International Journal of Innovation and Research in Educational Sciences
Volume 3, Issue 1, ISSN (Online): 2349–5219

A Study on Clinical Implications of Malnourished Women in Rural Area

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***Abstract* – Malnutrition, the result of a lack of essential nutrients, resulting in poorer health, may be caused by a number of conditions or circumstances. In many developing countries long-term (chronic) malnutrition is widespread - simply because people do not have enough food to eat. In the present study focused on clinical implications and Body mass Index grades (BMI). Clinical symptoms like Eyes, Lips, Gums, Face, Gastro intestinal disturbances, Appetite etc. were noticed. The present study reveals that BMI grades of malnourished women, majority of the women were under Chronic Energy Deficiency grade which shows severity of malnutrition and reflects on their nutritional status. Clinical symptoms of malnourished women shows abnormal changes in Eyes, Bitot spot 28.5%, Lips, Angular patches and Angular stomatitis, 11.4 % bleeding gums and 17.1% swollen gums, 20.0% had Moon face, Face, Hair, Gastro intestinal disturbances and Appetite.**

***Keywords* – Women, Malnourished, BMI and Clinical Symptoms.**

I. Introduction

The causes of malnutrition are complex, multidimensional, and interrelated. They range from factors as broad in their impact as political instability and slow economic growth to those as specific in their manifestation as respiratory infection and diarrheal disease. In turn, the implied solutions vary from widespread measures to improve countries' stability and economic performance to efforts to enhance access to sanitation and health services in individual communities. Debates continue to flourish over what the most important causes of malnutrition are and what types of interventions will be most successful in reducing it.

Malnutrition causes a great deal of human suffering – both physical and emotional. It is a violation of the child's human rights (Oshaug, Eide, and Eide 1994). A major waste of human energy, it is implicated in more than half of all child deaths world-wide. Adults who survive malnutrition as children are less physically and intellectually productive and suffer from higher levels of chronic illness and disability (UNICEF 1998). The personal and social costs of continuing malnutrition on its current scale are enormous.

II. Materials and Methods

Study Area and Participants

For the purpose of the study malnourished women were selected, aged between 30-45years. A total of 35 samples were collected from kantheru, Guntur District, Andhra Pradesh, India. Height, Weight and BMI were taken as Anthropometric Measurements. In Clinical Implications physical features were noted down like Eyes, Lips, Gums, Face, Gastro intestinal disturbances, Appetite etc.

On the basis of WHO criteria for body mass index categories malnutrition among subjects can also calculated. In 19th century, Mathematician Lamber Adolphe Jacques Quetelet described the body mass index as a relation between body weight and stature in human (Quetelet 1836).

III. Results and Discussion

Table 1. Percent of subjects at different grades of BMI in malnourished women

S. No.	Body mass index	Subjects (N=35 %)
1	< 16.0 (Chronic energy deficiency grade III severe)	7 (20.0)
2	16.0-17.0 (Chronic energy deficiency grade II moderate)	4 (11.4)
3	17.0-18.5(Chronic energy deficiency grade I)	21 (60.0)
4	18.5-20.0 (Low weight normal)	3 (8.5)
5	20.0-30.0(Normal)	_
6	25.0-30.0 (obese gradeI)	_
7	>30 (obese grade II)	_

Table I shows percent of subjects at different grades of BMI among women those who are suffering from malnutrition (Chronic energy deficiency grade). Subjects about 20.0 per cent were in < 16.0 (Chronic energy deficiency grade III severe), 11.4 per cent were in16.0-17.0 (Chronic energy deficiency grade II moderate), 60.0 per cent were in 17.0-18.5(Chronic energy deficiency grade I), and only 8.5 per cent were in 18.5-20.0 (Low weight normal).

Body mass index (BMI) is used to estimate your best weight range for your health. It is calculated by dividing your weight in kilograms by your height in meters squared (m2). A WHO(1986) criterion was used to define the malnutrition and obesity: (a) Malnourished<18.50 kg/m2 (b) Normal: 19-24.9 kg/m2 (c) Overweight: >25 kg/m2, (d) Pre-Obese: 25-29.9 kg/m2 (e) Class-I Obese: 30-34.9 kg/m2 (f) Class- II Obese: 35-39.9 kg/m2 (g) Class-III Obese: >40 kg/m2. The body mass index is a useful tool in both clinical and public health practice for assessing the

nutritional status. In this paper, only malnutrition in women is discussed.

Table 2. Clinical implications of malnourished women (N =35)

S. No.	Clinical Features	N with% parenthesis
1.	**Eyes**	
	Dry	7 (20.0)
	watery	5 (14.2)
	Red inflammation	3 (8.5)
	Bitot spot	10 (28.5)
	None	10 (28.5)
2.	**Lips**	
	Pink colour	2 (5.7)
	Black	19 (54.2)
	Angular patches	4 (11.4)
	Angular stomatitis	2 (5.7)
	None	8 (22.8)
3.	**Gums**	
	Normal	20 (57.1)
	Bleeding	4 (11.4)
	sponges	-
	swollen	6 (17.1)
4.	**Face**	
	Moon face	7 (20.0)
	Normal	28 (80.0)
5.	**Nails**	
	Spoon shape	2 (5.7)
	Normal	20 (57.1)
	White patches	12 (34.2)
6.	**Hair**	
	Scale	10 (28.5)
	Rough	14 (40.0)
	Easily pluck able	17 (48.5)
7.	**Gastro intestinal disturbances**	
	Normal	21 (60.0)
	Abdominal discomforts	14 (40.0)
8.	**Appetite**	
	Loss of appetite	22 (62.8)
	Normal	13 (37.1)
9.	Odema	26 (74.2)
	Normal	9 (25.7)

Table 2 shows Clinical implications and pathological conditions among women, Eye problems 20.0% had dry eyes, 14.2 per cent had had dry eyes, 8.5 per cent had Red inflammation, and 28.5 per cent had Bitot spot. Highest 54.2 per cent had black lips,11.4 per cent had angular patches and 5.7 per cent had Angular stomatitis 11.4 per cent had Bleeding gums and 17.1 per cent had swollen gums. Moon face is indication of protein deficiency, 20.0 per cent had moon face, and 34.2 percent had white patches and 5.7 percent had spoon shaped nails.40.0 percent had abdominal discomforts, 62.8 percent had loss of appetite. Odema is accumulation of intracellular fluid which occurs in feet and face, 74.7 percent had Odema due to malnutrition.

The clinical signs of infection (or) Metabolic dysfunction are likely to be useful prognostic indicators. On the other hand, the Chronic Energy Deficiency (CED) is associated with impaired physical capacity, decreased economic productivity (Durnin *et al*, 1990), increased mortality (National Institute of Nutrition, 1991). The present study results in accordance with the studies. Evidence in developing countries indicate that malnourished women having a Body Mass Index (BMI) below 18.5 kg/m2 show a progressive increase in mortality rates as well as increased chances of illness (Rotimi *et al*., 1999).

In developing countries indicates that malnourished individuals, that is, women with a Body Mass Index (BMI) below 18.5 kg/m2, show a progressive increase in mortality rates as well as increased in 1995, about one million adult deaths resulted from health problems exacerbated by over-nutrition, while half of it were associated with under-nutrition (WHO 1995). For social and biological reasons, women of the reproductive age are amongst the most vulnerable to malnutrition (UNACC/SCN 1992).

IV. Conclusion

The present study indicates about clinical manifestations of malnourished women in rural area, clinical symptoms and grades of BMI were below the standards. Majority of the subjects were shown chronic energy deficiency grade - I. So Adequate nutrition is important for women not only because it helps them be productive members of society but also because of the direct effect maternal nutrition has on the health and development of the next generation.

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