

Nutritional status and Depression levels among Ageing Adults of Pilani, Rajasthan

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Abstract - Nutrition is a critical component of mental health in the elderly population and has an impact on the ageing process. The global population is increasingly ageing. According to the World Health Organization, by 2100, people aged 60 and more would have more than tripled. According to WHO estimates, depression affects 7% of all persons over the age of 65. Depression is "a common mental condition marked by persistent sorrow and a loss of interest in activities that lasts at least two weeks and has a significant impact on our lives".

Hence, the study aims at studying the nutritional assessment and depression levels of the ageing adults.

Methods: The purpose of this study was to determine nutritional status and depression levels of 100 ageing adults, aged 60 years and above, residing in CEERI campus, Pilani, Jhunjhunu district of Rajasthan (INDIA). The nutritional status assessment was conducted using Mini Nutritional Assessment (MNA) scale comprising of 18 items (30 points) and assessment of depression was done using the Geriatric Depression Scale (GDS).

Results: It was discovered that 9% of the ageing adults were malnourished, 43% were determined to be at risk of malnutrition, whereas 48% were observed to be well-nourished. In terms of depression prevalent among the elderly, 7% had severe depression and 29% had mild depression, according to the study.

Conclusion: The study showed the presence of malnutrition and depression in almost half of the subjects comprising the sample. Therefore, a greater emphasis on diet and potential nutritional programs are required in ageing adults. Along with meeting their nutritional needs, activities to keep the ageing adults occupied, self-dependent and happy need to be planned so as to alleviate the depression that sets in during these golden years.

Index Terms - MNA, Malnutrition, Ageing adult, Depression.

Malnutrition is more common in Ageing adults for a variety of reasons, including physiological, psychological, and functional changes associated with ageing, a lack of financial support, and limited food access. The ability of ageing adults to carry out daily tasks, such as food preparation and consumption has an impact on their nutritional status (Agarwalla et al.,2015).

Nutrition is a crucial component for mental health in ageing adults. Among the various mental health problem like depression, stress and mental disorders account for the greatest burden among ageing adults. Depression is associated with nutrition as well as morbidity among ageing adults. It's a mental disorder marked by depressed symptoms like stress, mood swings, melancholy, loss of interest, and changes in cognition and behavior (Burke and Laramie, 2000). Depression increases with malnutrition and dependency on others and decreases with good nutrition and an individual's quality of life. The world's population of ageing adults is growing in practically every country, but by 2050, the majority of them will live in developing countries (NIA, 2011). In India, ageing people made up 8.1 percent of the overall population in 2011 and were anticipated to rise to 12.6 percent in 2015 (Census of India, 2011).

Mental and emotional well-being are just as vital in older life as they are at any other age. Unipolar depression affects 7% of the overall ageing adult population, according to WHO (2015). In India, the problem of ageing individuals' health is exacerbated by poor nutrition and medical difficulties, which include both communicable and non-communicable diseases. A vicious loop is created by malnutrition and morbidity (Agarwalla et al.,2015).

INTRODUCTION

OBJECTIVE

The aim of carrying out this study was to determine the nutritional status and depression levels of ageing adults by using the MNA and GDS tools.

METHODOLOGY

The present study was conducted in Pilani, district Jhunjhunu (Rajasthan). A total number of hundred ageing adults, 60 years and above, willing to participate in the study were selected by purposive sampling method. Approval from the ethics committee was taken for the study.

The data was collected using an interview schedule developed by the researcher and contacting the subjects by paying repeated visits to the CEERI dispensary of Pilani.

The nutritional health of Ageing adults was evaluated using the Mini Nutritional Assessment (MNA) tool (Vellas et al., 1999). It is a validated instrument that consists of 18 questions divided into four sections: general condition, anthropometric, nutritional, and subjective perception of health status. On a 30-point scale, a normal nutritional status is defined as >24 points, 17 to 23.5 points show that the person is at danger of malnutrition, and less than 17 points indicate that the subject is malnourished.

The Geriatric Depression Scale (GDS) (Yesavage et al, 1982-83) is a screening tool for detecting depression in geriatric individuals. The long-form of this tool composed of 30 close-ended questions has been used in this study.

RESULTS

General Profile of the subjects:

Socio-demographic characteristics of the subjects have been presented herewith. One hundred ageing adults were participants of the study. Out of the total subjects, 53% of men and 47% of women were aged between 60-70 years. Among the subjects, 23% were graduates and 28% were postgraduates (Fig. 1).

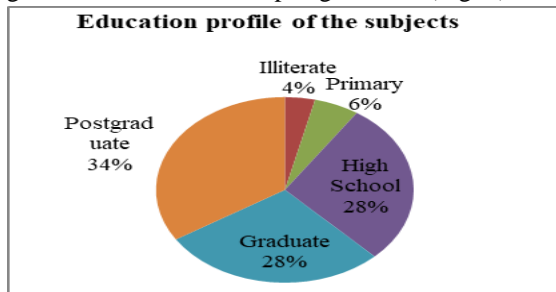


Figure 1 Distribution of subjects according to Educational status

Another finding was that most women were home makers whereas men were retired from government jobs (Fig. 2). A majority of subjects were residing in a joint family (54%) whereas others (44%) had nuclear families (Fig. 4).

Occupation of Ageing adults

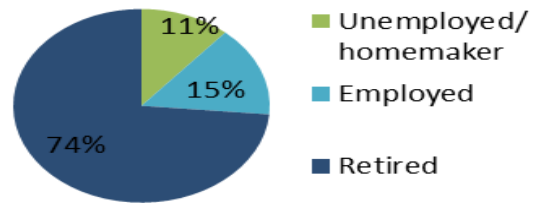


Figure 2: Distribution of the subjects according to occupation

Categories of MNA	Men(%)	Women(%)	Total(%)
Well-nourished	27	21	48
At risk of malnutrition	23	20	43
Malnourished	3	6	9
Total	53	47	100

Table No.1: Gender wise percent distribution of subjects according to categories of malnutrition as per MNA (n= 100)

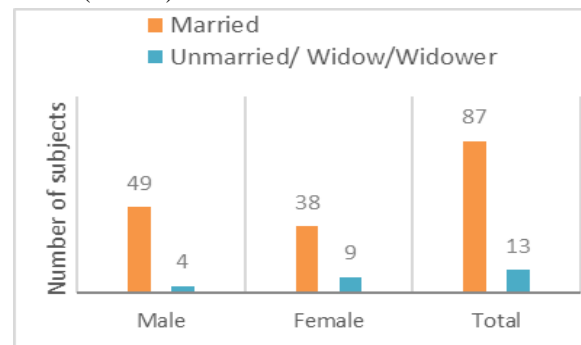


Figure 3: Distribution of subjects according to marital status

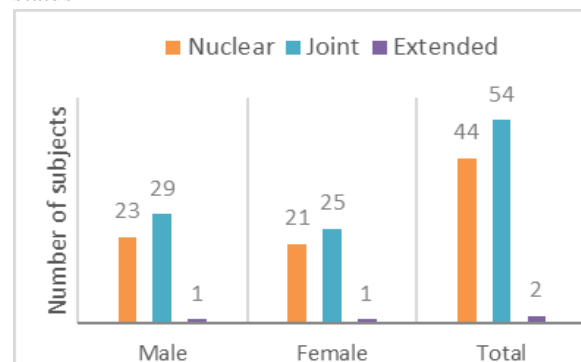


Figure 4: Distribution of subjects according to family type

Nutritional Assessment of the subjects:

Table No.1 shows the population that was 'at risk of malnutrition' as per the result of the MNA instrument in both men and women. According to MNA, 9% of ageing individuals were found to be malnourished, and another 43% were at risk of becoming malnourished. It was also observed that almost half of the total subjects (48%) were well nourished and not at risk of malnutrition.

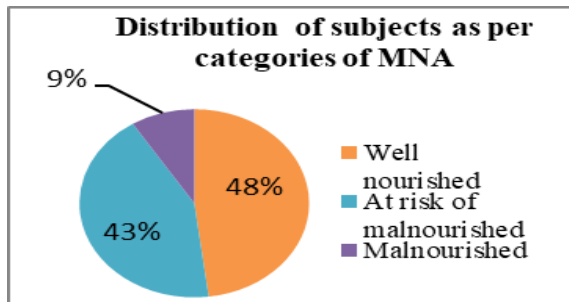


Figure 5: Percent distribution of the subjects according to categories of MNA tool

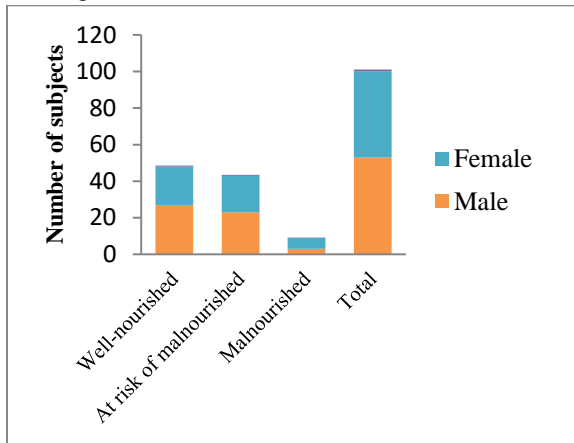


Figure 6: Gender wise distribution of the subjects according to categories of malnutrition as per MNA tool.

Depression Status of the subjects:

Table 2; Fig. 7 shows the presence of depression among the subjects as per the GDS used. The results reveal that about 7% of the subjects had severe depression whereas 29% of the subjects were suffering from mild depression. It was observed that the percentage of women suffering from mild depression was 4 times more as compared to the men in the study (Table No. 2).

Table No. 2: Gender wise distribution of subjects according to depression levels in the subjects (n= 100)

Categories of Depression according to GDS	Men (%)	Women (%)	Total (%)
Normal	46	18	64
Mild depression	6	23	29
Severe depression	1	6	7
Total	53	47	100

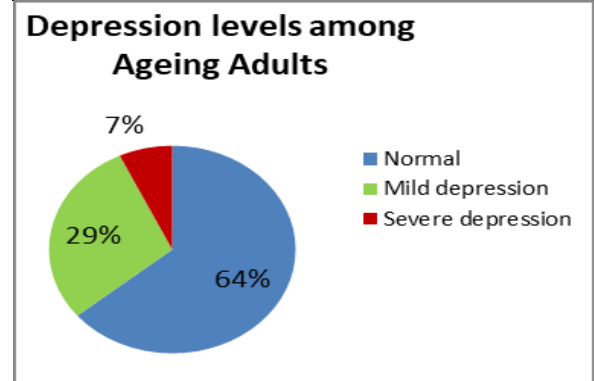


Figure 7: Percent distribution of subjects according to presence of depression

Table 3: Distribution of subjects in various categories according to MNA and GDS tools

Variables		Geriatric Depression scale (GDS)			
		Normal	Mild Depression	Severe Depression	Total
(MNA) Mini Nutritional Assessment	Well-nourished	44 (68.8%)	13 (48.8%)	4 (57.1%)	61 %
	At risk of malnutrition	20 (31.2%)	15 (51.7%)	3 (42.9%)	38 %
	Malnutrition	00 (0.0%)	1 (3.4%)	0 (0.0%)	01 %
	Total	64%	29%	07 %	100

Table 3 depicts the distribution of subjects in various categories of MNA and GDS. It was observed that approximately 43% and 52% of the subjects who were at risk of malnutrition suffered from severe depression and mild depression respectively.

Table 4: Correlation between Nutritional level and Depression among elderly subjects

	Value	P value

Spearman's Correlation	rho	-0.315	0.000**
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*Significant at 0.01 level (2-tailed).

There was a significant association between nutritional status (as per MNA) and depression levels (as per GDS) of the subjects as depicted in Table-4. It indicates that with an improvement in the nutritional status there is a decline in the depression levels of the subjects.

DISCUSSION

Ageing adult population needs special care due to ageing process and physiological changes occurring in this period. Malnutrition in the elderly is particularly common as for a variety of reasons, daily food consumption reduces as people age [Joshi et al., 2003]. Malnutrition was found to be prevalent in 9% among Ageing adults in this study, with 43% being 'at risk of malnutrition'. According to Payahoo et. al., (2013) 11.5 % of the elderly subjects living on their own, were malnourished. Johansson et al. in 2008 and Vedantam et al., (2009) observed that about 14% of ageing adults were malnourished. According to Lahiri et al., (2015) the prevalence of malnutrition and risk of multiplication among ageing adults was 10% and 36% respectively. However, Ribeiro et al. (2011) observed that malnutrition was prevalent in just 1.3 percent of 236 elderly adults aged 60 or older, which is quite low when compared to the current study. Another study conducted in Spain [Cuervo et al., 2009] showed similar results of malnutrition (4.3%) and risk of Malnutrition (25.4%). A majority of older people who were malnourished or at risk of malnutrition ate only two meals per day according to a study carried out in Bangladesh [Kabir et al., 2006]. Nutritional status was correlated to symptoms of depression, as evidenced by a significant association between the MNA and the GDS, according to Smoliner et al. (2009). Rodriguez-Tadeo et al. (2012) found that elderly people who live alone had a higher risk of malnutrition.

Depression tends to affect the elderly because of multiple reasons, the main ones being dependency on others, loss of spouse, loneliness, reduction in physical work capacity, physiological and psychological changes, financial constraints, etc. In two investigations, 22% and 42% of geriatric persons, respectively, were depressed (Cabrera et al., 2007 and Carpiniello et al.,1989). Women were found to be

more depressed and malnourished than men in this study. This result was supported by Payahoo et al., (2013) and Cabrera et al (2007). It can be caused by women's insufficient nutrition, education and economic dependency in communities. The investigations of Ramchandran et al. (2013) Jariwala Vishal et al., (2010), Rajkumar et al. (2009) and Nandi et al. (1997) have also shown similar findings.

Depression in ageing adults has also been associated with poor socio-economic status, unemployment, disrupted marital status, disrupted mental status, illiteracy and substance abuse (Dube and Sharma, 2017).

Female gender, old, absence of a spouse, inadequate education, and unemployment were revealed to be independent predictors of depression in another research done in Pakistan (Taqui et al., 2007). In contrast to the revelations of the previous study, research on community-dwelling elderly in Tamil Nadu discovered that there was a non-significant association of age, female gender, cognitive impairment, and disability status with geriatric depression (Rajkumar et al., 2009). Some research studies have provided a correlation between depression and low socio-economic status (Pracheth, Mayur and chowri, 2013; Jain and Aras, 2007). Depression was found to be less prevalent among the elderly receiving pensions (Gupta et al., 2010). Some of the factors responsible for the significant rise in the prevalence of depression after the age of 69 years, according to Jariwala et al. (2010) and Rajkumar et al. (2009), could be being economically and physically dependent, loss of the spouse, negligence by the family members, and loss of self-esteem. The frequency of depression was shown to be considerably greater in senior people who were single, widowed, divorced, or separated based on their marital status (Jariwala et al., 2010).

The present study revealed a significant association between nutritional status and depression levels ($p < 0.01$), indicating that an improvement in the nutritional status was associated with a reduction in the depression levels of the subjects. A similar observation was made by Smoliner et al. (2009) who discovered a relationship between nutritional status and depression, as shown by a significant association between the MNA and the GDS. Cabrera et al., (2007) and German et al., (2008) both reported that the chance of developing symptoms of depression was four fold

higher in elderly people who were malnourished than in those who were not. Mukhbar et al., (2011) also discovered a substantial difference in the presence of malnutrition among depressed and non-depressed ageing adults (Payahoo et al.,2013). Good diet appears to be critical in sustaining the fitness and mental health of ageing adults. Hence, it is suggested that measures to take care of the nutritional status and proper diet be taken for ageing adults to keep them healthy, independent and in good mental health.

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