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# Nutritional Status Psychiatric Patients Attending OPD at a Selected Tertiary Hospital

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## Abstract

**This descriptive type of cross sectional study was conducted among the psychiatric patients who had attended at the out patient department of psychiatry in Mitford Hospital Dhaka, with the objective of assessing the nutritional status of psychiatric patients. Mean age of the patients were 34.87 ±12.63 years. Of the total 150 patients, 56% were male and 44% were female. Among the study subjects, 54% were married, 30% unmarried, 10% divorced and 5% were widow. Regarding occupation, 12% of the patients were in service, 8.7% were students and 24.7% were unemployed. Among the psychiatric patients, 42% had schizophrenia, 36.7% were bipolar mood disorder and 21.3% had other type of disorders.**

**BMI of 66.7% patients were normal, 22% below normal and 11.3% were above normal. Among all the patients 71.4% male and 60.6% female were normal by BMI, whereas 11.3% patients were over weight. Among the over weight patients, 6% were male and 18.2% were female. In the present study 22% patients were under weight, where 22.6% were male and 21.2% were female . Nutritional assessment showed 61.9% male patients and 63.64% of female patients had normal MAC. Maximum of patients (72%) were anemic clinically.**

**Again according to marital status 74.1% married and 58% of unmarried patients were found normal by BMI.. In the study,66.7% schizophrenic patients and 65.5% BMD patients were found in normal BMI.**

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## Introduction

Diet and nutrition have got tremendous impact in preventing disease and reducing the morbidity and mortality of many diseases. There is little doubt about the influence of nutritional factors on human health and disease. Obesity, with all its present consequence, is increasing both in the developed world and in urban centre developing countries .In contrast, numerous adults and children die each year from the effects of famine and starvation. In developed countries inappropriate dietary intake have linked with disease such as coronary heart disease and cancer[1].

The current knowledge of the importance of diet and nutrition in maintaining good health and preventing disease is intrigue to the care of the elderly. Studies show that malnutrition is prevalent in calorie, protein and micronutrient deficiency, reflecting concurrent chronic disease, exacerbated by inappropriate feeding. Improving diet and nutritional care for ageing adult, whether well or

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with disease, will lessen the risk or progression of degenerative disease of CVS, nervous musculoskeletal, visual and gastrointestinal nature reduce the impact of chronic disease on nutritional status and improve the quality of life.[2] Psychiatric disorders have a long history. Early Egyptian papyri contain references to mental disturbances and cases of mental disorder. Mental disorder attracted extensive discussion in ancient Greek medical texts. However ideas that mental disorder was a spiritual rather than a medical problem, were prominent throughout the middle ages.[3] In the 18th century psychiatry was concerned in Britain when King Jorge (III) had suffered from mental disorder frequently. Mental health draws attention on its own merit. Good mental and spiritual health is necessary for overall wellbeing of a person. Recently it has been shown that social awareness regarding mental illness has increased a lot. Though there are limited health facilities on this regard people are coming for scientific treatment. Today it seems that psychiatric disorders are increasing or better to say those are being diagnosed in a better way. WHO made a global statement that in any society at least one percent of the population need psychiatric treatment[4]. According to World Health Organization international classification of disease (10th edition) Known as ICD-10 psychiatric disorders are classified as- organic, substance misuse, schizophrenia and delusional disorders, affective (mood) disorders, neurotic stress related and somatoform disorder, behavioral syndromes associated with physiological disturbance, disorders of adult personality and behaviour[1].

Prevalence of psychiatric disorder was found 16.05% among 13000 samples countrywide in a study by NIMH (National Institution of mental Health),Bangladesh in collaboration with WHO . From another report it was found that 1% population suffers from schizophrenia,1% from bipolar disorder, 5-10% from unipolar disorders and 10% from anxiety disorders. Data indicate that significant number of people suffer from psychiatric disorders in our society but due to lack of awareness they do not get proper treatment[5]. WHO mental health report shows that 450 million people today suffer from mental disorders or from psychosocial problems. World comes at a time when one person in every four will be affected by a mental disorder at some stage of life, rare is a family that will be free from an encounter with mental disorder[15].

Schizophrenia is a major psychiatric disorder. Weight change is common problem in patients with schizophrenia. Patients are often concerned about weight gain and they also expresses weight loss. When there is subjective complaint of weight change, it is important to the natural history of illness itself, the temporal relationship of the weight change with respect to height and to original and ideal or healthy body weight. Patients are unwell at the start of treatment and weight loss may be due to hypophasia, unusually restrictive diets and associated medical illness. The rates of obesity of schizophrenic are higher than general population (about twice)[4].There are very few studies on the psychiatric patients in Bangladesh. This study may give some new lights and may provide useful information to nutritional status of psychiatric

## Material and Methods

This descriptive type of cross sectional study was carried out among 150 psychiatic patients in Mitford Hospital during the period from April 2007 to June 2007 which was purposive sampling. History taking, physical examinations and anthropometric measurements were performed by the author. Bathroom scale, height measuring scale and tape was used.

## Results

The table shows that majority (33.3%) of the patients are in the age group of 21–30 years, (24%) 41-50 years, (18.7%) 31- 40 years, (14.7%) <20 years and rest (9.3%) are above 50 years of age.

The table shows that among the male patients 61.90% has MAC 23cm and above and38.10% has MAC less than 23cm. In female 63.64% has MAC 22cm and above and 36.36% has MAC less than 22cm.

**Table 1:** Socio-demographic family status of the patients

| Variables | Frequency | Percentage |
|---|---|---|
| **Age** | | |
| <20 years | 22 | 14.7 |
| 21-30 | 50 | 33.3 |
| 31-40 | 28 | 18.7 |
| 41-50 | 36 | 24 |
| >50 | 14 | 9.3 |
| **Mean age** 34.87 ±12.63 | | |
| **Sex** | | |
| Male | 84 | 56 |
| Female | 66 | 44 |
| **Ethnic group** | | |
| Muslim | 130 | 86.7 |
| Hindu | 20 | 13.3 |
| **Education** | | |
| Illiterate | 54 | 36 |
| Literate | 96 | 64 |
| **Marital status** | | |
| Married | 81 | 54 |
| Unmarried | 46 | 30.7 |
| Divorce | 15 | 10 |
| Widow | 8 | 5.3 |
| **House condition** | | |
| Kacha | 11 | 7.3 |
| Tin shed | 95 | 63.3 |
| Building | 44 | 29.3 |
| **Latrine types** | | |
| Kacha | 19 | 12.7 |
| Sanitary | 131 | 87.3 |
| **Water supply** | | |
| Tube well | 114 | 76 |
| Tape water | 36 | 24 |

**Table 2:** Distribution of respondents by their MAC

| Sex | MAC | Frequency | Percent |
|---|---|---|---|
| Female | Normal (23cm and above) | 52 | 61.90 |
| | Malnourished (Less than 23cm) | 32 | 38.10 |
| Male | Normal (22cm and above) | 42 | 63.64 |
| | Malnourished (Less than 22cm) | 24 | 36 |
| Total | Male 84 + Female 66 =150 | 150 | 100.0 |

**Table 3:** Nutritional Status by BMI

| Sex | BMI | | | |
|---|---|---|---|---|
| | Under weight <18.50 | Normal 18.50-24.99 | Over weight >25.00 | |
| Male | 19 | 60 | 5 | 84 |
| | 22.6% | 71.4% | 6.0% | 100.0% |
| Female | 14 | 40 | 12 | 66 |
| | 21.2% | 60.6% | 18.2% | 100.0% |
| Total | 33 | 100 | 17 | 150 |
| | 22.0% | 66.7% | 11.3% | 100.0% |

The table shows that among male patients 71.4% are normal weight, 22.6% under weight and 6 % are over weight

Among female patients 60.6% are normal weight, 21.2% under weight and 18.2% are over weight.

**Table 4:** Distribution of patients by their weekly food intake habit (times/week)

| Food item | <1/Week | | 1-3/Week | | 4-5/Week | | >6/Week | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Freq. | % | Freq. | % | Freq. | % | Freq. | % | Freq. | % |
| Milk and milk products | 84 | 56.0 | 31 | 20.7 | 16 | 10.7 | 19 | 12.6 | 150 | 100.0 |
| Egg | 76 | 50.7 | 56 | 37.3 | 12 | 8.0 | 6 | 4.0 | 150 | 100.0 |
| Meat | 116 | 77.3 | 30 | 20.0 | 4 | 2.7 | 0 | 0.0 | 150 | 100.0 |
| Fish | 27 | 18.0 | 80 | 53.3 | 34 | 22.7 | 9 | 6.0 | 150 | 100.0 |
| Pulse | 5 | 3.3 | 47 | 31.3 | 22 | 14.7 | 76 | 50.7 | 150 | 100.0 |
| Vegetables | 5 | 3.4 | 30 | 20.0 | 47 | 31.3 | 68 | 45.3 | 150 | 100.0 |
| Fruits | 68 | 45.3 | 64 | 42.7 | 9 | 6.0 | 9 | 6.0 | 150 | 100.0 |

**Table 5:** Distribution of patients by type of psychiatric disease

| Types of psychiatric disease | Frequency | Percentage |
|---|---|---|
| Schizophrenia | 63 | 42.0 |
| Schizophrenia affective | 7 | 4.7 |
| Conversion disorder (CD) | 3 | 2.0 |
| Anxiety disorder (AD) | 9 | 6.0 |
| Major depressive disorder (MDD) | 13 | 8.7 |
| Bipolar Mood Disorder (BMD) | 55 | 36.7 |
| Total | 150 | 100.0 |

**Table 6:** Relation of marital status of patients with BMI

| Marital status | BMI | | | |
|---|---|---|---|---|
| | Under weight | Normal | Over weight | |
| Married | 9 | 60 | 12 | 81 |
| | 11.1% | 74.1% | 14.8% | 100.0% |
| Unmarried | 24 | 40 | 5 | 69 |
| | 34.8% | 58.0% | 7.2% | 100.0% |
| Total | 33 | 100 | 17 | 150 |
| | 22.0% | 66.7% | 11.3% | 100.0% |

Pearson Chi-Square = 12.823; df =2; P-Value < 0.05

The table shows that there is a significant relation of marital status of patients with BMI.

**Table 7:** Relation of sex of patients with BMI

| Sex | BMI | | | Percentage |
|---|---|---|---|---|
| | Under weight <18.50 | Normal 18.50-24.99 | Over weight >25.00 | |
| Male | 19 | 60 | 5 | 84 |
| | 22.6% | 71.4% | 6.0% | 100.0% |
| Female | 14 | 40 | 12 | 66 |
| | 21.2% | 60.6% | 18.2% | 100.0% |
| Total | 33 | 100 | 17 | 150 |
| | 22.0% | 66.7% | 11.3% | 100.0% |

Pearson Chi-Square 5.560; df = 2; P-Value = .049

The table shows that there is a significant relation of sex of patients with BMI.

**Table 8:** Relation of disease type with BMI

| Types of Diseases | BMI | | | Total |
|---|---|---|---|---|
| | Under weight | Normal | Over weight | |
| Schizophrenia | 13 | 42 | 8 | 63 |
| | 20.6% | 66.7% | 12.7% | 100.0% |
| BMD | 17 | 36 | 2 | 55 |
| | 30.9% | 65.5% | 3.6% | 100.0% |
| Others | 3 | 22 | 7 | 32 |
| | 9.4% | 68.8% | 21.9% | 100.0% |
| Total | 33 | 100 | 17 | 150 |
| | 22.0% | 66.7% | 11.3% | 100.0% |

Pearson Chi-Square = 10.505; df = 4; P-Value < 0.05

The table shows that there is a significant relation of type of disease of patients with BMI .In schizophrenic patients 66.7% are normal weight, 20.6% under weight and 12.7% are overweight.

## Discussion

Though the psychiatric patients are neglected in the society, their nutritional status is very important for providing their management, treatment and rehabilitation. This study was a cross sectional one with sample size 150 conducted in the OPD of Sir Salimullah Medical college Mitford hospital, Dhaka. The mean age of the patients was 34.87**±12.63** years (table-1). Most of the patients (33.3%) were in the age group of 21-30 year. Below 20 years was 14.7% and9.3% was above 50 years. The findings of this study are almost similar with the study of free medical camp in National Institution of Mental Health (NIHM) Dhaka(year2002) .The mean age was found 29.62±12.89 and majority age group was also 21-30 year[5]. Almost 56% of patients were male and 44% were female in this study. Of the patients 86.7% were Muslim and 13.3% were Hindu .In education, 36% were illiterate, 36.7% secondary level and only 2.7% were in graduate and above . Almost 54% was married and 46% was unmarried, 10% divorce and was 5.3% widow. Majority of (24.7%) were unemployed and 24% were house wives. The patients who were dependent, their family income were 8.8% taka >10000, 71.3% taka 5001-10000 and 20% were taka <5000 According to housing condition 63.3% of the patients live in tin shed , 29.3% in building and 7.3% live in kacha houses (table-1).Majority of patients (87.3%) use sanitary latrines and only 12.7% use kacha latrines (table-1). Majority of patients, 76% drank tube well and 24% drink tape water(table-1) Nutritional status of male patients with respect to MAC showed that 61.9% were 23 cm and above, and 38.1% less than 23cm (table-2). In female 63.63% had MAC 22cm and above and 36.36% had MAC less than 22cm .Findings of the study showed that 66.7% of patients were normal by BMI, 22% under weight and 11.3% were over weight (table-3). There is a significant relation of sex of patients with BMI (table-7). In male patients 71.4% are in normal weight, 22.6%

under weight and 6% are over weight. Among female patients 60% are normal weight, 21.2% underweight and 18.2% are over weight. Almost 56% of the patients didn't take milk and milk products, 50.7% egg and 77.3% didn't take meat once in a week. About 45.3% of the patients could not afford to take fruits once in a week (table-4),Only 22.7% ate fish 4-5 times/week and 45.3% and 50.7% took vegetables and pulses ≥6 times/week respectively. Among patients 72.7% were anemic, 6.7% had suffered from angular stomatitis and 7.3% had anemia with stomatitis .Among the psychiatric patients there 42% had Schizophrenia, 4.7% Schizophrenia Affective, 36.7% Bipolar Mood Disorder (BMD), 8.7% Major Depressive disorder (MDD), 6% Anxiety Disorder (AD) and 2% were Conversion Disorder. (CD) (table-5). In another study conducted by NIMH it was found that 37.50% patients were suffering from schizophrenia[4] which was almost similar to this study .There was a significant relationship of marital status of the patients with BMI. In married patients 74.1% had normal and in unmarried patients 58% had normal weight by BMI (table-6). Among patients female were more over weight than male (table-7). There was a significant relationship with type of psychiatric disorder with BMI. Maximum schizophrenic patients were normal by BMI (table-8). In a nutritional anthropometry study by Dhaka Medical College and Hospital year 1999 among schizophrenic patients, maximum (47.3%) were found in normal by BMI 33.3% various grades of chronic energy deficiency and 20% were over weight[4]

## Conclusions

This study was conducted to assess the nutritional status of psychiatric patients. Maximum numbers of patients were in age group of 21 to 30 years. Both sexes were found affected equally. In most of the patients' nutritional status were normal in relation to BMI and MAC. Among the over weight patients female were more than male but among the under weight patients male were more than female. Married patients had normal BMI than unmarried. Most of the patients were schizophrenic and bipolar mood disorder type and few were major depressive disorder, anxiety disorder and conversion disorder. In respect of type of diseases most of the schizophrenic patients were found normal in BMI.

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