

Association between Malnutrition and Depression among Elderly of Selected Rural Area of district Faridkot, Punjab

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Abstract

Introduction: There is a high prevalence of mental and physical disorders in the population of elderly in community. Malnutrition is serious senior health issue and increases an old person's vulnerability to disease. Depression is also common problem in later life often misdiagnosed and sometimes inadequately treated. Neither malnutrition nor depression is normal response to ageing and effective treatment is available for both. Inappropriate quality of life and poor nutrition might have a strong effect on the incidence of depression because of the psychological vulnerability of the elderly. Depression in the elderly can often lead to malnutrition or dehydration, which can induce various kinds of physical illnesses. Considering the importance and vulnerability of elderly population this study was selected to assess the association between malnutrition and depression among geriatric population 60 years of age and above. **Material and Methods:** A non-experimental cross-sectional design was used to investigate the association between malnutrition and depression in rural area village Bajakhana district Faridkot. Total enumerative sampling technique was used to choose the 398 elderly having age ≥ 60 years. Mini Nutritional Assessment (MNA) tool and Geriatric Depression Score (GDS) were used to evaluate nutritional status and depression scores, respectively. **Results:** From the total subjects under the study (398), 13.1% were malnourished and 35.2% at risk of malnutrition whereas 9.8% were severely depressive and 28.9% were mild depressive. In severely depressed group, the prevalence of malnutrition was 4.5% (18 out of 39) and the prevalence of "at risk of malnutrition" was 4.3% (17 out of 39) whereas in mild depressive, the prevalence of malnutrition was 6.5% (26 out of 115) and 13.6% (54 out of 115) were at risk of malnutrition. In non depressed population only 2% were malnourished. From the aforementioned information it is concluded that there is a significant association between the prevalence of malnutrition and depression among elderly. ($P=0.000$). **Conclusion:** The results of the present study revealed a high prevalence of depression and malnutrition among elderly. Moreover, depression was associated with worsening of nutritional status. Further studies are needed to evaluate the mechanism of this association and other factors that can effect on the quality of life in this population.

Keywords: Depression, Malnutrition, Geriatric Depression Scale (GDS), Mini Nutritional Assessment (MNA), Elderly

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INTRODUCTION

Ageing is a natural process. In the words of Seneca; "Old age is an incurable disease", but more recently, Sir James Sterling Ross commented; "You do not heal old age. You protect it; you promote it; you extend it." Old age should be regarded as a normal, inevitable biological phenomenon.¹ Demographic aging is a global phenomenon. Between 2000 and 2050, the proportion of the

world's population over 60 years will double from about 11% to 22%.² India has acquired the label of an ageing nation with 7.7% of its population being more than 60 years old.³ There is high prevalence of mental and physical disorders in the community population of elderly. Malnutrition is serious senior health issue and increases an old person's vulnerability to disease. Malnutrition in older adults can lead to various health concerns,

including a weak immune system, which increases the risk of infections, poor wound healing and muscle weakness which can lead to falls and fractures. In addition, malnutrition can lead to further disinterest in eating or lack of appetite which only makes the problem worse. Many drugs may affect appetite, digestion and nutrient absorption.⁴ Depression is also common problem in later life and is not a normal part of aging; however, it is prevalent, often misdiagnosed, and sometimes inadequately treated in the older adults. Depression is a common mental disorder, characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, feelings of tiredness and poor concentration. It can be long lasting or recurrent, substantially impairing a person's ability to function at work or school, or cope with daily life.⁵ there has been an increase in mental disorders associated with old age. The increase is due to the fact that people are living longer and consequently is more likely to develop symptoms of mental disorder produced by ageing brain.⁶ In United States and in Finland depression is the most common mental disorder among elderly people.⁷ **Inappropriate quality of life and poor nutrition might have a strong effect on the incidence of depression. Depressive symptoms are more prevalent in undernourished individuals. Reduced social contact** may be leading cause to malnutrition in elderly. Grief, loneliness, failing health, lack of mobility and other factors might contribute to depression causing loss of appetite. Older adults who eat alone might not enjoy meals as before, causing them to lose interest in cooking and eating. Physical conditions such as malnutrition in the elderly can induce depression, because of the psychological vulnerability of the elderly. Because there is a strengthened relationship between the body and the mind in the elderly.⁸ Furthermore, there are some evidences to show the effect of some special nutritional supplements on the elderly depression. Folic acid deficiency may result in psychiatric symptoms such as depression or the increases in severity of other organic and non-organic mental diseases.⁹ An already with moderately reduced vitamin B₁₂ level is associated with neuro-cognitive disorders such as depression.¹⁰ Anemia related to iron deficiency especially in females is related to apathy and depression.¹¹ These findings confirm the association between nutritional condition and depression especially in elderly. A study like this is very much essential to estimate the graveness of the situation so that effective and

adequate measures can be taken at the individual, family, community and government levels to combat the curse of malnourishment and depression. Considering the importance and vulnerability of elderly population and due to lack of studies in this field, this study was selected to assess the association between malnutrition and depression among geriatric population 60 years of age and above.

MATERIAL AND METHODS

A non experimental, cross sectional study was conducted in the rural area village Bajakhana district Faridkot to assess the association between malnutrition and depression among elderly population aged 60 years and above. The total Sample size was 398 elderly of village Bajakhana, selected with total enumerative sampling technique. Research tool used for the study consists of 3 parts. Part I includes Sample characteristics. Part II was MNA (Mini Nutritional Assessment) and Part III was GDS (Geriatric Depression Scale). Subjects who were willing to participate were included in the study considering the ethical rights of subjects and anonymity of the study subjects and confidentiality of information was maintained. Analysis of data was done in accordance with the study objectives using descriptive (frequency and percentage) and inferential statistics (chi square) using SPSS version 20.

RESULTS

Among total 398 subjects, according to age 287(72.1%) were in age group 60-69 years and 27(6.8%) were having age ≥ 80 years. As per gender more than half were females i.e. 233(58.5%) and 165(41.5%) were males. Educational status of elderly depicts that more than two third 296(74.4%) were illiterate and only 3(0.8%) were educated up to level of graduation and above. Majority of elderly i.e. 326(81.9%) were having joint families and 63(15.8%) had nuclear families. According to occupational status, majority of elderly i.e. 328(82.4%) were unemployed or house wives, only 9(2.3%) were employed in various jobs or business and 23(5.8%) were farmers. On the basis of monthly income of family, more than one third of subjects i.e. 172(43.2%) were having family monthly income \leq Rs. 10,000. Most of the subjects under study were vegetarian i.e. 328(82.4%). More than half 247(62.1%) elderly were taking 2 meals per day and only 3(0.8%) were taking their meal one time daily. Regarding consumption of prescribed drugs 188(47.2%) was consuming more than three prescribed drugs per day.

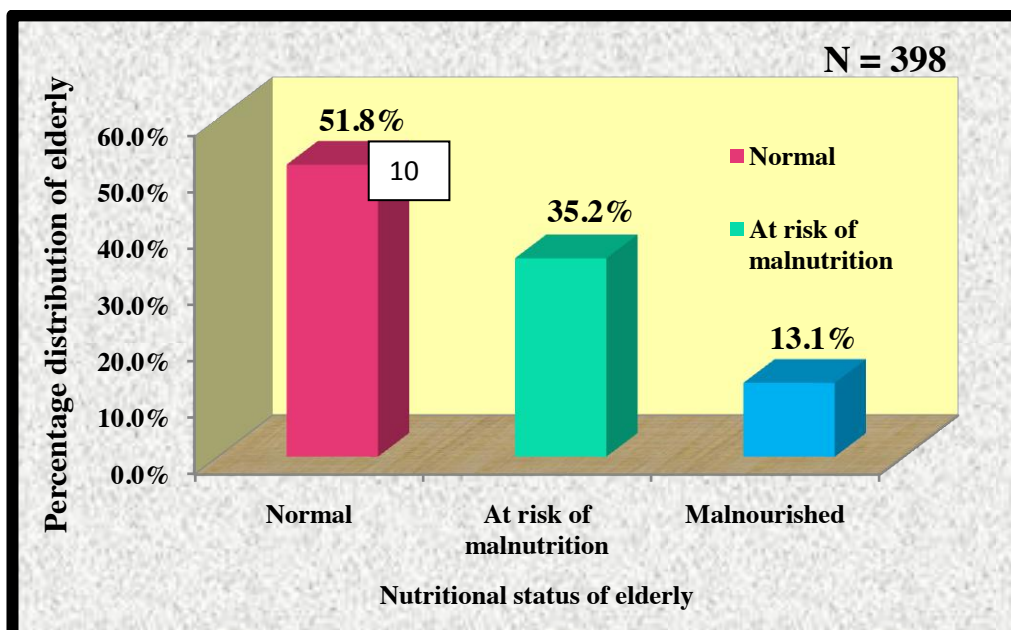


Fig 1: Percentage distribution of elderly as per nutritional status

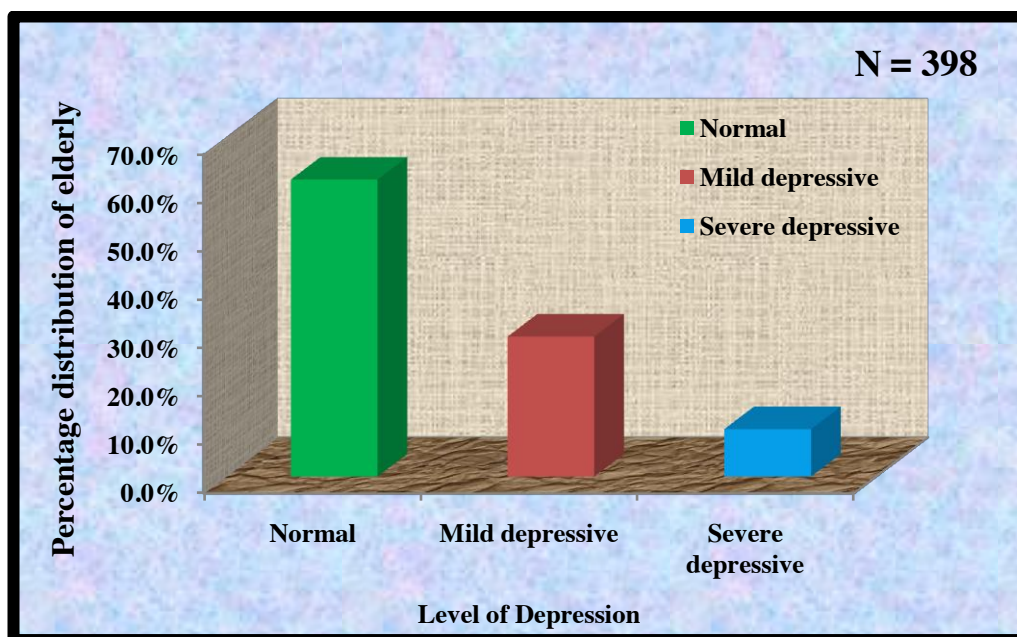


Fig 2: Percentage distribution of elderly according to level of depression

On the basis of findings related to prevalence of malnutrition among elderly as per Mini Nutritional Assessment (MNA) Scale, 206 (51.8%) elderly having normal nutritional status, 140 (35.2%) were at risk of malnutrition and 52 (13.1%) were malnourished (Fig 1). Findings showed that among elderly residing in rural areas per Geriatric Depression Scale (GDS) out of 398 elderly, 244 (61.3%) were normal, 115 (28.9%) were mild depressive and 39 (9.8%) were severely depressive (Fig 2). Table 1 depicts that among elderly who were at risk of malnutrition, 17.3%

had no depression, 13.6% were mild depressive and 4.3% were severely depressive. It also showed that 2% had no depression, 6.5% were mild depressive and 4.5% were severely depressive among those who were malnourished. In order to explore the association between prevalence of malnutrition and depression, chi square value was computed i.e. 103.410 at df 4 statistically highly significant at <0.001 level.

Table – 1 Association between malnutrition and level of depression among elderly
N = 398

Level of depression	Nutritional status			Total	Chi square value	P value
	Normal n (%)	At risk of malnutrition n (%)	Malnourished n (%)			
Normal	167 (42)	69(17.3)	8(2.0)	244 (61.3)	103.410 df = 4	0.000***
Mild depressive	35(8.8)	54(13.6)	26(6.5)	115(28.9)		
Severe depressive	4(1)	17(4.3)	18(4.5)	39(9.8)		
Total	206 (51.8)	140(35.2)	52(13.1)	398(100)		

*** Highly significant at p <0.001

Hence, it was concluded that there was association between the malnutrition and depression among elderly residing in rural areas. There was significant association of nutritional status with age of elderly, educational status, occupational status, family monthly income, number of meals taken daily, consumption of drugs and mode of feeding at p value <0.05. A significant relationship was found between level of depression and age of elderly, occupational status and consumption of drugs at p value <0.05.

DISCUSSION

The present study findings revealed that malnutrition among geriatric population is serious issue. Out of 398 subjects 13.1% were malnourished and 35.2% were at risk of malnutrition. Approximate 50% of subjects had low MNA scores. The findings of the study were supported by study conducted by Vedantam et al (2009) showed that 14% of 227 subjects were malnourished and 49% were at risk of malnourishment.¹² Similarly Shum NC, Hui WW, Chu FC, Chai J, Chow TW. (2005) measured prevalence of malnutrition was 16.7% that was similar to the findings of present study.¹³ The present study findings revealed that 9.8% elderly had severe depression and 28.9% had mild depression. Findings of study conducted by O'hara, Michael, Kohout, Frank j, Wallace, Rober showed prevalence of significant depressive symptomatology i.e. 9.0%; based on a modified version of the Center for Epidemiological Studies Depression Scale [CES-D] and clinical depression were low i.e. 2.9%; based on self-report of Research Diagnostic Criteria [RDC].¹⁴ The results of this study support the findings of present study. The findings of present study depict the significant association between malnutrition and depression

among elderly. Mokhber N et al (2011) also concluded that there is a significant statistical difference between the prevalence of malnutrition in depressed and non-depressed individuals and support the findings of present study.¹⁵

CONCLUSION

Findings of the study showed 13.1% elderly were malnourished and 35.2% were a risk of malnutrition. On other hand 9.8% had severe depression and 28.9% had mild depression. On the basis of the findings of the study, it is concluded that prevalence of malnutrition and depression among elderly is high in this area. There is significant association between malnutrition and depression among elderly. To ensure a healthy elderly population, improving the nutrition is one of the most important approaches. Depression could act as a powerful risk for malnutrition in elderly population that it should detected early. The results are expected to help in designing policies and making plans regarding health care provision for the elderly.

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