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Demographic profile and health status of selected elderly

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Abstract
Present study was conducted to assess the health status of selected elderly people. Total 600 elderly were selected from urban (200), rural (200) and tribal (200) area of Nanded District of Marathwada region. Information of socio economic status, commonly observed health problems and health diseases among elderly population was collected with the help of interview schedule and using check list. Anthropometric measurements were measured and BMI was calculated. Result of the study revealed that, 75 percent elderly were belonging to age group of 60 to 70 years and 25 percent were above 70 years. Among selected elderly, 53.5 percent were female and 46.5 percent were male. Majority of the subjects were vegetarian (62.5%) while 37.5 percent were non vegetarian. Anthropometric measurements like mean height, weight and BMI of selected elderly subjects ranged from 150.84±7.5 to 163.49±7.65 cm., 45.47±9.58 to 63.34±8.31 kg. and 19.44±2.61 to 23.58±3.03 respectively. While, health problems like leg pain, eye problem, headache and anorexia (ranged from 5.5 to 86.80 %) and health diseases like diabetes mellitus, heart diseases, hyper tension, cancer and liver problems were more prevalent among selected elderly people (ranged from 0.70 to 25.75 %). Prevalence of various problems were higher among tribal elderly. It was also noted more among female elderly and elderly above age 70 years.

Keywords: Elderly, health problems, diseases, health status

Introduction
The elderly are one of the most vulnerable and high risk group in terms of health status in any society. Remarkable advances in the medical science and improvement in socioeconomic conditions has led to the most striking change in the demography of the world towards aging process. The term aging is often applied to people of age 60 and older. In human life cycle, later part of adult hood is generally referred as elderly or old age. Elderly are the people above age of 60 years. However, after crossing age of 45 years, many people come to the opinion, that the process of old age has initiated in their life. In India, the elderly aged 60 and above comprised approximately 8 percent of the total population (Shah, 2004) [6] and 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) [1]. In old age, muscle looses size and strength, which can contribute to fatigue, weakness and reduced tolerance to exercise. This is caused by number of factors working in combination including muscle fibres reduce in number and shrink in size, muscle tissue is more slowly and lost muscle tissue is replaced with a tough, fibrous tissue. With aging, skin becomes less flexible, thinner, and fragile (Revanwar M. 2002) [3]. Easy bruising is noticeable and wrinkles, age spots and skin tags may become more apparent. Most common is the hormonal control of blood sugar and carbohydrate metabolism leading to diabetes. Blood cells that fight infections become less effective leading to more frequent infections. Overall body resistance for various health problems less and hence elderly become more susceptible for any problems and disease. Considering the fact, present study was conducted to find out health status of selected elderly from Nanded District of Marathwada zone.

Material and methods
Present investigation was conducted to assess health status of elderly comprised of anthropometric measurements, health related problems and commonly prevalent health diseases among elderly population residing in urban, rural and tribal area of Nanded district of

Marathwada region of Maharashtra state, India. Total 600 elderly from urban (200), rural (200) and tribal (200) areas were selected for the study with the help of random sampling technique. Information of socioeconomic background of selected elderly was collected by personally interviewing the subjects with the help of predesigned questionnaire. Anthropometric measurements like weight, height was recorded by using standard methods and procedure (Jelliffee, 1966) [2] and BMI was calculated by given formula. Commonly observed health problems and diseases among elderly population were also collected with the help of interview schedule and checklist of the problems.

Results and discussion

Data on socio economic background of the selected elderly subjects residing in rural, urban and tribal area of Nanded district is presented in Table 1. It is evident from the table that, 75 percent elderly were belonging to age group of 60 to 70 years and 25 percent were above 70 years. Among selected elderly, 53.5 percent were female and 46.5 percent were male. Majority of the subjects were vegetarian (62.5%) while 37.5 percent were non vegetarian. However, the selected elderly (40.16%) were having monthly income of Rs. >10,000/- followed by 32.83 and 27 percent were having monthly income less than Rs. 5000/- and in between Rs. 5000/- to 10,000/-. Further 55.66 percent elderly were involved in farming as their prime occupation. Whereas, 23.66 percent elderly women were housewife, 31.33 percent elderly were retired as government servant. Whereas, 9.66 percent subjects were either doing private job or business. Almost all (92.16%) subjects lived with family having more than 5 members in the family. However, 91.16 percent elderly subjects were living with their family, only 8.83 percent were living alone. Majority of the elderly (68.83%) were having nuclear family and 29.66 percent elderly were belonging to joint family. Whereas, 48.33 percent were educated from primary to high school level and 41.83 percent were illiterate and 9.83 percent elderly were degree holders.

The anthropometric measurement of elderly subjects from different socio economic categories is described in Table 2. It is evident from the table that among all socio economic factors, mean height, weight and BMI of selected elderly subjects ranged from 150.84±7.5 to 163.49±7.65 cm., 45.47±9.58 to 63.34±8.31 kg. and 19.44±2.61 to 23.58±3.03 respectively. When noted area wise, urban elderly were having somehow more height (159.95±13.24cm) than rural and tribal elderly subjects (157.09±12.7cm and 150.95±7.8 cm respectively). Similarly, the height of elderly above age 70 years was found more (157.69±10.34) than elderly of age 60 to 70 years (155.4±12.59). On the contrary, the weight (53.1±10.62) and BMI (21.53±3.48) was noted more in age group of 60 to 70 years. Gender wise data showed that, height (160.93±11.8 cm), weight (56.02±10.43 kg) and BMI (21.34±3.25) was greater in elderly male than female. Further it was noted that, elderly who were following vegetarian diet pattern were reported more height (156.44±13.70 cm), weight (53.80±11.28 kg) and BMI (21.56±3.45) as compared to non-vegetarian elderly. Income wise distribution of elderly showed that, height, weight and BMI was higher in elderly of income group Rs. > 10000/- (159.69±12.30, 59.13±9.78 and 22.86±3.53). While lowest value were noted in income group of Rs. < 5000/-. Elderly who were retired as a government servant reported highest values for all the measurements followed by elderly of private service and house wife. While lowest values for weight (48.80±10.19) and BMI (20.15±2.99) was recorded among farmers. However, height of the elderly housewife and farmers was almost same. In the nutshell it can be concluded from the table that, the male elderly in age group of > 70 years, elderly having income Rs. > 10000/- and vegetarian elderly had better height than their counterparts. Similar trend was noted for weight and BMI.

Commonly observed health problems among selected elderly subjects as per socio economic status is presented in Table 3. It is evident from the table that, majority of the elderly residing in tribal area were suffering from leg pain (84.5%), eye problems (78.5%), headache (72%), anorexia (62%), sleeplessness (60.5%), as compared to elderly residing in rural and urban area. Data on gender wise health problems indicated that, leg pain (61.68%), eye problem (52.02%), headache (43.30%), anorexia (29.90%), and weakness (25.54%) were higher in elderly female than elderly male. Health problems like eye problem (63.33%), leg pain (62%), sleeplessness (54%), weakness (50.66%), impairment in hearing (49.33%), loss of teeth (38.66%) and dry skin (35.33%) were more common among elderly above age 70 years than elderly aged 60-70 years. whereas, headache (40%), spondilities (19.55%) was more among elderly of 60-70 years. Income of elderly subjects was also affected on the health problems. Prevalence of headache (68.52%), leg pain (86.80), eye problem (75.12%), sleeplessness (59.89%), anorexia (57.36), loss of teeth (52.79%), dry skin (52.28%), heart burn (38.57%), weakness (30.45%), spondilities (28.42%) observed more among elderly belonging to low income group than middle and high income group. Further it is also noted that, leg pain (66.66%), eye problems (62.66%), headache (45.33%), sleeplessness (43.55%), anorexia (36.44%) and weakness (23.55%) was more prevalent in non-vegetarian elderly subjects. Most of the health problems were found to be more among farming community as compared to other counterparts. While, very less health problems were observed in elderly subjects who were retired government personnel. The result mentioned by Revanwar and Zanvar (2019) [4, 5] are in line with the present reported result.

Commonly observed health diseases among selected elderly subjects of different socio economic status is given in Table 4. It is evident from the table that, elderly residing in urban area, were more prevalent with diabetics mellitus (18%) and hyper tension (18%). While one or other type of cancer was found in 2.5 percent rural elderly and liver problem was prevalent in tribal elderly (2%). Further when observed among gender wise it was seen that, hyper tension (12.90%), heart disease (6.45%) was more common among elderly male and diabetis mellitus was slightly more in elderly female (11.52%). However, it is also noticed that diabetes mellitus (18.25%), hyper tension (16.18%) was increased as monthly family income increased up to Rs.>10,000/-. Whereas, 14.66 percent vegetarian reported diabetes mellitus followed by hyper tension. It is also reported that, diabetes mellitus was more prevalent among elderly who were retired as government officials (25.75%) followed by housewife (17.60%) and private service holders (15.51%). Hyper tension was next most prevalent diseases among elderly from various occupations. Contrary, farmer elderly were less prevalent for all diseases as compared to the elderly of other occupation.

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

Socio economic factors	Frequency and Percentage
Area	
Rural	(200) 33.33
Urban	(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

Figures in parenthesis indicates frequencies

Table 2: Mean anthropometric measurements of selected elderly from different socio economic status (n=600)

Socio economic factors	**Anthropometric measurements** (Mean ±SD)		
	Height (cm)	**Weight (kg)**	**BMI(kg/m2)**
Area			
Urban (200)	159.95±13.24	59.99±9.62	23.02±3.60
Rural (200)	157.09±12.7	52.65± 9.8	21.10±3.39
Tribal (200)	150.95±7.8	45.47±9.58	19.44±2.61
Age (Years)			
60 – 70 (450)	155.4 ± 12.59	53.1 ± 10.62	21.53 ± 3.48
>70 (150)	157.69 ± 10.34	51.45 ± 13.18	20.14 ± 3.50
Sex			
Male (279)	160.93 ± 11.8	56.02 ± 10.43	21.34 ± 3.25
Female (321)	151.71 ± 10.64	49.82 ± 11.31	21.04 ± 3.77
Food habits			
Vegetarian (375)	156.44 ± 13.70	53.80 ± 11.28	21.56 ± 3.45
Non vegetarian (225)	155.25 ± 8.77	50.87 ± 11.20	20.56 ± 3.61
Income (Rs.)			
<5000/-(197)	150.84± 7.5	45.5± 10.05	19.48± 2.88
5000 – 10000/-(162	156.74 ± 14.01	51.91 ± 9.23	20.77 ± 3.14
>10000/-(241)	159.69 ± 12.30	59.13 ± 9.78	22.86 ± 3.53
Occupation			
House wife (142)	154.19 ± 14.05	54.09 ± 10.48	22.16 ± 4.10
Farmers (334)	154.41 ± 8.30	48.80 ± 10.19	20.15 ± 2.99
Government service (66)	163.49 ± 7.65	63.34 ± 8.31	23.58 ± 3.03
Private service (58)	160.84 ± 21.48	59.43 ± 10.70	22.04 ± 3.37

Table 3: Commonly observed health problems among selected elderly subjects from different socio economic status (n=600)

Socio economic status	Headach	Leg pain	Eye problem	Sleepless ness	Constipation	Indigestion	Impairment of hearing	Weakness
Area								
Rural (200)	(52)26	55.5 (111)	47 (94)	26.5 (53)	4.5 (9)	3 (6)	18.5 (37)	13 (26)
Urban (200)	14.5 (29)	37 (74)	20.5 (41)	19.5 (39)	3.5 (7)	4.5 (9)	15.5 (31)	11.5 (23)
Tribal (200)	72 (144)	84.5 (169)	78.5 (157)	60.5 (121)	15 (30)	22 (44)	21.5 (43)	29.5 (59)
Age yrs								
60-70 (450)	40 (180)	58.22 (262)	44 (198)	29.55 (133)	8 (36)	10.66 (48)	8.22 (37)	16 (72)
>70 (150)	30 (45)	62 (93)	63.33 (95)	54 (81)	6.66 (10)	7.33 (11)	49.33 (74)	50.66 (76)
Sex								
Male (279)	31.54 (88)	56.27 (157)	45.16 (126)	35.48 (99)	5.73 (16)	8.24 (23)	17.56 (49)	9.31 (26)
Female (321)	43.30 (139)	61.68 (198)	52.02 (167)	35.20 (113)	9.34 (30)	11.21 (36)	19.31 (62)	25.54 (82)
Income								
<5000/-(197)	68.52 (135)	86.80 (171)	75.12 (148)	59.89 (118)	15.22 (30)	21.82 (43)	21.82 (43)	30.45 (60)
5000 to 10000/-(162)	30.24 (49)	51.23 (83)	48.76 (79)	28.39 (46)	6.17 (10)	2.46 (4)	19.75 (32)	15.43 (25)
>10000/-(241)	17.01 (41)	41.49 (100)	26.97 (65)	20.33 (49)	2.48 (6)	4.97 (12)	14.93 (36)	9.54 (23)
Food habits								
Vegetarian(375)	33.06 (124)	54.93 (206)	40 (150)	31.46 (118)	9.86 (37)	10.13 (38)	18.66 (70)	14.4 (54)
Non vegetarian(225)	45.33 (102)	66.66 (150)	62.66 (141)	43.55 (98)	3.55 (8)	8.88 (20)	18.66 (42)	23.55 (53)
Occupation								
House wife (142)	22.53(32)	52.81(75)	38.02(54)	29.57(42)	4.92(7)	4.92(7)	21.12(30)	16.19(23)
Farmer(334)	51.49(172)	70.95(237)	63.77(213)	44.01(147)	10.17(34)	13.77(46)	18.86(63)	21.55(72)
Government job	16.66(11)	30.30(20)	24.24(16)	18.18(12)	3.03(2)	7.57(5)	13.63(9)	7.57(5)
Private job	17.24(10)	37.93(22)	15.51(9)	20.68(12)	5.17(3)	1.72(1)	15.51(9)	13.79(8)

Table 4: Commonly observed health diseases among selected elderly subjects (n=600)

Socio economic status	Diabetes mellitus	Heart diseases	Hyper tension	Cancer	Liver problem
Area					
Rural (200)	24(12.00)	6(3.00)	13(6.50)	5(2.50)	1(0.50)
Urban (200)	36(18.00)	9(4.50)	36(18.00)	3(1.50)	3(1.50)
Tribal (200)	8(4.00)	7(3.50)	8(4.00)	0 (0)	4(2.00)
Age yrs					
60-70 (450)	51(11.33)	15(3.33)	43(9.55)	6(1.33)	6(1.33)
>70 (150)	17(11.33)	7(4.66)	14(9.33)	2(1.33)	2(1.33)
Sex					
Male (279)	30(10.75)	18(6.45)	36(12.90)	5(1.79)	6(2.15)
Female (321)	37(11.52)	4(1.24)	22(6.85)	3(0.93)	2(0.62)
Income					
<5000/-(197)	10(5.07)	6(3.04)	9(4.56)	2(1.01)	0 (0)
5000 to 10000/-(162)	14(8.64)	4(2.46)	9(5.55)	1(0.61)	5(3.08)
>10000/-(241)	44(18.25)	12(4.97)	39(16.18)	5(2.07)	3(1.24)
Food habits					
Vegetarian(375)	55 (14.66)	12 (3.20)	42 (11.20)	8 (2.13)	4 (1.06)
Non vegetarian(225)	13 (5.77)	10 (4.44)	15 (6.66)	0(0)	4 (1.77)
Occupation					
House wife(142)	25(17.60)	0 (0)	12(8.45)	1(0.70)	1(0.70)
Farmer (334)	17(5.08)	16(4.79)	18(5.38)	3(0.89)	6(1.79)
Government job(66)	17(25.75)	2(3.03)	15(22.72)	2(3.03)	1(1.51)
Private job (58)	9(15.51)	4(6.89)	12(20.68)	2(3.44)	0 (0)

Figures in parenthesis indicates percentages

Conclusion

Most of the elderly (75%) were belonging to 60-70 years of age. Among selected elderly, 53.5 percent were female and 46.5 percent were male. Majority of the subjects were vegetarian (62.5%) while 37.5 percent were non vegetarian. Gender wise anthropometric data showed that, height (160.93±11.8 cm), weight (56.02±10.43 kg) and BMI (21.34±3.25) was greater in elderly male than female. Most of the elderly were suffering from leg pain, headache, eye problem, anorexia, sleeplessness, dry skin, and general weakness. Among different areas, majority of tribal elderly were suffering with different health problems like leg pain (84.5%), eye problem (78.5%), headache (72%), anorexia (62%) and sleeplessness (60.5%) followed by rural and urban elderly subjects. Health diseases among elderly like diabetes mellituss, heart diseases, hyper tension, cancer and liver problems were also noted more among elderly female and elderly having high income level.

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