

NUTRITIONAL AND HEALTH STATUS OF RURALITES IN KOLHAPUR DISTRICT

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Abstract

The present paper is entirely based on primary data collected by conducting the intensive fieldwork in 2014, intends to appraise the nutritional and health status of ruralites in Kolhapur district. Good nutritional is fundamental for good health. Healthy diet is always benefited and it can impacted on rural people's nutrition and health status, accordingly enhance the productivity of individuals and nation. It is necessary, therefore, to provide food security to the people and maintain healthy diet. Calorie intake of ruralites measured with the help of Standard Nutritional Consumption Unit (CU) and Recommended Dietary Allowance (RDA), apart from that Body Mass Index (BMI) of rural population is also calculated and analysed. It is found that calorie intake of about one-third respondents has insufficient as well as more than one and half of the respondents have unhealthy Body Mass Index.

Keywords: *nutritional, health, calorie, consumption unit, body mass index*

Introduction

Health is very closely related with nutritional status, there is a direct causal link between them. Nutrition is usually taken as a significant indicator of human health. Human beings acquire nutrition through food consumption, and a safe food supply is essential for proper nutrition, basic health and well being (Reilly, Tlustos, *et al.*, 2002). Thus food and nutrition are now regarded as being fundamental importance in public health in both developed and developing countries. The diet provides nutrients, which are required in varying amounts in different parts of the human body. These nutrients are utilised by the human body for performing specific functions. This means that good nutrition is the basic component of good health. Diet of the people determines their nutritional status, which is a measure of the state of their health. It means people who are starving do not get the dietary nutrients or calories they need to maintain their health. On the contrary, people who are get sufficient nutrients or calories they are more likely to be healthy and productive. Hence, good nutrition benefits families, communities, countries and the world as a whole. A well nutritious healthy population plays vital role in the economic growth of the country. Good health and nutritional status affect the ability to learn, which concludes productivity and economic growth.

The primary focus of this paper is to study the nutritional status of ruralites with relation to their health. Keeping in purview of this, information regarding nutrition and health status of the ruralites accumulated from patients visited to the Primary Health Centres and Rural Hospitals and also other ruralites in the Kolhapur district.

Objective

The main objective of this paper is to evaluate nutrition and health status of rural population in the Kolhapur district.

Hypothesis

Most of the rural population in the Kolhapur district has unhealthy Body Mass Index (BMI).

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Database and Methodology

The present paper is entirely based on primary data, which is collected from rural population in the Kolhapur district including patients visited in the Primary Health Centres and Rural Hospitals. The data was collected through planned and pre-tested scheduled. For this purpose 540 respondents are selected from 48 villages by non-probability purposive sampling. Among these 540 respondents, 180 respondents are from Primary Health Centres and 120 respondents from Rural Hospitals, remaining 240 respondents are other ruralites.

For understanding calorie intake of the rural population standard nutrition Consumption Unit (CU) of each family is calculated as per the guidelines of National Nutritional Monitoring Bureau, Hyderabad (NNMB), and also with the help of Recommended Dietary Allowance (RDA) by National Institute of Nutrition, Hyderabad (NIN). Accordingly Body Mass Index (BMI) of ruralites is calculated by using following formula –

$$BMI = \frac{\text{Weight(kg)}}{\text{Height (m}^2\text{)}}$$

Study Area

The Kolhapur district lies between, 150 43' and 170 17' north latitude and 730 40' and 740 42' east longitude and it situated in the extreme southern part of Maharashtra state.

Kolhapur district incorporated in Pune division of Maharashtra. Relatively, northern boundaries of Kolhapur district connected with Sangli district, eastern and southern with Belgaum district (Karnataka State) and western with Ratnagiri and Sindhudurga districts. The Sahyadri ranges to the west and zigzag Warana River to the north form the natural boundaries.

The east-west spread of the study area is about 75 km and across north-south is about 102 km. It covers an area of 7,746 sq km which is about 2.50 per cent of the total area of the state. The district has 12 tahsils containing 1216 villages, 13 census towns, 9 Municipal Councils and Kolhapur is the only one Municipal Corporation, which is headquarters of the district also.

Discussion

Nutrition is a scientific study of food and its relation to health. There are two basic situations in human nutritional status *i.e.* optimum or normal nutritional status and malnutrition. Malnutrition is again take place in two forms, undernutrition and overnutrition. All these situations have been depending upon the intake of food and utilisation of nutrients. Nutrition and health are very closely related to each other and every human being needs certain amount of nutrition for healthy survival of its life. It means optimum nutrition is fundamental to sound health and well being as well as prevention of diseases and disability.

Calorie Intake Index

The calorie intake is worked out with the help of total food consumption of the patients and ruralites compared with normal calorie norms. A requirement of calories is vary with age and sex, hence the number of 'Consumption Units' of respondent family is calculated first, with the help of standard nutrition Consumption Units. Average intake of calories calculated with the help of Recommended Dietary Allowance (RDA) and average food consumption.

Table 1
Calorie Intake Index of Ruralites

Sr. No.	Category	No. of Respondents			
		Patients Visited to		Other Ruralites	Total
		PHC	RH		
1	No. of families having sufficient calorie	122 (67.78)	74 (61.67)	171 (71.25)	367 (67.96)
2	No. of families having insufficient calorie	58 (32.22)	46 (38.33)	69 (28.75)	173 (32.04)
Total		180 (100.00)	120 (100.00)	240 (100.00)	540 (100.00)

Note : Figures in bracket are percentiles

Source : Fieldwork, 2014

The above table depicts that the calorie intake index of 540 rural households, surveyed from sample villages of Kolhapur district. According to the table there were almost one third (32.04%) of rural households not obtaining sufficient calories, while 67.96 per cent rural households have been obtaining sufficient calories as per their requirement.

As per the analysis of 180 patients visited to the Primary Health Centres (PHCs), there were 58 families (32.22%) not getting sufficient calories, whereas 122 families (67.78%) have been getting sufficient calories.

There were 120 patients from Rural Hospitals (RHs) analysed as per calorie intake of their families. Accordingly, there were 46 families (38.33%) not getting enough calories; remaining 74 families (61.67%) have been obtaining sufficient calories from their food consumption.

There were 240 families of other ruralites respondents (*i.e.* other than patients) have also been analysed for the purpose of estimating their calorie intake. It resulted that out of the 240 families there were 171 families (71.25%) have been obtaining sufficient calories, while 69 families (28.75%) have not match up their daily requirement of calories. It is clear that, other ruralites have better calorie intake as compare to patients visited to Primary Health Centres and Rural Hospitals.

Body Mass Index (BMI)

Body Mass Index is used as an indicator of an individual's health. It is an estimate of body composition that correlates an individual's weight and height to lean body mass. BMI is the most widely used measure for monitoring the prevalence of underweight, overweight and obesity at population level, also commonly used technique of estimating whether an individual person is underweight, overweight or obese. Therefore, BMI is considered as a measure to determine the nutritional and health status of patients and other ruralites, computed and specified here in the following table.

Table 2
Body Mass Index (BMI) of Ruralites

Sr. No.	Categories of BMI	No. of Respondents			
		Patients Visited to		Other Ruralites	Total
		PHC	RH		
1	BMI < 18.5 (Underweight)	35 (19.44)	22 (18.33)	25 (10.42)	82 (15.19)
2	BMI 18.5 to 20.9 (Light Underweight)	58 (32.22)	34 (28.33)	61 (25.42)	153 (28.33)
3	BMI 21.0 to 24.9 (Healthy Weight)	83 (46.11)	58 (48.33)	123 (51.25)	264 (48.89)
4	BMI 25.0 to 30.0 (Overweight)	04 (2.22)	04 (3.33)	15 (6.25)	23 (4.26)
5	BMI > 30.0 (Obese)	00 (0.00)	02 (1.67)	16 (6.67)	18 (3.33)
	Total	180 (100.00)	120 (100.00)	240 (100.00)	540 (100.00)

Note : Figures in bracket are percentiles

Source : Fieldwork, 2014

The above table reveals the BMI of the patients and other ruralites, which given in five categories for the diminishing its complications.

Underweight

A person having BMI below 18.5 is considered underweight, also anyone who is 15 to 20 per cent below the normal weight for age and height is classified as underweight (Mahan, 2000). After analysing 180 patients visited to the PHCs, it is found that almost 20 per cent (19.44%) patients having

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a BMI less than 18.5, thus they are considered as underweight. Similarly, 18.33 per cent patients from Rural Hospitals are also underweight. Apart from that, 10.42 per cent of other ruralites have been considered underweight. Overall, out of the 540 respondents, there are 15.19 per cent respondents are underweight; BMI of these respondents is below 18.5.

Light Underweight

A person whose BMI is between 18.5 and 20.9 is called light underweight. According to the Table 3.2, there is highest number of patients considered light underweight in Primary Health Centres, *i.e.* 32.22 per cent, while there are 28.33 per cent patients from Rural Hospitals are light underweight. Except patients, there are 25.42 per cent other ruralites considered light underweight. The table further indicates that, among 540 respondents, almost 30 per cent (28.33%) respondents having BMI between 18.5 and 20.9 and they are light underweight.

Healthy or Normal Weight

BMI of healthy or normal weight is 21.0 to 25.0. It is interesting to note that, 48.89 per cent respondents' BMI is normal and they are having healthy weight. It means there are 51.11 per cent respondents have abnormal weight, either they are overweight or underweight. In all the threefold categories of respondents, almost 50 per cent respondents have healthy weight. Among the 180 patients from Primary Health Centres 83 patients (46.11%) have healthy or normal weight. Similarly, 48.33 per cent patients in the Rural Hospitals reported normal BMI. It is very appealing that, more than half (51.25%) ruralites other than patients are considered healthy or normal weight. Healthy, adequate and proper diet not only according to the height and weight, but also according to the physical activities of a person estimate normal or healthy Body Mass Index. Thus, proper and balanced diet is necessity of constant body mass.

Overweight

A person with a BMI between 25.0 and 30.0 considered overweight. According to the Table 3.2, there were only few overweight respondents in the rural area of Kolhapur district. Only 2.22 per cent patients from Primary Health Centres and 3.33 per cent patients from Rural Hospitals are overweight, while 6.25 per cent other ruralites recorded their BMI is more than the normal and they are overweight. Overall, only 4.26 per cent respondents among total respondents are considered overweight.

Obese

A person whose BMI is more than 30 is called 'obese'. It is surprisingly found that, out of the 540 respondents 3.33 per cent are obese. The Table 3.2 indicates that, 6.67 per cent respondents from other ruralites group are found obese, while only 1.67 per cent patients from Rural Hospitals are having BMI more than 30 and they are obese. It is very significantly note that, not a single patient from Primary Health Centres reported as obese.

Conclusion

About one-third ruralites (32.04%) from Kolhapur district have not got sufficient calories from their intake. This number may create dreadful situation in future in the well-off district like Kolhapur. Calorie intake of most of the households from hilly area is not meet up their daily requirements. There are some reasons behind it, such as lack of educational attainment, low household income, socially backward class, poor socio-economic conditions, unscientific cooking method,

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culture and traditions, etc.

According to BMI, there are 48.89 per cent ruralites has normal or healthy Body Mass Index, while more than one half of ruralites (51.11%) have unhealthy BMI. Among them 43.52 per cent ruralites are suffering with underweight problem with less than 25 BMI. Underweight condition happens mainly due to the unhealthy and insufficient eating, which can cause health problems. If people have their diet neither in adequate quantity nor in proper quality then they have been often unwell. Besides hunger loss, mental stress, high physical activities in rural areas, frequent illness, etc. are the few basic reasons behind person become underweight. Sometimes underweight may be genetic also.

It is found that, 7.59 per cent respondents having unhealthy BMI with overweight. Being overweight is generally caused by the intake of more calories through overeating. Besides, eating as well as metabolic disorders, alcoholism, lack of physical exercise, sedentary lifestyle, stress, insufficient sleep, genetic predisposition, these are some reasons of being overweight. People who have insulin dependent diabetes and chronically overdose insulin may also become overweight.

It is interestingly note that 3.33 per cent of the overweight respondents are found obese. Being obese is mostly due to unhealthy diets, overeating but too little physical activities or high sedentary work; eating disorder or night eating syndrome, etc., besides obesity is genetic also. In the well-off district like Kolhapur some ruralites consume good quality and nutritious food, therefore such cases with obese problems are found.

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