ANAEMIA AMONG RURAL ELDERLY WOMEN: A STUDY IN NILAKOTTAI BLOCK OF TAMIL NADU

R.Nithya[a] and S. S.Vijayanchali [b]

[a] Research Scholar, Department of Home Science, The Gandhigram Rural Institute-Deemed to be University, Gandhigram-624302, Dindigul (dt), Tamil Nadu

[b] Associate Professor & Head, Department of Home Science, The Gandhigram Rural Institute-Deemed to be University, Gandhigram-624 302, Dindigul (dt), Tamil Nadu

ABSTRACT

Anaemia is a common concern in geriatric age group (more than 60 years of age). Anaemia is a major public health problem, especially in developing countries. Anaemia is associated with adverse outcomes among elderly such as reduced quality of life, depression, increased disability, higher risk of Alzheimer disease and increased risk of mortality regardless of the underlined cause of the low hemoglobin and its reduction in the number of circulating red blood cells or the heamoglobin concentration in the blood. Prevalence of anaemia in elderly has been found to range from 8 to 44 percent, with highest prevalence in man of 85 years and older. Anemia show a variety of symptoms, including facial pallor, edema resulting from decreased red blood cells, fatigability, malaise, headache, chest pain due to insufficient oxygen supply, palpitation or shortness of breath by compensatory mechanism. Older persons with anemia suffer disability, physical decline and hospitalization at higher rates than those without anaemia.

Key words: Anaemia, Elderly, Hemoglobin

INTRODUCTION

Anaemia is the most common nutritional deficiency disorder in the world. It is a condition that occurs when the red blood cells do not carry enough oxygen to the tissues of the body. WHO defines anaemia as a condition in which the Haemoglobin (Hb) content of blood is lower than normal as a result of deficiency of one or more essential nutrients, regardless of the cause of such deficiencies. Most of the anaemias are due to inadequate supply of nutrients like iron, folic acid and vitamin B12, proteins, amino acids, vitamins A, C, and other vitamins of B-complex group i.e., niacin and pantothenic acid are also involved in the maintenance of haemoglobin level (WHO,1989). Nutrition is the basis of life and nutrition comes from food. Health and

nutrition are most important contributory factors for human resource development in a country. The metabolic, hormonal, mental, physical or chemical functions of the body cannot be performed without nutritious food. Good nutrition is a key element in maintaining our overall physical well being. Anaemia is a major public health problem, especially in developing countries. Anaemia is associated with adverse out comes among adult such as reduced quality of life, depression, increased disability, higher risk of Alzheimer disease and increased risk of mortality. Anaemia was defined according to the WHO criteria as a hemoglobin concentration lower than 12 gm/dl in women and d13gm/dl in men. Anemia refers to a state in which the level of hemoglobin in the blood is below the normal range appropriate for age and sex. Older persons with anemia suffer disability, physical decline and hospitalization at higher rates than those without anemia. The percentage of elderly population in India is 4.8% (4.4% males and 5.3% females). Anemia can never be considered normal in old age. The incidence of anaemia increases with age, with males more affected than females. In old age, gastric functions too decline to vitamin B12 deficiency, iron deficiency anemias are common in elderly. Anemia is an important disease often found in the clinical practice of hematological disorders in the elderly. Anemia show a variety of symptoms, including facial pallor, edema resulting from decreased red blood cells, fatigability, malaise, headache, chest pain due to insufficient oxygen supply, palpitation or shortness of breath by compensatory mechanism. Iron status can be considered as a continuum from iron deficiency with anaemia, to iron deficiency with no anaemia, to normal iron status with varying amounts of stored iron, and finally to iron overload - which can cause organ damage when severe. Iron deficiency is the result of long-term negative iron balance. Iron stores in the form of haemosiderin and ferritin are progressively diminished and no longer meet the needs of normal iron turnover (WHO, 2001). Anaemia is the decreased ability of the red blood cells to provide adequate oxygen to body tissues. It may be due to a decreased number of red blood cells, a decreased amount of substance in red blood cells, which transports oxygen (hemoglobin), or a decreased volume of red blood cells. There are over a dozen different types of anaemia, some due to a deficiency of either a single or several essential nutrients and others from conditions that are not related to nutrition such as infections. People throughout the region suffer from non-nutritional anaemias (such as sickle-cell anaemia and thalassaemia, which are induced by genetic disorders), but these are few in comparison to the number of people - children, women and men with nutritional anaemia. "Nutritional Anaemia" describes a condition in which the haemoglobin or red blood cell content of the blood is lower than normal because of too little iron and is the most common anaemia in South Asia (UNICEF, 2002).

The present study was undertaken to determine the health status among rural elderly of Nilakottai Block of Dindigul District.

OBJECTIVES

- To know the socio-economic status of the elderly respondents;

- To assess the health status of the elderly respondents through bio chemical analysis;

- To find out the associated factors of anaemia among elderly respondents.

SETTING OF THE STUDY

A total of 224 respondents from rural areas constituting of 60 years and above female in eighteen villages around Nilakottai block of Dindigul District in Tamil Nadu were assessed for anaemia through bio chemical estimation.

Table 1
Values of Heamoglobin level

Haemoglobin	Normal Range
Normal	Above 11 mg/dl
Mild	9 to 11 mg/dl
Moderate	7 to 9 mg/dl
Severe	<7 mg/dl

Ambika Shanmugan (2005)

RESULTS AND DISCUSSION

Socio-Economic Profile: Out of 224 elderly respondents, Majority 71.9% of the elderly respondents in the age group of 60-65 years followed by 66-70 years (22.3%), 71-75 years (4.5%) and 76-80 years (1.3%) age group respondents. The grouping of the respondents according to their religion shows that a vast majority (93.7%) of the respondents in the total were Hindus followed by Christian (6.3%). The community wise distribution of the respondents, shows that of the total more than half (54.0%) belong to Scheduled Castes while the rest 46.0% were from Backward Castes. The majority (80.8%) of the respondents were illiterates followed by primary (16.1%), and the respondents pursued secondary (2.7%) and Higher Secondary (0.4%) education. The occupation pattern of the respondents revealed as farmer (54.4%), daily wagers (22.8%), self employee (5.4%), other sundry works (2.2%) and the rest 15.2% females were home maker. The type of activity of the respondents were sedentary activity (22.8%) and moderate activity (77.2%). That is among the 224 subjects surveyed, 67.9 per cent of selected respondents lived in nuclear family, while 32.1 per cent of the respondents lived in joint family. The Monthly individual income level of the selected respondents were 14.7% of females earned Rs. 1,000 to 3,000/-per month; 67.4% of female earned Rs. 3,001 to 6,000/-per month; 2.7% of females earned Rs. 6,001 to 9,000/- per month and 15.2% of female were no income.

Nutritional Status of the Elderly

Table 2

Hemoglobin Level of the Women Respondents

Hemoglobin Level	No. of Respondent	Percent
Normal	31	13.8
Mild	83	37.1
Moderate	105	46.9
Severe	5	2.2
Total	**224**	**100**

The hemoglobin levels of the selected respondents in given Table 2. The hemoglobin levels of the respondents selected for the study shows that of the total more (37.1%) were with mild anaemia (9 to 11mg/dl) while another 46.9% in the total were moderately anaemic (7 to 9 mg/dl) severe anaemic (<7mg/dl) constituted only 2.2% in the total and however, the rest 13. 8% were with normal level (above 11 mg/dl). Hence, it is concluded that a vast majority of the rural elderly-respondents were either mild or moderately anaemia in the areas selected for the study.

Table 3

Age Vs Hemoglobin Level of the Women Respondents

Age Group (in years)	Normal	Mild	Moderate	Severe	Total
60-65	24 (14.9)	55 (34.2)	80 (49.7)	2 (1.2)	161 (71.9)
66 -70	4 (8.0)	26 (52.0)	20 (40.0)	-	50 (22.3)
71 – 75	3 (30)	2 (20.0)	5 (50.0)	-	10 (4.5)
76- 80	-	-	-	3 (100.0)	3 (1.3)
Total	**31 (13.8)**	**83 (37.1)**	**105 (46.9)**	**5 (2.2)**	**224 (100.0)**

The association between the elderly-respondent's age and hemoglobin is presented in Table 3. It shows that 34.2%, 49.7%, and 1.2% of female were identified as mild, moderate and severe anaemic in the age group of 60 to 65 years; 52.0%, and 40.0% of female were mild and moderate anaemic in the age group of 66-70 years; 20.0% and 50.0% female were mild and moderate anaemic in the age group of 71-75 years; 100.0% were diabetic in the age groups of 76 -80 years.

Table 4

Occupational Status Vs Hemoglobin of the Women Respondents

Occupational Status	Normal	Mild	Moderate	Severe	Total
Farmer	13 (10.7)	50 (41.0)	59 (48.4)	-	**122(54.4)**
Daily wagers	9 (17.6)	14 (27.5)	26 (51.0)	2 (3.9)	**51 (22.8)**
Home makers	5 (14.7)	10 (29.4)	16 (47.1)	3 (8.8)	**34 (15.2)**
self employed	4 (33.3)	4 (33.3)	4 (33.3)	-	**12 (5.4)**
Sundry workers	-	5 (100.0)	-	-	**5 (2.2)**
Total	**31 (13.8)**	**83 (37.1)**	**105 (46.9)**	**5 (2.2)**	**224 (100.0)**

The association between the elderly-respondents' occupational status and hemoglobin is presented in Table 4. it shows that 41.0% of male were identified with mild anaemic, the majority of 48.4% of female were identified as moderate anaemic among farmer; 27.5%, 51.0% and 3.9% were identified as mild, moderate and severe anaemic in the daily wagers; 29.4%, 47.1% and 8.8% were identified as mild, moderate and severe anaemic in the home makers; Hence, it would be stated from the analysis that anaemic was observed among farmers, daily wagers and self-employed elderly-respondents.

Table 5

Monthly income Status Vs Hemoglobin of the Women Respondents

Monthly Income (in Rs.)	Normal	Mild	Moderate	Severe	Total
1000-3000/-	3 (9.0)	13 (39.3)	17 (51.5)	Nil	33 (14.7)
3001-6000/-	26 (17.2)	55 (36.4)	70(46.3)	Nil	151 (67.4)
6001-9000/-	1 (16.6)	Nil	5 (83.3)	Nil	6 (2.6)
No income	1 (2.9)	15 (44.1)	13(38.2)	5(14.7)	34(15.1)
Total	**31 (13.8)**	**83 (37.1)**	**105 (46.9)**	**5 (2.2)**	**224 (100.0)**

Table 5 reveals that 39.3% and 51.5% female were identified as mild and moderate anaemic in the monthly income of the Rs. 1,000-3,000/-, 36.4% and 46.3% female who were mild and moderate anaemic where in the income of Rs.3001-6000/-, 83.3% female in Rs. 6001-9000/- income category was found to be anaemic; 44.1%, 38.2% and 14.7% of home maker were found to be mild, moderate and severe anaemic.

CONCLUSION:

While concluding the present study the hemoglobin levels of the elderly respondents revealed that majority of male and female were with mild and moderate anemia respectively.

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