HEALTH STATUS OF ELDERLY IN RURAL MAHARASHTRA: DO SOCIO-ECONOMIC DIFFERENTIALS MATTERS?

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Abstract

Life expectancy that was 40 in 1950, reached 65 years in 2001 in India, resulted in more than 76 million aged populations (60+), constituting above seven percent of Indian Population, and it is eight percent in Maharashtra. The poverty, isolation, neglect and deteriorating physical and mental health are the main concerned of elderly in Maharashtra. Elderly suffers from multiple kinds of diseases. The present paper is based on empirical information collected from 600 elderly by using semi structured interview schedule in rural Maharashtra in 2006, focuses on the socio-economic conditions and their effect on health status. Issues like presence of physical ailments/symptoms, self perception of own health, functional health and mental health of elderly is explored under the domain of health status. Further, the impact of various socio-economic characteristics on physical as well as mental health is discussed in detail. Bi-variate and multivariate techniques have been used in data analysis. Functional capacity index, mood assessment scale and standard of living index (SLI) have been also computed and used. The main objective of the paper is to investigate the socio economics and demographic influences on health of the elderly. The analysis reveals that a higher proportion of elderly living in joint family, with high SLI, and economically independent perceived their health condition to be good than their counterparts. Functional capacity index of elderly reveals that in out door activity males are found to be more independent than females. While in case of house work females are more independent. The mood assessment scale shows that 42 percent of the elderly are normal, while one third of elderly found to be mild depressed and one fourth of elderly found to be in severe depression. The main cause of weak mental health status is financial and health seeking dependency on their children or other family members. Females are found more depressed than males.

Introduction

One of the most important demographic events of the twentieth century is population ageing and it is going to remain till twenty-first century. This global phenomenon of ageing has also affected India. There were around 20 million aged population in India in 1951, which increased to 76.6 million (7.4 percent to total population of India) in 2001. India is passing through a technological, social, cultural and demographic transition. Consequently increase in quality of life, awareness of health care and improvement in the quality of health care, and ultimately increase in the life expectancy, which laid to increase of elderly population. Along with the growing number of the aged, the traditional family support system is seen to be disappearing from the Indian society. The aged persons are one of the most vulnerable and high-risk groups in terms of health, development and socio-economic status in society. Today the health of elderly is the major concern in India.

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The WHO defines “Health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. To the psychologist, health is principally the normal functioning of the mind. To the physician, health is principally the normal functioning of the body (Jones et. al. 1971). As age increases the health of the elderly deteriorates. The old age people suffer from multiple kinds of diseases. The effects of ageing are quite visible on their motivations, emotional life, adjustment etc. Old age comes with different psychological pressure on the mind of the people. Old people may also face the problem of adjustment due to the loss of spouse.

Several studies (Banerjee 1998, Chakraborty 2004, Madhu and Darshan 2003, Mohanty 1997, Radha Devi and other 1999) reveal that loss of respect, authority, status, interaction, effective roles and social relation of elders are the root cause of other psychological and health problems. As a result, majority of elders had multiple health problems and were also found depressive. The analysis of National Sample Survey data for 1986-87 reveals that about 45 per cent of the rural elderly are chronically ill among whom 45 per cent are men and 45.8 per cent are women. Cough, joint pain, high blood pressure, heart disease and urinary problems are more common among the elderly. In rural areas, 5.4 per cent of elderly (6.8 per cent females and 4.4 per cent males) are physically disabled. The proportion of female physically disabled is more than the male (Kohli, 1996). The literacy and income play crucial role in determining health conditions of the aged Yadav et al. (1996). The, the study of health of elderly is an important.

For this study Amravati district of Maharashtra state is purposely selected for this study. Maharashtra is the one of the industrial state of India. Maharashtra has 8.7 percent (2001) elderly population to total population, which is the highest among all Indian states. The same figure for Amravati district is 10 percent, which is a matter of major concern.
It has been found from various studies that many factors are responsible for health of the elderly population. However, for this study this has been conceptualized that all the socio-economic and demographic variables may have influences on health of elderly through the intervening variables like living arrangement, relation with family members, his/her decision making role, and life style. The life style like foods, habits (drinking, smoking), prayer, and exercise influence the health of the elderly in a big way. The conceptual model has been graphically represented in Figure 1.

Objectives: The main objective of the paper is to investigate the socio economics and demographic influences on health of the elderly. However, the specific objectives are:

i) to know the health problems and disability of elderly
ii) to know the determinant of perceived health status of elderly
iii) to know the functional health status and determinant of mental health of elderly

Methods and Materials

This study is based on primary data collected from Amravati district of Maharashtra state of India. Three stage sampling design has been adopted with the selection of blocks in the first stage, villages in the second stage and households in the third stage to collect information from 600 respondents in 15 villages of the Amravati district. After random selection of a block, villages were stratified into three strata on the basis of population

size. A sampling frame of aged 60 and above was then prepared for the selected villages by house listing. This was followed by selection of aged respondents using systematic random sampling.

A mix of qualitative as well as quantitative research techniques has been applied to gather the necessary information, such as in-depth interviews, focus group discussions, and structured interview schedule.
Uni-variate, bi-variate, chi-Square test and multivariate analysis has been applied to analyze the data. To capture the health status of elderly, activity of daily living (ADL), mental health scale and mood assessment scale has been computed. Adjustment inventory scale has also been used to assess the social adjustment of elderly. Reliability analysis has been done to check the association of the variables before constructing the above scales. Alpha value has been checked for all the items before constructing the scale. Only those items have been included in the scale for which alpha value is more than 0.56. That is a model of internal consistency, based on the average inter-item correlation.

Result and discussion

Profile of the elderly

Majority of the respondents are in the age group of 60-69 years whereas, only seven percent of the respondents are aged 80 years and above. Fifty nine percent of the elderly are married whereas, 40 percent are widowed/widowers. Large proportion (60 percent) of elderly is Hindus followed by Buddhist 36 percent. Majority of the respondents belongs to Other Backward Caste and Scheduled Caste (40 percent and 39 percent respectively). Around 37 percent of the elderly are literate and 90 percent of aged persons have some kind of family support in comparison with 10 percent of people living as single. A considerable number of elderly belong to medium and low standard of living of household (38 and 36 percent respectively).

Health Problems and disability

It can be noticed from Table 1 that 13 percent of elderly were suffering from asthma/breathing problem; around eight percent and five percent of elderly were suffering from blood pressure and diabetes respectively and two percent of them were suffering from heart, kidney lung problems. Whereas, seven percent of elderly were suffering from arthritis, back pain, liver damage, piles, paralysis and tuberculosis. The asthma, blood pressure and arthritis are the main health problems among the elderly in rural part of Amravati district.

Table 1: Percent Distribution of Elderly Suffering From Various Health Problems in Amravati District of Maharashtra

Problems	Percentage	Frequency	Total no.
Blood pressure	8.2	49	600
Heart, kidney or lungs	2.0	12	600
Asthma or breathing problem	12.8	77	600
Diabetes /sugar problem	4.5	27	600
Others*	7.0	42	600

* Arthritis, back pain, liver damage, piles, paralysis, and T.B.

Table: 2 Percent Distribution of Elderly by Sex and Various Type of Disability in Rural Area of Amravati District of Maharashtra.

Type of disability*	Male	Female	Total	No.
Hearing	42.5	49.1	45.7	274
Visual	46.0	55.1	50.3	302
Walking	46.3	49.8	48.0	288

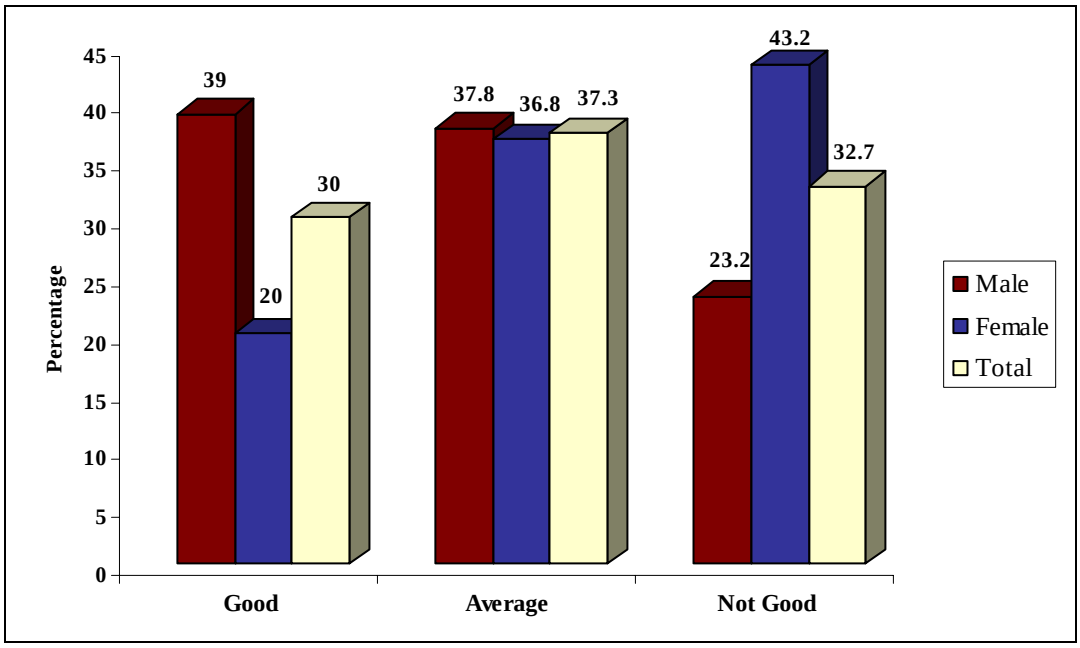
* Multiple responses

The analysis reveals that 50 percent, 48 percent and 45 percent of the elderly have visual disability, walking disability, and hearing disability respectively (Table 2). It is also found that more females are having all three kinds of disabilities such as hearing, visual, and walking than their male counterparts.

Perceived Health Status of Elderly

The elderly were asked "At present how do you feel about your health?" and the responses were coded as good, average and not good. Thirty percent (Figure 1) of the elderly said that their health is good and 37 percent elderly reported average health. Whereas, 33 percent of the elderly cited that their health is not good,

Fig. 1: Distribution of Perceived Health Status of Elderly



Sex wise distribution shows that more males (39 percent) as compared to 20 percent female perceived their health status is good. Whereas, 43 percent of females perceived their health status is not good as compared to 23 percent male.

Table 3: Perceived Health Status of Elderly by Background Characteristics

Background characteristics	Feeling About Health			No.
	Good	Average	Not Good	
Age group				
60-69	32.9	40.0	27.1	365
70-79	25.6	37.9	36.4	192
80+	25.0	10.0	65.0	40
Sex				
Male	39.0	37.8	23.2	315
Female	20.0	36.8	43.2	285
Marital status				
Married	38.1	38.4	23.6	352
Widowed/widower	17.8	36.4	45.9	242
SLI				
Low	28.8	37.1	34.2	445
Medium	29.1	41.8	29.1	141
High	78.6	0.0	21.4	14
Type of family				
Single	17.7	33.9	48.4	62
Nuclear	23.2	43.7	33.1	263
Joint	39.3	32.0	28.7	275
Economic status				
Independent	37.4	41.2	21.3	342
Dependent on others	20.2	32.2	47.7	258
Disability				
No disability	31.3	42.9	25.9	112
Any disability	29.7	36.1	34.2	488
Living conditions				
Comfortable	38.2	23.6	38.2	157
Satisfactory	26.5	46.7	26.8	362
Uncomfortable	29.6	22.2	48.1	81
Total No.	**180 (30.0)**	**224 (37.3)**	**196 (32.7)**	**600**

The perceived health status of elderly by socio-economic characteristics has been presented in Table 3. It seems that age is playing more important role in explaining elderly perceived health status. As expected it is found that as age increases the problems among the elderly also increases. It is seen that 25 percent of the elderly in the age of 80 years and above said that their health is good compared to 33 percent elderly in the age group of 60-69 years. However, 65 percent of the elderly of 80 years and above feel that their health is not good compared to 27 percent in the age group 60-69 years of elderly. A larger proportion of females (43 percent) perceive that their health is not good than their male counterparts (23 percent). Similarly 46 percent of the widowed/widower felt that their health is not good as compared to 24 percent married elderly. A higher proportion of elderly having high standard of living index (SLI), joint family, and economically independent said their health status to be good compared to their counterpart. The elderly having comfortable living condition perceived their health status as good compared to the elderly living with uncomfortable living condition.

Logistic Regression Analysis of perceived health status of elderly

Table 4 gives the result of logistic regression. The dependent variable is perceived health problems (i.e. 1 = having problem, 0 = not having problem). It was observed that elderly in the age of 80 years and above is more likely to perceive poor health than those elderly in the age group of 60-69 years, they are two times more likely to perceive poor health compared to elderly belonging to age group 60-69 years, which is also coming out statistically significant. The widowed/ widowers are more likely to perceive poor health status than married elderly. It was observed that elderly living with family are less likely to have poor health than those who are living single and this association is found to be significant. The economic status of the elderly is playing an important role in explaining health status of the elderly. Economically dependent elderly are three times more likely to perceive poor health than economically independent elderly. Elderly having any disability are more likely to perceive poor health status than elderly having no disability but the same is not statistically significant.

Table 4: Logistic estimates of the effect of selected characteristics of elderly on perceived health status

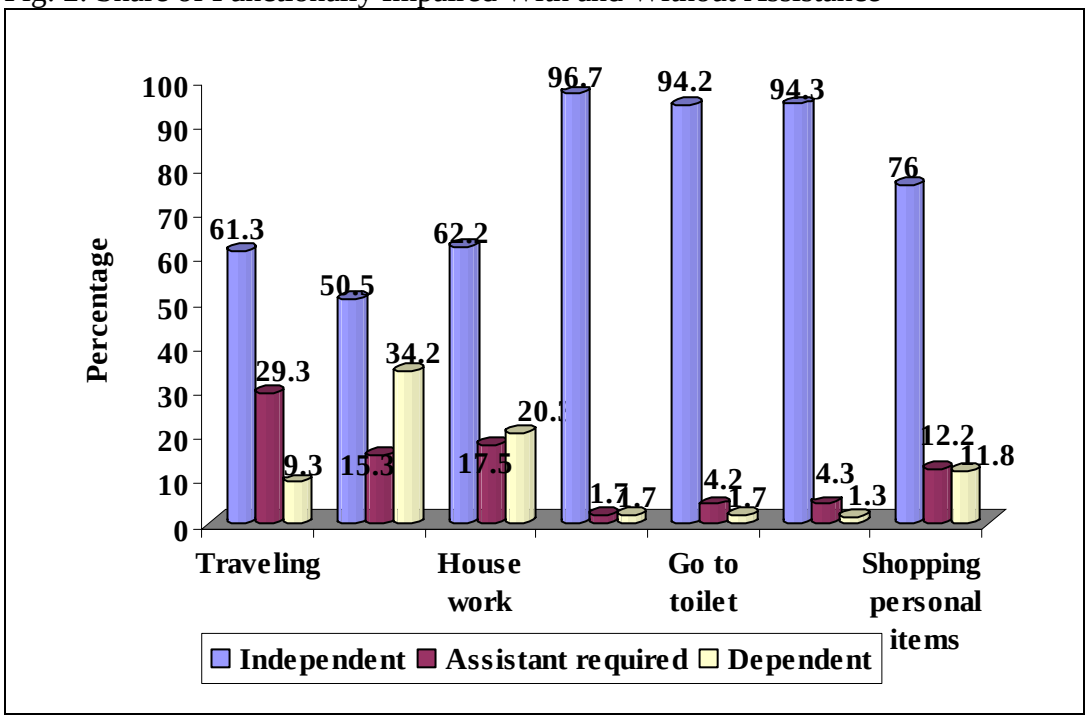
Variables	**Exp (B)**
Age group	
60-69[(R)]	
70-79	1.291
80+	2.317**
Marital status	
Married[(R)]	
Widowed/widower	2.161***
Caste	
General[(R)]	
SC/ST	1.247
OBC	0.550
Type of family	
Single[(R)]	
Nuclear	0.789
Joint	0.512*
SLI	
Low	
Medium	0.972
High	0.904
Economic status	
Independent[(R)]	
Dependent on others	3.007***
Disability	
No Disabled[(R)]	
Any disabled	1.691**
Constant	0.185

*** P < 0.001, ** P < 0.005, * P < 1.01 [(R)] Reference category

Functional health

Functional health is defined in terms of functioning ability based on ADLs (Activity of daily living) and IADLs (Instrumental activity of daily living). Activities of daily living (ADLs), is a way to describe the functional status of a person. There are six basic ADLs; eating, bathing, dressing, toileting, transferring (walking) and continence. An individual's ability to perform ADLs is important for determining what type of long-term care (e.g. nursing-home care or home care) and coverage the individual needs (i.e. Medicare, Medicaid or long-term care insurance).

Fig. 2: Share of Functionally Impaired With and Without Assistance



Prevalence rate of activity of daily living (ADL) is showing in the Figure 2. In case of personal care taking like getting out of bed, go to toilet and taking bath, more than 90 percent of the elderly are independent and they can do their work by their own. In case of indoor household work, some elderly need assistance and it was seen that more than one fifth of the elderly are dependent on others. Similarly, for out door work like traveling and shopping personal items most of the elderly are independent. Fifty percent and more elderly are independent for out door work, they can do their work independently without taking anybodies help.

Table: 5 Functional capacity index of elderly 60 years and above by sex

Daily activities (ADL)	Independent		Assistant required		Dependent	
	Male	Female	Male	Female	Male	Female
Traveling	77.8	43.2	17.1	42.8	5.1	14.0
Preparing meals	35.2	67.4	16.5	14.0	48.3	18.6
House work	56.8	68.1	19.4	15.4	23.8	16.5
Get out of the bed	96.8	96.5	1.3	2.1	1.9	1.4
Go to toilet	97.1	90.9	1.6	7.0	1.3	2.1
Bathing	96.5	91.9	2.2	6.7	1.3	1.4
Shopping personal items	89.5	61.1	6.7	18.2	3.8	20.7

Table 5 shows the functional capacity index of elderly by sex. From the table it can be noticed that traveling, going to toilet, bathing and in shopping personal items, males are found to be more independent than females. As expected in case of house work and meal preparation females are more independent than males. Females are more independent for indoor work and dependent on others for out door work.

Mental health status of elderly

Mental health is more than the mere lack of mental disorders. Concept of mental health includes subjective well-being, perceived self-efficacy, autonomy, competence, intergenerational dependence and recognition of the ability to realize one's intellectual and emotional potential. Concisely stated, mental health is that quality of mental and emotional well-being which provides one with effective and enjoyable living. It is living a purposeful life of accepted accomplishment that gives consuming satisfaction and enjoyment with a minimum of friction and conflict either within the individual or between the individual and others about him. Not just accomplishment just enjoyment, but both of these together constitute the cofactor index of mental health. To understand the overall situation of mental health a composite score is computed by including nine items out of twelve items (questions) after checking the reliability test and with the alpha value of 0.6429. The composite score has been computed by giving value 1 for positive indicators and 0 otherwise. The scores have been categorized into two categories poor mental health (0-5 score), and good mental health (6 and above score). The cut off point is decided on the basis of total scores and bifurcating it into two similar parts.

It is found (Table 6) that more elderly in the age group of 60-69 years are mentally good than in the age group of 70-79 and 80 years and above. Where as more elderly in the age group of 70-79 and 80 years and above are mentally not good as compared to age group of 60-69 years. The mental health of male is relatively better than female. Fifty percent and above widowed/widowers elderly are found mentally not well as compared to only 32 percent married elderly. A large proportion of married elderly (67 percent) said their mental health is good as compare to 44 percent widowed/widowers. It clearly indicates that elderly living with spouse have better mental health. Married elderly have moral support of their spouse so that they can live better life as they both can share the problems together, on the other hand in most of the cases the widowed/ widowers elderly depend primarily on their children or other family members, who in many case tend to ignore the needs of elderly, that results into various physical and mental disorders. A large number of elderly with Buddhist religion said their mental health is not good than Hindu and Muslim elderly. Education also plays an important role among the elderly and their mental health. Half of the illiterate elderly said their mental health is not good as compared to literate elderly, however more than 70 percent literate elderly found to be mentally good. The elderly living with family are found to be mentally good than living alone. Living with family makes more difference for anyone's mental health, which shows its affect at later ages. Elderly with low Standard of living index were mentally weak than medium and high SLI. More than 70 percent economically independent elderly were found to have good mental health condition as compared to dependent elderly. The main cause of weak mental health status is financial and health seeking dependency on their children or other family members.

Table 6: Percent distribution of elderly by mental health status and background characteristics in Amravati district of Maharashtra

Background characteristics	Mental health		Total
	Not good	Good	
Age groups			
60-69	39.5	60.5	365
70-79	46.2	53.8	195
80+	45.0	55.0	40
Sex			
Male	28.9	71.1	315
Female	56.5	43.5	285
Marital status*			
Married	32.4	67.6	352
Widowed/ widower	56.2	43.8	242
Religion			
Hindu	37.0	63.0	359
Muslim	36.4	63.6	22
Buddhist	50.7	49.3	219
Caste			
General	30.0	70.0	50
SC	45.9	54.1	233
ST	51.3	48.8	80
OBC	37.6	62.4	237
Education			
Illiterate	50.0	50.0	382
Primary	29.9	70.1	144
Middle school & above	24.3	75.7	74
Type of family			
Single	54.8	45.2	62
Nuclear	44.5	55.5	263
Joint	36.7	63.3	275
SSLI			
Low	49.5	50.5	216
Medium	40.6	59.4	229
High	33.5	66.5	155
Economic status			
Independent	29.2	70.8	342
Dependent	58.9	41.1	258
Total	**42.0 (252)**	**58.0 (348)**	**100.0 (600)**

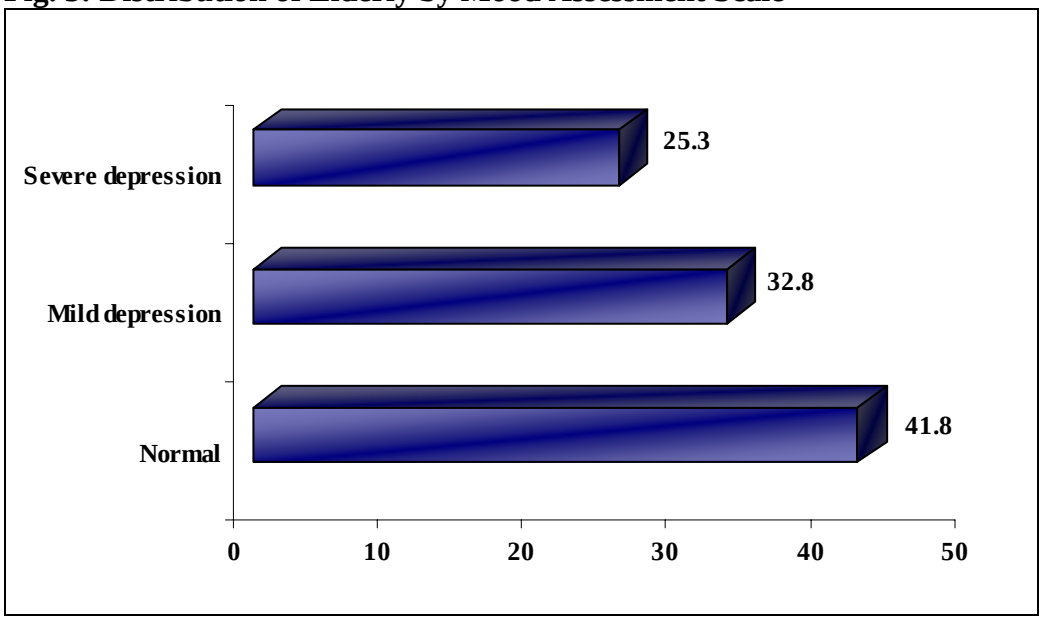
** Never married and separated has not been considered in the analysis because of very less number i.e. only 6 respondents.*

Mood Assessment Scale

Mood assessment scale is mainly used to assess the depression level among the older people. Originally it was 15 items (questions) scale and the scoring for the scale was one point for each of these answers. Before using these items into scale, reliability analysis was done to check the relationship within these items. After reliability test, three items included in the questionnaire were dropped from the analysis. So, 12 items were included in the analysis out of 15 items. The cutoff range for Normal depression: 0-4, Mild depression: 5-8, and Sever depression: 9-12, have been adopted. This scale was used to

measure the depression level among the elderly. The mood assessment scale shows (Fig.3) that 42 percent of the elderly are normal, while one third of elderly found to be mild depressed and one fourth (25 percent) of elderly found to be in severe depression

Fig. 3: Distribution of Elderly by Mood Assessment Scale



Among the age group of 60-69, it is found (Table 7) depression level is normal, whereas in the age group of 70-79 years the elderly are severely depressed than other age groups. However, in the age group of 80 years and above the elderly are found to be mildly depressed than age group of 60-69 and 70-79 years. More females are found depressed than males. The elderly widowed/ widowers were found more depressed than their married elderly counterparts, More Hindu elderly are found to be normal while elderly belonging to Muslim and Buddhist religion are found to be in mild depression. Elderly belonging to scheduled tribe are found to be more depressed than other ethnic groups. The Illiterate elderly is found to be more depressed than literate. Higher proportions of elderly living in joint family are found to be normal as compared to elderly living single and in nuclear family.

Elderly in nuclear families were found to be mildly depressed than those living in joint families and living single. The higher percentage of elderly living single found to be severely depressed as compared to elderly living with families. Standard of living and level of depression are also associated with each other. Elderly with high SLI were found to be normal compared to low and medium SLI. Elderly having low and medium SLI are found more depressed than the elderly with high SLI. Those elderly who are economically dependent on others are found to be depressed than economically independent elderly. The economically independent are found to be normal, they are enjoying life without any tension as they are self dependent and they don't have to ask for money or any kind of help from others.

Table 7: Percent distribution of elderly by mood assessment scale and background characteristics in Amravati district of Maharashtra

Background characteristics	Mood assessment scale			Total no.
	Normal	Mild depression	Severe depression	
Age groups				
60-69	44.1	31.5	24.4	365
70-79	37.9	33.3	28.7	195
80+	40.0	42.5	17.5	40
Sex				
Male	52.7	27.6	19.7	315
Female	29.8	38.6	31.6	285
Marital status*				
Married	49.4	30.7	19.9	352
Widowed/ widower	31.0	36.4	32.6	242
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Hindu	45.1	31.2	23.7	359
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Buddhist	37.0	35.2	27.9	219
Caste				
General	40.0	36.0	24.0	50
SC	39.5	33.9	26.6	233
ST	32.5	37.5	30.0	80
OBC	47.7	29.5	22.8	237
Education				
Illiterate	35.9	35.6	28.5	382
Primary	47.9	29.9	22.2	144
Middle school & above	60.8	24.3	14.9	74
Type of family				
Single	25.8	29.0	45.2	62
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SSLI				
Low	33.3	34.3	32.4	216
Medium	42.8	33.6	23.6	229
High	52.3	29.7	18.1	155
Economic status				
Independent	54.7	26.9	18.4	342
Dependent	24.8	40.7	34.5	258
Total	**41.8 (251)**	**32.8 (197)**	**25.3 (152)**	**600**

** Never married and separated has not been considered in the analysis because of very less percentage i.e. only one percent*

Summary and conclusion

The analysis reveals that socio-economic condition of the elderly has an impact on their health status. It is observed that there is a significant relation between age and health status of the elderly. As age increases health deteriorates, and elderly perceived poor health. A large proportion of widowed/widower elderly perceived their health as not good. It is obvious that in every society after the death of a spouse a person feels lonely and also there may not be any one to look after. Elderly with low standard of living, elderly living

alone and economically dependent elderly are more likely to perceive the status of their health to be poor. Elderly persons having some disability are prone to perceive and report poor health status.

The functional capacity index of elderly reveals that in getting out of the bed, going to toilet and bathing, more than 90 percent of elderly are found to be independent. While in case of preparing meal and home work more than 15 percent of elderly required some sort of assistance. Male are more independent in out door work and females are more independent in indoor work. A close look at the functional capacity by age suggests that elderly aged 80 and above are found to be dependent.

Fifty percent and above widowed/widower elderly are found mentally not well as compared to 32 percent married elderly. Similarly, those elderly living with family are found to be mentally better off than those living alone. Elderly with low Standard of living and economically dependence on others were found to be mentally weak. The main cause of weak mental health status is financial and health seeking dependency on their children or other family members. The mood assessment of the elderly also shows similar results. Female elderly, widowed/ widower elderly, SC/ST elderly are found to be more depressed. Higher proportions of elderly living in joint families are found to be normal as compared to elderly living single and in nuclear families. The higher percentage of elderly living single, having low standard of living and being dependent on others are found to be severely depressed. The hypothesis that elderly females tend to have more health problems as compared to their male counterparts are ascertain in this study.

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Conceptual Framework of the Study