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# A STUDY ON THE RELATIONSHIP OF FOOD AND NUTRITION SECURITY WITH NUTRITIONAL STATUS WITH A REFERENCE TO RURAL MIDDLE SCHOOL CHILDREN IN HOSHANGABAD DISTRICT

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## ABSTRACT

Nutrition is a dietary science. This is a new college of thought , which is basically born out of physiology and chemistry. Its main subject is the study and analysis of the effects of dietary elements on the human body. In other words, nutrition is the name of all the processes related to the diet of the body.

Basically the definition of nutrition can be given in this way , nutrition is the science of diet , nutritional elements and other elements, their effect and reaction and its relation and balance with health and disease. It describes the process by which an organism takes food , digests it , absorbs it, distributes it in the body, incorporates it into the body and removes undigested food from the body. Not only this, nutrition is also related to food and the social , economic and psychological effects of that food.

## KEYWORDS:

Nutrition, Diet, Food

## INTRODUCTION

Essential functions in the body are called nutritional elements. If these nutrients are not present in our food in proper quantity , then the body will become unhealthy. Carbs , proteins , fats , vitamins , minerals and water are the main nutritional elements. There are also some elements in our food which are not nutritional elements , such as chemical substances that give color and aroma.

When these essential elements are present (in the right proportion) according to the requirement of our body , then that state is called best nutrition or proper nutrition. This best nutrition is absolutely essential for a healthy body. Malnutrition is the name of a

condition in which nutrients are not present in the body in the right proportion or there is an imbalance between them. Therefore, we can say that malnutrition is both over-nutrition and under-nutrition.

Undernutrition means deficiency of one or more nutritional elements in the diet. Example - Vitamin A deficiency or protein energy malnutrition. Overnutrition refers to an excess of one or more nutrients in a food. For example , when a person consumes more energy than he consumes in a day , it gets stored in the body in the form of fat and the person becomes a victim of obesity.

There is a close relationship between diet and health. Chemistry , biology and other scientists have established these facts after centuries of study and research. Many things affect the nutrition of the body ; Including food habits , beliefs , state of mind , ethnic , geographical , religious , social , psychological , diet and its production, national and intra-food policies such as fisheries , distribution , education etc.

Health has the same importance in most civilizations. In fact, every society has its own special concept about health. Health is generally considered to be the absence of disease. Personally it cannot be said that health is of utmost importance because often its importance keeps changing as per the requirement. Personally, often other needs such as money , power , education , security and prestige etc. give less importance to the importance of health and considering health as fixed, we do not pay special attention to it until it is lost.

Health is one of those difficult definitions, which most of the people are not able to give a complete definition even though they know the full meaning. Different definitions of health have been given from time to time, some of which are as follows.

( a) Healthy or painless body , mind and the proper state of the soul is health

( b) The health of the body or mind is the name of the system in which its functions are being done completely and efficiently.

( c) That condition or quality of the human physiological system which expresses the proper functioning of the body system under the given conditions of heredity and environment.

According to WHO , health is not the absence of disease or disability , but the state of complete physical , mental and social well-being.

Over the years, this definition has expanded to include the ability to lead a socially and economically productive life.

The World Health Organization has considered three major parameters and can consider many parameters such as emotional , emotional , political and occupational parameters.

**1. Physical Standards** - It is very easy to understand that the state of physical health lies in the idea of whole action. Signs of good health in a person are good complexion , good hair , glowing eyes , clean skin , good breath , healthy body , sound sleep , good appetite , good digestive power , simple aids , physical activities , all body parts that are normal size. Those with functions are - total consciousness , pulse rate , blood pressure and tolerance ; All these come in a state of normality according to the age and gender of the person. This normality condition has a wide range.

This normality has been established after observation of unaffected healthy people (who are not suffering from any disease).

**2. Mental parameters** - Mental and physical health are related to each other. it only mental illness absence is not. Good mental health has the ability to explain many life experiences. Low mental health affects a good body ; Apart from this, mental factors are also considered which play an important role in hypertension , asthma , physical disorders.

**3. Social Norms** - Good behavior consists of uniformity and unity in the individual , the individual and the society , the individual and the world in which he lives. The social health of a community depends on factors such as growth , thinking , ideas and empathy for others. Apart from this, it depends on education , production , health and social security of individuals.

**4. Mechanical criteria** - Due to the stress and pressure on modern life, it is necessary to consider the criteria of health. Before having a peaceful relationship with the world, it is imperative that one himself attains spiritual peace. Spiritual health can be achieved through moral values , codes , practices and thinking etc.

**5. Occupational standards** - Occupational standards are the new standard of health. Its importance is more when suddenly a person loses his job or has to take retirement. For some, it may be only a source of income , but for some it reflects the success that is achieved by all the parameters of life .

## METHODOLOGY

The current study was done in Hoshangabad district (MP). A total of 200 Middle School children sample size was used in this study. All the respondents were selected by random sampling method.

## DATA ANALYSIS

**Regional Distribution of Respondents Regional Distribution of Respondents**

**Table No.- 1**

**Regional Distribution of Respondents**

| S.No. | School Name | No. of Respondents |
|---|---|---|
| **1.** | Govt. Middle School | 100 |
| 2. | Gyan Uday School | 100 |
| | **Total** | **200** |

**Analysis -**

The above table shows the college details of the respondents. For the study, a total of 200 students of middle schools from selected schools were chosen by random sampling method. Out of these middle school children, 100 were boys and 100 were girls.

**Data Analysis:**

**Diet System**

**1. Base Food Group**

**Table no. 2**

**Distribution of teenage girls according to consumption of basic food groups**

| S.No. | Basic Food Groups | Middle School children (Boys) | | Middle School children (Girls) | |
|---|---|---|---|---|---|
| | | No. | Percentage | No. | Percentage |
| 1. | **Food with excessive Protein: Pulses, Fish, Milk & Milky Products** | 87 | 87 | 77 | 77 |
| 2. | **Green Leafy Vegetables & Fruits** | 88 | 88 | 83 | 83 |
| 3. | **Fruits & Vegetables having Vitamin C** | 83 | 83 | 54 | 54 |
| 4. | **Other Fruits & Vegetables** | 80 | 80 | 52 | 52 |
| 5. | **Food Grains and Cereal Products** | 57 | 57 | 35 | 35 |
| 6. | **Oil & Sugar** | 60 | 60 | 54 | 54 |

**Analysis:**

The above table shows the distribution according to the consumption of the basic food groups. This table shows that out of 100 rural middle class boys, 87 are consuming foods high in protein, while out of total 100 middle class girls, 77 girls are consuming foods high in protein.

88 middle class boys are consuming green leafy vegetables and fruits, while 83 rural middle class girls are consuming green leafy vegetables and fruits.

83 teenage boys are consuming fruits and vegetables containing vitamin 'C', while 54 rural teenage girls are consuming vegetables and fruits containing Vitamin 'C'.

Out of 100, 80 rural boys are consuming other fruits and vegetables, while only 52 girls are consuming other fruits and vegetables.

The food grains and cereal products are being used by 57 middle school boys and 35 girls.

60 middle class boys are using oil and sugar, while 54 girls are using oil and sugar.

**Anthropometric measurements**

**Table no. 3**

**Anthropometric measurements of respondents**

| **S.No.** | **Parameters** | **Middle School Children (Boys)** | | | **Middle School Children (Girls)** | | |
|---|---|---|---|---|---|---|---|
| | | Mean ± SD | | **t-value** | Mean ± SD | | **t-value** |
| 1. | Height (mts) | 1.7±0.05 | | 1.6 | 1.6±0.04 | | 0.9 |
| 2. | Weight (kg) | 69.8±11.3 | | 1.2 | 50.2±4.7 | | 1.6 |
| 3. | BMI | 22.7±3.3 | | 0.5 | 19.6±1.7 | | 0.9 |
| 4. | Waist (inch) | 32.6±2.4 | | 1.7* | 28.1±2.1 | | 1.9* |
| 5. | W/H ratio | 0.9±0.02 | | 0.6 | 0.9±0.04 | | 0.4 |
| | **Total** | **100** | | | **100** | | |

Values are Mean ± SD

*Significant at 5% level

**Analysis:**

The mean height of middle school boys was observed to be 1.7±0.05. The mean height of girls was observed to be 1.6±0.04.

The mean weight of middle school boys was observed to be 69.8±11.3. The mean weight of girls was observed to be 50.2±4.7.

The mean BMI of middle school boys was observed to be 22.7±3.3. The mean BMI of girls was observed to be 19.6±1.7.

The mean Waist of middle school boys was observed to be 32.6±2.4. The mean Waist of girls was observed to be 28.1±2.1.

The mean W/H ratio of middle school boys was observed to be 0.9±0.02. The mean W/H ratio of girls was observed to be 0.9±0.04.

**Table No. 4**

**Correlation between food and nutrition security with nutritional status with a reference to rural middle school children**

| | **Middle School Children (Boys)** | | **Middle School Children (Girls)** | |
|---|---|---|---|---|
| | **Food Consumption** | **Nutritional Status** | **Food Consumption** | **Nutritional Status** |
| **Mean** | 44 | 9.35 | 38.15 | 8.22 |
| **Standard Deviation** | 8.43 | 1.70 | 7.55 | 2.27 |
| **Co-relation** | **Y = 0.67** | | **Y = 0.44** | |

**Analysis**

The above table is showing the nutritional status and food consumption mean of middle school children. Here the correlation coefficient has been calculated to find out if there is a relationship between the two parameters.

The data concludes that higher healthy food consumption leads to higher nutritional status.

## CONCLUSION

In the current article, 200 respondents were included where 100 respondents were boys from middle school and 100 girls were selected from rural middle school of Hoshangabad. From the results, we conclude that there was increase in the nutritional status of the children who consume the food full of minerals like protein, vitamin etc.

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