International Journal of Applied Home Science
Volume 6 (9-12), September - December (2019) : 285-291
Received : 01.09.2019; Revised : 01.10.2019; Accepted : 01.11.2019

RESEARCH PAPER
ISSN : 2394-1413
DOI: 10.36537/IJAHS/6.9-12/285-291

Comparative Study of Food and Nutrient Intake of Elderly People

VARSHA ZANVAR*[1] AND MADHURI REVANWAR[2]
[1]Assistant Professor and [2]SMS (Home Science)
[1]Department of Home Science, Shri Yoganand Swami Arts College, Basmath, Hingoli (M.S.) India
[2]Krishi Vigyan Kendra, Sagroli, Dist. Nanded (M.S.) India

ABSTRACT

The present study was aimed to assess the nutritional status of selected elderly population from urban, rural and tribal area of Nanded District of Marathwada region in Maharashtra. A total samples of 600 elderly each 200 urban, 200 rural and 200 tribal were selected for the study. Information of socio economic status was collected with the help of questionnaire method, data of food intake was recorded by using two day recall method and nutrient intake was calculated by using nutritive value of Indian food. Ten per cent elderly from each urban (20) and rural (20) were screened for blood haemoglobin level and further they were catagorized in to different levels of anaemia. Result showed that, 75 per cent elderly were belonging to age group of 60 to 70 years and 25 per cent were above 70 years, 53.5 per cent were female and 46.5 per cent were male and 62.5 per cent were vegetarian while 37.5 per cent were non vegetarian. The recorded values of intake of food stuffs by urban elderly were 266.52±72.27gm (cereals), 33.23±12.15 gm (pulses), 27.42±32.15 gm (green leafy vegetables), 48.05±34.48 gm (roots and tubers), 33.82±34.72 gm (other vegetables), 30.78±36.01 gm (fruits), 13.92±5.59 gm (fats and oil), 104.37±50.79 gm (milk and milk products) and 16.66±7.46 gm (sugar and jagerry), respectively. Intake of all food stuffs was found to be more among urban elderly as compared to rural and tribal elderly. Highest nutrient intake was recorded by elderly of 60 to 70 years of age, male elderly, vegetarian, elderly having high income and elderly retired from government job for all nutrients. Haemoglobin values were recorded more by urban elderly, elderly of 60 to 70 years of age, male elderly, retired government servant and elderly having high income as compared to their counterparts. Equal per cent of urban (22.50 %) and rural elderly (25 %) were suffering with mild and moderate grade of anaemia. Out of 40 elderly, only two elderly were found to be normal and non of the elderly were found under sever category of anaemia.

Key Words : Elderly, Food intake, Nutrient intake, Haemoglobin, Anaemia

INTRODUCTION

The elderly are one of the most vulnerable and high risk group in terms of health status in any society. With increase in life expectancy, the size of the geriatric population in India has gone from 20 million (1951) to 100 million (2014) and the number will rise to approximately 130 million by 2021 (Amonkar *et al.,* 2018). The functional capacity and health of the elderly depend to a greater extent on their nutritional status and food security. It is also evident from the available literature that average diet and nutrient intake of elderly were found to be deficient as compared to recommended daily allowances suggested for elderly. Diet plays an important role in the aging process. Many physical and mental problems of the older people may be prevented or cured by proper nutrition. Data regarding nutritional status of elderly are most needed for providing multiple facilities such as physical, social, economic, health and spiritual or emotional securities for wellbeing of elderly to have successful aging (Pawar and Nalwade, 2015). Nutritional requirements of aged are also affected due to changes in absorption, utilization and excretion of nutrients which are influenced by biological changes in old age. Such as decreased basal metabolism, body composition, body weight, diminished enzyme production, slow reflexes etc. In addition,

How to cite this Article: Zanvar, Varsha and Revanwar, Madhuri (2019). Comparative Study of Food and Nutrient Intake of Elderly People. *Internat. J. Appl. Home Sci.,* **6** (9-12) : 285-291.

complications such as osteoporosis and other bone problems which are common in old age also demand additional attention towards diet and nutritional requirements of elderly population (Revanwar, 2002). At the same time the requirements of major nutrients are reduced by 10 to 11 per cent in view of their reduced physical activity (Pasricha and Thimmayamma, 1998). Food and nutrient status of elderly directly influences on haemoglobin level among elderly and hence on prevalence of anaemia.

METHODOLOGY

Present study was conducted to assess various health related problems of elderly population residing in urban, rural and tribal area of Nanded district of Marathwada region of Maharashtra state, India. With the help of random sampling technique, total 600 elderly from rural (200), urban (200) and tribal (200) areas were selected for the study. Information of socioeconomic background of selected elderly was collected by personally interviewing the subjects with the help of predesigned questionnaire which include the information regarding age, sex, education, occupation, income, family type and family members etc. Food intake was assessed by two day recall method. The weight of raw foods used to prepare meals for the family and the corresponding weight of cooked foods were recorded. The weight of prepared food consumed by the subject was also recorded. From the recorded weight the food intake of the elderly was calculated. By using food consumption table of ICMR (Gopalan *et al.*, 2000) the nutrient intake of the elderly was calculated. To judge the extent of prevalence of anemia among elderly, blood sample was taken from 10 per cent rural and urban elderly by given finger prick. Haemoglobin content from the collected bold sample was determined by Cyanomethyloglobin method (Crossby *et al*., 1954). Based on the determined values of haemoglobin content in the blood of elderly they were classified into four groups (ICHS, 1986 and NCCS, 1994), as normal (>12 g Hb/dl of blood), and those having mild (>10-12 g Hb/dl of blood), moderate (7-10 g Hb/dl of blood) and sever (<7 g Hb/dl of blood) aneamia.

RESULTS AND DISCUSSION

Socio economic background of the selected elderly subjects residing in rural, urban and tribal area of Nanded district is given in Table 1. Elderly subjects belonging to the age group of 60-70 years were 75 per cent while 25 per cent elderly were above 70 years of age. Among selected elderly, 53.5 per cent were female and 46.5 per cent were male. Most the elderly (48.33%) were educated from primary to high school level followed by illiterate (41.83%). Majority of the subjects were vegetarian (62.5%) while only 37.5 per cent were non vegetarian by their food habits. Almost all (91.16%) elderly subjects were living with their family. Majority of the elderly (68.83%) were having nuclear family and

Table 1 : Socio economic background of the selected elderly subjects (n=600)

Socio economic factors	Frequency and Percentage
Area	
Urban	200 (33.33)
Rural	200 (33.33)
Tribal	200 (33.33)
Age	
60-70 yrs.	450 (75)
>70 yrs.	150 (25)
Sex	
Male	279 (46.5)
Female	321 (53.5)
Food habits	
Vegetarian	375 (62.5)
Non Vegetarian	225 (37.5)
Monthly income (Rs.)	
< 5000/-	197(32.83)
5000/- to 10,000/-	162(27.00)
> 10,000/-	241(40.16)
Occupation	
House wife	142 (23.66)
Farmers	334(55.66)
Government Service	66(11.00)
Private job/ business	58 (9.66)
Family size	
1 to 4 members	47(7.83)
<5 members	553(92.16)
Family type	
Joint	3 (0.5)
Nuclear	413 (68.83)
Extended	178(29.66)
Living alone	53)(8.83)
With family	547(91.16)
Education	
Illiterate	251(41.83)
Primary to High School	290(48.33)
Degree holders	59(9.83)

29.66 per cent elderly were having joint family. Further, 92.16 per cent were having more than 5 members in their family. Occupation of the 55.66 per cent studied elderly was farming while 23.66 elderly women were housewife, 31.33 per cent elderly were retired as government servant and 9.66 per cent subjects were either doing private job or business. Most of the selected elderly (40.16%) were having monthly income of Rs. >10,000/-. While, 32.83 per cent were having monthly income less than Rs. 5000/- and 27 per cent elderly were having monthly income in between Rs. 5000/- to 10,000/-.

Average food intake of selected elderly from various socioeconomic backgrounds is presented in Table 2. It is evident from the table that, average intake of cereals, pulses, green leafy vegetables, roots and tubers, other vegetables, fats and oil, milk and milk products and sugar and jaggery by elderly from urban area was more *i.e.* 266.52±72.27 gm, 33.23±12.15 gm, 27.42±32.15 gm, 48.05±34.48 gm, 33.82±34.72 gm, 13.92±5.59 gm, 104.37±50.79 gm and 16.66±7.46 gm, respectively followed by rural area. While very less consumption of these food stuffs was found among tribal elderly. However, as compared to urban (30.78±36.01 gm) and tribal (17.69±27.67 gm) elderly, intake of fruits was found more by elderly of rural area (35.05±39.06 gm). Whereas, intake of various food stuffs by elderly male ranged from 10.31±5.68 gm (fats and oil) to 229.15±77.67 gm (cereals) and by elderly female ranged from 9.69±5.14 (fats and oil) to 176.62±66.89 gm (cereals). Almost all food stuffs were found to be consumed more by elderly male than female. Age wise consumption of various food stuffs noted that, except milk and milk products all other foods were consumed more in age group of 60 to 70 years

Table 2 : Average food intake of selected elderly from different socio economic background (n=600)

Socio economic factors	Food groups (Mean ±SD)								
	Cereals	Pulses	Green leafy vegetables	Roots and tubers	Other vegetables	Fruits	Fats and oil	Milk and products	Sugar and jaggery
Area									
Urban (200)	266.52±72.27	33.23±12.15	27.42±32.15	48.05±34.48	33.82±34.72	30.78±36.01	13.93±5.59	104.37±50.79	16.66±7.46
Rural(200)	226.61±76.48	18.01±10.36	20.42±29.54	44.8±32.62	18.71±29.30	35.05±39.06	10.83±5.08	63.82±47.52	14.62±7.966
Tribal(200)	163.47±44.97	31.66±14.05	3.91±10.36	12.41±19.95	3.93±12.63	17.69±27.67	7.23±2.39	5.985±13.50	17.11±8.09
Sex									
Male (279)	229.15±77.67	29.48±14.33	18.45±30.36	36.91±34.61	18.88±30.09	27.86±36.76	10.31±5.68	63.53±61.53	16.75±8.09
Female(321)	210.11±78.18	26.02±13.62	16.25±25.15	33.6±32.98	18.82±29.62	27.90±34.07	10.98±4.98	53.46±53.29	15.60±7.71
Age									
60 – 70 years (450)	231.37±77.29	28.54±14.31	17.94±28.38	35.31±33.90	19.20±30.10	28.65±36.14	10.92±5.35	54.05±54.62	16.20±7.89
>70 years (150)	176.62±66.89	24.62±12.89	15.25±25.54	33.25±33.23	17.33±28.30	25.75±33.59	9.69±5.14	68.74±63.73	15.93±8.11
Income									
Rs.<5000/- (197)	172.04±55.89	29.09±14.38	5.88±14.96	19.41±28.14	4.91±15.74	21.72±31.51	7.50±2.76	14.72±27.62	16.58±8.12
Rs.5000 – 10000/-(162)	224.81±79.06	21.65±11.54	19.32±28.04	40.70±27.37	19.99±27.06	32.84±34.06	10.68±3.92	54.52±39.92	14.82±7.84
Rs.>10000/- (241)	262.31±71.13	29.10±14.03	27.68±32.58	48.01±35.30	32.18±35.08	31.64±38.45	13.84±5.92	103.12±52.04	16.25±7.68
Food habits									
Vegetarian (375)	230.88±81.50	26.95±14.15	20.50±29.20	38.10±33.38	23.68±32.12	29.21±36.37	11.67±5.68	72.93±60.16	15.21±8.04
Non vegetarian (225)	198.25±68.29	28.80±13.80	11.67±23.91	29.90±33.86	10.48±23.11	25.48±33.37	8.94±4.11	32.55±41.61	17.71±7.41
Occupation									
House wife (142)	233.64± 9.21	27.77± 4.21	19.73± 4.63	43.37± 5.77	28.9± 32.85	28.10± 3.83	12.59± .67	83.73± 54.8	15.21± 7.45
Farmers (334)	191.91± 7.22	26.71± 3.93	11.14±23.75	27.28± 1.55	9.34± 21.61	26.18± 4.99	8.55± 3.75	30.14± 42.04	16.52± 8.04
Government service (66)	281.13± 9.43	32.33± 5.32	35.66± 9.83	44.31± 4.55	36.51± 7.80	30.84± 5.17	14.62± .96	115.15± 53.86	15.83± 8.52
Private service (58)	267.06± 74.8	27.24± 11.8	25.36± 7.38	49.22± 8.54	28.62± 2.58	33.31±40.65	13.60±5.76	91.03± 50.29	16.44± 7.41

which ranged from 10.92±5.35 gm (fats and oil) to 231.37±77.29 (cereals). While, intake by elderly of >70 years ranged from 9.69±5.14 (fats and oil) to 176.62±66.89 (cereals). Further it is observed from the table that, income of the family influences on consumption of different foods.. It was almost same in low and high income group. When considered income wise, it is observed from the table that, elderly belonging to high income group had more consumption of cereals, green leafy vegetables, roots and tubers, other vegetables, fats and oil and milk and milk products *i.e.* 262.31±71.13 gm, 27.68±32.58 gm, 48.01±35.30 gm, 32.18±35.08 gm, 13.84±5.92 gm and 103.12±52.04 gm, respectively. As per food habit, when consumption of foods was studied, it is noticed that, except pulses and sugar and jaggery, all other food stuffs intake was found to be consumed more by vegetarian elderly than non vegetarian elderly. The intake of pulses, fruits and sugar was almost same among two groups. Intake of cereals, pulses, green leafy vegetables, other vegetables, fats and oil, milk and milk products were consumed more by elderly retired as government servant *i.e.* 281.13±69.43 gm, 32.33±15.32 gm, 35.66±39.83 gm, 36.51±37.80 gm, 14.62±5.96 gm and 115.15±53.86 gm, respectively.

Average nutrient intake of selected elderly from different socio economic categories is described in Table 3. It is evident from the table that, average intake of protein, carbohydrate, fat, energy, iron, calcium, phosphorus and vitamin C was more by elderly residing in urban area (*i.e.* 42.21±9.74 gm, 252.94±57.15 gm, 28.51±7.94 gm, 1455.26±314.80 kcal, 15.20±6.30 mg, 440.88±152.65 mg, 964.22±265.40 mg, and 37.65±27.96 mg, respectively) followed by rural (31.54±10.49 gm, 207.82±59.85 gm, 20.40±8.34 gm, 1151.72±341.46 kcal, 12.21±6.42 mg, 309.55±136.63 mg, 735.23±278.73 mg, and 25.96±21.93 mg, respectively). When compared among male and female elderly, average intake of all nutrients was found to be more by elderly male than female, which ranged from 12.35±6.12 mg (iron) to 1197.12±378.79 kcal (energy) in male and 11.52±6.08 mg (iron) to 1110.88±382.87 kcal (energy) in female, respectively. Further when seen age wise consumption

Table 3 : Average nutrient intake of selected elderly from different socio economic status (n=600)

Socio economic factors	Nutrients (Mean ±SD)							
	Protein(gm)	CHO (gm)	Fat (gm)	Energy(kcal)	Iron (mg)	Calcium (mg)	Phosphorus (mg)	Vitamin C (mg)
Area								
Urban (200)	42.21 ± 9.74	252.94±57.15	28.51 ± 7.94	1455.26 ± 314.80	15.20 ± 6.30	440.88 ±52.65	964.22 ±65.40	37.65 ± 27.96
Rural(200)	31.54 ± 10.49	207.82 ± 9.85	20.40 ± 8.34	1151.72 ± 341.46	12.21 ± 6.42	309.55 ±36.63	735.23 ±78.73	25.96 ± 21.93
Tribal(200)	25.40 ± 6.86	159.97±38.32	11.50 ± 3.26	845.96 ± 198.74	8.31 ± 2.72	120.08 ± 9.03	519.69±167.3	8.04 ± 6.07
Age								
60 – 70 yrs (450)	34.70 ± 11.13	217.50±63.44	20.49 ± 9.80	1202.25 ± 376.78	12.79 ± 6.19	289.94 ±76.75	778.00 ±99.77	24.10 ± 23.72
>70 yrs(150)	28.02 ± 11.16	174.58±58.34	19.06 ± 9.76	994.34 ± 360.72	9.24 ± 5.03	289.42 ±86.73	623.45 ±82.24	23.18 ± 25.30
Sex								
Male (279)	34.69 ± 11.23	216.19±63.42	20.29±10.15	1197.12 ± 378.79	12.35 ± 6.12	308.09 ±87.14	778.45 ±01.64	25.25 ± 27.31
Female(321)	31.62 ± 11.54	198.83±65.10	20.01 ± 9.48	1110.88 ± 382.87	11.52 ± 6.08	274.6 ±170.76	706.04±299.6	22.70 ± 20.86
Food habits								
Vegetarian(375)	35.11 ± 11.97	217.46±67.43	22.70±10.18	1227.23 ± 397.35	12.82 ± 6.49	336.10±182.6	794.38±312.2	28.47 ± 26.13
Non vegetarian (225)	29.74 ± 9.95	189.63±56.39	16.01 ± 7.66	1026.97 ± 324.08	10.43 ± 5.10	215.55±145.9	651.73±265.1	16.59 ± 18.50
Income								
Rs.<5000/-(197)	25.18 ± 7.00	159.22±39.69	11.68 ± 3.83	844.32 ± 210.55	8.25 ± 2.85	128.41 ±66.12	520.59±177.9	9.06 ± 8.81
Rs.5000–10000/-(162)	30.97 ± 9.86	204.20±60.20	18.69 ± 6.25	1117.79 ± 322.78	12.00 ± 6.17	271.65±123.3	705.85±259.1	20.70 ± 16.91
Rs.>10000/-(241)	40.87 ± 10.44	247.70±56.89	28.02 ± 8.87	1423.96 ± 327.76	14.83 ± 6.44	434.85±153.7	941.59±276.3	38.14 ± 28.32
Occupation								
House wife (142)	36.04± 12.10	221.95±66.51	24.83± 9.97	1269.27± 391.37	13.27± 6.62	357.25±163.7	819.75±306.7	29.72± 23.46
Farmers(334)	28.20± 8.78	182.67±54.96	15.05± 6.52	984.19± 302.94	9.92± 4.71	202.39±135.8	611.06±232.5	15.13± 15.77
Government service(66)	45.09± 8.88	261.71±49.71	30.02± 8.09	1517.37± 281.67	16.72± 6.80	498.79±162.6	1050.61±257.4	44.90± 33.18
Privat service(58)	39.95± 10.44	247.26±60.46	26.73± 8.69	1404.92± 343.28	14.57± 6.29	394.05±124.0	930.87±274.6	36.06± 28.86

of various nutrients, except calcium, all other nutrients was consumed more by elderly aged between 60 to 70 years. The average intake of protein, carbohydrates, fat and energy were 34.70±11.13 gm, 217.50±63.44 gm, 20.49±9.80 gm and 1202.25±376.78 kcal, respectively and intake of iron, calcium, phosphorus and vitamin C were 12.79±6.19 mg, 289.94±176.75 mg, 778.00±299.77 mg and 24.10±23.72 mg, respectively by elderly of 60 to 70 years of age. Almost equal intake of calcium (289.94±176.75 mg and 289.42±186.73 mg) was noted in both age groups. Further it was observed that, income of the family influences on consumption of nutrients. As income of family increases intake of nutrients also increases. When observed critically, elderly belonging to high income group had more intake of all nutrients *i.e.* protein (40.87±10.44 gm), carbohydrate (247.70±56.89 gm), fat (28.02±8.87 gm), energy (1423.96±327.76 kcal), iron (14.83±6.44 mg), calcium (434.85±153.75 mg), phosphorus (941.59±276.39 mg), and vitamin C (38.14±28.32 mg) followed by middle income group (30.97±9.86 gm, 204.20±60.20 gm, 18.69±6.25 gm, 1117.79±322.78 kcal, 12.00±6.17 mg, 271.65±123.33 mg, 705.85±259.12 mg, and 20.70±16.91 mg, respectively). While very low intake of all nutrients was noted among elderly of low income group. However when compared as per food habit, it was observed that, all nutrients intake was found to be more by vegetarian elderly than non vegetarian elderly. The study conducted by Zanvar and Dhutmal (2019) also reported the deficiency of some nutrient intake among women of age group 40 to 60 yrs in Marathwada region.

Table 4 presents the data on haemoglobin content of blood among selected elderly subjects. For this estimation of blood haemoglobin, 10 per cent each elderly were selected from urban (20) and rural (20) area only. It is evident from the table that, haemoglobin content of elderly from urban and rural was 9.09±1.07 and 8.81±1.05. Though the difference was noted among two areas it was found to be non significant. Further, the haemoglobin content of elderly of two age groups was noted, non significant difference was observed with more haemoglobin content among elderly of 60 to 70 years (9.04±1.07) than elderly of > 70 years (8.43±1.01). The haemoglobin content of elderly male (9.86±0.62) was found to be more than elderly female (8.12±0.58) with statistically significant difference. Contrary, when occupation of elderly was considered, though the difference was noted for haemoglobin values among all occupations, but values were non significant. Further it is reported from the table that, income of the family shows impact on haemoglobin values. Comparatively, elderly from low income group shows significantly low haemoglobin content (7.90±00) than elderly from high income group (9.08±0.96). vegetarian elderly shows more haemoglobin values (8.99±1.02) than non vegetarian elderly (8.82±1.23) but difference was non significant.

Table 4 : Haemoglobin content of blood among selected elderly subjects from different socio economic status (n=40)

Socio economic factors	Hemoglobin (mean ± SD)	't' values
Area		
a. Rural	8.81±1.05	NS
b. Urban	9.09±1.07	
Age(yrs)		
a. 60 – 70	9.04±1.07	NS
b. >70	8.43±1.01	
Sex		
a. Male	9.86±0.62	10.23**
b. Female	8.12±0.58	
Food habits		
a. Vegetarian a	8.99±1.02	NS
b. Non vegetarian b	8.82±1.23	
Income (Rs.)		
a. <5000/-	7.9 ±00	NS (a vs b)
b. 5000 – 10,000/-	8.64±1.33	6.94** (a vs c)
c. <10,000/-	9.08±0.96	NS (b vs c)
Occupation		
a. House wife	8.17±0.64	NS (a vs b)
b. Farmer	9.04±2.82	NS (a vs c)
c. Government job	9.73±2.53	NS (a vs d)
d. Private job	9.11±2.07	NS (b vs c)
		NS (b vs d)
		NS (c vs d)

Prevalence of aneamia in selected elderly subjects belonging to different socio economic groups is presented in Table 5. Thus 40 elderly each from urban (20) and rural (20) area (10 %) were selected for the screening of aneamia on the basis of haemoglobin content of blood. Further they were categorized under different grades of aneamia. It is evident from table that, the equal per cent of urban (22.50 %) and rural (25 %) elderly were suffering with mild and moderate grade of aneamia. Maximum elderly of 60 to 70 years of age group were suffering mild (35 %) and moderate (37.5 %) grade of aneamia. However, 37.50 per cent elderly male were suffering

Table 5 : Prevalence of anemia in selected elderly subjects belonging to different socio economic status (n=40)

Particulars	Normal >11.0	Mild 8.9-10.9	Moderate 6.6-8.8	Sever <6.5
Area				
Urban (200)	2 (5.00)	9 (22.50)	9 (22.50)	00
Rural(200)	00	10 (25.00)	10 (25.00)	00
Age (years)				
60 – 70(450)	2 (5.00)	14 (35.00)	15 (37.5)	00
>70(150)	00	5 (12.5)	4 (10.00)	00
Sex				
Male (279)	2 (5.00)	15 (37.50)	2 (5.00)	00
Female(321)	00	4 (10.00)	17 (42.50)	00
Food habits				
Vegetarian(375)	1 (2.50)	17 (42.50)	13 (32.50)	00
Non vegetarian(225)	1 (2.50)	2 (5.00)	6 (15.00)	00
Income (Rs.)				
<5000/-(197)	00	2 (5.00)	2 (5.00)	00
5000 – 10000/-(162)	00	2 (5.00)	4 (10.00)	00
>10000/-(241)	2 (5.00)	15 (37.50)	13 (32.50)	00
Occupation				
House wife(142)	00	2 (5.00)	10 (25.00)	00
Farmers(334)	00	5 (12.50)	4 (10.00)	00
Government service(66)	1 (2.50)	5 (12.50)	4 (10.00)	00
Private service(58)	1 (2.50)	7 (17.50)	1 (2.50)	00

with mild grade of aneamia. While 42.50 per cent female suffering with moderate grade of aneamia. Surprisingly it was also noted that, majority of elderly belonging to high income group was suffering with mild and moderate grade of aneamia (32.50 to 37.50 %). Further it was also noted from the table that, majority of housewife were found to be suffering with moderate grade of aneamia followed by the elderly belonging to private service category. In the nutshell, it can be concluded from table that, elderly female followed by vegetarian elderly of 60 to 70 years of age groups and those who were belonging to high income group were found to be suffering with moderate grade of aneamia. Very few (only 2) elderly were observed as normal. However, none of the elderly were in the category of sever grade of aneamia. Majority of women of age group 20 to 60 plus were found to be anemic but very few were in the severe grade of anemia (Zanvar and Dhutmal, 2019).

Conclusion:

Socio economic status revealed that, out of total 600 elderly subjects 279 (46.5%) were male and 321 (53.5%) were female. However, 75 per cent elderly were belonging to 60 to 70 years age group and vegetarian (62.5 %). Majority were having monthly income Rs. 10000/- (40.16 %) and were involved in farming occupation. Almost all (91.16 %) elderly subjects were living with their family. Intake of cereals, pulses, green leafy vegetables, fats and oil, milk and milk products and sugar and jagerry by elderly from urban area was found to be more than rural and tribal elderly. Except fruits consumption, all other food stuffs was consumed significantly more among urban elderly, while lower consumption was noted among tribal elderly. Elderly male recorded more intake of almost all food stuffs but less than recommended dietary allowances. Nutrient intake by elderly of 60 to 70 years of age, elderly male, vegetarian, elderly having high income and government job elderly recorded highest values for almost all nutrients. Haemoglobin content of blood of selected elderly ranged from 7.9 ± 00 to 9.73 ± 2.52. On the basis of haemoglobin content elderly were categorized under different grades of anaemia which shows that, equal per cent of urban (22.50 %) and rural elderly (25 %) were suffering with mild and moderate grade of anaemia. However, 2.5 to 42.50 per cent elderly were suffering with mild or moderate grade of anaemia among different socio economic background. Out of 40 elderly, only two elderly

were found to be normal and non of the elderly were found under sever category of anaemia.

Acknowledgement:

We are specially thankful to elderly people from urban, rural and tribal elderly people from Nanded district of Marathwada region for their support and cooperation while collecting data.

REFERENCES

Amonkar, P., Mankar, M.J., Thatkar, P., Sawardekar, P., Goel, R. and Anjenaya, S. (2018). A comparative study of health status and quality of life of elderly people living in old age homes and within family setup in Raigad District, Maharastra. *Ind. J. Community Medicine*, **43**(1):10-13.

Crossby, W.H., Mann, J.L. and Furth, F.W. (1954).Standardizing a method for clinical Haemoglobinometry U.S., Armed Foce. *Medical J.*, **5** : 693-696.

Gopalan, C., Ramashastri, B.V. and Balasubramanin, S.C. (2004). Nutritive Value of Indian Foods. NIN, ICMR.

Pawar, C. and Nalawade, V. (2015).Food consumption pattern and nutrient intake of elderly. *Food Sci. Res. J.,* **6** (2): 215-219.

Pasricha, S. and Thimmayamma, B.V.S. (1992).Dietary tips for the elderly. National Institute of Nutrition.

Revanwar, M.S. (2002). Assessment of nutritional status of elderly with special reference to calcium. Thesis (M.Sc). submitted to Dept. of Food and Nutrition, College of Home Sci. Marathwada Agriculture University, Parbhani, Maharashtra, India.

Zanvar, Varsha S. and Dhutmal, Pradnya (2019). Influence of socio economic parameters on food and nutrient intake. *Internat. J. Home Sci.*

Zanvar, Varsha S. and Dhutmal, Pradnya (2019). Hematological status of selected women in Marathwada region. *Asian J. Sci. & Technol.,* **10** (3) : 9567-9570.

****