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ORIGINAL ARTICLE **SCIENCE & ENGINEERING**

DISPARITY OF MALNUTRITION AMONG ELDERLY IN SUNAMGONJ DISTRICT OF BANGLADESH

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Abstract

Malnutrition seriously affects the health of elderly. The objective of the study is to determine the variation of nutritional status of elderly with respect to their socio economic and demographic characteristic. For this, a sample of four hundred elderly respondents have been selected randomly from Sunamgonj district in Bangladesh during 2019. Mini Nutrition Assessment Short Form (MNA-SF) is used to assess the nutrition status of elderly. Percent frequency distribution, t-test and F-test are used to analyze the data. It is observed from the analysis that only a few (0.58 percent) elderly belongs to normal nutrition status. The rest of the elderly are suffering from malnutrition (39.62 percent) and at risk of malnutrition (59.8 percent). The study findings show that socio-demographic characteristics like occupation, marital status, age, place of residence, taking care and family type have significant role on the variation of nutrition status of elderly. Therefore, policymakers, GO and NGO should come forward to develop the nutrition situation of elderly especially in Sunamgonj district of Bangladesh.

Keywords: Malnutrition, Family type, Elderly, Sleep disorder, Occupation

Introduction

Malnutrition is one of the main problem in public health worldwide. Researchers are trying to address this issue and manage it. Malnutrition is a condition of nutrition in which a lack of or excess of energy, protein, and other nutrients causes an adverse effects on body form and function (Stratton et al. 2003). Nutrition is one of the most important factors related to the health of an individual especially among the elderly. Malnutrition is rising rapidly in the older adults. The risk of malnutrition increases with the increment of age in the older adults (Ahmed et al., 2010; Soderhamn, et al., 2012).

The elderly are more likely to suffer from under-nutrition, as their body functions decrease due to age. Different socio-economic and demographic factors also affect their body function (Das et al., 2012). Malnutrition affects physical and mental health of the elderly and continue long time (Schroeder, 2001). There

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is a significant association of mortality, morbidity and the quality of life with malnutrition (Simon, 2009). Malnutrition reduces the physical and working capacity of the elderly. It is one of the major cause to increase blood pressure, sores, delayed wound healing and infection (Schroeder, 2001; Simon, 2009).

Anxiety and weight loss are the risk factors of malnutrition of elderly. Losing the spouse, children and relatives, the elderly feel loneliness. This loneliness affects their nutritional status as well as physical and mental health (Brownie, 2006). The overall nutritional status as well as health status of elderly was not good and satisfactory in Bangladesh. Most elderly were suffering from malnutrition, arthritis and diabetes. Dietary pattern was not good. Intervention programs associated with health and nutritional may be properly rearranged (Haque et al., 2014).

The elderly people is increasing rapidly due to improvement of their quality of life. This is an emerging issue. Due to inadequate resources Bangladesh government does not introduce a social welfare system. Safe water, hygiene standards and proper sanitation are related to the nutrition and health status of the elderly. Young generations should pay their love and respect to the elderly people. Because it our ethical duty and responsibility to take proper care of the elderly (Barikdar et al., 2016).

Since elderly are the senior citizens of the country, they deserve love and respect from other citizens. Their wisdoms and experiences play a very important role to lead a nation successfully. A couple of research works have been done regarding health and nutrition of the elderly. However, the study on level and differential of malnutrition of elderly are very limited. More studies is needed to identify variation of nutrition status of elderly. A details study is helpful to take proper actions for the betterment of elderly. Thus, the aim of this study is to determine whether there are any variation of malnutrition among elderly with respect to their socio-demographic characteristics.

Materials and Methods

To achieve the objective of the present study, 400 elderly respondents have chosen randomly from urban and rural areas of Sunamgonj district in Bangladesh. The data collection is conducted during July to September, 2019 through a structured questionnaire. Percent frequency distribution, t-test and F-test are applied to analyze the data. The t-test and F-test are employed to see the variation of nutrition status with respect to socio-demographic characteristics

In this study, Mini Nutrition Assessment Short Form (MNA-SF) is used for screening the nutrition status of elderly. It was the most reliable and valid tool for determining malnutrition among elderly. The tool showed 98% accuracy (Vellas, et al., 2006).

Results

It is found that 59% elderly are female and 41% are male. Most (60%) of the elderly belonged to 60 to 69 years of old. About half of elderly are from urban area. A very few (0.8%) elderly are unmarried and the rest (99.2%) are married, widow and divorce. About 83.2% elderly are Muslim and the rest are Hindu. Majority (61%) of the elderly are illiterate and the rest are literate. About 75% elderly belongs to below middle income and a few (8%) belongs to above middle income. Most (59.8%) of the elderly are engaged in agriculture profession and a very few (1%) are in active service. Among the elderly, 32 % lives in nuclear family, 41.2% lives in joint family and 26.8% lives in extended family (Table 1).

According to MNA-SF score, only 0.58% elderly belong to normal nutritional status. About 59.8% elderly are at risk of being malnourished and 39.62% are being malnourished (Figure 1).

Differential in nutritional status of elderly with their socio economic characteristics

Nutritional status of elderly may be differed by their socio economic characteristics. It is observed that nutritional status of elderly is significantly differed with their location. The mean score of MNA in rural elderly is higher than the urban elderly. This may be because of availability of fresh sources of nutrition. The nutrition

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Table 1. Distribution of socio-economic and demographic characteristics of the elderly

Characteristics		Frequency	Percentage
Location	Urban	200	50.0
	Rural	200	50.0
Age	60-69	238	59.5
	70-79	116	29.0
	80 and above	46	11.5
Sex	Male	164	41.0
	Female	236	59.0
Religion	Muslim	333	83.2
	Hindu	67	16.8
Marital Status	Married	237	59.2
	Unmarried	3	0.8
	Widow	158	39.5
	Divorce	2	0.5
Education	Illiterate	244	61.0
	Primary	101	25.2
	SSC	24	6.0
	HSC	16	4.0
	Graduate and above	15	3.8
	Retired	60	15.0
Income	Below middle income	300	75.0
	Middle income	67	16.8
	Above middle income	33	8.2
Family type	Nuclear	128	32.0
	Joint	165	41.2
	Extended	107	26.8

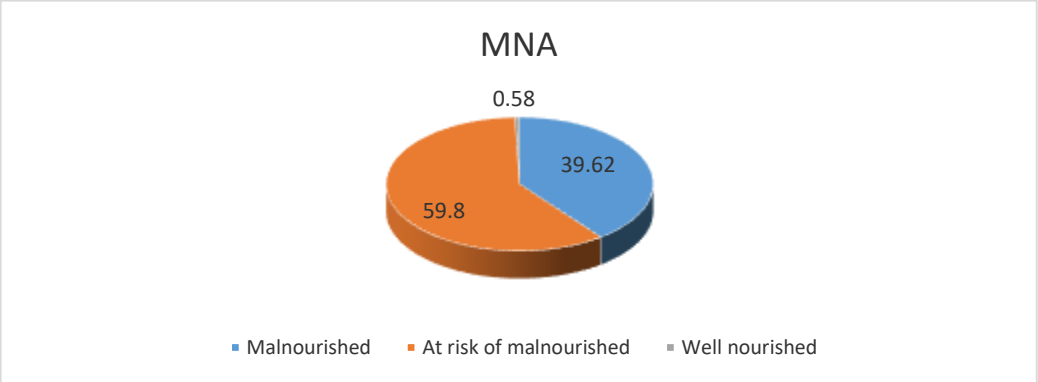

Figure 1. Nutrition status of elderly.

level of male and female elderly is not equal. The condition of female elderly is poorer than male elderly. The mean score of MNA of Muslim elderly is significantly higher than non-Muslim elderly. The analysis shows that the nutrition status of elderly is significantly differed with their occupation, location, religion, and marital status

(Table 2). So, it is evident that the nutrition status of elderly is differed with respect to their socio economic variables.

Table 2. Differential in nutritional status of elderly with socio-economic characteristics

Characteristics	Category	Mean score of MNA	P-value
Location	Urban	7.44	0.03
	Rural	7.87	
Gender	Male	7.68	0.81
	Female	7.64	
Religion	Muslim	7.75	0.04
	Hindu	7.19	
Marital Status	Married	7.91	0.00
	Unmarried	4.33	
	Widow	7.34	
	Divorce	7.50	
Education	Illiterate	7.66	0.95
	Literate	7.65	
Occupation	Agriculture	7.37	0.01
	Housewife	8.08	
	Service	7.25	
	Business	8.08	
	Retired	8.13	
Income	Below middle income	7.65	0.91
	Middle income	7.61	
	Above middle income	7.79	

Differential in nutritional status of elderly with their demographic characteristics

Nutritional status of elderly may not neutral by their demographic characteristics. A set of socio-demographic characteristics are considered in study. The analysis shows that age, taking care and family type have significant impact on the variation of nutrition status of elderly.

It is fond that MNA score of elderly is significantly fluctuated with their age. The mean scores of MNA of oldest old elderly is less than the youngest old and old-old elderly (Figure 2) which implies that nutrition situation of elderly is gradually deteriorated as the increment of their age.

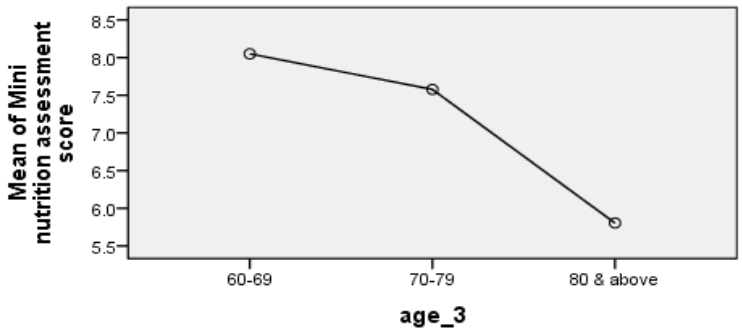

Figure 2. Mean's plot of MNA with age of elderly.

It is noted that the family type is another demographic characteristic which has significant effect on the variation nutrition status of elderly. The mean score of MNA of elderly living in joint family is less than the elderly living in nuclear and extended family (Figure 3).

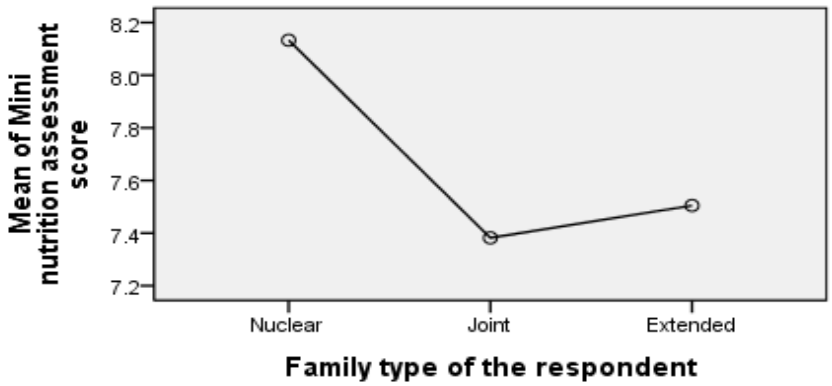

Figure 3. Mean's plot of MNA of elderly according to family type.

The elderly people in Bangladesh are living with their son, daughter, spouse and other arrangement and they receive taking care from them. The study shows that the nutrition status of elderly is significantly differed with their taking care. The elderly people who are being taken care by their spouse and self, their nutrition status is much better than those elderly who are being taken care by their son, daughter and others (Figure 4).

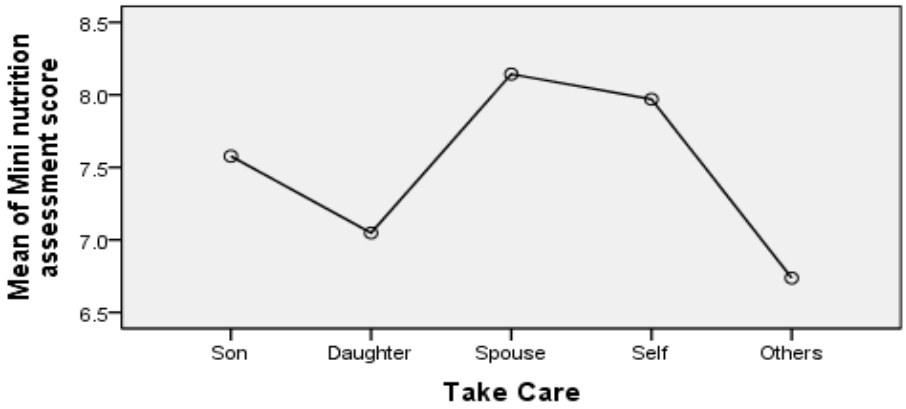

Figure 4. Mean's plot of elderly with take care.

Discussion

A study was conducted among elderly people in India showed that 17.9% elderly were suffering from malnutrition and 58.8% were at risk of malnutrition (Krishnamoorthy, 2018). The present study shows that about 59.8% elderly are at risk of being malnourished and 39.62% are being malnourished.

Another study revealed that 18.29% elderly was malnourished and 48.17% elderly was risk of malnutrition. The prevalence of malnutrition among elderly was higher among urban areas (19.29%) in India (Kushwaha, et al., 2020). But this study is similar to the present study. Because the present study shows that the nutrition level of nutrition of rural elderly is higher than urban.

A study in Norway shows that the prevalence of risk of malnutrition of elderly increases with age (Soderhamn, et al., 2012). The present study is similar to the study in Norway. Because, the present study indicates that the level of nutrition of elderly is decreased as their age increases. This implies that prevalence of malnutrition increases as their age increases.

Conclusion

The findings of the study show that a very few of the elderly are in normal nutrition status and majority of them are at risk of malnutrition. It shows that socio-economic and demographic variables like age, location, occupation, family type, taking care, marital status have significant role in the disparity of malnutrition of elderly. The level of malnutrition increases with the increment of age of elderly. Since the study is conducted in a district of Bangladesh with a small sample size, the findings of the study may not represent the actual scenario of malnutrition of elderly in the country. Further large scale studies with appropriate sampling design are strongly recommended to get a complete picture of the malnutrition of elderly in the country.

Acknowledgement

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Conflict of interests

The authors have declared no conflict of interests.

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