness because the results of binge disorder.

Hypothesis

For this purpose, following hypothesis have been formulated

- There would be a significant difference on the score of binge eating scale of male and female
- There would be a significant difference on the score of Anxiety scale of binge eater and non-binge eater
- There would be a significant difference on the score of stress scale of binge eater and non-binge eater
- There would be a significant difference on the score of physical illness scale of binge eater and non-binge eater
- There would be a significant difference on the score of binge eating scale of different ethnic groups

Subjects and Methods

A convenient sample of 120 participants were approached. There were 60 female and 60 males participants. Their age range were from 18 to 45. All participants were students, housewife and employees.

The Perceived Stress Scale (PSS) was developed by Cohen et al. [16]. The questions in this scale ask about feelings and thoughts during the last month. Binge eating scale is a sixteen-item questionnaire used to assess the presences of binge eating behavior indicative of an eating disorder. It was devised by Gormally et al. [17] Patient Health Questionnaire-PHQ is developed by ACN Group. It is used for assessing physical illness and short anxiety self-test is developed by Sinoff el al. [18] which assess anxiety. The demographic information form collected the information about age, gender, birth order, qualification, socioeconomic status and a question was asked about can they leave the food if their stomach is full and do they drink anything to digest and do they feel sad because of their stomach upset.

Permission from the heads of universities was sought; the students were approached through the teachers and other participants were approached by friends, classmates and relatives. Nature and aims of the study was briefed to the students. They were assured that participation was totally voluntary and anonymous and they could withdraw at any point. Potential participants were requested to fill the survey form relating to eating behavior and its psychological and physiological links. They were requested to answer all items honestly.

A written consent was obtained from the students, who agreed to participate in the study. All information obtained from students was confidential. All the students were assured of confidentiality. The study was conducted after approval from concerned authorities.

Data were coded and analyzed by using SPSS version 18. Basic descriptive statistical analysis was conducted to determine the properties of the sample ANOVA and t-test were calculated to assess the differences among study variables.

Result

Following are the demographic characteristics of the participants recruited (Tables 1-3).

Table 1: Demographic characteristics of the participants recruited.

Groups	Frequency	Percentage
Binge eater	31	0.258
Non-binge eater	89	0.742
Total	120	1
Marital status		
Married	39	0.325
Single	81	0.675
Total	120	1
Gender		
Male	60	0.5
Female	60	0.5
Total	120	1

Table 2: Mean, Standard Deviation and T-Values for Binger/non-binger, Stress, Anxiety, and Physical illness scores on scores, gender (males, females), and ANOVA for Ethnic groups (Sindhi, Balochi, Pathan, Punjabi, Hindko and Urdu Speak).

	N	M	SD	Levene test for equlaity	T	Df	Sig
Binge eating							
Non binge	31	17.3	1.978	28.38	-12.4	118	0
Binge	89	31.79	6.379				
Gender							
Male	60	30.68	8.871	0.058	3.57	118	0.01
Female	60	25.45	7.065				
Stress							
Binge	89	19.62	7.281	0.188	-2.97	118	0.04
Non-binge	31	15.2	6.029				
Anxiety							
Binge	89	24.04	6.17	0.934	-1.89	118	0.073
Non-binge	31	21.7	6.23				
Physical illness							
Binge	31	6.71	5.172	0.339	-2.24	118	0.027
Non-binge	89	8.99	4.776				

Table 3: ANOVA among the ethnic groups (Sindhi, Punjabi, Balochi, Pathan, Hindko, Urdu speak) and binge and non-binge.

	Sum of square	df	Mean	Sig
Between the groups	1.542	51	0.308	0.015
Within groups	21.45	114	0.188	
Total	22.992	119		

Discussion

As the literature review supported that binge eating disorder link with anxiety, stress and physical illness. As in the result shown in Table 1 described the frequencies of groups. There are 120 participants so 31 were non-binge eater and 89 binge eaters, there were 39 married and 91 single and the frequency of male and female were same. As the score of binge eating anxiety and physical illness were statistically analyzed as the first research hypothesis was accepted that there would be a significant difference on the score of binge eating scale of male and female on the 0.01 alpha level. As the researchers suggested that females have high tendencies of developing any eating. As the second research hypothesis, has accepted that there would be a significant difference on the score of Anxiety scale of binge eater and non-binge eater and the result indicates that binge eaters suffer from anxiety disorder and the result also supported that female suffer more

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anxiety due to binge eating as compare to male. As the researches supported that anxiety and binge eating is linked with each other as Deep et al. [19] researched on: Premorbid onset of psychopathology in long-term recovered anorexia nervosa in which they stated that the onset of anxiety disorders precedes the onset of Anorexia nervosa or Bulimia nervosa.

The third hypothesis was accepted that there would be a significant difference on the score of stress scale of binge and non binge eater. The result showed that it was moderate significant differences. Stress and Binge eating disorder has a link. A research was conducted by Freeman et al. [20] which showed result that vulnerability to binge eating in women who differ in terms of dietary restraint level may vary as a function of their coping responses to stress. It was studies that "comfort food is comforting to those most stressed" result showed that the high stress group had significantly greater BMI and reported greater emotional eating which suggested that long-term adaptation to chronic stress in the face of dense calories result in greater visceral fat accumulation [21].

The fourth hypothesis also accepted as There would be a significant difference on the score of physical illness scale of binge eater and non-binge eaters. There are many researches which show that physical illness is linked to BED which stated that BED causes psychopathology, and other co-occurring physical and psychiatric conditions which impair psychosocial functioning and make individual overweight [22-25].

The fifth and last hypothesis was there would be a significant difference on the score of binge eating scale of different ethnic group and it is accepted as the result of interpreted as that there is a significant difference between groups the groups included as Punjabi, Pathan, Hindko, Sindhi, Balochi and Urdu speak. There was no researches on ethnic groups in Pakistani culture but American researches supported that there could be difference on the binge eating behavior among different ethnic group. As Wadden et al. [25] reported that the most recent data obtained by the National Center for Health Statistics, suggests that 61% of adult Americans are either overweight (34%) or obese (27%) than others.

Conclusion

It is concluded that all the research hypothesis were accepted as there is significant differences on scores of psychological scales such as anxiety binge and stress and physical illness scale of binge eater and non-binge eaters.

Recommendation and Limitations

It is recommended that sample size should be taken from organization, universities, and target ethnic group and other public areas. There should be a good representation of population that finding can be generalized to the whole population of Pakistan. The ratio of male and female should be equally taken from all over the Pakistan.

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