



NUTRITIONAL STATUS AMONG ELDERLY POPULATION IN A RURAL AREA IN MANIPUR

Soibam Chanu Shreela

Research Scholar, Glocal School of Arts & Social Sciences,
The Glocal University, Mirzapur Pole, Saharanpur

Dr. Manurita

Assistant Professor, Glocal School of Arts & Social Sciences,
The Glocal University, Mirzapur Pole, Saharanpur

ABSTRACT

Malnutrition in elderly is both a health outcome as well as a risk factor for diseases. It increases the risk both of morbidity and mortality among them. Objectives of the study were to determine the prevalence of nutritional status among elderly people and any associated factors between nutritional status with selected variables of interest. This cross-sectional study was conducted in a rural community in Kongpal in Imphal East, Manipur in North-Eastern India. Using a structured interview schedule, data were collected from two forty five elderly people aged \geq sixty years. Significant association was found between being malnourished with older age group, female gender, among unmarried/widow/widower, lower educational level, unemployed/ homemaker and financially dependent on other. Approaches to improve the nutritional status of the elderly should focus primarily on those who are older, low educational status, female gender and financially dependence.

Keywords: Elderly people, Nutritional status

INTRODUCTION

Elderly population are uniquely susceptible to malnutrition because of physiological, psychological and functional changes that occur with aging. As they become older, most of them start depending on others for their daily needs and majority of them have no financial support, inadequate access to food and live with other existing comorbidities. Malnutrition in elderly is both a health outcome as well as a risk factor for diseases. It increases the risk both of morbidity and mortality among them. Geriatric population is growing rapidly worldwide. According to WHO and UNFPA (2015) proportion of people aged ≥ 60 years is 12.3%. According to census, proportion of elderly population in India has increased from 7.7 (2001) to 8.6% (2011) and in Manipur it is 7% (2011).

In India, the magnitude of malnutrition among elderly is usually under reported. Only few studies have been conducted so far. Among these a study conducted by PSG Institute of Medical Sciences and Research, Coimbatore, Tamil Nadu in 2016 concluded that more than 50% of the elderly population were underweight and more than 90% had an energy intake below the recommended allowance. Although thorough and comprehensive clinical evaluations of nutritional status is ideal but practically they are time-consuming and often inconvenient in community setting. The Mini nutritional assessment (MNA) tool is a well-validated questionnaire for rapid assessment of the nutritional status of elderly people.

According to a study conducted in India, MNA tool demonstrated a sensitivity of 90.2% and specificity of 96.4% in identifying well-nourished and malnourished elderly. There has not been any study published so far to highlight the nutritional status among elderly population in Manipur. Considering the above views, it is felt important that assessment of nutritional status should be conducted to determine the prevalence of nutritional status among elderly people aged ≥ 60 years and any associated factors between nutritional status with selected socio-demographic variables such as age, sex, education, financial dependence etc.

METHODS

This community-based cross-sectional study was conducted among elderly people aged ≥ 60 years who were residing in the Kongpal and its adjoining areas in Imphal East District, Manipur in North East, India. Seriously ill or paralyzed or suffered from major psychiatric disorders like schizophrenia, bipolar disorders, etc. and those who couldn't be met even after two consecutive visits and refusals to participate were excluded. Sample size was calculated based on prevalence of 15% of malnourished among elderly. Using 5% absolute allowable error, at 95% confidence level and a non-response rate of 20% a sample size of 245 was calculated. Convenience sampling was used to select the household. Only one eligible individual was included in the study. If there were more than one eligible participant in a household, lottery method was done to select the eligible participant. A pre-designed structured interview schedule was used for data collection which consists of two sections, namely socio-demographic characteristics and Mini nutritional assessment tool (MNA). MNA tool is a well-validated questionnaire designed by the Nestle Nutrition Institute in Lausanne (Switzerland) for elderly people which comprises of 18 questions based on four domains: (a) Anthropometric measurements, (b) Dietary assessment, (c) Global health and social assessment, (d) Subjective assessment of health and nutrition.

Four anthropometric measurements- weight, height, mid upper arm circumference (MUAC) and calf circumference were taken by the surveyors. The respondents' body weight was measured using a digital weighing scale to the nearest 0.1 kg and their height was measured using a stadiometer and mid upper arm circumference (MUAC), and calf circumference were measured to the nearest 0.1 cm using a non-stretchable measuring tape. Operational definition: According to the score obtained using MNA tool, nutritional status was categorized as: Normal nutritional status (24-30 points), at risk of malnutrition (17-23.5 points) and malnourished (<17 points). Smoking habit was categorized into three groups: never smoker, current smoker (smoking for at least a year), and former smoker (quit over one year ago). Alcohol consumption was defined as: never, infrequent (consumed once in a month), frequent (who consumed once or more in a week). Tobacco consumption as never, former (stopped for the past one year), current (currently consuming tobacco).

RESULTS

A total of 250 eligible individuals participated. Table 1 shows the socio-demographic profile of the study population. The mean age (SD) was 69.5 (± 7.74) years. Majority (206, 82.4%) belonged to the age group of 60-74 years. Male and female ratio was 1:1.3 (108, 43.2% vs. 142, 56.8%). Around three-fifths of the respondents (149, 59.6%) were currently married, Majority (90, 36%) were illiterate and were self-employed during adulthood (110, 44%), Almost all the respondents stayed with their family (246, 98.4%) except four of them who stayed alone. Majority of the respondents were financially dependent (152, 60.8%) on others for their daily needs. Around three-fifth of the respondents (140, 56.0%) reported they suffered from co-morbid illnesses. Among them majority reported hypertension (82, 58.6%) and diabetes (30, 21.4%). Around one-fourth of the respondents were ever alcoholic and about half of them were ever smokers. Around half of the respondents consumed tobacco.

Table 1: Socio-demographic characteristics of the study participants (n=250).

Characteristics	Number	Percentage
Age (Mean±SD)	69.5±7.4	
Age group (yrs)		
60-74	206	82.4
75-84	33	13.2
≥85	11	4.4
Gender		
Male	108	43.2
Female	142	56.8
Religion		
Hindu	109	43.6
Islam	82	32.8
Meitei	25	10.0
Christian	34	13.6
Marital status		
Currently married	149	59.6
Unmarried	6	2.4
Widow/widower	95	37.0
Education		
Illiterate	90	36.0
Primary	31	12.4
Middle	34	13.6
Secondary	74	29.6
Tertiary	21	8.4
Occupation (previously)		
Govt. employed	54	21.6
Private employed	10	4.0
Self employed	110	44.0
Unemployed/homemaker	76	30.4
Stay with family		
Yes	246	98.4
No	4	1.6
Financial dependence		
Yes	152	60.8
No	98	39.2
Co-morbid illness		
Yes	140	60.8
No	110	39.2
Alcohol consumption		
Never	187	74.8
Infrequent	45	18.0
Frequent	18	7.2
Smoking status		

Never	131	52.4
Former	55	22.0
Current	64	25.6
Tobacco intake		
Never	128	51.2
Former	34	13.6
Current	88	35.2

DISCUSSION

In the present study, the prevalence of malnourished among elderly population was 20.8% and at risk of malnutrition was 49.2%. The study findings were comparable to other studies conducted in Karnataka and Coimbatore where they reported malnourished among elderly population as 22% and 19.5% respectively. However, our findings were much higher than studies conducted in Assam (15%), Tamil Nadu (14%), Rajasthan (11.6%) and Kerala (7%) but lower than a study conducted in West Bengal by Lahiri et al in 2014 where they reported 29% malnourishment among elderly population. These differences in the prevalence of malnourished among elderly population could be because of the differences in the socio-demographic characteristics of the study participants in these various study settings.

In the present study, elderly who are at risk of malnutrition is more than actually malnourished. Our finding is consistent with other community-based studies conducted among elderly population in India and other parts of the world. This showed that MNA tool is better at identifying those at risk of malnutrition from among the apparently healthy elderly population. This emphasizes the fact that high prevalence of risk of malnutrition indicates high proportion of elderly with deficient protein-energy intake without obvious clinical signs of malnutrition. Therefore MNA tool should be incorporated in routine geriatric assessment so that the physician can identify those at risk of developing malnutrition and timely intervention can be initiated, as we know that prevention is better than cure.

CONCLUSION

The overall prevalence of malnutrition and at risk of malnutrition in our study was 20.8% and 49.2%. Approaches to improve the nutritional status of the elderly should focus primarily on those who are older, low educational status, female gender and financially dependent. One such approach is that the government should give the old age pension regularly on a monthly basis so that the elderly people can be financially independent unlike what is currently practised in Manipur, where they are not given on monthly basis. Moreover, in any targeted nutritional interventions, priority should be given to elderly females. Further research should be conducted to determine the specific causes of this gender inequality in nutritional status of the elderly.

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