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HelpAge India | Fighting isolation, poverty, neglect

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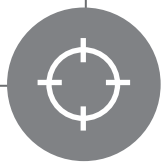
Mission

To work for the cause and care of disadvantaged aged persons and to improve their quality of life



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Contents

Page No.

Editorial 3

Articles

1. Explaining the Decadal Gap Between Chronic and Infectious Diseases Among Elderly in India : Evidence Based on National Sample Survey 2004 and 2014 6
   - Shobhit Srivastava and Himani Sharma

2. Prevalence of Frailty and Sarcopenia in Urban Indian Elderly 18
   - M Shaheen, S Puri and N Tandon

3. An Anthropological Study about Life Satisfaction and its Dimensions in Old Age 25
   - Dr Rohit Kumar

4. Old Age and Human Rights : A Socio-Legal Perspective 34
   - Dolon Mukherjee

Book Review 48

Calendar 50

Editorial

Voluntary Organisations Working for Older Persons in India: A Case Study of HelpAge India

'*Vridhashram*' is a term most people in India are familiar with, most of these are found in what are called the '*tirthsthan*' or towns associated with attaining nirvana after death. Some were also established in other towns and cities mainly for the single or destitute women. By and large, older persons were respected members of the family who were ensured a life and death with dignity. The times changed and with that all these factors also changed, the first non-family actor to intervene in the matter was the government which formulated and implemented policies and schemes for old age security. In 1978 a pioneering voluntary sector organisation HelpAge India (HI) tried to respond to the needs of the disadvantaged population of the elderly. The nature, composition and work of the organisation has changed over the years with change in demographic, socio-economic and political factors. Some of the milestones in the journey are as under. It is not only a pioneer in the field; but, also by far, the only pan India organisation that provides direct and indirect support to the older persons. With each decade the organisation faced new challenges and rose to the occasion.

HelpAge India commenced its operations from a tiny office in Himalaya House Kasturba Gandhi Marg in Central Delhi, functioning out of two small rooms with a staff of 30 people. In a time and age when all stakeholders including the government was convinced that population ageing was a challenge of the West, the founding fathers could envision a society where the concerns of the elderly would have to be given due importance. HI was established to respond to the urgent needs of the poor elderly therefore the focus was on health and shelter for this segment. So the initial initiatives were for mobile health care and old age home.

In 1982, schools students of Delhi collected funds for HelpAge India's first medi-care programme: the Mobile Medicare Unit (MMU) to service Delhi and Faridabad. With this modest Unit, HelpAge India crossed the threshold of the most important and robust programme for health care of disadvantaged older persons where free services were delivered at the doorstep..

In 1983 known as Adopt-a-Gran (now called Support-a-Gran) was modelled on a similar concept propagated by Help the Aged, UK. This programme was designed to look after the basic needs of the destitute elderly except housing. The donors/ sponsors were supporting a basket of goods for the included elderly for their lifetime. HI took up the task of supporting an old age home in Fatehpur Beri in Delhi for poor and destitute.

In another pioneering effort in the 1980s, HI set up a disaster rescue and relief unit under the supervision of a senior retired army officer. The unit was trained and equipped to for swift and effective relief measures in the face of natural disasters. Its abilities were tested in a post flood situation in to districts in Uttar Pradesh.

In 1978 a pioneering voluntary sector organisation HelpAge India (HI) tried to respond to the needs of the disadvantaged population of the elderly

In the 1990s it was felt that growing number of older persons with increased longevity could not survive on doles, so an income generation programme for giving micro credit to the elderly was started. In the year 1991-1992, HI launched this programme aimed at involving elderly persons in income generation through the revival and upgradation of traditional crafts, cottage industries and animal husbandry units. The major thrust of the programme was that of organising the elderly as a group and increasing their participation in individual and group-based income generating activities.

HI does not rest with only providing intervention for the current challenges that the elderly face; but, has taken up the challenge of sensitising the future generations to acknowledge, understand and resolve the issues that ageing population confronts toady and in likely in the future

In the first decade of the 21st century ageing was acknowledged as an issue of national importance, Government of India adopted National Policy on Older Persons. This Policy changed the perspective on older persons and recognised them as a resource and as active participants in society rather than passive recipients of welfare schemes. The demographic dimension of ageing was also highlighted by the Policy and their increasing needs for life with dignity.

HI continued to intensify its efforts to reach health to the unreached by its Mobile Healthcare Units. Today there are 145 mobile and 14 stationary Units that provide basic health care to the poor and disadvantaged elderly in the country. Besides, physiotherapy services were started in in Delhi - NCR and Himachal Pradesh in 2008. In Delhi 35 old age homes with 700 elderly were selected for this service. In Himachal Pradesh the total target persons for the year was 1000 including one old age home with 30 people and 6 rural villages and one urban community. The success achieved during the pilots encouraged the Organisation and the physio-therapy centres became operational in West Bengal, Madhya Pradesh, Assam, Bihar, Odisha, Chandigarh, Puducherry, Andhra Pradesh, Uttar Pradesh, Jammu and Kashmir, Kerala and Tamil Nadu From 8,000 treatments in 2008, the number of treatments has reached 1.6 lakhs.

Support-A-Gran, the other welfare oriented programme of HI continued to support destitute elderly and has currently more than 30,000 beneficiaries in 24 states.

The support is coming from individuals and companies. Support to old age homes continued and now HI runs old age homes in Punjab, Tamil Nadu, West Bengal and Leh that provide a model for others to emulate. In the year 2004, after the India Ocean Tsunami, HI established a model old age home for the victims in Cuddalore. The organisation has been working towards transforming old age homes into composite shelters which goes beyond dwelling place. Its design and management principles are based on equity, dignity, independence, participation, care and self-fulfilment of the residents.

The specialised Unit on relief and rehabilitation in the wake of natural disasters realised it potential in the 21st Century when natural disasters affected in the country in unprecedented manner in terms of intensity, expanse and frequency to require a full-fledged Unit manned by trained professionals. HelpAge India rushed in to help the elderly along with the community in all natural disaster situations from Orissa Super-cyclone in the year 2000 to flash floods in Uttarakhand in 2013. The underlying assumption was that the specific concerns of the elderly affected by the disasters were being overlooked while designing and implementing the post disaster relief and rehabilitation packages. In the immediate relief operations HelpAge India provided hep

to all in the community by way of medical intervention, food and survival kits. However, the rehabilitation and disaster risk reduction are specifically focussed on the older persons. It is not restricted to providing support but also building the capacity of the older persons in disaster prone areas to be active participants in the process.

The modest income generation programme started in the early 1990s got a push with perspective that older persons are full and active participants in the economic activities. This is the philosophy that drives Elder Self Help Groups (ESHGs), which started to help senior citizens work for themselves and for their own betterment - a motive summed up under the principle of 'Elders for Elders'. Today, there are almost 74 thousand elderly members in almost 6000 Elders Self Help Groups in the country who are beckons of empower-ment of the elderly in the country.

HI recognised the potential of the Senior Citizens in urban areas as well and started working with Senior Citizens Associations (SCAs). The organisation began to advocate policies to ensure that seniors could work for and participate in their own rights movement. Today HI is working with more than thousands of SCAs across India and the numbers are growing every day. HelpAge India has been encouraging seniors to come together under the aegis of SCAs at and persuading them to form federations at the state level. Federations in 4 States, Delhi, Uttarakhand, West Bengal aria Uttar Pradesh have been formed through efforts of HelpAge India. In several states including Orissa and Rajasthan this work is in process.

HI does not rest with only providing intervention for the current challenges that the elderly face; but, has taken up the challenge of sensitizing the future generations to acknowledge, understand and resolve the issues that ageing population confronts toady and in likely in the future. The student engagement programme started with the school education-cum-fund-raising progra-mme and toady has the track record of changing the mind-set of millions of students who were associated with this initiative since the early 1980s.

The journey continues with the support of benevolent donors, sensitive teachers, students and their parents, corporates to respond to the challenges of ageing in a future where the 60+ population is likely out-number the below 15 years population.

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Explaining the Decadal Gap Between Chronic and Infectious Diseases Among Elderly in India : Evidence Based on National Sample Survey 2004 and 2014

Shobhit Srivastava * & Himani Sharma **

Introduction

From 5.6% in 1961 the proportion of elderly in India has increased to 8.6% in 2011. For males it was marginally lower at 8.2%, while for females it was 9.0%

Population ageing is an irreversible demographic phenomenon associated with improvements in health and medical care. With increasing life expectancy and declining fertility rates, the population of older persons (60 years and above) is globally growing faster than the general population. Three key demographic changes - declining fertility, reduction in mortality and increasing survival at older ages - contribute to population ageing, reflected in a shift in the age structure from young to old (Kumar, 2007). Both, the share and size of elderly population is increasing over time, globally and in India. From 5.6% in 1961 the proportion of elderly in India has increased to 8.6% in 2011. For males, it was marginally lower at 8.2%, while for females it was 9.0%. As regards rural and urban areas, 71% of elderly population resides in rural areas while 29 % is in urban areas (Jeyalakshmi, & Gupta, 2011).

Demographers and epidemiologists describe the shift of disease pattern as part of an "epidemiologic transition" characterised by the waning of infectious and acute diseases and the emerging importance of chronic and degenerative diseases (Richard & Beard, 2011). 23% of the total global burden of disease is attributable to disorders in people aged 60 years and older (Prince et al., 2014). Although the proportion of the burden in the older people (≥ 60 years) is highest in high-income regions, disability-adjusted life years (DALYs) per head are 40% higher in low-income and middle-income regions, accounted for by the increased burden per head of population due to cardiovascular diseases, and sensory, respiratory, and infectious disorders. The leading contributors to disease burden in older people are cardiovascular diseases (30·3% of the total burden in people aged 60 years and older), malignant neoplasms (15.1%), chronic respiratory diseases (9.5%), musculoskeletal diseases (7·5%), and neurological and mental disorders (6.6%) (Prince et al., 2014; Roser & Ritchie, 2018).

Apart from above mentioned diseases infectious diseases are going to play a pivotal role in elderly health. In the developing world, the leading cause of death are respiratory tract infections, diarrheal diseases, tuberculosis, malaria and AID's and the remaining 10% are due to tropical diseases and various other infections (Gavazzi et al., 2018). In India Diseases of the Circulatory System alone contribute to 43.7 per cent of deaths among elderly Ischaemic heart diseases constitute maximum number (28.7 per cent) of circulatory system deaths under

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this age group followed by Diseases of Respiratory System and Infectious and Parasitic Diseases with 10.3 and 7.4 percent respectively (Kameshwar et. al., 2015)

The older population had four times higher self-reported morbidity than the younger population, in 2014. Also it was found that untreated morbidity was concentrated among the poor and also in the older population in India (Pandey, et.al., 2017). Globally, almost 90 percent of deaths among elderly are attributed to respiratory tract infections, diarrheal diseases, tuberculosis, malaria, and AIDS from overall deaths from any infectious diseases (Yoshikawa, 2018a). It has been stated in the previous studies that older persons generally have greater susceptibility to infections than younger adults. It is well known that aging is associated with immune dysfunction, especially in cell-mediated immunity (Yoshikawa, 2018b). Several studies have found that certain type of infections occur more often in elderly persons; morbidity and mortality from infections are also higher among older persons than that among younger adults (Yoshikawa, 2018 a, 2018b; Yoshikawa, 1983; Yoshikawa & Angeles, 2018.). It has been found that elderly people are at increased risk of having or dying from serious infectious diseases, such as pneumonia, meningitis, endocarditis, cellulitis, and infections of the urinary and gastrointestinal tracts (Crossley & Peterson, 2018).

Chronic disease and disabilities among older population are more common among high-income population (Trowell, et al.,1982). Elderly patients are at high risk of acquiring nosocomial infection i.e. getting infected during their stay in the hospital (Saviteer, Samsa, & Rutala, 1988; Taylor & Oppenheim, 1998). Chronic diseases created higher burden among people belonging to the age group of 70-79 years (Woo et al., 2018). Chronic disease prevalence including hypertension, diabetes, heart failure, chronic lung disease, arthritis, and cancer, increased from 1998 in 2008 except for heart conditions and stroke, which remained stable (Hung et al., 2013).The reported proportions of the aged with a chronic disease indicated a rise between 1986-87 and 1995-96. In 1995- 96, about 52-54 per cent of the rural and urban aged reported that they suffered from a chronic disease. The most frequently reported ailments were the same in 1986-87 and 1995-96: 'problem of joints' (commonly termed arthritis), cough, and high or low blood pressure. In 1995-96, about 40 percent of the rural aged and 35 per cent of the urban aged reported a physical disability. Visual disability was mentioned by about 24-27 per cent of the aged; hearing disability was reported half as frequently. About 10 per cent of the aged reported difficulty in movement as well as amnesia or senility (Visaria, 2018). It has been found that Twenty-nine per cent of the elderly have arthritis, 21 per cent hypertension, 13 per cent cataract, 10 percent diabetes, 7 percent asthma and 6 percent heart disease and also elderly persons with chronic diseases are significantly more likely to have functional and physical disability(Kumar, Pradhan, & Singh, 2017). Many physio-logical factors change with age and may predispose to chronic disabling conditions. For example, on average, blood pressure and blood cholesterol levels tend to rise with increasing age (Khaw & Khaw, 2018).

Chronic disease prevalence including hypertension, diabetes, heart failure, chronic lung disease, arthritis, and cancer, increased from 1998 in 2008 except for heart conditions and stroke, which remained stable

Alcohol consumption, smoking habits and high BMI is significantly associated with chronic morbidity among older adults (Nadkarni, Murthy, Crome, & Rao, 2013; Saquib et al., 2017). Chronic disease are highest among men, among respondent aged 65+ and among those with less education. Also the onset of chronic

disease is delayed among those elderly people who are physically active (Zhou, et al., 2018).

There has been some attempts to address disease pattern among elderly in India, but, no comprehensive study has been found taking solely the trends of disease pattern among elderly in India. The present study aims to provide the trends of disease pattern and to carve out determinants of infectious and chronic disease among elderly in India. Also, this study tries to explain the decadal differences in infectious and chronic disease.

Chronic disease is highest among men, among respondent aged 65+ and among those with less education. Also the onset of chronic disease is delayed among those elderly people who are physically active

Methods

The data for the analysis has been taken from schedule 25.0 of the 60th (2004-05) and 71st round (2014-15) of the National Sample Survey (NSS) conducted by National Sample Survey Organization (NSSO), India. These both rounds of survey provides data on the utilisation of the curative health care services, morbidity profile of the population, hospitalised and non-hospitalised treatment of ailments together with the estimates of expenditure incurred for treatment of ailments. In addition, data on the aged persons is also provided separately. A total of 73,868 households and 383,338 individuals including 34,831 older person aged 60 and above were covered in 60th round (2004) and 65,932 households and 335,499 individuals including 27,245 older person aged 60 and above were covered in 2014. All states and union territories were covered and the households were selected using multistage stratified sampling procedure (NSSO, 2006). The analysis part is based only on population aged 60 and above. The sample size for elderly in 60th round NSSO is 34,831 and 27,245 in 71st round of NSSO. The analysis part is based only on population aged 60 and above. Both the surveys collected information on particulars of spells of ailment of household members during the last 15 days (including hospitalization). I have used the both cases whether hospitalized or not because if we drop the non-hospitalized cases then it can cause under calculation of prevalence rate. The total number of outpatients aged 60 and above were 12,400 in 60th round (2004) and 9,970 in 71st round (2014) including deceased.

Statistical Analysis

The diseases are categorised as chronic and infectious and their classification is stated in appendix A-1. Covariates based on literature review include age (60-69, 70-79 and 80+ years), sex (male and female), place of residence (urban and rural), caste (ST, SC, OBC and others), religion (Hindu, Muslim, Christian, others), source: drinking water (improved, tap and unimproved), source: cooking fuel (clean and unclean), education (Illiterate/no formal schooling, primary completed, secondary completed, higher secondary completed and graduate and above), monthly per capita expenditure (MPCE) is used to group the individual in above or below poverty line (BPL) (as per Tendulkar Committee estimates in 2014), whether hospitalized (yes or no) and regions (south, north, central, north-east, east and west).

The six regions consist of North (Jammu and Kashmir, Himachal Pradesh, Punjab, Haryana, Rajasthan, Delhi, and Uttaranchal), Central (Uttar Pradesh, Madhya Pradesh, and Chhattisgarh), East (Bihar, Jharkhand, West Bengal, and Orissa), Northeast (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura), West (Gujarat, Maharashtra, and Goa), and South (Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu).

Descriptive statistics, Morbidity prevalence rate, logistic regression and decomposition method are used for the analysis. Morbidity prevalence rate is defined as the number of spells of disease anytime during 1 year preceding the survey of the population exposed to risk.

Morbidity prevalence rate is expressed per 1000 population. As my dependent variables (infectious diseases- yes or no, chronic disease- yes or no and disability- yes or no) are in binary form therefore,

$$\text{Morbility Rate} = \frac{\text{number of spells of disease during last 365 days}}{\text{Population exposed to risk}} \times 1000$$

Logistic regression has been use to find out the important determinants of various morbid conditions among elderly (Long & Freese, 2014). To identify the underlying causes of decadal difference in morbidity condition the technique of decomposition has been used which is now a days the most common approach used to identify and quantify inter - group differences. The technique is commo-nly attributed to Blinder (1973) and Oaxaca (1973). This technique, however, is not appropriate if the outcome variable is binary, such as morbid condition. Hence, we used the extension of the Blinder-Oaxaca technique (Fairlie 2005) that is appro-priate for binary models to decompose the decadal gap in morbidity risk into contributions that can be

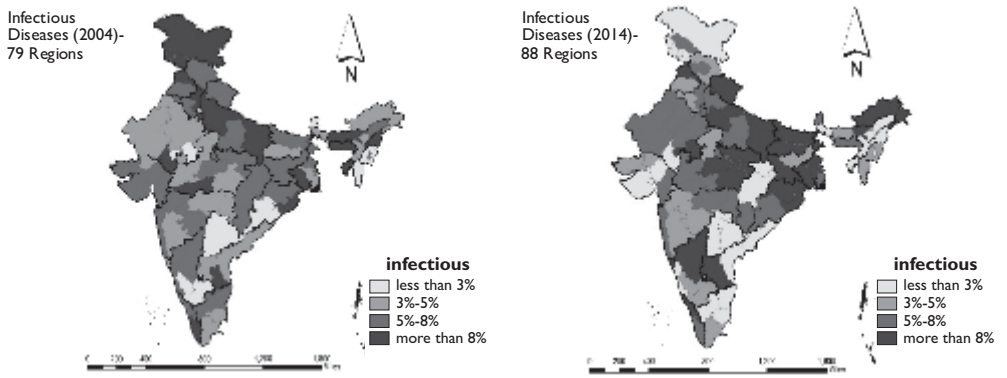

Figure 1. The above maps shows that how the prevalence of infectious diseases in NSSO regions had changed over the period of 10 years (2004-2014). Map on the left side shows prevalence of infectious diseases in the year 2004 and map on the right side shows the prevalence of infectious diseases in the year 2014.

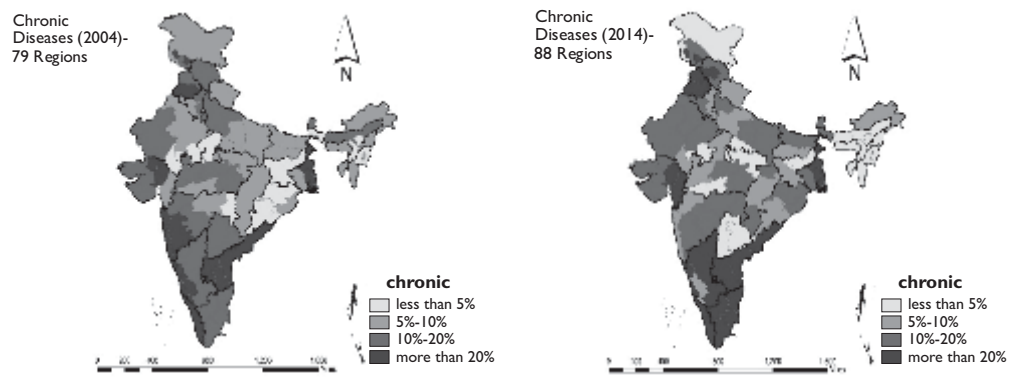

Figure 2. The above maps shows that how the prevalence of chronic diseases in NSSO regions had changed over the period of 10 years (2004-2014). Map on the left side shows prevalence of chronic diseases in the year 2004 and map on the right side shows the prevalence of chronic diseases in the year 2014.

attributed to different factors (Fairlie & Fairlie, 2006).

Results

Figure 1 and ***Figure 2*** depicts the increase of infectious and chronic diseases among elderly people from 2004 to 2014 in NSSO regions of India respectively. The preponderance of infectious diseases has been shifted to eastern part of country i.e. from 2004 to 2014, whereas in case of chronic diseases the concentration can be seen in southern part of India.

Table 1 depicts the results that there is a significant increase in relative decadal

Table 1: Prevalence of Infectious and Chronic Diseases among Older People (aged 60 and above) Among Various Background Factors from 60th and 71st Round NSSO. (Rate per 1000).

Background variables	Infectious		Relative change in last decade (%)	Chronic		Relative change in last decade (%)
Age (years)	60th (N=2194)	71st (N=1917)		60th (N=5263)	71st (N=5127)	
(Youngest old) 60 69	72	79	10*	144	188	31*
(old-old) 70-79	49	55	12	174	201	16*
(oldest-old) 80+	41	51	24	136	147	08*
Sex						
Male	94	104	11	204	258	26*
Female	32	38	19*	98	121	23*
Type of Residence						
Urban	47	56	19*	223	257	15*
Rural	68	77	13	128	157	23*
Caste						
SC/ST	67	75	12*	103	134	30*
Non SC/ST	62	69	11	166	205	23*
Religion						
Hindu	62	70	13	142	178	25*
Islam	71	75	06	176	228	30*
Christianity	53	82	55	305	328	08*
Others	73	56	-23	177	192	08*
Source: drinking water						
Improved	73	87	19	126	165	31*
Tap	51	56	10	187	207	11*
Unimproved	45	42	-07	168	241	43*
Source: cooking fuel						
Clean	50	49	-02	N.A	N.A	N.A
Unclean	67	84	25*	N.A	N.A	N.A
Education						
Illiterate/No formal schooling	54	61	13	106	124	17*
Primary completed	86	95	10	225	261	16*
Secondary completed	81	74	-09	284	314	11*
Higher secondary completed	80	47	-41	300	283	-06
Graduate and above	43	62	44	314	317	01
Below poverty Line (BPL)						
No	64	67	05	170	202	19*
Yes	59	88	49*	90	116	29*
Nosocomial						
No	63	71	13*	N.A	N.A	N.A
Yes	69	60	-13*	N.A	N.A	N.A
Region						
South	52	50	-04	224	339	51*
North	66	66	00	121	140	16*
Central	81	83	02*	92	101	10*
East	61	108	77*	114	144	26*
North East	102	51	-50*	112	36	-68*
West	48	50	04	199	146	-27
TOTAL	63	70	11*	151	188	25*

N.A (not applicable); p<0.05*; BPL is calculated using Tendulkar committee estimates for the year 2004 and 2012.

difference of 11% and 25% in infectious and chronic diseases among elderly from the year 2004 to 2014 respectively.

Infectious disease prevalence was high among rural residents whereas chronic disease prevalence was high among urban residents in both round of NSSO. Prevalence of infectious diseases were higher among residents using unclean source of cooking fuel in both round of survey. Residents from higher socio-economic status were having higher prevalence of chronic diseases i.e. elderly who were graduate and above and who were not among BPL were having higher prevalence of chronic diseases in 2004 and 2014. South Indian region was having highest prevalence of chronic diseases in 2004 and 2014 whereas infectious diseases prevalence was high in north-east region in 2004 which shifted to eastern region in 2014.

Table 2: Determinants of Various Morbidities (Infectious Diseases and Chronic Diseases) among Older People (aged 60 and above) from 60th and 71st Round NSSO.

Background Variables	Infectious Diseases		Chronic Diseases	
	60th Round	71st Round	60th Round	71st Round
Age (years)				
60 69®	1.00	1.00	1.00	1.00
70-79	0.74*(0.66,0.82)	0.7*(0.62,0.79)	1.31*(1.23,1.4)	1.15*(1.07,1.23)
80+	0.6*(0.5,0.72)	0.52*(0.42,0.64)	0.97(0.86,1.08)	0.96(0.85,1.07)
Sex				
Male®	1.00	1.00	1.00	1.00
Female	0.35*(0.32,0.39)	0.38*(0.34,0.43)	0.46*(0.43,0.49)	0.47*(0.44,0.51)
Type of Residence				
Urban®	1.00	1.00	1.00	1.00
Rural	1.14*(1.01,1.3)	0.99(0.88,1.12)	0.79*(0.74,0.85)	0.77*(0.72,0.82)
Caste				
SC/ST®	1.00	1.00	1.00	1.00
Non SC/ST	0.98(0.88,1.09)	0.94(0.83,1.06)	1.29*(1.18,1.4)	1.09(1,1.18)
Religion				
Hindu®	1.00	1.00	1.00	1.00
Islam	1.1(0.95,1.27)	1.05(0.9,1.23)	1.29*(1.17,1.42)	1.41*(1.28,1.56)
Christianity	0.77*(0.6,0.99)	1.19(0.92,1.53)	1.1(0.95,1.28)	1.32*(1.13,1.53)
others	1.02(0.81,1.28)	1.23(0.95,1.59)	1.54*(1.32,1.79)	1.65*(1.4,1.95)
Source: Drinking Water				
Improved®	1.00	1.00	1.00	1.00
Tap	0.84*(0.75,0.95)	1(0.89,1.13)	0.94(0.87,1.02)	0.86*(0.8,0.93)
Unimproved	0.74*(0.6,0.9)	0.89(0.7,1.14)	0.89(0.78,1.01)	0.88(0.76,1.02)
Source: Cooking Fuel				
Clean®	1.00	1.00	N.A	N.A
Unclean	1.17*(1.02,1.35)	1.49*(1.31,1.7)	N.A	N.A
Education				
Illiterate/No formal schooling®	1.00	1.00	1.00	1.00
Primary completed	1.22*(1.1,1.36)	1.14*(1.02,1.28)	1.58*(1.47,1.7)	1.85*(1.72,2)
Secondary completed	1.11(0.9,1.36)	0.88(0.73,1.08)	1.7*(1.5,1.92)	2.09*(1.87,2.34)
Higher secondary completed	0.98(0.72,1.33)	0.81(0.61,1.09)	1.84*(1.54,2.2)	2.08*(1.77,2.44)
Graduate and above	0.71*(0.52,0.96)	0.67*(0.52,0.87)	2.18*(1.88,2.52)	2.24*(1.97,2.55)
Below Poverty Line				
No®	1.00	1.00	1.00	1.00
Yes	0.94(0.84,1.05)	1.13*(1.02,1.28)	0.7*(0.64,0.76)	0.74*(0.67,0.82)
Whether Hospitalized				
No®	1.00	1.00	N.A	N.A
Yes	0.91(0.8,1.03)	0.82*(0.73,0.92)	N.A	N.A
Region				
South®	1.00	1.00	1.00	1.00
North	1.25*(1.07,1.46)	1.06(0.9,1.24)	0.48*(0.44,0.53)	0.3*(0.27,0.33)
Central	1.53*(1.33,1.76)	1.08(0.92,1.27)	0.41*(0.38,0.46)	0.24*(0.21,0.26)
East	0.96(0.82,1.12)	1.18*(1.01,1.38)	0.4*(0.37,0.45)	0.33*(0.3,0.36)
North East	1.27*(1.06,1.53)	0.45*(0.35,0.58)	0.26*(0.23,0.3)	0.08*(0.07,0.1)
West	0.95(0.8,1.13)	0.89(0.75,1.06)	0.74*(0.67,0.81)	0.35*(0.32,0.39)

N.A (not applicable); p<0.05*

South Indian region was having highest prevalence of chronic diseases in 2004 and 2014 whereas infectious diseases prevalence was high in north-east region in 2004 which shifted to eastern region in 2014

Table2 is a representation of the output after running a simple logistic regression to assess the association between the chronic and infectious diseases respectively and the variables selected for the study for both 60th and 71st round. It is evident that in the 60th round, the age group 80+ had 40% (OR=0.60, p<0.05) less likelihood of getting infectious diseases and it has reduced to 48% (OR=0.52, p<0.05) in the 71st round in comparison to aged 60-69 years. With respect to males, females were 65% (OR=0.35, p<0.05) less likely to get infectious diseases in the 60th round as compared to 62% (OR=0.38, p<0.05) in the 71st round. Respondents from rural areas had 14% (OR=1.14, p<0.05) more likelihood of getting infectious diseases than their urban counterparts in 2004. Among the religious groups, in the 2004, Christians were 23% (OR=0.77, p<0.05) less likely to get infectious diseases when compared to Hindus. Elderly population who were graduate and above had 29% less likelihood (OR=0.71, p<0.05) of getting infectious diseases in reference to illiterate in the 2004 whereas this has increased to 33% (OR=0.67, p<0.05) in 2014.The elderly living below the poverty line were 13% (OR=1.13, p<0.05) more likely to get infectious diseases than the one's which were above poverty line in 2014. In terms of region in 2004, the elderly residing in the Central region were 53% (OR=1.53, p<0.05) more likely to get infectious diseases when compared to the southern region. Also, when compared to southern region, after a decade, the north-eastern region has 55% (OR=0.45, p<0.05) less likelihood of getting infectious diseases compared to the southern region in the 71st round.

In terms of age, in 2014, the older population in the group 70-79 were 15% (OR=1.15, p<0.05) more likely to get chronic diseases which was better as compared to 31% (OR=1.31, p<0.05) in 2004 in comparison to aged 60-69 years. Females were 64% less likely to get chronic diseases with respect to males in the 60th round and this decreases to 63% after a decade.The elderly residing in the rural areas were 21% (OR=0.79, p<0.05) less likely to get chronic diseases than urbanites in 2004; in 2014, the residents

Table 3: Adjusted Association between Chronic Morbidity and its Determinants from Pooled NSSO Rounds (60th and 71st)

Background Variables	Infectious (Coefficients)	Chronic (Coefficients)
Years		
2004®	Ref.	Ref.
2014	0.19*(0.19,0.19)	0.16*(0.16,0.16)
Age (years)		
60-69®	Ref.	Ref.
70-79	-0.4*(-0.41,-0.4)	0.14*(0.14,0.14)
80+	-0.51*(-0.51,-0.51)	0.16*(-0.16,-0.16)
Sex		
Male®	Ref.	Ref.
Female	-1.05*(-1.05,-1.05)	0.82*(-0.82,-0.82)
Type of Residence		
Urban®	Ref.	Ref.
Rural	0.08*(0.07,0.08)	0.35*(-0.35,-0.35)
Caste		
SC/ST®	Ref.	Ref.
Non SC/ST	0.04*(0.03,0.04)	0.17*(0.17,0.17)
Source: Cook Fuel		
Clean®	Ref.	N.A
Unclean	0.35*(0.35,0.35)	N.A
Religion		
Hindu®	Ref.	Ref.
Islam	0.06*(0.05,0.06)	0.39*(0.39,0.39)
Christianity	0.24*(0.23,0.24)	0.35*(0.35,0.35)
Others	0.03*(0.03,0.03)	0.48*(0.48,0.48)
Source: Drinking Water		
Improved®	Ref.	Ref.
Tap	-0.1*(-0.1,-0.1)	-0.23*(-0.23,-0.23)
Unimproved	-0.43*(-0.44,-0.43)	-0.18*(-0.18,-0.18)
Education		
Illiterate/No formal schooling	Ref.	Ref.
Primary completed	0.34*(0.34,0.34)	0.52*(0.52,0.52)
Secondary completed	0.16*(0.16,0.16)	0.62*(0.61,0.62)
Higher secondary completed	-0.23*(-0.24,-0.23)	0.68*(0.68,0.68)
Graduate and above	-0.09*(-0.1,-0.09)	0.7*(0.7,0.7)
BPL (Below Poverty Line)		
No®	Ref.	Ref.
Yes	-0.001*(-0.003,0.0002)	-0.35*(-0.35,-0.35)
Region		
North®	Ref.	Ref.
Central	0.34*(0.34,0.34)	-1.04*(-1.04,-1.04)
East	0.42*(0.41,0.42)	-1.35*(-1.35,-1.35)
North East	0.4*(0.4,0.4)	-1.09*(-1.09,-1.08)
West	0.18*(0.17,0.18)	-1.96*(-1.96,-1.96)
South	-0.01*(-0.01,-0.01)	-0.77*(-0.77,-0.77)

N.A (not applicable); p<0.05*

from rural areas were having 23% (OR=0.79, p<0.05) less likelihood of getting chronic diseases (OR=0.77, p<0.05). When compared to Hindus, Muslims were 41% (OR=1.41, p<0.05) more likely to get chronic diseases in 2014 which was 29% (OR=1.29, p<0.05) in 2004. The chances of getting chronic diseases among elderly living below poverty line were 30% (OR=0.7, p<0.05) less in 2004 and it has changed to 26% (OR=0.74, p<0.05) in 2014. When compared to the southern region, all the regions, i.e. north, central, east, north east and west regions have seen significant changes from 2004 to 2014. Predominantly, the elderly in the western region had 26% (OR=0.74, p<0.05) less likelihood of getting chronic diseases in 2004 and which changed to 65% (OR=0.35, p<0.05) in 2014.

Table 4 The level of increase in the probability of having infectious and chronic diseases between 2004 and 2014 is 0.008 and 0.03 respectively. The decomposition analysis also suggests that a positive percentage contribution is indicative that the determinant in question contributed to increasing the probability of disease and vice-versa for negative value. Sexual differences and educational status significantly contributed about 47.62% and 15.51% increase in the probability infectious diseases condition in India respectively. However, source of cooking fuel, regional differences and source of drinking water contributed -83.54%, -38.59 and -29.21 decrease of the probability of infectious diseases condition in India respectively. In case of chronic diseases, educational status, sexual differences, residential differences and wealth status significantly contributed about 67.51%, 43.44%, 21.13% and 16.38% increase in the probability of chronic disease condition. Only regional differences and source of drinking water significantly contributed -44.59 and -7.75% decrease in the probability of chronic disease condition among elderly in India.

Discussion

The relative increase in infectious diseases and chronic diseases are 11 percent and 25 percent in last one decade i.e. from 2004 to 2014. This result can be confirmed by earlier studies which argued that issues of multiple chronic diseases prevail and many remains

Infectious and parasitic diseases still pose substantial challenges to the public health system in India, resulting in a double burden of disease and an important share of the global burden of disease

Table 4: Decomposition of Decadal Gap Among People Fuffering from Infectious and Chronic Diseases from 60th to 71st Round of NSSO.

	Infectious Diseases			Chronic Diseases		
Chronic	Coef.	Std. Error	% contribution	Coef.	Std. Error	% Contribution
Sex	0.001857*	0.000002	25.02	0.0072972*	0.000006	19.65
Residence	-0.000379*	0.000005	-5.11	0.0035492*	0.000006	9.56
Age	-0.000225*	0.000001	-3.03	0.0004566*	0.000001	1.23
Education	0.000605*	0.000008	8.14	0.0113417*	0.000012	30.54
Source: Drinking water	-0.001139*	0.000007	-15.34	-0.0013015*	0.000003	-3.50
Source: Cook fuel	-0.003258*	0.000010	-43.89	N.A	N.A	N.A
Religion	0.000142*	0.000001	1.91	0.0001172*	0.000001	0.32
Caste	0.000012*	0.000000	0.17	0.0003273*	0.000001	0.88
Wealth	0.000009*	0.000004	0.12	0.0027524*	0.000005	7.41
Region	-0.001505*	0.000004	-20.27	-0.0074917*	0.000007	-20.18
Number of obs	62,057			62,057		
N of obs G=0	34812			34812		
N of obs G=0	27245			27245		
Pr(Y!=0G=0)	0.0629			0.1511		
Pr(Y!=0G=1)	0.0704			0.1882		
Difference	0.0074			0.0371		
Total Explained	0.0039			0.0168		
Total Contribution (%)	52.14			45.33		
N.A (not applicable); p<0.05*						

undiagnosed due to lack of awareness and insufficient health-care access. At the same time, infectious and parasitic diseases still pose substantial challenges to the public health system in India, resulting in a double burden of disease and an important share of the global burden of disease (Arokiasamy, 2018). It has been argued in previous studies that reason for sex differences in infectious and chronic diseases in humans are multiple, and include social, behavioural and biological factors. In case of chronic diseases it largely depends on life-style and environmental changes – (WHO, 2007; van Lunzen & Altfeld, 2014; Vlassoff, 2007). In my study sexual differences are significant in both chronic and infectious diseases and it is found that male are significantly more likely to suffer from infectious or chronic disease probably because they are more exposed to harsh working conditions, stress and has less immunity than women. Rural people were more prone to infectious diseases in 2004 but the results got insignificant in 2014, whereas urban respondents were more prone to chronic diseases in both rounds of survey. Elderly from rural areas were more prone to infectious diseases because rural areas in India lacked health infrastructure, poor sanitation conditions, lack of potable drinking water and lack of clean source of cooking fuel – (Agnihotram, 2004; John, Dandona, Sharma, & Kakkar, 2011; Patil, K.V, & R.C, 2002).

Elderly from rural areas were more prone to infectious diseases because rural areas in India lacked health infrastructure, poor sanitation conditions, lack of potable drinking water and lack of clean source of cooking fuel

The result clearly showed that the conditions have improved, as in 2014 the urban areas were found to have more infectious diseases, but, the results were insignificant. In case of chronic diseases, rural respondents were having lower likelihood of having chronic disease in comparison to urban counterparts. This result can be confirmed as urban areas are health challenges due to unhealthy diets and physical inactivity, harmful use of alcohol as well as the risks associated with disease outbreaks. City living and its increased pressures of mass marketing, availability of unhealthy food choices and accessibility to automation and transport all have an effect on lifestyle that directly affect health – (Allender et al., 2008; Allender et al., 2011; "WHO | Urbanization and health," 2010). The respondents from households using unclean source of cooking fuel had higher likelihood of suffering from infectious diseases. It was found in earlier studies that largely in household air pollution caused respiratory tract infections and chronic obstructive pulmonary disease, moreover in poorly ventilated dwellings, indoor smoke could be 100 times higher than acceptable levels for fine particles (Jary et al., 2016; Smith & Mehta, 2003; WHO, 2018). Elderly who were graduate and above were less likely to suffer from infectious diseases, whereas in case chronic diseases, respondents who were graduate and above were having higher likelihood to suffer from any chronic condition in both rounds of the survey.

In case of wealth status, in the year 2014 the elderly belonging to below poverty line were more likely to suffer from infectious diseases, where in cases of chronic condition, the result was inverse in both rounds of survey. These results showed that how chronic diseases were concentrated in higher socio-economic groups. The reason is probably that these higher socio-economic status (SES) groups experience unhealthy life style, risky dietary habits and exposure to other risk behaviours which causes one or more chronic conditions. However previous studies do not show the direct relationship between high SES groups and chronic conditions for example in one of the study it was found that chronic diseases concentration among individuals with higher wealth and among the less educated (Vellakkal et al., 2015). SES has

been recognised as playing an important role in the incidence and experience of chronic illness e.g., people with a chronic disease from lower SES backgrounds could be expected in some instances to have a different set of coping capacities with their disease (partly a function of income, education, and work experience) compared to those from higher SES backgrounds (Walker & Peterson, 2003).

No particular study has been found commenting on the prevalence of infectious and chronic disease in different regions of India. In the present study, it was found that in the year 2004 respondents from north, central and north-east regions had higher likelihood of suffering from infectious diseases in comparison to Southern region. However, the condition improved in the year 2014 for north and central region as the association became insignificant and in north-east region lower likelihood was observed in comparison to southern region. Only in case of eastern region the likelihood of infectious disease prevalence was observed higher in comparison to southern region.

In case of chronic diseases in both rounds of survey, all regions were having lower likelihood of suffering from chronic diseases in comparison to southern region. This finding probably suggests that even after being a developed region, south India suffers from high prevalence of chronic health conditions which poses a question mark on present public health system in the region.

Conclusion

This paper examined decadal differences in infectious and chronic disease conditions. The relative increase was 11% and 25% for infectious and chronic diseases from the year 2004 to 2014. Improvement in education and incomes comes with significant changes in life-style causing chronic disease conditions as the by-product. Therefore, there is increased need to focus on pension schemes, medical insurances schemes, free health check-ups and awareness building programmes for elderly who are under-privileged.

The study are having some limitations too. Firstly, self-reported morbidity. Secondly, BPL which is based on MPCE (monthly per-capita expenditure) is taken as a proxy indicator for measuring economic status of an older member. As this information is based on household expenditure in last 30 days, the chances of recall basis can be a case.

There is increased need to focus on pension schemes, medical insurances schemes, free health check-ups and awareness building programmes for elderly who are under-privileged

Appendix A-1

Classification of Chronic and Infectious Diseases used in this study according to ICD 10	
Chronic Diseases	***Infectious Diseases***
Cancer	Fever with loss of consciousness or altered consciousness
Anaemia	Fever with rash/ eruptive lesions
Diabetes	Fever due to DIPHTHERIA, WHOOPING COUGH
Goitre and other diseases of thyroid	All other fevers: (Includes malaria, typhoid and fevers of unknown origin, allspecific fevers that do not have a confirmed diagnosis)
Obesity	TUBERCULOSIS
Psychiatric and Neurological: (Mental retardation and Mental disorder, Headache, Seizures or known epilepsy, Stroke/ hemiplegia/ sudden onset weakness or loss of speech in half of body and memory loss/confusion.	Filariasis
Cataract	Tetanus
Glaucoma	HIV/AIDS
Decreased vision (chronic)	Other sexually transmitted diseases
loss of hearing	Jaundice
CVD (Hypertension and heart diseases)	Diarrhea/ dysentery/ increased frequency of stools with or without blood and mucus in stools
Bronchial asthma/ recurrent episode of wheezing and breathlessness with or without cough over long periods or known asthma)	Worms infestation
Musculo-skeletal: (Joint or bone disease/ pain or swelling in any of the joints, or swelling or pus from the bones and back or body aches)	Skin infection: (boil, abscess, itching) and other skin disease
	Respiratory Infections: [Cough with sputum with or without fever and NOT diagnosed as TB, acute upper respiratory infections (cold, runny nose, sore throat with cough, allergic colds included)]

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Prevalence of Frailty and Sarcopenia in Urban Indian Elderly

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The definition of frailty remains contested, but it can be considered as a progressive age-related decline in physiological systems that results in decreased reserves of intrinsic capacity, which confers extreme vulnerability to stressors and increases the risk of a range of adverse health outcomes

Introduction

Aging is characterised by the catabolism of muscles leading to sarcopenia and frailty. These are two geriatric syndromes with partly overlapping phenotypes. Primary sarcopenia, i.e. loss of muscle mass and function related to aging alone, usually precedes frailty. Thus, robustness passes from sarcopenia to frailty to disability leading eventually to a mortal outcome (Cederholm, 2015).

The definition of frailty remains contested, but it can be considered as a progressive age-related decline in physiological systems that results in decreased reserves of intrinsic capacity, which confers extreme vulnerability to stressors and increases the risk of a range of adverse health outcomes (Cesari et al, 2016). The increased risk of negative health-related events includes falls, hospitalizations, disability, institutionalization, and mortality (Clegg et al, 2013; Fried et al, 2009).

The term "sarcopenia" was coined by Rosenberg (1989) to indicate the loss of muscle mass that accompanies aging. He clearly stated that "there is probably no decline in structure and function more dramatic than the decline in lean body mass or muscle mass over the decades of life" (Rosenberg, 1997). Older adults are less active, in part because of the increased chronic disease burden that leads to pain and fatigue (Marquez et al, 2011). In addition, declines in adequate protein and calorie intake, as well as over-nutrition that results in sarcopenic obesity and accelerated loss of muscle mass and function, are important contributors to sarcopenia in older adults (Robinson, Cooper andAihie, 2012; Koster et al, 2011). Sarcopenia is a major cause of frailty.

Methods

This community based cross-sectional study was conducted to assess the prevalence of frailty and sarcopenia in elderly both men and women above 60 years of age living in urban Delhi who were recruited under CARRS surveillance study (Nair et al, 2012). According to Census (2011) Delhi is divided into 9 districts, each of these districts are further divided into sub-divisions (except for New Delhi). Each sub-division is further sub-divided into urban and rural areas. The urban areas were included in the study while the rural areas were excluded.

The sample size was calculated to be 314using prevalence of frailty as 55.5 percent (Biritwum et al, 2016) and the

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power as 90.In order to have 314 participants, about 558 elderly were approached from a list of 737 elderly participants recruited under the CARRS Surveillance. There were 18 participants who refused to be a part of this study while 226 participants did not meet the inclusion criteria or were unavailable (working/ changed residence/ passed away/ went to village). The total number of participants recruited in the study that fulfilled the inclusion criteria were 314. Ten participants had dropped out during the study and 304 participants successfully completed the course of the study (n=304).

Ethical clearance had been taken prior to the initiation of the study from the Institutional Ethical Committee of Institute of Home Economics, University of Delhi. After the participant's verbal assent, a written consent was taken by each of the elderly participant. The thumb impressions were taken as proof for those elderly who were not able to read and write in the presence of any of their family member.

Assessment of Sarcopenia: The European Working Group on Sarcopenia in Older People (EWGSOP) developed a practical clinical definition and consensus diagnostic criteria for age-related sarcopenia. It recommends using the presence of both low muscle mass and low muscle function (strength or performance) for the diagnosis of sarcopenia (Cruz-Jentoft et al, 2010).

- ***Muscle Mass:*** Tanita BC-418 was used to measure muscle mass of the participants. Skeletal Muscle Index (SMI) was calculated as described by Cruz-Jentoft el al (2010) by dividing the absolute muscle mass (kg) by height (metre^2)**.** Cut-off points for low muscle mass in men were taken as <10.76 kg/m^2 and in women as <6.76 kg/m^2.

- **Muscle Strength:** Baseline Hydraulic Hand Dynamometer with LCD (Product 12-0247) was used to measure grip strength of the elderly subjects. The maximum reading for each hand was noted and an average was taken of the maximum values obtained for both the hands as the final grip strength value. Cut-off points were generated stratified by gender and body mass index (BMI) quartiles (lowest 20%) (Table 1).

Table 1: Diagnosis of Low Muscle Strength (low grip strength) and Low Physical Performance

Diagnosis	Low muscle strength (low grip strength)		Low physical performance (low speed)	
Gender	BMI (kg/m^2)	Cut-offs (pounds)	Median height (cms)	Cut-offs (seconds)
Men	≤ 22.39	≤ 23.5	> 165	≥ 7
	22.40 – 25.55	≤ 27.5		
	25.56 – 28.53	≤ 29	≤ 165	≥ 8
	≥ 28.54	≤ 29		
Women	≤ 24.55	≤ 10	> 150	≥ 7
	24.56 – 28.09	≤ 12.5		
	28.10 – 31.49	≤ 13	≤ 150	≥ 8
	≥ 31.50	≤ 13.5		

- **Physical Performance:** A5-metre walking test was done to assess physical performance in each subject. The subjects were tested for their gait speed two times and an average was taken as the final value. Those requiring support/aid for walking could do so. Cut-off points were generated stratified by gender and median height of the subjects using the lowest quintile (lowest 20%) (Table 1).

A subject is diagnosed as sarcopenicif he/she has low muscle mass and either low muscle strength or low physical performance.

Assessment of Frailty: Phenotype Model of Frailty (Fried et al, 2001)was used to assess frailty. It is a physical phenotype of frailty and the criteria used is unintentional weight loss> 4.5 Kgs in the past year (self-reporting), self-reported exhaustion identified by two questions from the CES-D Scale ("I felt that everything I did was an effort" and "I could not get going"), weakness as measured by hand-grip strength (lowest 20% stratified by gender and Body Mass Index), low walking speed as tested by 5m gait speed test (slowest 20%) (adjusting for gender and standing height) and low physical activity as captured by the Global Physical Activity Questionnaire (Armstrong and Bull, 2006) (kilocalories expended per week was calculated and the lowest quintile identified for each gender). The presence of three or more criteria was considered as physically "frail", presence of one or two criteria was considered as "pre-frail" and presence of none of the criterion was taken as "non-frail/robust". The data was statistically analyzed in STATA data analysis and statistical software (version 14.0).

Table 2: Distribution of Subjects According to Presence of Sarcopenia and Frailty

Criteria	60-69 years (n=220)	70-79 years (n=72)	≥80 years (n=12)	Total (n=304)	p
EWGSOP Criteria for Sarcopenia					
LMM + LMS/LMP	21 (9.5)	12 (16.7)	1 (8.3)	34 (11.2)	0.2
LMM	52 (23.6)	18 (25.0)	1 (8.3)	71 (23.4)	0.4
LMS	32 (14.5)	26 (36.1)	6 (50.0)	64 (21)	0.000*
LPP	64 (29.1)	19 (26.4)	4 (33.3)	87 (28.6)	0.8
Fried's Phenotype Criteria for Frailty					
Non-Frail	20 (9.1)	2 (2.8)	0	22 (7.3)	
Pre-Frail	159 (72.3)	55 (76.4)	8 (66.7)	222 (73.0)	0.2
Frail	41 (18.6)	15 (20.8)	4 (33.3)	60 (19.7)	
Unintentional weight loss	40 (18.2)	11 (15.3)	3 (25.0)	54 (17.8)	0.6
Exhaustion	49 (22.3)	14 (19.4)	4 (33.3)	67 (22.0)	0.5
Low grip strength /LMS	32 (14.5)	26 (36.1)	6 (50.0)	64 (21.0)	0.000*
Low walking speed /LPP	64 (29.1)	19 (26.4)	4 (33.3)	87 (28.6)	0.8
Low physical activity	166 (75.4)	62 (86.1)	9 (75.0)	237 (78)	0.1

LMM: Low muscle mass; LMS: Low muscle strength; LPP: Low physical performance
Figures in parentheses denote percentages

Results

The socio-demographic profile of the subjects can be seen in Table 2. The subjects were divided into three categories based on their age: young olds who were between 60-69 years (72.4 %), old olds who were between 70-79 years (23.7 %) and oldest olds who were ≥ 80 years (3.9 %). There were 150 elderly men and 154 elderly women subjects. Most of the elderly were Hindus (85.5 %) of general category (74.3 %), had 1-3 children (60.5 %) and a small family size of 1-5 members (97.7 %).

Assessment of Sarcopenia among Subjects: As per the EWGSOP criteria (low muscle mass + low muscle function), about 11.2 percent subjects were sarcopenic (Table 2). The most common characteristic was low physical performance (28.6 %) followed by low muscle mass (23.4 percent) and low muscle strength (21 %). There was a significant difference noted among the different age categories of the elderly in terms of low muscle strength (p=0.000).

Frailty Assessment of the Subjects: The data on frailty showed that 19.7 percent subjects were frail, 73 percent were pre-frail and only 7.3 percent were non-frail/robust (Table 2). Frailty increased with age but there were no significant differences noted between the groups. The most reported frailty criterion among the elderly subjects was low physical activity (78 %) followed by low walking speed (28.6 %) and then by exhaustion (22.0 %).

Increase in frailty with age was non-significant. Gender-wise distribution of frailty showed that 51.7 percent of frail elderly were men as compared to 48.3 percent women although there was no

significant difference seen (Figure 1). More men were non-frail/robust (63.6 %) as compared to women (36.4 %) while more women were pre-frail (at risk of developing frailty) (52.7 %) as compared to men (47.3 %).

Components of frailty that were more incidental in frail males than females were unintentional weight loss (55.9 %), low hand grip strength (51.8 %), low gait speed (53.5 %) and low physical activity (51.8 %). Exhaustion was the only component that was reported more in frail females (52.4 %) than males.

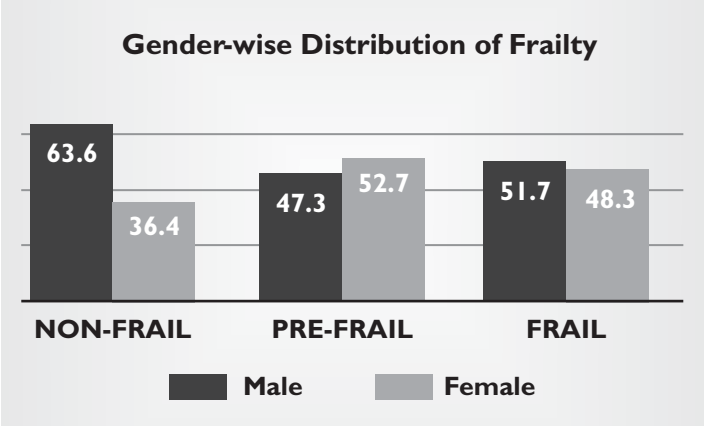

Fig 1: Gender-wise Distribution of Frailty

Discussion

This cross-sectional study was conducted to identify the prevalence of sarcopenia and frailty in the elderly living in urban Delhi. The EWGSOP criteria was used to calculate the prevalence of sarcopenia. It was seen that 11.2 percent elderly subjects had low muscle mass alongwith low muscle function. A study done in India by Mohanty and Sahoo (2016) on 678 elderly subjects above 60 years of age in Odisha reported the prevalence of sarcopenia in the elderly to be 17.9 percent using relative skeletal muscle mass below 2SD in comparison to younger adults (18 – 40 years of age) with normal skeletal muscle mass. They also found that the likelihood of disability in sarcopenic subjects is independent of age, weight, BMI, other factors of morbidity and health factors.

According to a review by von Haehling et al (2010) the presence of sarcopenia in elderly aged 80 years and above ranges from 11 to 50 percent. It was not the case in this study as it showed a prevalence of only 0.3 percent in elderly above 80 years of age. Surprisingly, more young olds (68.3 %) were sarcopenic as compared to old olds (35.3 %) and oldest olds (0.3 %). This contrasts with reports by Limpawattana et al (2015), Castillo et al (2003), Rosenberg (1989, 1997) that show sarcopenia to be associated with increase in age. This may be since multiple factors in middle age like unhealthy diet, physical inactivity, tobacco and alcohol consumption, adverse perinatal events in the early life and nutrition transition affect the quality of life in the later years (Puri et al, 2017). These factors have not been studied in the Indian elderly population which is one of the limitations of this study as well.

Low physical performance was the highest reported criterion which shows that even if the muscle mass decline is not predominant in these subjects, the physical sedentariness has caused a decline in muscle performance. Muscle strength was significantly associated with age (p=000) in the elderly.

The phenotype model described by Fried et al (2001) was used to assess frailty in the elderly subjects. Frailty was observed in 19.7 percent subjects and increased with age (although no significant difference was seen). Kashikar and Nagarkar (2016) showed the prevalence of frailty using Fried's phenotype model to be 26 percent in a cross-sectional study of 250 community dwelling elderly subjects in Pune. Khandelwal et al (2012) studied 250 older hospitalized patients and found frailty in 33.2 percent using

Fried's criteria.

Incidence of frailty was more in elderly men (20.6 %) as compared to women (18.8 %) although there was no significant difference ($p>0.05$). Gordon et al (2017) examined sex differences in frailty and this meta-analysis found that females had higher frailty index (FI) scores than males at all ages while male mortality rates were higher than females up to 90-94 years of age.

Most of the elderly in this study were pre-frail (73 %). This shows that a large proportion of the elderly are at a higher risk of progression to frailty (Xue, 2011) if exposed to a stressor. Veronese et al (2017) conducted a meta-analysis based on six prospective cohorts and reported pre-frail individuals have an increased risk for an early onset of many CVDs. A longitudinal study by Feng et al (2014) showed that prefrail have increased likelihood to develop depressive symptoms. Another cross-sectional observational study analyzing 146 patients aged 70 and older at a primary care centre in Madrid found that the prefrail stage is associated with the start of functional decline and suggested interventions should target this stage to delay the onset of frailty and/or functional decline (Acosta-Benito and Sevilla-Machuca, 2016).

The decline in muscle mass is not very prominent but the decline in muscle strength is significant with age

More than half of Indians ≥ 20 years (54.4%) are physically inactive as shown by Anjana et al (2014). Physical inactivity was the highest reported component of frailty (78 %) in the elderly population of this study. It shows that a larger proportion of the elderly needs to incorporate physical activity/exercise to reduce the progression of frailty. Effective strategies should be planned to target low muscle strength and low physical activity in the elderly.

Law et al (2016) have described in detail regarding the resistance exercises that theelderly can undertake to prevent muscle wasting. They have also mentioned the frequency, duration, exercises, sets, intensity, repetitions and progression of these resistance training programs. It is very important for older adults to be instructed and trained by an exercise professional before starting a resistance training program. A minimum of 30 minutes of high intensity total body exercises that are multi-joint oriented should be performed at least 2-3 times a week (Law et al, 2016).

Conclusion

Low muscle strength in the elderly was found to be significantly related with age. The study also showed that most of the Indian elderly are at risk of developing frailty. Surprisingly, sarcopenia was the highest in the youngest old (60-69 years of age). Both these conditions seem to be setting in at a much lower age in India as compared to the elderly of the West. This implies that prevention of sarcopenia and frailty needs to be advocated early, in young adults in India. The decline in muscle mass is not very prominent but the decline in muscle strength is significant with age. In addition, these elderly were found to be physically inactive. Effective strategies need to be planned to target low muscle strength and low physical activity in the elderly. Resistance exercises such as leg presses, chest presses, leg extensions have shown to improve muscle strength and quality but should be performed under supervision to prevent injuries.

Recommendations

- Some "functional" or "task-specific" exercises, which are activities of everyday life, such as standing up from a chair, lifting and carrying a loaded laundry basket, vacuuming, or ascending and descending a

flight of stairs can be performed at home (Law et al, 2016).

- They also reported that the principles of overload and resistance progression can conceptually be applied to these functional tasks. For example, an effective functional quadriceps and gluteal exercise that mimics a leg press exercise is standing up from a chair.

- A low intensity version of this exercise is to stand up from a chair for a given number of repetitions with arms across the chest; wearing or holding more weight and performing controlled powerful movements can increase its intensity (Manini et al, 2007).

- An example of an upper extremity functional exercise is lifting and carrying household items (e.g., a bag of groceries) and placing it on a shelf. One can increase the intensity by altering the height it is lifted, the distance carried, and/or the amount of weight being lifted and carried (Law et al, 2016).

- Instead of the leg press exercises, one can perform squats initially by using only the resistance of his/her own body weight, but then increasing the resistance by holding a half-filled milk jug in either hand.

- A higher intensity version of this exercise would be to complete 2 to 3 sets of a given number of repetitions while holding milk jugs filled to capacity in each hand. Similarly, substituting a single arm row using some type of free weight (e.g., a dumbbell or a household item) can serve as an effective exercise stimulus for the back musculature.

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An Anthropological Study about Life Satisfaction and its Dimensions in Old Age

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Introduction

Ageing of human population is one of the major demographic transitions of the 21st century. The proportion of elderly is increasing at an alarming rate and the aged constitute the fastest growing section of the population. According to Sample Registration System data, the population of aged in India has increased from 5.3 per cent to 5.7 per cent and from 6.0 per cent to 8.0 per cent from 1971 to 1981 and from 1991 to 2011 respectively. According to Census of India 2011, there are more elderly females in both rural (5.8 per cent) and urban (5.5 per cent) India as compared to males (5.1 per cent in rural and 4.8 percent in urban areas). According to Central Statistics Office (Central Statistics Office, 2011) the elderly population is expected to increase its share to more than 10 per cent by the year 2021.With the decline in fertility and mortality rates accompanied by improvement in child survival and increased life expectancy, a significant feature of demographic change is the progressive increase in the number of elderly persons.

The Ministry of Social Justice and Empowerment, which is the nodal Ministry for this purpose focuses on policies and programmes for the Senior Citizens in India. Government of India adopted 'National Policy on Older Persons' (NPOP) in January 1999. The policy defines 'senior citizen' or 'elderly' as a person who is60 years of age and above. In pursuance of the NPOP, a National Council for Older Persons (NCOP) was constituted in 1999 under the Chairpersonship of the Minister for Social Justice and Empowerment to oversee implementation of the Policy.The NCOP is the highest body to advise the Government in the formulation and implementation of policy and programmes for the aged. The Council was reconstituted in 2005 with members comprising of Central and State government representatives, representatives of NGOs, citizen's groups, retired persons' associations, and experts in the field of law, social welfare, and medicine.

The Integrated Programme for Older Persons (IPOP) is a scheme that provides financial assistance upto 90 per cent of the project cost to non-governmental organisations (NGOs). This money is used to establish and maintain old age homes, day care centres, mobile medicare units and to provide non-institutional services to older persons. The scheme also works towards other needs of older persons such as reinforcing and strengthening the family, generation of awareness on related issues and facilitating productive ageing.The Scheme for Assistance to Panchayati Raj Institutions(PRIs), Voluntary organisations

With the decline in fertility and mortality rates accompanied by improve-ment in child survival and increased life expectancy, a significant feature of demographic change is the progressive increase in the number of elderly persons

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(VOs) and Self-Help Groups (SHGs) for the construction of Old Age Homes (OAHs) and Multi Service Centres (MSCs) for older persons has also been initiated. This scheme provides a one-time construction grant. The Central Government Health Scheme (CGHS) provides pensioners of central government offices the facility to obtain medicines for chronic ailments upto three months at a stretch. The National Mental Health Programme (NMHP) focuses on the needs of senior citizens who are affected with Alzheimer's and other dementias, Parkinson's disease, depression and psycho-geriatric disorders.

The Maintenance and Welfare of Parents and Senior Citizens Act 2007 (MWPS Act'07), was enacted in December 2007 to ensure need based maintenance for parents and senior citizens and their welfare. Indira Gandhi National Old Age Pension Scheme (IGNOAPS) was launched by the Ministry of Rural Development (MoRD). All persons of 60 years and above (revised downwards from 65 in 2011) and belonging to Below Poverty Line(BPL) category according to the criteria prescribed by the Government of India time to time, are eligible to be a beneficiary of the scheme. It is a part of National Social Assistance Programme (NSAP) which further includes Indira Gandhi National Widow Pension Scheme (IGNWPS), Indira Gandhi National Disability Pension Scheme (IGNDPS), National Family Benefit Scheme (NFBS) and Annapurna schemes other than Indira Gandhi National Old Age Pension Scheme (IGNOAPS). The pension amount, as of Union Budget 2012-13 is INR 200 per month per person from 60-79 years and INR 500 per person for those above 80 years. The amount of Indira Gandhi National Pension for widows is INR 300 per month.

Methodological Approach

According to the Census of India (2011), Himachal Pradesh has the second highest percentage of elderly (10.3 per cent) in India after Kerala. As ageing population in India is growing, there is a need to focus on issues that affect elderly. In order to frame policies and to make the ongoing programmes and policies successful, data is required about various issues of the elderly. A combination of qualitative and quantitative approaches is required for a more comprehensive understanding of ageing issues. A number of disciplines such as anthropology, sociology, geography, psychology, social policy, law, economics, public administration can holistically deal with the issues related to ageing.

The present study is an attempt to holistically understand the life satisfaction among the rural elderly as it affects the quality of life. Quality of life is an individual's satisfaction with life in domains which he/she considers important. Historically known as 'life satisfaction' or 'subjective well-being', it is now sometimes referred to as 'overall quality of life' or 'global quality of life'. Moreover, the understanding of this quality of life or life satisfaction is essential to understand the gap between expectations of elderly and their fulfillment. This study was conducted with an aim to analyse the life satisfaction among the rural elderly in Himachal Pradesh.

The data were collected from a rural sample of 160 elderly individuals (89 males and 71 females) living in and around Naggar village, district Kullu, Himachal Pradesh. To obtain data, a specifically designed schedule was used. The schedule contained the questions specifically on various aspects of life satisfaction and quality of life among the

elderly. Life satisfaction among the elderly was measured using 'life satisfaction scale' given by Chadha and Willigen (1995). The scale has positively and negatively worded statements presented in 'likert-type' response categories with categories ranging from strongly agree to strongly disagree. Positively worded questions were scored from 7 to 1 for response categories of strongly agree to strongly disagree. Similarly for same response categories, negatively worded items were scored from 1 to 7. After scoring, the means and standard deviations for these categories were calculated. Sex differences in the scores were evaluated with the help of student's t-test. Apart from quantification of data, the qualitative data is also presented to supplement the quantitative data.

Socio-demographic Profile

Majority (41.87 per cent) of the elderly belongs to 60-69 age group. Between 80-89 years of age there are more females (29.57 per cent) as compared to males (19.10 per cent). More than 40 per cent of the elderly were illiterate. More females (54.93 per cent) than males (33.71 per cent) were illiterate. Majority (73.75 per cent) of the elderly were living with their spouse. There were more widows compared to widowers. The socio-demographic profile of respondents is given in Table 1.

Table 1: Socio-demographic Profile of Respondents

Socio-demographic indicators	Gender		Total
	Male	Female	
Age			
60-69	44.94	38.02	41.87
70-79	35.95	2.39	34.37
80-89	19.10	29.57	23.75
Educational status			
Illiterate	33.71	54.93	43.13
Able to read and write	4.49	2.82	3.75
Primary	15.73	12.68	14.37
Middle	25.84	16.9	21.87
Matric	13.48	8.45	11.25
Graduate	6.74	4.22	5.63
Marital status			
Living with spouse	79.77	66.2	73.75
Divorced	3.37	8.45	5.62
Separated	6.74	9.86	8.12
Widow/widower	10.11	15.49	12.5

Life Satisfaction Among the Elderly

Life satisfaction is an important construct and one of the commonly accepted subjective conditions of quality of life and one of the important facets of ageing process. Both life satisfaction and quality of life are interrelated concepts and key elements in the understanding of ageing from a psycho-social perspective. Life satisfaction is a yardstick of 'psycho-social well-being' of the aged [Chadha and Willigen (1992)]. To determine whether the elderly have adapted to ageing, it is important to obtain their opinion about their condition. In this context, self-rating of life satisfaction is recognised as a principal measure of effective adaptation to ageing and well-being Atchley (1998).

Among the aged, it not only reflects their psychological adjustment but also their physical, social and financial adjustments [Chadha and Willigen (1992)]. The life satisfaction scores among the elderly are given in Table 2.

Table 2: Life Satisfaction Scores among the Elderly

Age group	Categories and number of respondents	Mean life satisfaction score	Standard deviation	t-values
60-69	Male=40	125.80	15.94	1.876
	Female=27	118.96	12.4	
70-79	Male=32	110.21	16.84	2.103
	Female=23	99.3	21.65	
80-89	Male=17	85.05	24.42	0.195
	Female=21	83.61	21.18	

It is clear from the table that at all ages, the life satisfaction among males was higher as compared to females. There was a decrease in life satisfaction as the age progresses among both males and females.

Dimensions of Life Satisfaction among Elderly

Knowledge of dimensions that are crucial to life satisfaction among elderly is essential in order to improve the elderly care and address their issues(Borg et al., 2006). A number of attempts have been made by previous studies to understand these factors. The factors such as economic factors (Borg et al., 2006; Jung et al., 2010), health (Borg et al., 2006; Angelini et al., 2012), religiosity (Park et al., 2012), social support (Park et al., 2012), role in decision making (Onishi et al., 2010) and availability of health care facilities (Onishi et al., 2010) affect the life satisfaction among elderly. In the present study, the respondents described life satisfaction in terms of financial self-sufficiency, social network and social support, religious disposition and health status.

Economic conditions are the most important determinant of life satisfaction among the elderly

Financial Status of the Elderly

Economic conditions are the most important determinant of life satisfaction among the elderly (Jung et al., 2010). The sources of financial assistance among the elderly in the present study are presented in Table 3.

Table 3: Sources of Financial Assistance among the Elderly

Sources of Financial Assistance		Gender		Total
		Male	Female	
Dependent	Spouse		29.58	13.12
	Children	25.92	18.31	21.25
	Grand children		8.45	3.75
Self-sufficient	Pensions	40.74	12.68	26.25
	Business	11.11	5.63	8.12
	Agriculture	13.58	15.49	13.75
	Property rent	2.47	4.22	3.12
	Fixed deposits	2.46	-	1.25

In the present study, the majority of elderly males were dependent upon their pensions followed by financial assistance from their children (25.92 per cent). The percentage of males drawing pensions (40.74 per cent) as compared to females(12.68 per cent) was higher. The majority of female elderly were dependent upon their husbands (29.58 per cent) or children (18.31 per cent) for financial assistance. The dependency of females can be explained by the fact that the majority of female elderly were illiterate (54.93 per cent) and around 43.8 per cent were either widows or divorced or separated. Previous studies by Bloom et al. (2010) indicate that an overwhelming proportion of elderly live with their children in India, and their economic security and well-being is largely contingent on the economic capacity of the family unit (Siva Raju,2011). In this scenario, females are more likely to depend on others, given economic dependency, lower literacy and higher incidence of widowhood among them [Gopal (2006)]. Moreover, in the present sample, elderly males were found to have a relatively higher life satisfaction score than the elderly females. The reason for lower life satisfaction score among elderly females can be attributed to their financial dependence on their husband and children.

Social Networks and Social Support among Elderly

Social support is a concept that is generally understood in an intuitive sense, as the help from other people in a difficult life situation. One of the first definitions was put forward by Caplan in 1974 who defined social support as an enduring pattern of continuous or intermittent ties that play a

significant part in maintaining the psychological and physical integrity of the individual over time. Cobb (1976) defined social support as 'the individual belief that one is cared for and loved, esteemed and valued, and belongs to a network of communication and mutual obligations'. The definition of social support varies widely among those who have studied it. Lin et al. (1979) defined social support as "support accessible to an individual through social ties to other individuals, groups, and the larger community". Thoits (1986) defined social support as the form of coping assistance or as the active participation of the significant others in an individual's stress management efforts.

Social support is an important issue for elderly and research on social support has continued to be a dominant force in gerontological literature. It determines the subjective well-being in old age (Rathore, 2009). In the present study, the data related to social networks and frequency of interaction with social network were obtained. The percentage distribution of elderly feeling closer to their social network is given in Table 4.

Table 4: Percentage Distribution of Elderly Feeling Closer to their Social Network

Person(s) the respondents felt closer	Male	Female	Total
Spouse	58.43	47.88	53.75
Children	14.61	29.57	21.25
Grandchildren	15.73	14.08	15.1
Other relatives	10.23	7.45	10.00

The majority (53.75 per cent) of elderly in the present study felt closer to their spouses. More males (58.43 per cent) felt closer to their spouses than the females (47.88 per cent). Apart from their husbands, females felt closer to their children as well. These findings can be supported by the work of Antonucci and Akiyama (1987) who stated that females have a wider social network than males and males tend to heavily rely on their spouses for social support. Similar findings have been reported by other studies on sex differences in receiving social support among elderly (Antonucci and Akiyama, 1987; Krause and Keith, 1989). The respondents were asked about the frequency of their interaction with social network outside the family. Most of the male elderly visited their friends often followed by neighbours while the female elderly visited their neighbours more often than the friends and relatives.

Religious Disposition

Religion is a powerful social institution which plays an important role in shaping the social behaviour. Religiosity involves organised worship and practice, as well as theology (Jenkins and Pargament, 1995). Religiosity may be broadly defined as a search for the sacred that may include public as well as private and intrinsic dimensions (Miller and Thoresen, 2003). Religiosity consists of two modes of religious involvement: the personal and the institutional mode. The personal mode is comprised of religious beliefs, feelings, and behaviour that find their

Table 5: Places and Frequency of Prayer among Elderly

Places and frequency of prayer		Male	Female	Total
At home	Once a day	22.47	22.53	22.50
	Twice a day	57.3	64.79	60.62
	Occasionally	5.62	4.22	5.10
	Only on religious festivals	-	-	-
	No fixed schedule	14.61	8.45	11.87
At places of worship	Once a day	12.36	11.28	11.87
	Twice a day	22.47	8.45	16.25
	Occasionally	32.58	33.8	33.75
	Only on religious festivals	17.98	26.76	21.87
	No fixed schedule	14.61	19.72	16.87

source in personal and individualised religion. The institutional mode is comprised of the religious beliefs, feelings or behaviour related to formalised and institutionalised religion. The gender-wise distribution of places and frequency of prayer among the elderly in the present study are given in Table 5.

Numerous studies have suggested that religiosity is positively associated with life satisfaction among the elderly (Ardelt, 2003; Koenig et al., 2001; Nelson-Becker, 2005; Park et al., 2012). The gerontological studies reveal that elderly tend to get more religious as religion may provide them with social support, means of interaction with social network (Dubey et al., 2011), companionship and counselling, coping mechanism, emotional support (Wolff, 1961). It is clear from the Table 5 that the majority (60.62 per cent) of elderly prayed twice at their home and visited the places of worship occasionally (33.75 per cent). It is further found that more males (22.47 per cent)than females (8.45 per cent) visited the place of worship twice.

The gerontological studies reveal that elderly tend to get more religious as religion may provide them with social support, means of interaction with social network (Dubey et al., 2011), companionship and counse-lling, coping mechanism, emotional support

The gender-wise distribution of changes in frequency of visits to places of worship in old age is given in Table 6.

Table 6: Changes in Frequency of Visit to Places of Worship

Visit to places of worship	Male	Female	Total
Increased with age	64.04	74.65	68.75
Decreased with age	12.35	5.63	9.37
No change	23.59	19.72	21.87

Majority of the elderly (68.75 per cent) responded that their visits to places of worship increased with age and the decrease in frequency of visits to religious places was more among males (12.35 per cent) than the females (5.63 per cent). These findings are also supported by the previous studies by Levin et al. (1994) and Dubey et al. (2011) which indicate that with increasing age, religiosity tends to increase.

Satisfaction with Health

Health is one of many dimensions contributing to the overall quality of life (Rathore, 2009). It is a broad concept which can embody a huge range of meanings, from the narrowly technical to the all-embracing or philosophical. To a layperson, health would mean a sound physical body. It is more so, a condition of a body that helps a person to perform his day-to-day activities to the expectation of others (Mehta1992).To some people, health is a general sense of well-being and feeling good. For others, health includes the expectations that they will not become ill or will be able to recover quickly. For most, health involves the ability to do what they want to do, with one's body not presenting difficulty in normal activities. For some, health has moral connotations, with disease the consequence of immorality. People's prominent concerns with health generally encompass physical, psychological, emotional, and spiritual dimensions of well-being.The word "health" is derived from the old English word for heal which means 'whole', signalling that health concerns the whole person and his or her integrity, soundness or well-being. Only physical well-being no longer stands relevant in present context, a new conception of health has emerged within a broader state of complete physical, mental, social and spiritual well-being and not just the absence of disease and illness. Conceptions of what constitutes health vary widely. In the context of medical anthropology, Landy (1977) defined a state of health as "the condition of an organism that permits it to adapt to its environment situation with relatively minimal pain and discomfort, achieve at least some physical and psychic gratification and possess a reasonable

probability of survival". While on the other hand, a state of disease, according to Landy "is a condition of the organism that seriously obtrudes against these adaptive requirements and causes behavioural dysfunction". Rao (1992) maintained that the aim and objective of health and medical science is to help achieve such a well-being that one can function at his choice not only as an individual, but also as a useful member of the family, social groups and community.

Health has two common meanings in everyday use, one negative and one positive. The negative definition of health is the absence of disease or illness. The positive definition of health is a state of well-being, interpreted by the World Health Organisation (WHO) in its Constitution as 'a state of complete physical, mental and social well-being, not merely the absence of disease or infirmity'. Assuring physical well-being by preventing disease, disability, dysfunction, and premature death have been the primary focus of modern medical care. However, secondary, social and psychological factors have also been recognised as having major influences on general health status (De La Carcela and Chin, 1998).

In the present study, the data were collected regarding the occurrence of health problems among elderly, their satisfaction with their health and life, and desire for longevity. The most common health problem among the elderly in the present study was hypertension (13.12 per cent). Its frequency was slightly higher in males (14.08 per cent) as compared to females (12.35 per cent). The most prevalent problem among the females was arthritis (21.13 per cent) which was less frequent among males (3.37 per cent). Heart problems (11.87 per cent), cataract (11.87 per cent) and renal diseases (11.25 per cent) were the other common problems among elderly in the study area. As a part of self-assessment of health conditions, majority of respondents (58.75 per cent) were satisfied, 21.87 were less satisfied and 19.37 were not satisfied. 65.62 per cent elderly were satisfied with their lives in general and 61.25 per cent elderly desired for longevity. The desire for longevity was more among males (62.92 per cent) than females (59.15 per cent).

Conclusion and Suggestions

The present study attempted to analyse the life satisfaction and dimensions of life satisfaction among the rural elderly. The findings of the study suggest that the respondents described their life satisfaction in terms of financial self-sufficiency, social network and social support, religious disposition and satisfaction with their health conditions. The scores of life satisfaction suggest that males have more life satisfaction as compared to females and life satisfaction decreases with the progressing age. The study further suggests that females benefit less from the pension schemes as compared to males and are more financially dependent. While drafting policies, special attention needs to be paid towards the betterment of elderly females in India especially rural elderly females. Moreover, the amount of old age pensions and the proportions of elderly who benefit from them have to be improved significantly. In spite of financial dependency among females, they had a wider social network than the males in the present sample. Religion, too, provided elderly with the social support and religiosity among elderly increased with progressing age. Majority of elderly were satisfied with their health and their lives in general. The desire for longevity was more among males than females.

Quality of life is an overall sense of well-being: physical, personal and societal well-being (Sharma, 2009). Life satisfaction

While drafting policies, special attention needs to be paid towards the betterment of elderly females in India especially rural elderly females. Moreover, the amount of old age pensions and the proportions of elderly who benefit from them have to be improved significantly

among the aged is an important concept, as it has far-reaching implications and it can give an overall view as to how much adjustment an individual is, or how the person is 'ageing successfully' (Chadha et al., 2009). Life satisfaction is an important area of research among the elderly. It reflects certain direct (economic conditions, social support, satisfaction with health, etc.) and indirect concerns (policies and programmes for the elderly, availability of health care services, etc.)of the elderly. Thus, the understanding of this multi-dimensional construct is crucial from various perspectives. From the health care perspective, understanding of concept of life satisfaction helps in making the health care appropriate as per the needs and perspectives of the elderly. From the policy perspective, understanding of this construct helps in making the policies and programmes sensitive and beneficial for the elderly. With the emergence of old age homes and day care centres for the elderly, the understanding of the needs of the elderly becomes even more essential. Understanding of social factors that affect the life satisfaction such as social support and religiosity helps in making the social services provided to the elderly through NGOs more beneficial.

It is suggested that the disciplines such as anthropology, sociology, geography, psychology, social policy, law, economics, public administration need to work together to generate more and more data on the issues that affect elderly and their life satisfaction. More focus on elderly issues will bring significant changes in policy, their social environment and health care. These significant changes are essential to make elderly life more dignified in our country.

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Old Age and Human Rights: A Socio-Legal Perspective

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Even today, there are people who look and appear vibrant at their 60th or 70th birthday while there are people who appear old at their early stages at least from the point of vibrancy

Old age, which the French people call 'la torisieme age', is the third or the last stage of life coming after the young and the middle age. It is true that in modern societies the concept of the stages of life or 'life circle' has transformed into the notion of 'life course' where it is not the chronological age but the scope for discourses that determines one's place in society. But, at the same time it cannot be ignored that the continuous use of one's physique definitely minimises one's vitality and it effects all types of gesture and posture leading towards a situation we call ageing. Growing old is a life long process and the disabilities due to age, be it physical or psychological, partly result from the ages that one has crossed earlier. Social and economic factors along with the institutional interventions do have their shares in shaping external conditions in their life.

It is however true, that ageing, lack of vibrancy etc, are not always a chronological matter. There was a time when life expectancy was low. Even today, there are people who look and appear vibrant at their 60th or 70th birthday while there are people who appear old at their early stages at least from the point of vibrancy. Both the phenomena are not related to chronology, but, with the presence and absence of mental stress, economic hardship, social isolation, lack of rights in life, etc.

Problems of the old people arise from different perspectives. It is true that the old people are mostly the consumers than the producers. They usually live on what they have produced and saved earlier or share the income of the next generation. Not many of the people in our country are fortunate enough to be put into the first category. They have to depend on their sons, daughters or near relatives for their livelihood. This is more so in case of women whose primary role is within the household and the family. Very few of the females falling in 60+ age group in the eighties, have worked in the formal sector entitling themselves to retirement benefit.

The economic paucity hardly tells the whole story. Old age appears as a menace where the senior citizens are deprived of their rights. In most of the cases their rights are understood as right to survival. They are denied most of the effective means to continue their creative human lives. It appears more prominent in countries where poor cognitive base is left for the senior citizens. The short-sighted attitudinal perspective also keeps the old people at the margins of the society. It is thus mandatory to have a proper understanding of the necessary rules and rights guiding the human rights of the senior citizens. The available legal, social, moral and governmental norms are analyzed in this article to find out the possible ways by which elderly people's

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human rights could be enjoyed and they overcome pain and agony. The article also reflects the available laws, policies and guidelines for the protection of the human rights of old persons in India.

Ageing is a natural, inevitable and irreversible process of human life. It involves a feeling of fulfillment in life as well as an apprehensive anxiety. It is not a trouble associated with a single individual rather a social issue which requires serious attention. Hopefully, the issue of human longevity, as well as the well-being of the elderly persons, is being considered as one of the important indicators of human development. But, superannuation is still a challenge for us as most of the institutions show little modifications to accommodate the issue of ageing. As a result, instances of elder abuse, violation of human rights etc, are increasing day by day. In every case, there are instances of increasing hiatus between the norms and the values where each overturns other on the plea of another. What the norms, especially the legal norms suggest, is kept in abeyance by the name of values and morality. The unnecessary call of superficiality determines the place of the old peoples bothering little about their concerns. Similar treatment is found in the familial, social and even legal prescriptions and proscriptions offered to the old people.

National and International conventions have, however, initiated several special rights and privileges for the aged people. But, still there is an inherent poor cognitive and attitudinal value that deprives the old persons to enjoy their rights enshrined in different declarations. Ageing as a social issue requires the full acceptance of the rights and privileges that the old people earn as a conscious, law-abiding citizen of a country.

The issue of old-age is definitely linked with social institutions. Usually, the place of an individual in the society is understood in terms of familial integration. In the family circle, the notion of *vyakti* (individual) comes later than the *gosthi* (group). Many traditional societies of the past considered family harmony to be the most important factor governing family relationships. The reverence for the family used to be reinforced by philosophical traditions and public policies. In *Chinese society*, for example, it was embedded in a value system that stressed filial piety. Thus, mistreatment of older people was completely unrecognised and thus was certainly unreported. The tradition is still the guiding force in many societies. The studies on the attitudes towards elder abuse reveals that *citizens of Korean* origin believe in the primacy of family harmony over individual well-being and considers it as a yardstick for determining whether a particular behaviour is to be regarded as abusive or not (Mawby, 1983). Similarly, people of Japanese origin considers the group to be the paramount, and that an individual's well-being should be sacrificed for the good of the group (Conklin, 1987). At the same time, there are societies where elder abuse exhibit cruelest examples and report discriminations on several grounds. In some societies, older widows are abandoned and their property seized. Mourning rites of passages that are prescribed for widows in parts of Africa and India include those practices which certainly appear to be cruel and involves incidences of sexual violence, forced levirate marriages (O'Neil, 1990), and even expulsion from their homes (Baldridge & Brown, 2000). In some places, accusations of witchcraft, connected with the unexp-lained events in the local community, such as a death or crop failure, are often targeted towards the isolated, older women (Owen, 1996.) In sub-Saharan Africa, accusations of the practice of witchcraft have driven many older women from their homes and their communities and forced them to live in poverty in urban areas. In the United

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Republic of Tanzania, an estimated 500 older women are accused of witchcraft and are murdered every year (Coulmont, 2008). These acts of violence have become as firmly entrenched as social customs that many of them have lost the importance to be considered locally as elder abuse.

Human Rights are the basic rights which fundamentally and inherently belong to each individual. In this sense, Human rights are distinct from civil liberties which include freedoms established by the law of a particular state and applied by that state in its own jurisdiction. Human rights are the fundamental rights which human being possesses by the fact of being human, and which are neither created nor can be abrogated by any government. Being supported by several international conventions and treaties (such as the United Nation's Universal Declaration of Human rights in 1948), these include cultural, economic, and political rights, such as right to life, liberty, education and equality, and right of association, belief, free speech, information, religion, movement, and nationality. Promulgation of these rights is not binding on any country, but they serve as a standard of concern for people and form the basis of many modern national constitutions.

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The rights protecting and safeguarding basic human dignity including the dignity of old-age persons are globally recognised human rights. Nowadays, these remarkable rights are also known as fundamental rights in different countries of constitutional democracy. Modern human rights law developed out of customs and theories that established the rights of the individual in relation to the state. These rights were expressed in legal terms in documents such as the English Bill of Rights of 1688, the U.S. Declaration of Independence of 1776, the U.S. Bill of Rights added to the U.S. Constitution in 1789, and the French Declaration of the Rights of Man and the Citizen added to the French Constitution in 1791.

The question of ageing was first debated at the United Nations in 1948 at the initiative of Argentina. The issue was again raised by Malta in 1969. In 1971 the General Assembly asked the Secretary-General to prepare a comprehensive report on the elderly and to suggest guideline for the national and international action. In 1978, the General Assembly decided to hold a World Conference on the Ageing. Accordingly, the World Assembly on Ageing was held in Vienna from July 26 to August 6, 1982 wherein an International Plan of Action on Ageing was adopted. The overall goal of the Plan was to strengthen the ability of individual countries to deal effectively with the ageing in their population, keeping in mind the special concerns and needs of the elderly. The Plan attempted to promote understanding of the social, economic and cultural implications of ageing and of related humanitarian and development issues. The International Plan of Action on Ageing was adopted by the General Assembly in 1982 and the Assembly in subsequent years called on governments to continue to implement its principles and recommendations. The Assembly urged the Secretary-General to continue his efforts to ensure that follow-up action to the Plan is carried out effectively.

(I) In 1992, the U.N.General Assembly adopted the proclamation to observe the year 1999 as the International Year of the Older Persons.

(ii) The U. N. General Assembly has declared -1st October as the International Day for the Elderly, later rechristened as the International Day of the Older Persons.

(iii) The U. N. General Assembly on December 16, 1991 adopted eighteen principles which are organized into five clusters, e.g, *independence*, *participation*, *care*, *self-fulfillment*, and *dignity* of the older persons.

On the bases of those principles the U. N General assembly asked different agencies to formulate the action programmes considering the following issues:

(i) Older Persons should have the opportunity to work and determine when to leave the work force.

(ii) Older Persons should remain integrated in society and participate actively in the formulation of policies affecting their well-being.

(iii) Older Persons should have access to health care to help them maintain the optimum level of physical, mental and emotional well-being.

(iv) Older Persons should be able to pursue opportunities for full development of their potential and have access to educational, cultural, spiritual and recreational resources of society.

(v) Older Persons should be able to live in dignity and security and should be free from exploitation and mental and physical abuse.

Following Universal Declaration of Human Rights, each States Parties shall take all appropriate measures to eliminate discrimination against women in the field of employment in order to ensure, on a basis of equality of men and women, the same rights, in particular: the right to work; the right to the same employment opportunities; the right to promotion, job security and all benefits and conditions of service; the right to social security, particularly in cases of retirement, sickness, invalidity and old age, eliminate discrimination against women in the field of health care in order to ensure, on a basis of equality of men and women, access to health care services, eliminate discrimination against women in rural areas in order to ensure in particular the right to benefit directly from social security programmes; to enjoy adequate living conditions (Carp, 2000).

Following the Proclamations on Ageing, particularly that of Cairo Proclamation and Copenhagen Proclamation, the General assembly has called for national initiatives to enshrine their commitments towards the protection of rights of old-age persons. The General Assembly urges the support of national initiatives on ageing so that: Appropriate national policies and programmes for the old-age are considered as part of overall development strategies; Governmental and non-governmental organizations collaborate in the development of primary health care, health promotion and self-help programmes for the Old-age; Older persons are viewed as contributors to their societies and not as a burden; Policies and programmes are developed which respond to the special characteristics, needs and abilities of older women; Families are supported in providing care (Eager and Gordon, 1999).

The major objectives of the programme have been to develop systems of health care as well as systems of economic and social security in old age paying special attention to the needs of women .To develop a social support system with a view to enhancing the ability of families to take care of elderly people within the family.

Governments should seek to enhance the self-reliance of elderly people to facilitate their continued participation in society. In consultation with elderly people, Governments should ensure that the necessary conditions are developed to enable elderly people to lead self-

In consultation with elderly people, Governments should ensure that the necessary conditions are developed to enable elderly people to lead self-determined, healthy and productive lives

determined, healthy and productive lives and to make full use of the skills and abilities they have acquired in their lives for the benefit of society. Governments, in collaboration with non-governmental organizations and the private sector, should strengthen formal and informal support systems and safety nets for elderly people and eliminate all forms of violence and discrimination against elderly people in all countries, paying special attention to the needs of elderly women (Fetter, 1991).

older persons are entitled to lead fulfilled and productive lives and should have the opportunities for full participation in their communities and society, and in all decision-making processes regarding their well-being, especially their shelter-needs

Different state governments have pledged that they will create action to improve the possibility of older persons achieving a better life. Develop and implement policies to ensure that all people have adequate economic and social protection during widowhood, disability and old age (Harrada and Sofaer, 1993).

Regarding economic security of the older people also, several commitments are pledged. It is stated that there is an urgent need for policies ensuring that all people have adequate economic and social protection during disability and old age. Particular efforts should be made to protect older persons, including those with disabilities, by improving the situation of older persons, in particular in cases where they lack adequate family support. Ensuring that older persons are able to meet their basic human needs through access to social services and social security, that those in need are assisted, and that older persons are protected from abuse and violence and are treated as a resource and not a burden to ensure that retired workers do not fall into poverty (Hébert and Bilodeau, 1988).

The major concerns of older population are expressed in the field of health care. Naturally, the state parties formulated action programmes and declared commitments towards health care of the old-age people. With the increase in life expectancy and the growing number of older women, their health concerns require particular attention. Diseases of ageing and the interrelationships of ageing and disability among women need particular attention. Actions to be taken to develop information system, programmes and services to assist women to understand and adapt to changes associated with ageing and to address and treat the health needs of older women. Steps are taken to eliminate discrimination in hiring and remuneration, promotion which continue to restrict employment, economic, professional and other opportunities for women. It is also stated that actions to be taken to adopt and implement laws against discrimination based on sex in the labour market, especially considering older women workers, hiring and promotion, the extension of employment benefits and social security, and working conditions (Kass, 1980).

It is categorically stated that older persons are entitled to lead fulfilled and productive lives and should have the opportunities for full participation in their communities and society, and in all decision-making processes regarding their well-being, especially their shelter-needs. Their many contributions to the political, social and economic processes of human settlements should be recognized and valued. Special attention should be given to meeting their evolving housing and mobility needs in order to enable them to continue to lead rewarding lives in their communities. States are said to be committed to promote shelter and supporting basic services and facilities for education and health for older persons (Keith, 1987).

In India for the first time in the year 1993 the law relating to human rights was

passed in the name of Protection of Human Rights Act, 1993. Under which a National Human Rights Commission was established for the protection of human rights in India. In India, apart from the national commission, we have eighteen state level human rights commissions.. The Commissions are entrusted to see the lapses and violations of rights, including the human rights of the old-persons. It is categorically considered that no human being is beyond the reach of the old age in its general cycle of the life. Ageing is a natural process, which inevitably occurs in human life cycle. It brings with a host of challenges in the life of the old-age, which is mostly engineered by the changes in their body, mind, thought process and the living patterns. Ageing naturally involves a decline in the functional capacity of the organs of the human body. But, it in no way implies the end of vibrant life The senior citizens definitely constitute a precious reservoir of indispensable human resource coupled with knowledge of various dimensions, varied experiences and deep insights. They have every right to enjoy their own rights without any constraints and enjoy all privileges to keep them physically fit and mentally alert.

Constitution of India, entry 24 in list III of Schedule VII deals with the 'welfare of labour', including conditions of work, provident funds, liability for workmen's compensation, invalidity and old age pension and maternity benefits.

Article 41 of Directive Principles of State Policy has particular relevance to Old Age Social Security. According to this Article , "The State shall, within the limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in case of unemployment, OLD AGE, sickness and disablement and in other cases of unserved want.

Ministry of Social Justice & Empowerment-

(A) National Policy on Older Persons was announced in January 1999 to reaffirm the commitment to ensure the well-being of the older persons.

- To encourage individuals to make provision for their own as well as their spouse's old age
- To encourage families to take care of their older family members
- To provide care and protection to the vulnerable elderly people , to provide adequate healthcare facility to the elderly
- To promote research and training facilities to train geriatric care givers and organizers of services for the elderly ; and
- To create awareness regarding elderly persons to help them lead productive and independent live

Schemes for Older Persons

- Income security in old age
- Indira Gandhi National Old Age Pension Scheme

1. Old age pension scheme would cover all senior citizens living below the poverty line.
2. Rate of monthly pension would be raised to Rs.1000 per month per person and revised at intervals to prevent its deflation due to higher cost of purchasing.
3. The "oldest old" would be covered under Indira Gandhi National Old Age Pension Scheme (IGNOAPS). They would be provided additional pension in case of disability, loss of adult children and concomitant responsibility for grandchildren and women. This would be reviewed every five years.

The State shall, within the limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in case of unemployment, OLD AGE, sickness and disablement and in other cases of unserved want

PDS-

Annapurna - Senior Citizens who , though eligible remained uncovered under the NOAPS, on 1st April,2000 the Annapurna scheme was launched . Under this scheme 10 Kgs of food grains per month are provided free of cost to the beneficiary

Health Care : Ministry of Health & Family Welfare

- Separate queues for older persons in government hospitals
- Geriatric clinic in several Govt hospitals
- National Programme for the Health Care for the elderly is in place

Only in Calcutta Medical College geriatric ward is available

Microfinance : Loans at reasonable rates of Interest would be offered to senior citizens to start small businesses. Microfinance for senior citizens would be supported through suitable guidelines issued by the Reserve Bank of India.

Nationalized banks are not ready to give loans to the elderly collectives

West Bengal (WB) Government's initiative namely 'PRONAM; and 'Sanjhbati' for Protection and life for senior citizens needs more spatial expansion

- No elder specific helpline is in place from the Government's side.

Protection Life and Property

- Chapter V of the Maintenance of and Welfare of Parents and Senior Citizens Act, 2007 provides for Protection of life and property of Senior citizens.
- The Ministry of Home Affairs, Government of India issued detailed advisories dated 27.03.2008 and 30.08.2013 to all the State Government/ UTs, who are primarily responsible for prevention , detection, registration , investigation and prosecution of crime against senior citizens as "Police" and "Public order" are state subjects
- The Ministry of Home Affairs in its advisories has advised the States / UTs to take immediate measures to ensure safety and security and for elimination of all form of neglect , abuse and violence against older persons through initiatives such as identification of senior citizens ; sensitization of police personnel regarding safety security of older persons; regular visit of the beat staff ; setting up of toll free senior citizens helplines; setting up of senior citizen security cell; verification of domestic helps, drivers etc.

As per the UNESCO estimates, the number of the aged (60+) is likely to 590 million in 2005. The figure will double by 2025. By 2025, the world will have more Old-age than young people and cross two billion mark by 2050

Studies are made to find out the nature and extent of the problems of ageing by different government and non-government agencies. The government of India has also formulated the Act by the name of the Maintenance and Welfare of Parents and Senior Citizens Act, 2007 No. 56 of 2007 [29th December, 2007]. Several clauses are inserted to maintain the well-being of the old-age people and to ensure their rights. But, studies show that the problems of the old-age people are increasing day by day and most of them are related to the violation of their rights. The increasing number of the old-age people has also been an issue as the country could not prepare itself for the protection and maintenance of the old-age rights from a legal perspective. The population of the old-age persons has been increasing over the years. As per the UNESCO estimates, the number of the aged (60+) is likely to 590 million in 2005. The figure will double by 2025. By 2025, the world will have more Old-age than young people and cross two billion mark by 2050. In India also, the population of elder persons has increased from nearly 2 crores in 1951 to 7.2 crores in

2001. In other words about 8% of the total population is above 60 years. The figure will cross 18% mark of total population by 2025 in India.

Challenges of Ageing

As the number of the old-age people has increased, several problems have also cropped up of which elderly abuse appears to be the most serious concern. Scrutiny of various enriched resources during different periods comprehensibly displays the major problems of the aged. All these problems require immediate attention not only from the legal perspectives but also from other socio-cultural mechanisms to curb out this long waited problem. The major problems of the aged people can be summed up as (i) Economic problems include problems like loss of employment, income deficiency and economic insecurity. (ii) Physical and physiological problems include health and medical problems, nutritional deficiency, the problem of adequate housing etc. (iii) Psycho-social problem which stems mainly from the incidences of psychological and social maladjustment includes the problem of elder abuse.

Elder abuse is also a result of long-term family conflict between parent and child or between spouses. Increasingly, the relationship between domestic violence and elder abuse is appearing into the forefront. Studies which examine the phenomenon of elder abuse as a specific category, domestic violence accounts for a significant percentage of cases. In many of these cases, the abuse is the continuance of long-term domestic violence. With the onset of disability and the lack of intervention of community services, behavior which has long been carefully concealed is exposed and labeled as - elder abuse. However, the relationship is not always straightforward. In some cases, the situation is reversed- the long-term perpetrator becomes dependent upon their victim and the domestic violence victim becomes the abuser under changed power relations. A full understanding of elder abuse moves beyond individual risk factors, and concentrate upon the problem as a function of broader social structural issues such as poverty, isolation, ethnicity and gender.

Most of the research on risk factors has concentrated upon identifying individual pathologies, either on the part of the victim or of the perpetrator, or pathologies of the family environment. Studies have shown the important influence of dependency of the abused upon the abuser. In some cases, this is due to some form of cognitive or physical impairment of the abused (Kurrle et al. 1992; Sadler1994). Career stress, the most common early explanation for the existence of elder abuse, appears to be a less influential factor in many cases. Where career stress is a contributing factor, it is usually associated with dependency or other mediating influences. Predisposing individual factors in the abuser, such as dementia, substance abuse or psychiatric illness, have also been identified (Kurrle et al. 1992; Sadler 1994; Sadler & Weeks 1996).

The consequences of elder abuse usually results into serious physical problems as the old people appears to be more vulnerable and their bones are more weak and convalescence takes longer time. Even a relatively minor injury can cause serious and permanent damage. Many old-aged people survive on limited income, and the loss of even a small amount of money bears significant impact on their livelihood. They may become isolated, lonely or troubled by illness and in those cases they become more vulnerable targets for fraudulent schemes.

The consequences of elder abuse usually results into serious physical problems as the old people appears to be more vulnerable and their bones are more weak and convalescence takes longer time

The old peoples are protected by different constitutional and legislative measures. Constitutional protection includes - Right to work, to education and to public assistance in certain cases. It is stated that the State shall, within the limits of economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement, and in other cases of undeserved want (Nicklin and Zitner,, 2002).

The state is bound to promote the educational and economic interests of the weaker sections of the people and shall protect them from social injustice and all forms of exploitation(Paolucci et al.,1998).

The Directive Principles, as stated in Article 37, are not enforceable by any court of law. But Directive Principles impose positive obligations on the state, i.e., what it should do

However, these provisions are included in the Chapter IV i.e., Directive Principles of the Indian Constitution. The Directive Principles, as stated in Article 37, are not enforceable by any court of law. But Directive Principles impose positive obligations on the state, i.e., what it should do. The Directive Principles have been declared to be fundamental in the governance of the country and the state has been placed under an obligation to apply them in making laws. The courts however cannot enforce a Directive Principle as it does not create any justifiable right in favor of any individual. It is most unfortunate that state has not made even a single Act which is directly related to the old-age persons.

From the legislative perspective, a Hindu is bound during his or her life-time, to maintain his or her legitimate/illegitimate children and his or her aged or infirm parents (Radomski,1995).

Under the Hindu Law [Part-ix-personal Law], it is obligatory that a person is to maintain his or her aged infirm parent or a daughter who is unmarried extends in so far as the parent or the unmarried daughter, as the case may be, is unable to maintain himself or herself out of his or her own earnings or others property (Stineman, Granger and Maislin,1998), Thus amongst the Hindus, the obligation of sons to maintain their aged parents, who were not able to maintain themselves out of their own earning and property, was recognized even in early texts. This obligation was not dependent upon, or in any way qualified, by a reference to the possession of family property. It was a personal legal obligation enforceable by the sovereign or the state. The statutory provision for maintenance of parents under Hindu personal law is contained in Sec 20 of the Hindu Adoption and Maintenance Act, 1956. This Act is the first personal law statute in India, which imposed an obligation on the children to maintain their parents. As is evident from the wording of the section, the obligation to maintain parents was not confined to sons only, and daughters also had an equal duty towards parents. It is important to note that only those parents who are financially unable to maintain themselves from any source, are entitled to seek maintenance under this Act.

Under the Muslim Law, children have a duty to maintain their aged parents. According to Mulla: (a) children in easy circumstances are bound to maintain their poor parents, although the latter may be able to earn something for themselves. (b) A son though in strained circumstances is bound to maintain his mother, if the mother is poor, though she may not be infirm. (c) A son, who though poor, is earning something, is bound to support his father who earns nothing. According to Tyabji, parents and grandparents in indigent circumstances are entitled, under Hanafi law, to maintenance from their children and grandchildren who have the means, even

if they are able to earn their livelihood. Both sons and daughters have a duty to maintain their parents under the Muslim law. The obligation, however, is dependent on their having the means to do so.

Under the Code of Criminal Procedure if any person having sufficient means neglects or refuses to maintain his father or mother, unable to maintain himself or herself, a Magistrate of the first class may, upon proof of such neglect or refusal, order such person to make a monthly allowance for the maintenance of his wife or such child, father or mother, at such monthly rate not exceeding five hundred rupees in the whole, as such Magistrate thinks fit, and to pay the same to such person as the Magistrate may from time to time direct (Tyson, 1995): *If any person so ordered fails without sufficient cause to comply with the order, any such Magistrate may, for every breach of the order, issue a warrant for levying the amount due in the manner provided for levying fines, and may sentence such person, for the whole or any part of each month's allowance remaining unpaid after the execution of the warrant, to imprisonment for a term which may extend to one month or until payment if sooner made* (Kinnear & Graycar, May 1999, No.113)

It can thus be said that prior to 1973, there was no provision for maintenance of parents under the code. The Law Commission, however, was not in favor of making such provision. According to its report The Cr. P. C is not the proper place for such a provision. There will be considerable difficulty in the amount of maintenance awarded to parents apportioning amongst the children in a summary proceeding of this type. It is desirable to leave this matter for adjudication by civil courts. The provision, however, was introduced for the first time in Sec. 125 of the Code of Criminal Procedure in 1973. It is also essential that the parent establishes that the other party has sufficient means and has neglected or refused to maintain his, i.e., the parent, who is unable to maintain himself. It is important to note that Cr. P.C 1973 is a secular law and governs persons belonging to all religions and communities. Daughters, including married daughters, also have a duty to maintain their parents.

Governmental Protections

The Government of India, Ministry of Social Justice & Empowerment is the nodal Ministry responsible for welfare of the Senior Citizens. It has announced the National Policy on Older Persons covering all concerns pertaining to the welfare of older persons. The National Policy on Older Persons recognizes a person aged 60 years and above as a senior citizen. The Ministry is also implementing following schemes for the benefit of Senior Citizens(Sahara Samay M.P.) (news television program), 29/10/05 (8.30 am morning news at Jaipur).

The Government of India approved the National Policy for Older Persons on January 13, 1999 in order to accelerate welfare measures and empowering the Old-age in ways beneficial for them. This policy included the following major steps:

1. (i) Setting up of a pension fund for ensuring security for those persons who have been serving in the unorganized sector,

(ii) Construction of old age homes and day care centers for every 3-4 districts,

(iii) Establishment of resource centers and re-employment bureaus for people above 60 years,

(iv) Concessional rail/air fares for travel within and between cities, i.e., 30% discount in train and 50% in Indian Airlines.

(v) Enacting legislation for ensuring

The Government of India approved the National Policy for Older Persons on January 13, 1999 in order to accelerate welfare measures and empowering the Old-age in ways beneficial for them

compulsory geriatric care in all the public hospitals.

2. The Ministry of Justice and Empowerment has announced regarding the setting up of a National Council for Older Person. It will seek opinion of aged on measures to make life easier for them.
3. Attempts to sensitize school children to live and work with the Old-age. Setting up of a round the clock help line and discouraging social ostracism of the older persons are being taken up.
4. The government policy encourages a prompt settlement of pension, provident fund (PF), gratuity, etc. in order to save the superannuated persons from any hardships. It also encourages to make the taxation policies elder sensitive.
5. National Policy on Senior Citizens 2011is in place but WB has still not adopted state policy on Senior Citizens
6. The government policy encourages a prompt settlement of pension, provident fund (PF), gratuity, etc. in order to save the superannuated persons from any hardships. It also encourages to make the taxation policies elder sensitive.

Government also gives a higher rate of interest to senior citizens on certain Savings schemes which it runs through its large network of Post Offices (Senior Citizens Savings Scheme) and Public sector Banks. For further details you are advised to contact your nearest Bank or local Post Office

Apart from the above Government of India has earmarked special benefits and concessions for Old age person of India. Here is a brief compilation of same:

(1) Expeditious Disposal of Cases Involving Senior Citizens: The Chief Justice of India has advised Chief Justices of all High Courts to accord priority to cases involving older persons and ensure their expeditious disposal. [*vide letter of Government of India, Ministry of Social Justice & Empowerment (SD Section), New Delhi, F. No. 20-76/99-SD dated 03.11.1999*].

(2) RTI Act (Right to Information Act): Second appeals filed by senior citizens and differently abled persons under the Right to Information Act (RTI) are taken on a high priority basis, according to a directive of the Central Information Commission (CIC). For, senior citizens and physically challenged if appeals are already pending with the CIC/SCIC, they should write to the CIC/SCIC about their status.

(3) Health Care:

(a) There is provision for separate queues for senior citizens at hospitals and health care centers when they visit for any health related concerns or clinical examinations.

(b) The Delhi Government runs special clinics for Senior Citizens in most of its hospitals in Delhi.

(4) Finance & Taxation:

(a) You are advised to refer to the Indian Income Tax Department for the current slabs of Income Tax including rebate admissible to senior citizens. As per recent finance budget 2008-09 (presented on 29th February, 2008) the threshold income when you start paying tax stands at Rs. 2.25 lakh per annum for senior citizens.

(b) The benefit of Section 80C of the Income Tax Act, 1961 has been extended to the investments made under 5-Year Post Office Time Deposits Account and Senior Citizens Savings Scheme, with effect from 01.04.2007.

(5) Banking and Insurance:

(a) Government also gives a higher rate of interest to senior citizens on certain Savings schemes which it runs through its large network of Post Offices (Senior Citizens Savings Scheme) and Public sector Banks. For further details you are advised to contact your nearest Bank or local Post Office. (b) Some banks like

State Bank of India charge only 50% of the applicable prescribed charges in respect of following services like i) Issue of duplicate passbook/statement of account ii) Issue of cheque books, iii) Noting of standing instructions, iv) Stop payment instructions, v) Charges of non maintenance of minimum balance, vi) Issue of balance certificate, vii) Signature verification, viii) Ledger folio charges etc. and ix) Minimum balance requirement is also 50% for these class of customers. (c) Life Insurance Corporation of India (LIC) has also been providing several scheme for the benefit of aged persons, i.e., Jeevan Dhara Yojana, Jeevan Akshay Yojana, Senior Citizen Unit Yojana, Medical Insurance Yojana.

(6) Telecommunications:

(a) Department of Telecommunications has made special provisions for senior citizens who apply for a new telephone connection. The department has earmarked separate priority category for senior citizens wherein they can apply for registration. (b) In case of any complaint or fault with the telephone a senior citizen's complaint is redressed on a priority basis.

(7) **Travel by Indian Railways:**

(a) Travel by Indian Railways is 30% cheaper for all Senior Citizens who are 60 years in age or above. Indian Railways provides this fare concession to elderlies in all its trains including Shatabdi, Rajdhani and Jan Shatabdi trains. Kindly note that while travelling all Senior Citizens needs to carry proof of their Date of Birth / Age with a Photo ID Card.

(b) There are separate Counters / Queues for Senior Citizens at all Railway Stations for purchase, booking or cancellation of tickets.

(c) Special arrangements are available for those who find it difficult to walk or move on their own. Wheel Chairs are available at all major junctions, District Headquarters and other important Railway stations for the convenience of Senior citizens and also for those who are in need. (d) Indian Railways have recently introduced specially designed coaches which have provisions for hand rails and specially designed toilets for handicapped persons. These coaches also have space for wheel chairs.

(8) Travel by Airlines:

(a) Senior Citizens are entitled to 50% discount on Economy Class fares on all flights of Indian Airlines subject to certain conditions. (b) Air India gives 45% discount in economy class on domestic sectors to senior citizens (women aged 63+ and men aged 65+). (c) Other Airlines operating in India also offer discounts to senior citizens. It is advisable to check with them before you plan your travel.

(9) Travel by Roadways (state transport):

(a) State Road Transport Undertakings have made provision for senior citizens for reservation of 2 seats in the front row of all buses. (b) Some state governments also give concessions (in fare) to senior citizens, while some also have specially modelled buses for the elderly.

In spite of aforesaid special arrangements for the old-age persons the position of old-age person is not happier and it is because of our social approach toward elderly people in the present scenario. It is very known fact that though facilities are provided but there is no mechanism to check whether they have been availing the same or unable to avail the facilities. The present approach towards old age person is required to be changed. In reality certain strategies and approaches at different level of policy making, planning and programming shall have to be adopted or altered in order to harness

In reality certain strategies and approaches at different level of policy making, planning and programming shall have to be adopted or altered in order to harness this vast human resource for promoting their involvement and participation in the main stream

this vast human resource for promoting their involvement and participation in the main stream of socio-economic development process at a larger scale. This participation must result in an end to their social isolation and increase in their general satisfaction with their life. Any attempt to secure the help of the Old-age in offering their service to the nation must equally ensure some sort of package of services while arranging for them a better quality of life and a well-designed social security network for the senior citizen. The society and the state in India need to accept the challenge of their effectiveness focusing their attention on the following twin issues of: (i) How to provide a fair-deal to the senior citizens so that they are able to peacefully, constructively and happily pass their lives; and (ii) How to utilize the vast stock of knowledge and rich life experience of the older people so that they are able to utilize their remaining energies and contribute to the all round development of the country

the recent law on old-age person passed by the Parliament is not a complete one so considering all aspects of the problem it requires a thorough revision to make it effective and workable

Conclusion

The Fifth Commandment directs -*Honour your father and your mother* (Exodus 32:19). In the Mahabharata, Bhishma tells Yudhisthira, -*The worship of mother, father and teacher is most important according to me*. The Constitution of India states, -*The state shall, within the limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement, and in other cases of undeserved want*. Finally, it may be concluded by saying that the problem of the old-age must be addressed to urgently but and with utmost care. There is urgent need to amend the Constitution for the special provision for the protection of aged person and bring it in the domain of fundamental rights. With the degeneration of joint family system, dislocation of familiar bonds with arrival of nuclear family concept and loss of respect for the aged person in the family, in modern times should not be considered to be a secure place for them. Thus, it should be made the Constitutional duty of the State to take effective steps for the welfare and extra protection of the senior citizen including palliative care. As we know that in the country like India is not lacking in law instead is lacking in implementation of laws which is to be taken care of properly with appropriate measures. Moreover, the recent law on old-age person passed by the Parliament is not a complete one so considering all aspects of the problem it requires a thorough revision to make it effective and workable.

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Book:

Health and Wellbeing in Late Life: Perspectives and Narratives from India

by Dr. Prasun Chatterjee, Springer Nature Singapore Pte Ltd., ISBN 978-981-13-8937-5, Open access publication, 2019.

Book Review by **Dr Mala Kapur Shankardass***

The book under review is an interesting publication which puts forth medical knowledge about older people's health in much needed limelight. The focus that older individual's health needs are different from that of an adult is gaining ground in India as the field of geriatric medicine is developing. The fact that non-communicable diseases are increasing and bringing in multiple chronic diseases affecting people in later years is a growing concern requiring attention and remedies for better quality of life of people as they age. This epidemiological transition makes people vulnerable to health as well as social problems in old age and increases their dependence on family members and especially on care givers, both formal and informal.

The author rightly points in the very beginning of the book that the field of geriatrics incorporates organ specific management along with improving functional status of the individual by giving minimal and essential drugs and brings attention to an important component being recognised in contemporary times as an essential ingredient for later years that of preparing older adults for active ageing. Preparedness for old age is not only required for managing ailments related to later years but it also becomes a coping mechanism to face issues when an individual gets older. With emphasis on taking health in one's own hands the book promotes the notion of self-care, inter-generational communication and quality of life concerns which are increasingly becoming important as the world and individual nations are ageing.

The book is a good source of data with narratives and real life stories as well as scientifically dealing with the subject of ageing. Adopting a life course perspective and a holistic approach to health the volume deals with important topics of frailty, failing memory, cancer, constipation, falls, strokes, sexual health along with concerns about being engaged meaningfully, managing terminal illness, keeping physically and mentally active. Issues related to ageing successfully are also dealt with to encourage people adopting healthy life style and dealing with all circumstances in old age. The author adopts a very animated style of presentation keeping the reader engrossed with the subject of ageing. The figures and tables incorporated in the book add to its attractive-ness and clarity of views.

The narrations provide a sense of problems emerging in an ageing country which need to be addressed from a health and social perspective. The author creates an interesting platform for resolving health concerns which will affect most

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people as they age and encourages the reader to think about solutions from an informed mind. The scientific explanations given in different chapters with researched evidence and by relating it to concerns which individuals have about their problems at an individual level add to the strengthen of the book. By touching on social aspects besides the medical issues the author reaches out to lay people in looking at holistic solutions to concerns which originate from medical perspective but can be resolved through mechanisms which are not difficult to comprehend and adhere too. Put in simple language with minimum medical jargon, but with substantial references for further reading, the book has the potential to be read by a wider section of the population.

I congratulate the author on a well – articulated book which should receive the required attention and readership that it deserves. There is no doubt that many more topics could have been included as part of subject matter of geriatric medicine but it's not always easy to be comprehensive in terms of interests of general public to whom the book caters more than to specialized audience.

Calendar

2019

21st November

5th World Congress on Gerontology and Geriatrics 2019

Bengaluru, Karnataka
Website: https://www.meraevents.com/event/5th-world-congress-on-gerontology-and-geriatrics-2019

2020

3rd April

Ageing and Society - International Interdisciplinary Conference

Gdansk, Poland
Website: http://ageingconference.pl/

22nd-23rd April

10th International Conference on Ageing Research and Geriatric Medicine

Berlin, Germany
Organised by: EuroSciCon
Website: https://ageingconference.euroscicon.com
Email: ageing@speakersconclave.com

18th -19th June

ICHAA 2020: 14. International Conference on Healthy and Active Aging

Toronto, Canada
Organised by: International Research Conference
Website: https://waset.org/conferences

3rd- 4th September

Tenth International Conference on Health, Wellness, & Society

Paris, France

Organised by: Common Ground Research Networks
Contact Person: Flannery Ellis
Website: http://healthandsociety.com/2020-conference/call-for-papers

21st -23rd September

3rd World Aging and Rejuvenation Conference

Barcelona, Spain, Spain
Organised by: Innovinc International
Contact person: Alex Greenspan
Website: https://arc-2020.org/

24th to 25th September

Aging and Social Change: Tenth Interdisciplinary Conference - UBC Robson Square

Vancouver, Canada
Organised by: Common Ground Research Networks
Contact Person: Sara Hoke
Website: https://agingandsocialchange.com/2020-conference/call-for-papers

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- Jani Shankar, 67 years

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Information for the Contributors

HelpAge India Research and Development Journal is the official journal of HelpAge India and is published thrice a year in January, May and October. It is devoted to publication of contributions that focus on the information pertaining to different issues concerned with older persons.

Manuscripts

The paper should be only on issues concerning ageing and aged in India. The manuscript should be typed in double space with a wide margin and should not exceed 4000 words. The title page should carry the title of the paper, name and affiliation of the author/s. The official designation and official address should be typed at the bottom of the first page of the script. The paper should be divided into Abstract, Introduction, Material and method, Results and discussion, conclusion, acknowledgements (if any) and references. Tables should be given in Arabic, serial number and each table on a separate page. References should be listed at the end of the paper in alphabetical order and they should include only works referred to in the text. The format for the reference is:

1. Periodicals: Surname and initials of the author(s). Year of Publication. Title. Edition. Name of the Journal. Volume. Number: Page No(s)
2. Books: Surname and initials of the author(s). Year of Publication. Title. Edition. Place of Publication. Name of Publisher.

Note: Please follow above mentioned system to help maintain a particular pattern in the Journal. Submit your contribution both on printed format (hard copy) and soft copy in CD. It should be sent on the following address and soft copy could also be sent by email.

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New Delhi-110016
Email: info@helpageindia.org

Helpful Tips:
You can contribute to this column by sending a small article (1000 words) on any subject that concerns the older persons. You can also send us such useful news items published in other magazines or journals. Please give proper reference for the same. Please follow instructions given in column (1) & (2).

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"After all, the ultimate goal of all research is not objectivity, but truth."

- Helene Deutsch

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