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Oral Health Related Quality of life among Elderly in North India

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ABSTRACT

The paper aimed to assess the oral health status related quality of life of 95 elderly aged 60 years and above. The mean age of the participants was 67.75 (SD=6.59) years and 70.5 per cent of the participants were male. Oral examination was performed according to WHO criteria (1997) and perceived oral health was assessed using Geriatric Oral Health Assessment Index (GOHAI). The mean GOHAI score was 30.176±0.88. The GOHAI final score was considered low, indicating a low self-perception by the elderly of Indian sample.

Keywords: GOHAI, Oral Health Related Quality of Life, Elderly

Ageing in humans refers to a multidimensional process of physical, psychological, and social change. Recent advances in health sciences and improving social conditions, it has become a duty for health professionals to make the later years of an individual more productive and enjoyable.

Researchers have shown significant interests in the oral health related problems among elderly and had realized the importance of assessment of oral health outcomes as an essential tool for planning oral healthcare programme for elderly.

It is expected that an increase in the population of people aged 60 years or above will account for more than half of the total growth of

the world population. India, a developing nation has around 100 million elderly at present and the number is expected to increase to 323 million constituting 20 per cent of the total population by 2050 (More elderly women than men), posing greatest challenge to provide affordable, accessible, and equitable health care to this population (Nandan 2012).

India is a country characterized by a free economy with no generalized public health insurance system. The dental care system is therefore not accessible for older people with low income. As in other countries, it can be hypothesized that high levels of oral diseases in Indian elderly would be associated with an impaired quality of life. Elderly who have lost many teeth and cannot afford the cost for dentures may have important functional limitations and consequent nutritional problems (WHO 2003).

Globally several studies have been conducted related to elderly oral health. In India some studies have been conducted, but there is still a need for more research for understanding oral health problems in the elderly.

A variety of Oral Health Related Quality of Life (OHRQoL) instruments have been developed to evaluate the functional and psycho-social impacts of oral diseases. The Geriatric Oral Health Assessment Index (GOHAI) and the Oral Health Impact Profile (OHIP–14) have been validated, firstly, in elderly populations. The GOHAI seems to report oral function problems and psychosocial impacts associated with oral diseases and it is more closely related to masticatory performances whereas OHIP could be a better predictor of depression (Hassel, *et al*., 2010, Hassel, *et al*., 2011, Ikebe, *et al*., 2012).

The present study was undertaken to assess the oral health status related quality of life among elderly.

Material and Methods

Study Population

This was a single center based Cross-Sectional study which consisted of participants aged above 60 years at Geriatric Mental Health Institute, KGMU, Lucknow, India in 2013. This study was

conducted between January to March 2013 on 95 elderly (Male N=67, Female N=28) .

Individuals who gave informed consent were selected after examination of Medical charts and patients suffering from serious neurological, psychiatric disorders or with acute systemic diseases were excluded from the examination. The capability of a participant to understand the instructions during oral examinations and their capability to answer the questionnaire was also included in the selection criteria.

The ethical clearance was taken from ethical committee at King George Medical University, Lucknow. Written consent was given by the participants.

WHO oral health assessment form (WHO 1997) was used for clinical assessment for TMJ, oral mucosa condition, and Community Periodontal Index, Prosthetic Status, Prosthetic Need and the total number of teeth present in the oral cavity were counted.

Data collection on intra oral examination was done by a dental surgeon after the administration of GOHAI (Atchison KA and Dolan TA 1990) questionnaire to the participants. GOHAI questionnaire was translated into Hindi Language for the ease of participants to answer the questions. Geriatric Oral Health Assessment Index (GOHAI) is a 12-item questionnaire which measures the self-reported oral impairment. The GOHAI's 12-items measure three different aspects of OHRQoL,(Oral health related quality of life) including physical functioning, pain and discomfort and psychosocial functioning. There are five response categories for each question (1 = always, 2 = often, 3 = sometimes, 4 = seldom, and 5 = never). The GOHAI score ranges from 12 to 60, with a higher score indicating a better reported oral health status. All the participants were asked to fill 12 items of the GOHAI questionnaire. The questionnaire also included the socio-demographic details such as age, sex and socioeconomic status (Kumar, *et al*., 2012).

The examiner used sterile sets of instruments like mouth mirror, Community Periodontal Index (CPI) probe, tweezer and artificial lightning of blue-white flash light.

Descriptive Statistical Analysis was done using the software Statistical Package for Social Science (SPSS). Basic descriptive statistical measures like mean, standard deviation and percentages were calculated. Statistical significance was estimated by performing chi-square.

Results

The majority of participants were male 67(70.5%). Majority 70(73.7%) of participants were between the age group of 60–70 years with mean age 67.75(SD = 6.59) years and if consider socio-economic class, in all classes male were more than female except in upper lower class where female were more than male and majority (75.7%) of the participants belonging to upper middle and upper lower socioeconomic class.

Table 1
Distribution of Demographic Profile of Participant According to Sex

Demographic	*Male 67 (70.5%)*	*Female 28(29.5%)*	*Total 95*
Age			
60–70	48(50.5%)	22(23.2%)	70(73.7%)
70–80	17(17.9%)	3(3.2%)	20(21.1%)
> 80	2(2.1%)	3(3.2%)	5(5.3%)

On assessment of Temporomandibular Joint: Clicking was reported in 22(23.1%) participants with 15(15.8%) being the male participants. Tenderness on palpation was reported in 4(4.2%) participants. Reduced Jaw Mobility was reported in 11(11.6%) participants with 9 (9.5%) being the male participants.

Table 2
Oral Health Assessment

Clinical Examination	*Male*	*Female*	*Total*
TMJ assesment			
Clicking	15(15.8%)	7(7.4%)	22(23.1%)
Tenderness	4(4.2%)	0	4(4.2%)
Reduced Jaw Mobility	9(9.5%)	2(2.1%)	11(11.6%)

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Oral mucosa condition			
No Abnormal Condition	62(65.3%)	28(29.5%)	90(94.7%)
Leukoplakia	3(3.2%)	0	3(3.2%)
Lichen Planus	2(2.1%)	0	2(2.1%)
Periodontal status (Sextant 570)			
Healthy	73(12.8%)	36(6.3%)	109 (19.1%)
Bleeding	16(2.8%)	2(0.4%)	18(3.2%)
Calculus	258(45.3%)	113(19.8%)	371(65.1%)
Pocket 4–5mm	8(1.4%)	4(0.7%)	12(2.1%)
Excluded Sextant	47(8.2%)	13(2.3%)	60(10.5%)
Loss of attachment (Sextant 570)			
Healthy	91(15.9%)	49(8.6%)	140(24.6%)
4–5mm	155(27.2%)	75(13.2%)	230(40.4%)
6–8mm	75(13.2%)	16(2.8%)	91(15.9%)
9–11mm	34(5.9%)	15(2.6%)	49(8.6%)
Excluded Sextant	47(8.2%)	13(2.3%)	60(10.5%)
Upper Prosthetic status			
No Prosthesis	58(61.1%)	26(27.4%)	84(88.4%)
Bridge	1(1.1%)	1(1.1%)	2(2.1%)
More than one bridge	1(1.1%)	1(1.1%)	2(2.1%)
Partial Denture	5 (5.3%)	0	5(5.3%)
Full Removable Denture	2 (2.1%)	0	2(2.1%)
Lower Prosthetic status			
No Prosthesis	58(61.1%)	24(25.3%)	82(86.3%)
Bridge	1(1.1%)	1 (1.1%)	2(2.1%)
More than one bridge	1(1.1%)	1(1.1%)	2(2.1%)
Partial Denture	6(6.3%)	2(2.1%)	8(8.4%)
Full Removable Denture	1(1.1%)	0	1(1.1%)
Upper prosthetic need			
No Prostheis Needed	21(22.1%)	6(6.3%)	27(28.4%)
Need for one unit prosthesis	9(9.5%)	3(3.2%)	12(12.6%)
Need for multi unit prosthesis	23(24.2%)	17(17.9%)	40(42.1%)
Need for combination of one and/or multi prosthesis	10(10.5%)	0	10(10.5%)
Need for full prosthesis	4 (4.2%)	2(2.1%)	6(6.3%)

Contd...

Contd...

Lower prosthetic need			
No Prostheis Needed	18 (18.9%)	6(6.3%)	24(25.3%)
Need for one unit prosthesis	7(7.4%)	4(4.2%)	11(11.6%)
Need for multi unit prosthesis	29(30.5%)	16(16.8%)	45(47.4%)
Need for combination of one and/or multi prosthesis	11(11.6%)	0	11(11.6%)
Need for full prosthesis	2(2.1%)	2(2.1%)	4(4.2%)
Total Number of Teeth Present			
0–8	5(5.3%)	1(1.1%)	6(6.3%)
9–16	15(15.8%)	5(5.3%)	20(21.1%)
17–24	13(13.7%)	7(7.4%)	20(21.1%)
25–32	34(35.8%)	15(15.8%)	49(51.6%)

On examination of Oral Mucosa it was found that 5.3 per cent of participants were having oral lesions on buccal mucosa in that male participants were having leukoplakia 3(3.2%). (seeTable 2)

The periodontal status was assessed by CPI and presented in the form of sextant wise. The status showed that 19.1 per cent of sextant had a healthy periodontium, 3.2 per cent of sextant had bleeding, 65.1 per cent had calculus, 2.1 per cent had shallow pockets, no deep pocket and 10.5 per cent were excluded sextant. (see Table 2)

On assessment of loss of attachment it was found that 24.6 per cent of the sextant had healthy teeth, 40.4 per cent of the sextant had 4–5mm of loss of attachment, 15.9 per cent of the sextant had 6–8mm loss of attachment, 8.6 per cent of the sextant had 9–11mm loss of attachment and 10.5 per cent were excluded sextant. (see Table 2)

On assessment of prosthetic status it was noted that 84(88.4%) participants had no prosthesis in the upper arch and 82(86.3%) participants had no prosthesis in the lower arch. (Table 2)

From prosthetic need assesment it was noted that there was a need for multi unit prosthesis in upper arch for 40 (42.3%) of the participants and a full prosthesis in upper arch was needed in 6 (6.3%) of the participants. In the lower arch there was a need for multi unit

prosthesis in 45(47.4%) of the participants and 4(4.2%) participants needed a full prosthesis in lower arch. (see Table 2)

An assessment of total number of teeth present in the participants, revealed that 49(51.6%) of the participants had more than 24 teeth and only 6(6.3%) of the participants had 8 or less than 8 teeth. (see Table 2)

The various responses to the different questions of the GOHAI questionnaire are listed in Table 3. The Mean GOHAI score was 30.176±0.88. Within the GOHAI questionnaire, oral impacts were frequent for item 1 & 2 but not frequent for items 3 & 4: 25.5 per cent of the participants reported 'always' having trouble while biting or chewing. On the other hand, a small number of participants (5.3%) were found to use medications 'always' to relieve dental pain. 30.9 per cent of participants 'never' had sensitivity of the teeth. 68.1 per cent of the participants were 'never' unhappy with appearance. Majority of the participants were having worried or concerned and nervous, self-conscious (seldom to always). (Table 3)

Table 3

Frequency Distribution of the Responses for GOHAI Items

Items	*Physical Function*	*Never*	*Seldom*	*Sometimes*	*Often*	*Always*	*Mean Score*	*SD*
1	Limit the kind of food	22.3	6.4	26.6	19.1	25.5	3.19	1.46
2	Trouble biting/chewing	22.3	8.5	18.1	25.5	25.5	3.23	1.49
3	Trouble swallowing	75.5	3.2	6.4	9.6	5.3	1.66	1.25
4	Unable to speak clearly	73.4	3.2	14.9	3.2	5.3	1.64	1.17
	Pain & discomfort							
5	Discomfort when eating	31.9	9.6	19.1	19.1	20.2	2.86	1.54
6	Medications for pain	26.6	17.0	45.7	5.3	5.3	2.46	1.10
7	Sensitive teeth	30.9	14.9	35.1	10.6	8.5	2.51	1.27

Contd...

Contd...

	Psychosocial impact							
8	Limit contacts with others	46.8	8.5	12.8	12.8	9.1	2.49	1.61
9	Unhappy with appearance	68.1	11.7	11.7	4.3	4.3	1.65	1.11
10	Worried or concerned	10.6	6.4	27.7	33.0	22.3	3.5	1.22
11	Nervous, self-conscious	14.9	9.6	23.4	29.8	22.3	3.35	1.33
12	Uncomfortable eating in front of others	50.0	13.8	13.8	8.5	13.8	2.22	1.48

Discussion

The North Indian population is of multiethnic origin; hence, there was a difference in language use and it varies between different areas in North India. Due to the cultural diversity, the researchers felt the need to express (or translate) the GOHAI questionnaire in the Hindi language.

It was also found that potential biases may have occurred when the examiner might have collected data. The examiner might have had an influence to the answers of the patients. To avoid this problem, patients were interviewed before being examined.

Rapid ageing of the people has resulted in much interest in the study of elderly. Poor oral health among elderly people is an important dental public health issue. Very few studies have been conducted in India pertaining to oral health related quality of life.

The life expectancy of Indian women is higher than that of men. In the present study, male were more than female, which might be due to the attendance of male in the outdoor. The sample age ranged from 61 to 90 years, with a mean age of 67.75 years, in accordance with previous elderly study performed (Da Costa EH *et al*., 2010). Majority (75.7%) of the participants belonging to upper middle and upper lower socio-economic class. Participants recruited from the outdoor exhibited higher oral impacts. This is in accordance with previous

findings showing that populations living in terrible conditions with no social support tend to experience major negative impacts on oral function and well-being (Locker and slade, 1994; and Tsakos, *et al*., 2009).

Generally known fact is that the number and severity of the patient's symptom and signs do not necessarily match. Similar finding were observed in the present study where only TMJ clicking 23 per cent and tenderness 4 per cent were recorded Leukoplakia and Lichen Planus were reported in only male participants and this may be accounted for more frequent use of tobacco in the male participants.

65.1 per cent participant had calculus deposition indicates one of the reason like lack of awareness, improper cleaning, reduce cleansing efficiency, etc. Few periodontal pockets and more loss of attachment *indicate the condition which was persisting since long time in turn* reduced prognosis for an individual tooth.

Regarding prosthetic status, majority (88%) of participants did not wear a prosthesis at all, a small no however, were found wearing partial denture (5%) and complete denture (2%). These findings suggest a high level of lack of perceived needs for the compensation of lost tooth and are consistent with study carried out by Goel, *et al*. (2006), whereas study showing a high percentage of edentulous people prosthesis users at this age (Anabel, *et al*., 2010).

In this study, higher (70%) need for a prosthesis in different form. Apart from perceived need, financial considerations are also important ; indicative of fact that not many people can afford the treatment unless subsidized by Government or perhaps make free altogether. For most of the edentulous people, the loss of all natural teeth leads to impairment, disability, handicap (Liedberg, *et al*., 2005).

Goals set out by the World Health Organization (WHO) and the International Dental Federation (FDI), which say that at least 50 per cent of the elderly between 65 and 79 years must have at least twenty functional teeth in the oral cavity and also recommends a minimum of twenty teeth chewing for a satisfactory chewing. In this study high percentage of participants with more than 24 teeth at this age (Federation Dentaire Internationale, 1982).

In this present study, the GOHAI final score of 30.176±0.88 showed lower standards of oral health in North Indians. On comparing the GOHAI mean score with other countries, results vary from 52 in Spain (Gil-Montoya, *et al*., 2008), 46 in Malaysia (Othman, *et al*., 2006) and 12 in China (Wang, *et al*., 2007) reflecting the influence of cultural aspects on the GOHAI final score.

The study has some limitations especially relating to the lack of representativeness of the sample. Patients were recruited in two health care offices in Beirut during a short period. The results thus cannot be applied to elderly living in rural communities or even in other cities in the country. Patients attending those medical structures may also be different from non-attending elderly: they may have higher levels of disease as compared to non attending people who could be healthier.

The elderly population in India is increasing as the trends in life expectancy shows that people are living longer. So health policy makers thus need to understand this changing demographic pattern and plan accordingly for the prevention and control of diseases associated with old age.

Conclusion

OHRQoL research can be used to inform public policy and help eradicate oral health disparities. It should be considered as a surrogate measure to clinical oral examination. The GOHAI final score was considered low, indicating a low self-perception by the elderly Indian sample.

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A Study of the Diagnostic Profile of Geriatric Patients in Psychiatry OPD of a Tertiary Care Hospital in Mumbai

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ABSTRACT

The present study was conducted in the Psychiatry Unit of a tertiary care hospital in Mumbai with the following aims and objectives: (1) to study the socio-demographic profile of the elderly patients attending OPD, (2) to find out the reason for service utilization and (3) to study their psychiatric diagnostic profile. An audit was done of all the geriatric patients (N=300) above the age of 60 years attending the OPD for the first time during the period from January to December, 2009. Frequency distribution and Chi-square test were used for analyzing the data. It was found that the sleep disturbance was the most common symptom associated with depressive symptoms. Young old had depression more often as compared to old old who had dementia. It was suggested that need regarding the mental health issues in elderly population be sensitize.

Keywords: Geriatric, diagnostic profile, Young old, Old old, Help-seeking behaviour

As health care facilities improve in countries, the proportion of the elderly in the population and the life expectancy after birth

increase accordingly. This is the trend which has been seen in both developed and developing countries (Kinsella & Phillips, 2005). But the sad part is that geriatric care continues to be as neglected as ever. There is hardly any progress in the services offered for common geriatric illnesses and much less so for geriatric psychiatric illnesses.

Improved healthcare promises longevity but social and economic conditions such as poverty, break-up of joint families and poor services for the elderly pose a psychiatric threat to them (Venkobarao, 1979). There is high prevalence of psychiatric disorders in geriatric age group, as seen in various studies conducted in India (Seby *et al*., 2011). Tiwari (2000) found a prevalence rate of 49.5 per cent among geriatric people and also found socially, economically and educationally disadvantaged people to more ill. Sood *et al*. (2006) also found a prevalence rate of 49 per cent, but in geriatric inpatients with depression being the most common diagnosis. Various studies were also carried out in India, in the past, to estimate the prevalence rates, notable among which are Dubey (1970) who found a prevalence of 23.3/1000 population and Nandi *et al*. (1975) who found it to be around 33 per cent. Similarly Ramchandran *et al*. (1979) found that psychiatric disorders were present in 35 per cent of the elderly population, out of which the rates of depression and schizophrenia were found to be 240 and 10 per 1000 population, respectively. A study by Taqui *et al*. (2007) in our neighbouring country Pakistan found the prevalence of depression to be close to 20 per cent with predictors being nuclear family system, female sex, being single or divorced/widowed, unemployment and having a low level of education. The elderly living in a nuclear family system were 4.3 times more likely to suffer from depression than those living in a joint family system.

But the availability and accessibility to services, except in urban areas, remain abysmal. Only one-third of older persons with mental illness living in the community receive mental health services (Dugue, 2003). To make matters worse, local rural population are unaware of any existing geriatric services near their residence and many don't utilize them (Goel *et al*., 1999). Most of this psychiatric care is provided by the primary and long-term care sectors. A qualitative study conducted in Goa by Patel & Prince (2001), found that primary health care doctors did not have adequate training in the field of

mental health disorders, making it difficult for the elderly to find support. Regarding long-term care facilities, high prevalence rates of mental illness were found, but many a times they remain untreated (Nagaraj *et al*., 2011).

General Hospital Psychiatry Units (GHPUs) also have an important role in looking after the elderly population. Patients with medical disorders follow up in a general hospital and sometimes get referred to the General Hospital Psychiatry Units. GHPUs are easily accessible. They also tend to de-stigmatize psychiatric disorders, so are more acceptable. Even then relatives of elderly patients tend to normalize memory and behavioural disturbances, especially depressive disorders (Katz & Alexopoules, 1996) and bring patients to health care services only when their conditions worsen or the patient becomes unmanageable at home. Integration of medical and psychiatric clinics is also important from the point of view of better management of medical co-morbidity commonly encountered in chronic major psychiatric disorders (Mc Nulty *et al*., 2003).

Aims & Objectives

The present study was planned with the aim to:

1. Study the socio-demographic profile of the elderly patients attending the General Hospital Psychiatry Unit OPD of a tertiary care hospital in Mumbai in a year.
2. Find out the reason for service utilization by these patients and
3. Study their psychiatric diagnostic profile.

Materials & Methods

Sample

In psychiatry OPD of KEM hospital, Mumbai, total number of patients attending in a year is around 6000. Out of which around 300 (5%) belong to the geriatric age group. These 300 patients were the subjects of this study.

Data from almost 300 patients was evaluated for the study. All the case record forms may not have given all the details. Medical status of patients was available for only a small percentage of the total under evaluation. Hence it could not be considered for the study. Detailed

assessment of the present medical status and past history form an essential part of the examination of geriatric population, considering many organic conditions may mimic psychiatric symptoms.

Institutional ethics committee permission was obtained before conducting the study. An audit was done of all 285 geriatric patients, i.e., above the age of 60 years in the General Hospital Psychiatry Unit OPD of a tertiary care hospital in Mumbai during the period 1st January to 31st December, using the OPD case records. Information on socio-demographic profile, presenting complaints, reasons for service utilization and diagnoses based on DSM-IV TR were noted. Frequency distribution tables were made and Chi-square test was used for analysis of the data.

Results & Discussion

Socio-demographic Profile

Age-wise distribution of patients showed that 57 per cent patients belonged to the 60–65 year age group with 77.54 per cent in the age group 60–70 years. Similar numbers were reported by a study done by Prasad *et al.* (1996) in a hospital set-up in NIMHANS.

Male to female ratio was 1.18:1. Studies show that although females outnumber males in the elderly age group around the world (Lee & Mason, 2010), they seek health care less often than males (Husain & Ghosh, 2011). India is one of the few countries in the world with sex ratio favoring males among geriatric population which could be attributed to various reasons such as under-reporting of females, especially widows and higher female mortality in different age groups (Sudha & Irudaya Rajan, 1999).

Evaluation of the marital status of patients showed that majority (69 per cent) of the patients were married and were positively associated with health and survival outcomes (Goldman *et al*., 1995). Thirty-eight per cent of the patients had at least primary education with 35 per cent being illiterate.

Eighty per cent of the elderly patients were unemployed and therefore dependent on their families. This is in contrast to the studies which show more than 50 per cent of the elderly being active and

earning wages (Husain & Ghosh, 2011). Tiple *et al*. (2006) noted that even though majority were married and stayed with their relatives, there was a significant discrepancy in objective and perceived social support. This might be because of increased urbanization leading to increased nucleation in families (Bongaarts, 2001).

Service Utilization by Patients

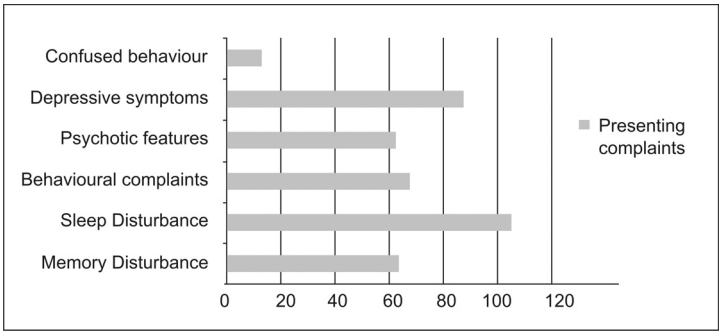
Patients can come to the OPD based on reference or direct walk-in. Surprisingly only 11 per cent of the patients were referred from other specialties. Such low referral status in spite of multiple medical illnesses for which elderly people seek treatment, suggests low sensitivity amongst the non-psychiatry medical specialties about the psycho-behavioural symptoms and psychiatric disorders among elderly patients. The physicians' detection rate of mental distress in elderly population is low in medical outpatient clinics. This could be due to the large number of patients and also, importantly, underestimation of psychological concerns of the elderly (Prakash *et al*., 2007).

Ninety per cent of the patients were brought by relatives. Common observation is that relatives approach a psychiatric service only when gross behavioural and memory disturbances begin in their patients.

Presenting Complaints of Patients

Sleep disturbance was the most common individual presentation followed by depressive symptoms (Figure 1). Sleep disturbance was

Figure 1
Presenting Complaints of Patients



associated with almost all groups of symptoms but most commonly was associated with depressive symptoms. Sleep problems are generally considered to be a part of normal ageing though it can be a part of depression, psychosis and even dementia. This emphasizes the need to evaluate the sleep problems in elderly at the earliest. Consequence of unrecognized and untreated depression or psychosis in the elderly population may include excessive use of health care services, decreased treatment compliance and increased morbidity and mortality related to underlying medical illness and from suicide.

Acutely confused patients also presented to the OPD because of sleep disturbances and behavioural symptoms.

Diagnostic Profile of the Patients

Depression was the commonest diagnosis, accounting for 31 per cent of the total. This is in accordance with the previous finding of the most common presenting complaint, viz., sleep disturbances with depressive symptomatology and also others studies. Depression was followed by Dementia and then Psychosis (Tiple *et al*., 2006 and Tiwari & Shrivastav, 1998).

While comparing the diagnostic profile amongst various age-groups, we found that the 'young old' (61–70 years of age) had depression more often as compared to 'old old' (>70 years of age), who had dementia. Thus, we see a shift of diagnostic profile as the age advances (Table 1). This calls for a proper follow-up of the young old patients to identify cognitive impairment at the earliest, as depression and anxiety are considered as forerunners of dementia (Herbert *et al*., 2000, Burton *et al*., 2003).

Table 1
Diagnostic Profile of Patients

	61–65	*66–70*	*71–75*	*> 75*
Psychosis	41 (26.97%)	10 (21.28%)	4 (10.81%)	2 (7.69%)
Depression	52 (34.21%)	19 (40.43%)	11 (29.73%)	6 (23.07%)
Dementia	25 (16.45%)	11 (23.40%)	13 (35.14%)	11 (42.30%)
Delirium	4 (2.63%)	0	6 (16.22%)	0
Others	30 (19.74%)	7 (14.90%)	3 (8.10%)	(26.92%)

Conclusion

From the study, it is obvious that a large number of elderly patients are seen in GHPUs. Other specialities need to be sensitized regarding the mental health issues in elderly population so that appropriate referral can take place. A longitudinal follow up of all these patients is essential for prevention, early diagnosis and management of dementia. It is necessary to train GHPU staff and resident doctors in assessment and management of geriatric patients for effective services. The study emphasizes the role of GHPUs in treating psychiatric disorders in elderly. It also points towards the possibility of utilizing GHPUs for training of medical professionals in psychiatric problems of elderly.

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Physical and Mental Health Status and Functional Ability of Geriatric Population in an Urban Area of Delhi: A Community Based Cross-Sectional Study

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ABSTRACT

This study was conducted to find out the physical and mental health status along with functional ability of 250 individuals aged 60 years and above, residing in an urban area of Delhi. The major morbidities found were cataract/low vision, hypertension, osteoarthritis. One third of elderly population was dependent in activities of daily living. Instrumental activities of daily living deteriorated more in females as compared to males with increasing age. Hypertension, diabetes mellitus, respiratory problems and gall bladder diseases were found to be associated with ADL-dependency. Dependency in activities of daily living increased as number of co-morbidities increased.

Keywords: Functional ability, Physical Health, Mental Health, Geriatric Population

The elderly age group (60 years and above) is one of the most vulnerable and high-risk group in terms of their health, both physical as well as psychological. Most important issue of concern is the burden of chronic diseases, viz., hypertension, diabetes, arthritis, cataract, etc.,

which in turn affect the physical independence of the geriatric population. Effect of chronic disease on various health systems of the body tend to decrease their functional ability and impact the overall dependence.

Caring for old has never been a problem for India where a value based joint family system is supposed to prevail. But now, with fast changing socio-economic scenario, industrialization, rapid urbanization, higher aspirations among the youth and the increasing participation of women in the workforce, roots of traditional joint family system is eroding very fast. Therefore, in this era of population ageing, changing family values, ever-increasing gap between generations, for majority of older people's life is still a struggle. This has also lead to increase in mental/psychological problems in elderly.

Therefore, this study was conducted to find out the physical and mental health status along with functional ability of the geriatric population in an urban population of Delhi and to findout socio-economic and public-health implications of geriatric care.

Materials And Methods

Sample

This cross sectional study was carried out in a densely populated urban community of Delhi located near Delhi Gate in Daryaganj. This area was selected as it is the field practice area of Department of Community Medicine, Maulana Azad Medical College. The approximate population of the area is 5000. The estimated geriatric population of this area was 350.

The objective of the study was explained to each subject and their informal verbal consent was also sought. Finally, 250 elderly persons' of both the sexes (Female N = 145 and Male N = 105) were selected for this study.

House to house visits were made to collect information from these subjects. All the subjects of this study were clinically tested individually.

Study Instruments

1. *Interview schedule:* It contained three parts. The first part pertained to socio-demographic profile, second part consisted of questions to assess the physical health and functional ability of the subjects and the third part consisted of questions related to mental health.
2. *Assessment of physical health:* Screening for morbidities and chronic diseases was conducted. Wherever medical records were available, the diagnosis was obtained from the written records. In the absence of records, history was taken and physical examination was performed to arrive at the diagnosis. A condition was described as a respiratory problem if any or all of the following were present: chronic cough, breathlessness, and dyspnea. A cough was considered chronic if it had persisted without remission for the past 3 months.
3. *Assessment of the visual disability:* As an ideal procedure: the Snellen's chart, 'E' chart (6/60 and 6/18) was used. It was kept at a distance of 6 metres. If the visual acuity was less than 6/60, then finger counting was done. A person was considered blind if the visual acuity in the better eye was less than 6/60 and torch light test was performed to diagnose cataract.
4. *For anemia testing:* Palmar pallor was taken as the surrogate for anemia among the subjects.
5. *For Hearing impairment:* Whispered voice test was used to assess hearing impairment.
6. *For screening of osteoarthritis:* questionnaire for screening osteoarthritis was used.
7. *Functional ability:* As most of the chronic diseases and ageing itself effect the functional ability of a person. It was decided to assess the functional ability with regard to activities of daily living and instrumental activities of daily living of elderly subject.

Activity of daily living was assessed using Katz Index of Independence in Activities of Daily Living (Katz, 1970). Clinicians typically use the tool to detect problems in performing activities of daily living and to plan care accordingly. The Index ranks adequacy of

performance in the six functions of bathing, dressing, toileting, transferring, continence, and feeding. Clients responses were scored yes/no for independence in each of the six functions. A score of 6 indicates full function, 4 indicate moderate impairment, and 2 or less indicates severe functional impairment (Shelkey M, 2007).

The Lawton Instrumental Activities of Daily Living (Lawton, 1969) Scale assesses a person's ability to perform tasks such as using a telephone, doing laundry, and handling finances. Measuring eight domains, it can be administered in 10 to 15 minutes. The scale may provide an early warning of functional decline or signal the need for further assessment. These skills are considered more complex than the basic activities of daily living as measured by the Katz Index of ADLs. The instrument is most useful for identifying how a person is functioning at the present time, and to identify improvement or deterioration over time. There are eight domains of function measured with the Lawton IADL scale. Women are scored on all 8 areas of function; historically, for men, the areas of food preparation, housekeeping, laundering are excluded. Clients are scored according to their highest level of functioning in that category. A summary score ranges from 0 (low function, dependent) to 8 (high function, independent) for women, and 0 through 5 for males.(Graf C, 2008)

8. *Mental health status:* To assess depression in the subjects of this study, Geriatric Depression Scale (Short form) was used (Yesavage JA, 1986). The GDS: SF consists of 15 questions requiring "yes" or "no" answers and can be completed quickly. Although the tool itself states that a score above 5 is suggestive of depression and a score equal to or greater than 10 is almost always indicative of depression.

Analysis of Data

Data entry and statistical analysis were performed using the Microsoft Excel and SPSS software version 16. Tests of significance like Pearson's Chi-square test were used to find out the results. P values < 0.05 were considered significant for the identified risk factors and outcome variables.

Table 1
Socio Demographic Profile of the Study Subjects

	Male (N=105) n %	*Female (N=145) n %*	*Total (N=250) n %*
Religion			
Hindu	81 (77.1)	102 (70.3)	183(73.2)
Muslim	24 (22.9)	43 (29.7)	67 (26.8)
Age Group			
60 – 74	93(88.6)	127(87.6)	220(88.0)
75-84	10(9.5)	10(6.9)	20(0.8)
>/=85	02(1.9)	8(5.5)	10(0.2)
Mean age (S.D.)	67.43(7.38)	67.12(8.02)	67.25(7.74)
Occupation			
Skilled workers	39 (37.1)	9 (6.2)	48(19.2)
Semiskilled workers	58 (55.2)	23 (23.0)	81(32.4)
Unskilled laborers/Housewives	8 (7.6)	113 (77.9)	121(48.4)
Educational Status			
Illiterate	14 (13.3)	76(52.4)	90 (36)
Primary (1-5yrs of schooling)	33(31.4)	45 (31.0)	78 (31.2)
Middle (5-8 yrs of schooling)	14(1.3)	18 (12.4)	32 (12.8)
Secondary school(8-10 yrs of schooling)	14(13.3)	5 (3.4)	19 (7.6)
More than secondary	30(28.6)	1 (0.7)	31 (12.4)
Living arrangements			
With Spouse only	34(32.3)	32(22.0)	66 (26.4)
With Spouse and children	52(49.5)	82 (56.6)	134(52.3)
With children	12(11.5)	19(13.1)	31(12.4)
Alone	7(6.7)	12(8.3)	19(7.6)
Economic dependence*			
Independent	80(76.2)	24(16.6)	104(41.6)
Partly dependent	13(12.4)	18(12.4)	31(12.4)
Dependent	12(11.4)	103(71.0)	136(54.4)
Avg. per capita income/mnth (In Rs)	1268	1029	1148

Notes: Subjects that were employed, felt that they were financially independent. Those who were receiving pension, or had other sources of income, e.g. rent from property, felt that they were economically partially dependent. Interviewee determined whether they were completely or partially ' economically independent. Due to the subjective nature of the response it is possible that there may have been some misclassification.

Physical Health Status

Table 2 given below presents the distribution of various chronic diseases in the subjects based on medical records and screening performed for these diseases during the study. Low vision or cataract was present in 156 (62.4%) subjects. It was more prevalent among the females (64.8%) as compared to males (59.0%). Hypertension (59.6%) and anemia (46.2%) were found in females. Osteo-arthritis of knee/hip/other joints was reported among 38 per cent of the study subjects. It was found significantly more in females (46.9%) as compared to males (25.7%) [χ^2 = 11.5, $p < 0.001$]. The prevalence of diabetes mellitus, respiratory diseases, neurological problems, hearing impairment, and gall bladder and/or liver diseases was 22 per cent, 26.4 per cent, 12.8 per cent, 13.6 per cent, and 19.6 per cent respectively. Other diseases reported included operated cases of hernia/hemorrhoids, dental caries, glaucoma, varicose vein, gastro-esophageal reflux diseases, obstructive sleep apnea, and coronary artery diseases.

Almost one fifth (20.4%) of subjects had only one morbidity, 27.1 per cent had two morbidities and 38.3 per cent had more than two morbidities.

Table 2
Morbidity Status of the Study Subjects

Population	*Males (N=105) n %*	*Females(N=145) n %*	*Total (N=250) n %*	*P value*
Disease				
Hypertension	63(60.0)	86(59.3)	159(63.6)	0.9
Low vision/ Cataract	62(59.0)	94(64.8)	156(62.4)	0.3
Pallor	46(43.8)	67(46.2)	113(45.2)	0.5
Diabetes Mellitus	26(24.8)	29(20.0)	55(22.0)	0.3
Osteo-arthritis	27(25.7)	68(46.9)	95(38.0)	<0.001*
Respiratory problem	27(25.7)	39(26.9)	66(26.4)	0.8
Neurological disorders	12(11.4)	20(13.8)	32(12.8)	0.5
Hearing Impairment	09(8.6)	25(17.2)	34(13.6)	0.04#
GBD/Liver Diseases/APDs	22(20.9)	27(18.6)	49(19.6)	0.6

- χ^2 = 11.5, # χ^2 =3.90

Functional Ability

ADL

Table 3
Dependency of Study Subjects According to ADL Scores

ADL dependence	*sex*	*Aged 60–74 years (M-93, F-127) n (%)*	*75-85 years old (M-10, F-10) n (%)*	*> 85 years old (M-2, F-8) n (%)*	*Total (n) (M-105, F-145) n (%)*
Independent	Male	69(74.1)	5(50.0)	0(0.0)	74(70.5)
	Female	93(73.2)	9(90.0)	0(0)	102(70.3)
Moderate dependence	Male	24(25.8)	5(50.0)	2(100.0)	31(29.5)
	Female	30(23.6)	0(0)	6(75.0)	36(24.8)
Severe Dependence	Male	0(0)	0(0)	0(0)	0(0)
	Female	4(3.2)	1(10.0)	2(25.0)	7(4.8)

Score of 6 indicates full function/ independence, 3-5 indicates moderate dependence, and 2 or less indicates severe.

Table 4
Distribution of ADL Dependent Participants by Sex and Age

ADL variables	*Sex*	*Aged 60–74 years (M-24; F-34)*	*75-85 years old (M-5; F-1)*	*> 85 years old (M-2; F-8)*	*Total (M-31;F-43)*
Eating	Male	0(0.0)	0(0.0)	0(0.0)	0(0.0)
	Female	10(29.4)	0(0.0)	3(37.5)	13(30.2)
Dressing	Male	1(4.1)	0(0.0)	0(0.0)	1(3.2)
	Female	6(17.6)	1(100)	7(87.5)	14(32.6)
Bathing	Male	15(62.5)	1(20.0)	0(0.0)	16(51.6)
	Female	11(32.4)	1(100.0)	7(87.5)	19(44.2)
Transferring	Male	16(66.6)	5(100)	2(100)	23(74.1)
	Female	21(61.8)	1(100)	8(100)	30(69.8)
Toileting	Male	1(4.2)	0(0.0)	2(100)	3(9.6)
	Female	10(29.4)	1(100)	8(100)	19(44.2)
Continence	Male	11(45.8)	1(20.0)	0(0.0)	12(38.7)
	Female	9(26.4)	1(100)	7(87.5)	17(39.5)

The finding in Table 3 reveal that out of total 250 subjects, 176 (70.4%) were found to be independent with regard to ADLs. Among

the 74 elderly who were dependent in ADLs, majority (N=43, 58.1%) were females and rest (N=31, 41.9%) were males. Among dependent males (N=31) 100 per cent were moderately dependent for activities of daily living (score 3–5) with none having severe dependence. Maximum proportion of dependent males (N=264 77.4%) and females (N=30, 88.9%) were in the age group of 60–74 years, i.e., young olds. Among very olds (> 85 years old), 100 per cent males and 66.7 per cent had moderate dependence in ADL activities while 33.3 per cent females had severe dependence, i.e., their aggregate ADL score was 2 or less. Maximum proportion of subjects (53/74, 71.6%) found difficulty in transferring or in physical ambulance. Among dependent subjects, 74.1 per cent of males and 69.8 per cent of females required some sort of assistance in transferring or were totally non-ambulatory. 100 per cent females in age group of very old had difficulty in transferring things. The proportion of females subjects (44.2%) who were dependent on others or had difficulty in toileting was significantly more as compared to male subjects (9.6%), [χ^2 =24.63, $p < 0.001$]. Significantly more "very olds" had difficult in using toilet as compared to young olds. Similarly more number of females (32.5%) were significantly dependent on others in case of dressing themselves as compared to males ($\chi^2=7.22$, $p=0.007$) and the problem was pronounced in females more than 85 years old. None of the male subjects and 30.2 per cent of female subjects was dependent in eating (Table 4).

IADL

Table 5a
Distribution of IADL Dependency by Sex and Age

IADL dependency	*sex*	*Aged60–74 years (M-93, F-127) n (%)*	*75-85years old (M-10, F-10) n (%)*	*> 85years old (M-2, F-8) n (%)*	*Total (M-105, F-145) n (%)*
Independent	Male	44(47.3)	2(20.0)	0(0.0)	46(43.8)
	Female	26(20.5)	1(10.0)	0(0.0)	27(18.6)
Dependent	Male	49(52.7)	8(80.0)	2(100)	59(56.2)
	Female	101(79.5)	9(90.0)	8(100)	118(81.4)

IADL Scoring: Independent – (Males–5; Females–8).

Table 5b
Instrumental Activities of Daily Living (IADL)

Dependent population	*Males (N=59)n(%)*	*Females(N=118)n(%)*	*Chi square value*	*p-value*
Instrumental activities				
PreparingMeals	NA	61(51.7)	NA	-
Housekeeping	NA	55(46.6)	NA	-
Laundry	NA	75(63.5)	NA	-
Drug intake	15(25.4)	51(43.2)	15.8	<0.001
Walking	25(42.4)	73(61.8)	22.2	<0.001
Shopping	17(28.8)	72(61.0)	34.8	<0.001
Money management	12(20.3)	55(46.6)	21.6	<0.001
Using Telephone	42(71.2)	87(73.7)	9.98	0.007

Majority of the subjects (N=177, 70.8%), were dependent with regard to instrumental activities of daily living whereas only (N=73) 29.2 per cent were independent (full score of 5 for males and 8 for females). Two third of dependent subjects were females (N=118, 66.6%). 83 per cent of males in age group of more than 75 yrs were dependent in IADL activities and 94 per cent (17/18) females aged more than equal to 75 yrs were found to dependent in IADL activities (table 5a). Proportion of males and females who had difficulty in using the telephone was 71.2 per cent and 73.7 per cent respectively. More females (61.8%) than males (42.4%) had difficulty in walking around and were totally dependent. Shopping for themselves also seemed to be a difficult task for the males as well as females as evidenced by zero score obtained by 17/59 (28.8%) of males and 72/118 (61.0%) of females. Almost one fourth of (25.4%) of males in dependent category required help in taking their own medications whereas more than one third (43.2%) of females were totally dependent for the same on others. Dependency in managing their money (counting and keeping an account) was seen in one fifth of dependent males (12, 20.3%) and 46.6% females. In all the instrumental activities of daily living the females were significantly more dependent as compared to males (Table 5b).

Further analysis showed that increase in age significantly increased the dependency with respect to activities of daily living. People who were living with their spouses (25.4%) were found to be less dependent as compared to those who were not (39%). Living

without spouse was seen to be associated with ADL-dependency. Type of occupation was also associated with dependency in ADL. People who were engaged in skilled activities in their lifetime were less dependent in their daily activities than those engaged in unskilled activities. Out of the various morbidities among these subjects, hypertension, diabetes mellitus, respiratory problems and gall bladder diseases were found to be associated with ADL-dependency (Table 6).

In subjects who were dependent in ADL activities, majority (69%) of them had more than two morbidities and same was true for subjects (72.3%) dependent in IADL activities.

Table 6
Factors Associated with ADL Dependency

Factors associated with ADL dependency	*Dependent (n=74)*	*Independent (n=176)*	*Chi square value*	*P value*
Age				
60-74	58 (78.4)	162 (92.0)	24.89	<0.001
75-84	6 (8.1)	14 (8.0)		
>/=85	10 (13.5)	0 (0.0)		
Spouse				
Living with spouse	44 (59.5)	129 (73.3)	4.68	0.03
Dead/Divorced/Unmarried	30 (40.5)	47 (26.7)		
Occupation				
Unskilled	46 (62.2)	75 (42.6)	19.26	<0.001
Semi-skilled	26 (35.1)	55 (31.3)		
Skilled	2 (2.7)	46 (26.1)		
Diseases *	Dependent = 69	Independent =172		
Hypertension	63 (91.3)	96 (55.8)	14.4	<0.001
Diabetes Mellitus	22 (31.9)	33 (19.2)		
Respiratory problems	28 (40.6)	38 (22.1)	4.51	0.03
Gall Bladder disease	21 (30.4)	15(8.7)	8.46	0.003
Low vision/ cataract	45(65.2)	32(18.6)	18.09	<0.001

*Multiple responses

Mental Health Status

The mental health status of the subjects was studied using the geriatric depression scale. More than one third (40%) of elderly had moderate depression, 5.5 per cent had severe depression and the rest (54.5%) were found to be normal as per the scale. There was no significant difference among males and females.

Discussion

Majority of the subjects (88.6%) were in the young elderly group (60–75) years. In our study, 78 per cent elderly were staying with their spouses and only 7.6 per cent were staying alone. As per findings of National survey, about 57 per cent of the aged were living with their spouses while about 5 per cent were living alone. In our study, 55 per cent (136/250) elderly were totally economically dependent on others. The situation was worse for elderly females with 71 per cent of them being dependent on others. Among males, 76 per cent were independent. As per NSS (2004–2005) data, as many as 65 per cent of the aged had to depend on others for their day-to-day maintenance (Hussain Z *et al.*). The differences in the figures may be due to the fact that it was a national level survey representing both rural and urban population whereas our study findings pertain to urban population where more people engage in economic activities.

Physical Health Status

The medical problems reported by the elderly were mainly related to chronic disorders. Majority of the subjects had cataract/low vision (62.4%) followed hypertension (59%), pallor as a surrogate marker for anemia (45.2%), osteoarthritis in 38.0 per cent, respiratory problem in 26.4 per cent and DM in 22 per cent subjects. Hypertension was found to be equally distributed among males and females (60%,59.3% respectively) in our study. A study conducted at P.H.C. Rohtak (Vashist *et al.*, 1999) have reported commonest morbidity to be cataract (46.22%) followed by COPD (35.16%) and hypertension (12.45%). In a study conducted (Kokhar and Mehra, 2001) in urban area of Delhi, the commonest problem reported was oro-dental (90.2%) followed by locomotion/joints problems (71%), visual impairment (69%), respiratory tract involvement (53%) and hypertension (37.5%).

In another community based study conducted in Rajasthan (Singh VB *et al.*, 2005), 51.2 per cent of subjects had elevated blood pressure level and the prevalence of hypertension was observed to be 50.7 per cent in men and 51.8 per cent in women. However, the prevalence of hypertension in our study includes both, hypertensives

diagnosed earlier and also elderly who were found to be hypertensive during screening by us.

In a study conducted in Kashmir (Parray *et al*., 2010), medical history and clinical examination revealed that most common diseases, in order of frequency, were hypertension (58%), osteoporosis (50.55%), cataract (18.51%) and gastritis (17.67%). Prevalence of anemia in urban elderly in a study (Thakur *et al*., 2013) conducted in Maharashtra was 38.4 per cent, it was higher in females (56.6%) than in males (38.5%). Proportion of subjects having pallor (surrogate marker for anemia) was 45 per cent in our study. The high prevalence of these conditions points to the sizable incidence of noncommunicable diseases, the burden of conditions that go unrecognized and untreated.

Functional Ability

Functional ability of subjects was assessed using ADL and IADL scale. Self-reported ADLs have been shown to be good markers for the health status of Indians. Maximum proportion if subjects (53/74, 71.6%) found difficulty in transferring or in physical ambulance. The proportion of females subjects (44.2%) who were dependent on others or had difficulty in toileting was significantly more as compared to male subjects (9.6%), [χ^2 =24.63, $p < 0.001$]. A studyconducted on aging population (Arokiasamy and Bloom, 2010) in different states of India had also shown thatthe most common difficulties were with walking across a room and getting in and out of bedamong women. Men also reported the most difficulty with walking across a room and getting in and out of bed.

In most of the instrumental activities of daily living (drug intake, walking around, money management and use of telephone), females were significantly more dependent as compared to males. The dependency increased in number of activities with increasing age.

In a study on health related quality of life in old age, it was found that the majority of the subjects aged 76 years lived independently and felt healthy, despite the fact that many had some diagnosed disease (Haque *et al*., 2003)

Depression

The prevalence of depression in our study was 45 per cent. Results of the study conducted in Karnataka (Barua *et al*., 2010) found the prevalence of depression in elderly population to be 21.7 per cent. In a study conducted in South India, the prevalence of depression in geriatric population within previous one month based on ICD classification was 12.7 per cent. Community-based mental health studies conducted in early 1980s in India have revealed that the point prevalence of depressive disorders among the geriatric population in India varies between 13 and 25 per cent. (Nandi *et al*., 1972, Ramachandran *et al*., 1982)

Conclusion

The present community based study reflects the extent and pattern of physical health status, mental health status and functional ability of elderly population in an urban area. The major morbidities found were cataract/low vision, hypertension, osteoarthritis, etc. One third of elderly population was dependent in activities of daily living. Increase in age significantly increased the dependency with respect to activities of daily living. Instrumental activities of daily living deteriorated more in females as compared to males with increasing age. Hypertension, diabetes mellitus, respiratory problems and gall bladder diseases were found to be associated with ADL-dependency. Dependency in activities of daily living increased as number of co-morbidities increased. Therefore, early identification of geriatric morbidities should be ensured through periodic screening and regular health check-ups backed by appropriate rehabilitation services.

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Chronic Diseases and Functional Decline: A Cross Sectional Study among Older Adults in India

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ABSTRACT

The present study was planned to assess the association of level of physical functioning with presence of chronic diseases among older adults in Pune. Data from 1,140 older adults selected using multi-stage random sample method in a cross sectional survey was collected. Chi square and multinomial logistic regression analysis was carried to determine association between the presence of chronic illness and physical functions. It was found that forty seven per cent subjects reported presence of at least one chronic disease. Age and female gender are highly associated with the presence of chronic diseases. Regression analysis showed that arthritis and heart disease affected functions of lower extremity more: walking, climbing, bending and squatting more. Compared to hypertension and asthama, presence of diabetes had relatively much less impact on functional ability. Study recommends early screening and primary prevention programme for those who are at risk of developing different kind of disability due to presence of chronic illness.

Keywords: Activities of daily living, Chronic illness, Functional status, India

Chronic diseases and injuries are the leading causes of death and disability in India, and the prevalence of these conditions is projected to increase in next 25 years (Patel *et al*., 2011). It has been established long ago that the presence of chronic diseases is a significant risk factors for decline in physical abilities among older population (Verbrugge & Jette, 1994). Research has also proved that such decline can be measured through self reported functional limitations during daily tasks using standardised tools (Guralnik &Ferrucci, 2003). However, recent literature on the patterns of chronic diseases and disability found that despite increase in the prevalence of chronic diseases, disability prevalence has been stable in the USA while increase in disability was reported in Belgium, Japan and Sweden (Hung *et al*., 2011). Sousa and colleagues (2010) conducted a study in seven countries including India, have concluded that prevalence of dependence was associated with presence of chronic conditions including neurological and neuropsychiatric diseases. A study from China also reported increasing prevalence of activities of daily living (ADL) disability among men and women with chronic diseases (Zhang *et al*., 2005). A Malaysian study (Hairi, *et al.,* 2010), also came out with similar results. Recently published Korean study observed the age and gender differences in the effect of chronic diseases on ADL disability (Kim, 2011). Barring these and such few studies, literature published on the chronic disease association with activities of daily living is very limited from Asian countries and especially from India. Considering the fact that older adults with chronic diseases are on the rise and the chances of developing a chronic condition increases with age. The primary objectives of the study were to examine the functional limitation in functions of daily living among older adults and to examine the association between presence of chronic illnesses and functional limitation among people above 60 years of age.

Methods

Sample

The sample in the study was drawn using a multistage random sampling method. Out of 14 administrative wards in the city of Pune (Maharastra) 11 wards were used in the sampling design of this study.

One sub-ward selected randomly from each administrative ward and data was collected starting from northeast corner of the sub ward. Respondents were selected randomly from each sub ward using population proportion sample technique. The remaining three wards were included due to security and administrative reasons. The total sample size was 1140 individuals above 60 years of age. These respondents were part of a longitudinal study of the University department, entitled 'predictors of functional ability among elderly'. The study was approved by the Institutional Ethics Committee and written informed consent was obtained from all participants prior to data collection.

Tools

Rigorous, standardized protocols were followed while administrating the semi-structured interview schedule which was comprised of socio-demographic information, self reported health and diseases, physical functions or activities and support system.

Physical functioning was measured by self-report. Questions were asked about the degree to which the respondent had difficulty in performing six tasks. Commonly observed six functions of physical strength; (1) lifting (upto 1 kilogram of weight), (2) hand use includes flexion and extension (3) bending (as most of daily chores cooking, dining, etc., is at ground level), (4) squatting (this position is required when using Indian style toilets which are different than western commode type), (5) walking (upto 1 kilometre on plain ground), and (6) climbing of stairs were included in the list. Responses to the listed functions were recorded in 4 categories; Without any difficulty, With some difficulty, With most difficulty and Cannot do it. Response options are similar to the Katzs ADL scale (Katz, 1963) which is a valid measure and used widely in India and abroad. Each completed schedule was checked for ambiguities or inconsistencies.

Chronic diseases: The presence of chronic diseases was assessed by asking the respondents explicitly whether following chronic diseases present: hypertension , diabetes mellitus, rheumatoid arthritis or osteoarthritis, asthma and any other chronic nonspecific lung disease (chronic bronchitis), heart disease (atherosclerosis). Malignancies were

asked however none of them reported its presence. Answers were coded as "yes" or "no" for each of these diseases. Self reports were confirmed by cross checking with available medical records however it was not made available by a few respondents.

Statistical analysis: Frequencies, percentage and cross tables were calculated to check distribution of main dependent variable across socio-economic variables. Chi-square test was used to check association between the presence of chronic illness and performance of physical functions. Multinomial logistic regression was conducted with variables showing significant association with components of physical functions. Statistical analysis of data was carried out using SPSS v19 software for windows.

Results

Table 1
Presence of Chronic Diseases Across Various Social and Demographic Characteristics

Socio-economic Characteristics	*No Chronic Disease*	*Presence of Chronic Disease*		
	N (%)	*One N (%)*	*Two N (%)*	*Three and More N (%)*
Age group				
60–64	163(44.3)	172(46.7)	32(8.7)	1(0.3)
65–69	176(45.0)	175(44.6)	34(8.7)	7(1.9)
70–74	100(32.6)	165(53.7)	35(11.4	7(2.3)
75+	30(46.2)	29(44.6)	6(9.2	0(0)
Gender				
Male	223(45.1)	222(44.9)	43(8.7)	6(1.2)
Female	238(37.7)	320(50.7)	64(10.1)	9(1.4)
Education				
Illiterate	122(36.1)	204(60.4)	12(3.6)	0(0)
Literate	349(43.5)	340(42.4)	97(12.1)	16(2)
Economic dependency				
Yes	112(41.3)	114(42.1)	39(14.4)	6(2.2)
No	359(41.3)	430(49.5)	70(8.1)	10(1.2)

The above table presents descriptive information showing socio-economic characteristics of the sample across presence or absence of chronic illness. As shown, those with prevalent chronic conditions differed from those reporting no chronic conditions with respect to socio-demographic variables. The percentage of the respondents without any chronic illness was 41 and ranges between 44–46 per cent in various age intervals except in 70–74 years (32.6 percentage). Presence of one chronic illness was reported by 47.45 per cent while 11.4 per cent reported presence of more than one chronic illness. Male respondents without any chronic illness were more (45.1%) compared to female respondents (37.7%). Nearly sixty per cent of illiterate respondents reported one chronic illness compared to 42.4 literate respondents but then percentage of literate with two or three and more chronic illness was higher as compared to the former; 12.1 and 2 per cent respectively. No difference was observed among economically dependent and independent groups with respect to absence of chronic illness however presence of two or more chronic illnesses was higher among economically dependent group.

Table 2

Association Between Presence of Chronic Illness and Physical Functions Using Chi-square

	Presence of Chronic Illness		*P-value*
Physical Functions	*Yes*	*No*	
Lifting			
Without any difficulty	369(55.6)	334(72)	
With some difficulty	143(21.5)	98(21.1)	0.00*
With most difficulty	97(14.6)	20(4.3)	
Cannot do it	55(8.3)	12(2.6)	
Hand use			
Without any difficulty	471(71)	377(81.1)	
With some difficulty	127(19.2)	69(14.8)	0.00*
With most difficulty	47(7.1)	11(2.4)	
Cannot do it	18(2.7)	8(1.7)	

Contd...

Contd...

Bending			
Without any difficulty	298(44.8)	289(62.6)	0.00*
With some difficulty	137(20.6)	114(24.7)	
With most difficulty	146(22.0)	47(10.2)	
Cannot do it	84(12.6)	12(2.6)	
Squatting			
Without any difficulty	253(38.4)	267(58.3)	0.00*
With some difficulty	145(22.0)	113(24.7)	
With most difficulty	157(23.8)	64(14)	
Cannot do it	104(15.8)	14(3.1)	
Walking			
Without any difficulty	308(46.3)	287(61.6)	0.00*
With some difficulty	124(18.6)	101(21.7)	
With most difficulty	137(20.6)	69(14.8)	
Cannot do it	96(14.4)	9(1.9)	
Climbing			
Without any difficulty	242(36.5)	243(52.4)	0.00*
With some difficulty	126(19.0)	112(24.1)	
With most difficulty	166(25.0)	90(19.4)	
Cannot do it	129(19.5)	19(4.1)	

Note.* = $p < 0.001$

Table 2 describes the association between various levels of performance of physical functions with presence of chronic illness. With respect to the variable of interest – physical functioning – those with no reported chronic conditions exhibited better physical functioning as compared to those with one or more number of chronic conditions. Difference between those who report chronic illness and those who did not was statistically significant for all physical functions. The column percentages shown in the table 2 suggest that presence of chronic illness led to more number of respondents falling in the 'with some difficulty' and 'with much difficulty' response categories when compared with those who did not report chronic illness. Greater difference in terms of percentages was observed for squatting and lifting, and least for hand use. Percentages in 'cannot do it' category was significantly higher for functions associated with lower extremities like bending, squatting, walking and climbing.

Table 3

Multinomial Logistic Regression Results for Age, Gender, Chronic Diseases and Physical Functions

	Lifting			*Bending*			*Squatting*			*Walking*			*Climbing*		
	Cannot do	*with most difficulty*	*with some difficulty*	*Cannot do*	*with most difficulty*	*with some difficulty*	*Cannot do*	*with most difficulty*	*with some difficulty*	*Cannot do*	*with most difficulty*	*with some difficulty*	*Cannot do*	*with most difficulty*	*with some difficulty*
	OR (95%CI)	*OR (95%CI)*	*OR (95%CI)*	*OR (95%CI)*	*OR (95%CI)*	*OR (95%CI)*	*OR (95%CI)*	*OR (95%CI)*	*OR (95%CI)*	*OR (95%CI)*	*OR (95%CI)*	*OR (95%CI)*	*OR (95%CI)*	*OR (95%CI)*	*OR (95%CI)*
Age	1.078 (1.024-1.135)**	1.065 (1.023-1.109)**	1.021 (.989-1.053)	1.056 (1.008-1.108)*	1.077 (1.041-1.115)**	1.005 (0.974-1.038)	1.076 (1.031-1.123)**	1.080 (1.044-1.118)**	1.018 (0.987-1.051)	1.155 (1.103-1.210)**	1.063 (1.026-1.101)**	1.053 (1.020-1.087)**	1.090 (1.047-1.135)**	1.022 (0.989-1.056)	1.020 (0.988-1.053)
Hypertension	1.646 (0.942-2.875)	1.784 (1.16-2.745)**	0.778 (0.546-1.11)	2.548 (1.564-4.152)**	1.601 (1.106-2.318)*	0.745 (0.520-1.066)	2.876 (1.842-4.489)**	1.315 (0.909-1.901)	0.758 (0.530-1.085)	3.278 (1.996-5.383)**	0.970 (0.665-1.416)	0.671 (0.463-973)*	2.628 (1.712-4.034)**	1.004 (0.706)	0.62 (0.424-0.907)*
Diabetes	0.653 (0.310-1.378)	0.999 (0.599-1.666)	0.493 (0.317-0.769)**	1.647 (0.950-2.854)	0.909 (0.576-1.434)	0.888 (0.599-1.315)	1.318 (0.780-2.228)	0.899 (0.574-1.407)	1.095 (0.753-1.591)	0.741 (0.396-1.386)	0.671 (0.421-1.068)	0.904 (0.614-1.331)	0.862 (0.503-1.477)	0.814 (0.537-1.233)	1.208 (0.827-1.763)
Asthama	2.230 (0.628-7.922)	2.84 (1.15-6.982)*	2.297 (1.208-4.368)*	1.915 (0.621-5.909)	1.551 (0.691-3.842)	1.139 (0.559-2.321)	2.057 (0.779-5.433)	0.995 (0.408-2.428)	1.282 (0.655-2.506)	6.644 (2.631-16.776)**	1.206 (0.493-2.952)	1.414 (0.699-2.857)	9.228 (3.809-22.355)**	2.258 (0.967-5.276)	3.034 (1.412-6.519)**
Arthritis	7.977 (2.925-21.752)**	9.526 (4.052-22.398)**	7.626 (3.585-16.223)**	16.378 (5.881-45.608)**	11.478 (4.517-29.168)**	4.963 (1.906-12.922)**	8.544 (3.367-21.681)**	8.013 (3.543-18.124)**	1.583 (0.561-4.471)	13.039 (5.083-33.446)**	9.297 (4.138-20.888)**	1.223 (0.36-4.151)	9.512 (3.946-22.927)**	5.921 (2.616-13.403)**	0.475 (0.099-2.281)
Heart_diseases	5.562 (1.386-22.318)*	4.221 (1.241-14.36)*	0.620 (0.134-2.874)	13.189 (3.578-48.612)**	4.374 (1.26-15.180)*	1.292 (0.316-5.28)	4.354 (1.213-15.636)*	2.207 (0.635-6.469)	0.22 (0.028-1.752)	8.668 (2.37-31.703)**	0.748 (0.158-3.550)	0.221 (0.28-1.731)	7.161 (2.146-23.894)**	0.939 (0.243-3.631)	0.249 (0.031-2.007)
Sex	0.239 (0.122-0.467)**	0.36 (0.225-0.576)**	0.8 (0.583-1.098)	0.188 (0.105-0.337)**	0.302 (0.206-442)**	0.479 (0.349-0.657)**	0.228 (0.138-0.377)**	0.246 (0.168-0.361)**	0.782 (0.573-1.067)	0.077 (0.038-0.155)**	0.243 (0.164-0.360)**	0.871 (0.631-1.202)	0.150 (0.089-0.253)**	0.486 (0.348-0.679)**	0.855 (0.618-1.182)

Note: The reference category is: without any difficulty. OR=odds ratio ;CI=confidence interval; * = $p < 0.05$ and ** = $p < 0.01$.

Results of multinomial logistic regression models are presented in Table 3. The five chronic illnesses, hypertension, diabetes, asthma, arthritis and heart disease were used for regression as well as age and sex of the respondents. Hypertension was frequently reported condition (29.5%). Presence of hypertension found to be affecting bending, squatting, walking and climbing functions. Respondents with hypertension were more likely to belong to 'cannot do' category for bend (OR 2.54), squatting (OR 2.87), walking (OR 3.27) and climbing (OR 2.62) rather than being in a group of respondents without any difficulty in performing theses tasks. Diabetes was notified by every fifth respondent. Presence of diabetes did not shows any association, meaning thereby none of the physical function was affected due to diabetes. Asthma was notified by 53 (4.6%) respondents and its presence affected walking and climbing functions among respondents. Odds for respondents with Asthma belonging to a group who 'cannot walk' was 6.64 times and, for 'cannot climb' was 9.228 times rather than being in a group of respondents who can walk and climb without any difficulty. Arthritis was reported by 62 (5.4%) respondents. Arthritis has affected all functions except hand use. Among them odds for those who reported 'cannot do ' lifting (OR 7.97), bending (OR 16.37), squatting (OR 8.54), walking (OR 13.03) and climbing (OR 9.51) were very high when compared to those who could performed these functions without any difficulty. Reporting of heart disease was very low (19 respondents, 1.7%) as compared to other ailments. However, presence of heart disease has affected all functions negatively. Odds for respondent with heart diseases for unable to bend (OR 13.18), walk (OR 8.66), climb (OR 7.16) , lift (OR 5.56) and squat (OR 4.35) were very high when compared with group of those who could do these functions without difficulty.

Discussion

The results of the present study are comparable with other studies carried out in India and outside. Analysis of data suggests that chronic disease and inability to perform certain physical functions was closely associated. Physical functions were increasingly affected with presence of multiple chronic conditions. The findings of present study

corroborate with the findings from other parts of India which demonstrated the rising prevalence of chronic disease among older adults, as well the relative increase in impairment trends. A recently published cross-sectional, observational community based study conducted in a rural area of West Bengal, (India) through house to house visit among 495 study population, concludes that 16.16 per cent elderly were functionally disabled as per ADL scale and more than half of them had 3 or more chronic conditions. They further reported presence of one or more chronic conditions among more than 90per cent of study populations. Study found presence of osteoporosis, anaemia, osteoarthritis, diabetes, tuberculosis, ischemic heart disease and hypertension were associated with disability (Chakrabarty *et al*. 2010). Joshi and colleagues (2003) carried out a cross-sectional study in both rural and urban areas of Chandigarh (India), and found that morbidities like asthma, COPD, hypertension, osteoarthritis, and many other problems were significantly associated with disability. The reported prevalence of chronic diseases is much higher in published literature than the present study. However, study outcome in terms of significant functional decline with presence of arthritis, hypertension and heart disease is similar to the reported data. Similar picture emerged when studies carried out in developed nations are compared with this study results. Strong association between hypertension and disability was seen in a study among African Americans (Hajjar *et al*. 2007). A follow up study in Durham (USA) reported that those with no reported chronic conditions exhibited better physical functioning at baseline (M = 2.85, SD = 0.45) than those with a history of high blood pressure, diabetes, CVD, or a history of fracture. Elderly who reported a history of diabetes and a history of fracture exhibited the poorest functioning. Seeman and Chen, (2002) also identified the risk factors associated with declined physical functioning. In a longitudinal study, carried out among 2497 older adults in Amsterdam, decline in physical functioning was associated with number of chronic diseases (adjusted ORs from 1.58 for 1, to 4.05 for > or =3 diseases). Co-morbidity of chronic nonspecific lung disease and malignancies had the strongest influence on functional decline and effect was also found for arthritis and diabetes or stroke and chronic nonspecific lung

disease (Kriegsman *et al*. 2004). Thus, it can be stated that, results of present study are comparable within India and the results from other middle income and high income countries. Surprisingly, reporting of diabetes was found to be much lower when compared with these and other published studies. It is perhaps because of lack of active screening for diabetes in the study population and unlike some other disease (arthritis or asthma) diabetes does not interfere much with day to day abilities.

Physical functions were found to be changing with increasing age and female gender. Presence of chronic conditions has been mostly among female respondents. Increasing difficulty in performing the listed functions was observed with increase in age. Our finding closely matches with other studies from USA (Hung *et al*., 2011) and Finland where they found an increase in mobility limitations, including stair climbing, for women but not for men among Finish population (Sulander *et al*., 2006). A Swedish study found an increase in the prevalence of mobility limitations for the oldest old Swedes (Parker *et al*., 2005).

The present study has provided evidence about burden of functional loss due to presence of various chronic conditions. This is perhaps first study of its kind carried on a large sample of community dwelling older adults. The authors feel, the study will be helpful for generating demand for planning services for those who are at risk of developing disability. This may necessitate change in existing health care system. The absolute number of older adults with the presence of multiple chronic diseases, associated functional loss put pressure on services. Although health care expenditure is not covered in this research yet substantial decline in physical functions will result in financial loss for the country and the individuals. Therefore, it is important to find ways, newer models of prevention of functional loss and care for those with limitations. A population-based intervention was successfully implemented in a short time period in a study from Canada (Richardson, 2012). Same study reports that simple stretching, strengthening and aerobic exercise (Smith *et al*., 2006) were also useful and in a setting where rehabilitation professionals may not be available, a group-based intervention was also possible. It is a critical

time when India and other low and middle income countries should act.

The present study has several strengths and limitations as well. Firstly, it is limited to community-dwelling respondents and excludes those residing in nursing homes, bedridden and critically ill. Hence findings are for a particular section (vast majority) of population. The measures of chronic disease and physical functions were based on self-reports. Majority of the surveys have used self report to ascertain chronic disease, functional limitation, because self-report provides nearly accurate prevalence estimates (Tisnado *et al*., 2006). The major strength of this study is use of functional limitation levels. The study is able to distinguish between kind of functional loss and degree of decline in contrast to other studies from India. The authors find such measurement very important and useful, as mentioned by Hairi and colleagues (2010) Functional limitation represents an outcome that is free of the environmental influences. This adds to the clarity in understanding ways in which disability get developed (Hairi, *et al.,* 2010).

Conclusion

A few things that are of paramount importance for successful ageing are the maintenance of independence, maintaining functional ability, preventing disability and management of chronic conditions effectively. This study shows that multiple chronic diseases put substantial burden on physical functioning of older adults. This is suggestive of that ageing population needs high-quality care for the management of chronic illnesses and preventive programme to preserve functional abilities to the extent possible. Study results are useful for public health care professionals to identify older people at risk of developing disability. These findings are important for targeting appropriate prevention and intervention strategies.

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Ageing and Nutritional Status among Three Communities of Lakhimpur District, Assam

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ABSTRACT

The present paper is an attempt to study the nutritional status in relation to ageing among three communities living under similar ecological conditions of Lakhimpur district of Assam. The communities are Mishing, Thengal Kachari and Deuri. Nutritional status was assessed from Body Mass Index calculated from weight and stature of individuals. Prevalence of malnutrition was found to be high. Moreover, females were more prone to malnourishment than males. Prevalence of malnutrition was also found to increase with increase in age. Awareness about nutritional status and need for intervention may be used as a measure to monitor the health status of ageing people.

Keywords: Aged, Nutritional status, Malnutrition, Intervention

The worldwide demographic change of increase in the proportion of elderly population to the total population is also being witnessed by the state of Assam along with the rest of the country. The proportion of elderly population in the state is relatively lower than that for the whole of the nation but the trend is towards growth. According to the 2001 census, Assam had an elderly population of 5.86 per cent. The gender variation was 5.82 per cent and 5.91 per cent for male and female respectively. This section of the population is generally retired from active service, suffers from chronic diseases, has

functional limitations and is in need of care. The support system, however, is yet to meet the growing needs of this section, which is itself increasing. The access and availability of medical services are limited. Such limitation may be due to various reasons like the socio-economic condition of the elderly, physical inability to reach the health care centres, lack of awareness about availibility of medical support for their problems, and in some cases due to the lack of a care giver. The problems are more profound in rural areas where the level of literacy and awareness is low. Another very important reason for this is the age specific migration to urban areas. The younger generation migrate to urban areas leaving the elderly in their homes. Thus, to provide service to this growing section of elderly population, it is therefore, necessary to first understand the health care needs of the elderly population.

Ageing as commonly known is associated with decline in many vital body functions. There is also change in the body structure like loss of lean mass and a relative increase in fat mass. With advancing age fat mass increases by 5–9 kg and there is an associated decline in fat free mass by 2–3 kg due to reduction of the muscle mass. Moreover fat is redistributed and tend to be deposited more on the mid region or trunk. As a normal part of the ageing process there is a gradual loss of both muscle mass and also in its strength. This loss of muscle mass is called sacropenia which leads to general change in the body composition (Nambiar, 2011). The metabolic rate too decline with increase in age and continues into later years of life. The reason for this decline is the result of a loss of metabolically active skeletal muscle tissue and its replacement by less active adipose tissue. In later years of life it becomes difficult preserve the ratio of fat to lean tissue characteristic of youth. From around the late middle age changes occur in dietary patterns, physical activity and lifestyle which have an impact on the health of an individual. The impact may be both positive and negative depending on the type of change.

The people's need for food and nutrition are determined by the ecology in which they live, their culture as well as their socio-economic condition. Proper nutrition as a part of an active, healthy lifestyle is a key to successful ageing (Krishnaswamy and

Shanthi, 2010). However, malnutrition remains a serious problem in most developing countries today (Dass 2003). Malnutrition is defined as a pathological state resulting from a relative or absolute deficiency or excess of one or more essential nutrients (Jelliffe 1966). The physical well being and maintenance of normal health is closely related to a person's nutritional status. Both inadequate and over nutrition are related to increased morbidity, age related decline and quality of life. The problem of malnutrition affects specific groups rather than the whole population. The elderly particularly become vulnerable to malnutrition owing to reasons like inappropriate intake, poor economic condition and sometimes also due to social deprivation.

The NNMB (1999) report covering eight states of India reveal that a sizeable (30%) portion of the elderly population is suffering from Chronic Energy Deficiency (CED) malnutrition. The problem of CED shows an increasing trend with age. The NNMB Tribal report states that the tribal communities are nutritionally worse than their rural counterparts. The study, however, does not cover the North-Eastern states of India. Khongsdier (2001) undertook a study of the nutritional status of 21 adult male population of Nort-East India. He found that the tribals contrary to NNMB report from other parts of the country, have the best health with lowest level of malnutirtion (19%) followed by the Hinduized group (40%) and the highest were the Hindu groups (52%). Khongsdier (2002) in another study among the adult male War Khasi found CED malnutrition to be prevalent among 35 per cent of the population. In a study on the nutritional status of the adult Karbi women of Kamrup district, Assam, CED malnutrition was found to be prevalent among 15.42 per cent of the women (Borah and Sarmah, 2012). Sarmah and Barbhuiya (2010) in their study on nutritional status of the adult Dimasa Kacharis of Cachar district in Assam found very high prevalence of CED malnutrition among both men (41%) and women (41%). The prevalence of malnutrition was also found to increase with growth in age. Bhattacharya, *et al.,* (2004) conducted a study on the nutritional status of population of north-East India. From Assam different populations like Bodos and Mishing of Sonitpur district, Jema Nagas and Dimasa of North Cachar, Sonowal Kacharis and Kaibartas of Dibrugarh

district, were studied. Two populations, i.e. Shimong and Memba of Tuting in Arunachal Pradesh were also included. The study looked into the daily dietary intake, amount of intake of calories and other nutrients of these populations and assessed nutritional status from nutritional anthropometry. The study revealed that the populations in general are well fed except the females of the Sonowal Kacharis and Kaibartas. The Memba of Arunachal Pradesh showed higher proportion of 'very sturdy' people and the Kaibartas the least. The study assessed the total population and age specific categorisation was not done.

Scope of the Study

Studies on the demography of ageing have been carried out to some extent in Assam and other states of North-East India. Data on ageing and specifically on health problems are very few and not to the desired extent. There are a large number of communities living in this region. Each community have their unique culture, food habits and ecology. They also have their unique health problems, methods of treatment and awareness level. The objective of the present study was to assess the nutritional status of three tribal communities (Mishing, Thengal Kachari and Deuris)

living in Lakhimpur district of Assam. It also looked into the gender variation and variation in nutritional status with increase in age. The nutritional assessment of a community will help to map the magnitude of malnutrition as a public health problem and plan interventions where necessary.

Method

Sample

The sample (N=884) consisted of both male (N=432) and female (N=452) adults (age varying from 30 to 70+) from the three communities (Mishing: Male N=125, Female N=136, Total =261, Thengal Kacharis: Male N=107, Female N=116, Total=223and: Deuri Male N= 200, Female N=200, Total 400).

Tool Used

Anthropometry is one of the most common method for assessing the nutritional status. This method is based on the assumption that deficiencies or excesses of nutrients are associated with deviation in body composition from the normal. This will be reflected in the anthropometric measurements.

The nutritional status was assessed from the Body Mass Index (BMI) calculated from the weight of an individual measured in kilogram divided by the height vertex squared measured in meters. The individuals were then graded for nutritional status using the James *et al*., (1988) classification for nutritional grading of adults.

Findings and Discussion

Ageing and Nutritional Status among the Mishing

Data on the Mishing community were collected from two villages namely Ajarguri and Hekerajan in the months of October and November, 2008. The villages fall under the jurisdiction of the Boginadi police station and located on the banks of the river Boginadi. The villages are situated at a distance of 15 km towards the east of Lakhimpur town. The villages are connected to the National Highway No 52.

The Mishings belong to the Mongoloid family. They are a patrilineal society. Their social organisation revolves around two clans namely *Bargum* and *Dahgum*. There are various sub clans of these two major clans. In marriage they follow clan exogamy and tribe endogamy. But nowadays, the system of tribe endogamy is not strictly followed. The social institution of bachelor dormitory known as *kebang* is still prevalent. The young boys learn social rituals in these dormitaries. The members of the *kebang* look after the security of the village and also take part in community work.

The primary occupation of the villagers is agricuture (38%). The traditional method of plough and bullock is used in agriculture. They also domesticate pig, fowl, goat, duck, etc., for economic reasons as well as domestic consumption. There are a few service holders and others are engaged in wage earning or petty business. Women are

predominantly housewives but are very much involved in agricultural activities like transplantation and harvesting of agricultural crops.

The Lakhimpur district is devasted by floods every year during the monsoon season. The Mishing community always settle near rivers and are therefore affected by floods. The traditional house type of the Mishing community is houses built on poles. The houses in the villages are all pile dwellings locally known as *changhor*. They are built with bamboo, cane and wood for beams and pillars with thatch roof.

Rice is their staple food and eaten three times a day. Pork and fowl are preferred delicacies and consumed occasionally. Fish and vegetables form a regular part of their diet. Food is cooked mostly by boiling. Mustard oil and other spices are rarely used. *Apong* or rice beer is an integral part of their social and religious life. It is also consumed regularly.

Table 1

Distribution of Mean Weight and Stature among the Adult Mishings in Different Age Groups (N=261)

Age Group	*Weight (in Kg.)*					
	Male N=125			*Female N=136*		
	No	*Mean±SE*	*SD±SE*	*No*	*Mean±SE*	*SD±SE*
30–39	66	54.64±.75	6.12±.53	69	44.93±.65	5.37±.4
40–49	24	56.37±1.71	8.38±1.20	21	47.57±1.26	5.80±.89
50–59	19	51.68±1.73	7.54±1.22	20	44.40±1.36	6.08±.96
60–69	6	44.15±2.44	5.98±1.73	15	39.60±1.44	5.57±.99
70+	10	40.75±1.11	3.51±.79	11	35.23±1.91	6.33±1.35
			Stature			
	No	*Mean±SE*	*SD±SE*	*No*	*Mean±SE*	*SD±SE*
30–39	66	160.73±.57	4.63±.55	69	151.26±.59	4.92±.42
40–49	24	160.60±.78	3.82±.55	21	153.30±.74	3.37±.52
50–59	19	159.55±.96	4.17±.68	20	151.83±.94	4.20±.66
60–69	6	156.25±1.34	3.29±.95	15	149.41±1.36	5.25±.94
70+	10	155.15±1.41	4.47±1	11	142.5±1.12	3.37±.79

Table 2
Distribution of the Adult Mishings by their Nutritional Status in Different Age Groups

Age Group	*Nutritional Status – male*				
	CED Malnutrition	*Low Normal*	*Normal*	*Overweight*	*Total*
30–39	6 (9.09)	17 (25.76)	40 960.60)	3 (4.55)	66
40–49	1 (4.17)	7 (29.17)	12 (50)	4 (16.67)	24
50–59	6 (31.58)	5 (26.32)	7 (36.84)	1 (5.26)	19
60–69	3 (50)	3 (50)	–	–	6
70+	8 (80)	2 (20)	–	–	10
Total	24 (19.20)	34 (27.20)	59 (47.20)	8 (6.40)	125
	Nutritional Status – female				
30–39	21 (30.43)	22 (31.88)	26 (37.68)	–	69
40–49	4 (19.05)	7 (33.33)	10 (47.62)	–	21
50–59	7 (35)	7 (35)	6 (30)	–	20
60–69	7 (46.66)	4 (26.66)	4 (26.66)	–	15
70+	6 (54.55)	3 (27.27)	2 (18.18)	–	11
Total	45 (33.09)	43 (31.62)	48 (35.29)	–	136

Figures in bracket indicate percentage.

There are a total of 130 households in the two villages. The total population of the villages is 767 of which 360 are males and 407 are females in the different age groups. The proportion of people in the 60 years and above age category is 5.48 per cent. Women in the 60+ age category are predominantly widows (69%), but the proportion of males without a surviving spouse is relatively less (31%). The educational level of the people is low. 25 per cent of the people are illiterates. Illiteracy is high among the women and people of the older age groups. Most of the families are extended and so the elderly live with their family members. The elderly prefer to remain engaged in works like basketry, household chores, etc., till the time they become completely incapable.

The mean weight of the females is lower than the males in all age groups. The highest mean weight among the Mishing men is 56.64 kg and that of females is 47.57 kg. The highest mean weight in both men and women are found in the 40–49 years age category. The highest

mean stature in men is 160.73 cm and that of women is 153.30cm (Table 1). The men are heavier and taller than the women in all age groups. The mean weight of the men and women declines with increase in age reaching 40.75kg in men and 35.23 kg in women of the 70+ age group. When the nutritional status (Table 2) is examined, we find high prevalence of under nourished individuals. Chronic Energy Deficiency (CED) malnutrition is found more among female adults (33%) than adult males (19%). Women in all ages show CED malnutrition with their proportion increasing among the elderly. The prevalence of CED malnutrition is high (30.43%) in women of the 30–39 years age category. The proportion of women having CED malnutrition gradually increases from the 40–49 years age group reaching 54.55 per cent in the 70+ age category. Among the men, the proportion of men showing CED malnutrition is low in the 30–39 and 40–49 years age category. But from the 50–59 years age group there is a rapid increase and is 80 per cent in the 70+ age group. Elderly Mishing men, i.e., those above 60 years have either CED malnutrition or have low normal BMI. None have normal BMI levels. The proportion of women having normal nutritional status declines with increase in age as the proportion of under nourished women increases. Low normal BMI is prevalent among 27 per cent men and 32 per cent women. Prevalence of overweight is almost negligible with no women being overweight and only 6 per cent men showing BMI higher than normal. The overweight male adults belong the third and fourth decade of their life.

Ageing and Nutritional Status among the Thengal Kacharis

Table 3

Distribution of Mean Weight and Stature in all Age Groups Among the Thengal Kacharis (N=223)

Age Group	*Weight (in Kg.)*					
	Male N=107			*Female N=116*		
	No	*Mean± SE*	*SD±SE*	*No*	*Mean±SE*	*SD±SE*
30–39	43	53.32±.80	5.27±.56	39	49.57±.93	5.94±.66
40–49	17	49.85±1.42	5.89±1.01	30	47.41±1.46	8.01±1.03

Contd...

Contd...

50–59	18	56.55±2.30	9.77±1.62	18	48.3±1.84	7.84±1.30
60–69	29	47.5±1.38	7.45±.97	17	44.5±1.54	6.37±1.09
70+				12	38.28±1.17	4.54±.87
	Stature					
	Male			*Female*		
30–39	43	162.14±.95	6.25±.67	39	152.5±1.02	6.42±.72
40–49	17	157.36±1.47	6.07±1.04	30	151.15±1.09	5.98±.77
50–59	18	161.5±1.26	5.37±.89	18	153.95±1.25	5.32±.88
60–69	29	157.11±1.18	6.26±.82	17	155.93±1.71	7.06±1.21
70+				12	146.2±2.35	8.16±1.66

Table 4
Distribution of the Adult Thengal Kacharis by their Nutritional Status in Different Age Groups

Age Group	*Nutritional Status-male*				
	CED Malnutrition	*Low Normal*	*Normal*	*Overweight*	*Total*
30–39	3 (6.97)	5 (11.62)	33 (76.74)	2 (4.65)	43
40–49	3 (17.64)	7 (41.17)	6 (35.29)	1 (5.88)	17
50–59	3 (16.66)	2 (11.11)	8 (44.44)	5 (27.77)	18
60–69	9 (37.5)	5 (20.83)	9 (37.5)	1 (4.16)	24
70+	2 (40)	–	3 (60)	–	5
Total	20 (18.69)	19 (17.76)	59 (55.14)	9 (8.41)	107
	Nutritional Status-female				
30–39	8 (20.51)	7 (17.84)	21 (53.84)	3 (7.69)	39
40–49	8 (25.80)	6 (19.35)	12 (38.70)	4 (12.9)	30
50–59	3 (16.66)	5 (27.77)	7 (38.88)	3 (16.66)	18
60–69	4 (23.52)	7 (41.17)	6 (35.29)	–	17
70+	6 (53.33)	4 (33.33)	2 (13.33)	–	12
Total	29 (25)	29 (25)	48 (41.37)	10 (8.62)	116

Figures in bracket indicate percentage.

Data on the Thengal Kacharis were collected from a village called Bangalmara Thengal Gaon in the months of October and November, 2010. The village falls under the Bihpuria police station and is situated at a distance of 32 km from Lakhimpur town. The Thengal Kacharis are a plains tribe of Assam and belong to the Mongoloid family.

The Thengal Kacharis are patrilineal and are Hindus by religion. There are 150 households in the village. The total population is 785 of which 412 are males and 373 are females. 7.39 per cent of the total population belong to sixty years and above age category. Among the females of the sixty and above age category 69 per cent are widows and 13.79 per cent of the males do not have a surviving wife. The educational level of the people of the village is low. 10.7 per cent of the population are illiterates. Most of the people have studied only up to the high school level. Only 3.5 per cent of the total population has studied to the graduate level.

Agriculture is their primary occupation (48%), while others are involved in service, or are wage earners or involved in petty trade. They also rear pigs and poultry for both domestic consumption as well the market. Women are predominantly housewives, but a very small proportion is involved in service. The housewives generally play an important role in the yearly agricultural work. Activities like transplanting the seedlings and harvesting are done by the women.

The staple food of the Thengal Kacharis is rice which they eat three times in a day. Vegetables form an integral part of their everyday diet. Dal is prepared only occasionally just as pork, chicken and mutton. Dry fish is a preferred delicacy which is available in the market and is prepared by women at home. Rice beer is an important part of their religious and social life and is also consumed regularly.

The houses are mostly constructed from bamboo with mud plastered walls and thatched roofs. Some people who can afford also use tin roofs over such structures. Complete concrete structures are very few. The houses are built on the level of the ground but the granaries which are built of similar materials at a higher level than the houses. This is to protect the grains from getting damp because of the high rainfall and also to protect the harvest from floods.

The morbidity of the elderly population was looked into. They are to be suffering from different acute and chronic conditions. The most prominent among them are musculo-skeletal problems and problems relating to eyes and vision. The prevalence of musculo-skeletal problems is more prominent among women. Incidence of high blood pressure, diabetes, etc., is less frequent and may have remained undetected in most cases. Health care facilities are available in the village. The villagers are however found to have more faith in their traditional methods of treatment. For diseases like jaundice, chicken pox, measles, fever, etc., they resort to their traditional methods of cure.

The nutritional status of the people was assessed from the Body Mass Index. The mean weight of the females is lower than the men in all age groups. There are only five men in the 70+ age category. Therefore for computing the mean weight and stature, they have been taken together along with 60–69 years age category. But in presenting the nutritional status they have been shown separately. The mean weight of men is highest (56.55 kg) in the 50–59 years age category, while in women (49.57 kg) it is found in the 30–39 age category (Table 3). The mean weight in both men and women decline with increase in age from the 50–59 age group. When the nutritional status is examined, 51 per cent of the men and 41 per cent of the women show normal nutritional status (Table 4). CED malnutrition is prevalent among 22 per cent of the adults. Women (25%) show slightly higher prevalence of CED malnutrition than men (18.69%). Another 25 per cent of the women show low normal BMI and the corresponding figure for men is 17.76 per cent. Prevalence of overweight is relatively less. 8.41 per cent of the adult men and 8.62 per cent of the adult women are found to be overweight. The overweight persons are all less than 60 years of age.

The nutritional status when looked at from the point of view of ageing, it is seen that prevalence of CED malnutrition increases with increase in age in both men and women. Among the women the incidence of CED malnutrition is high even in the ages 30–39 and 40–49, but from the 50—59 age category the proportion increases gradually. In case of men CED malnutrition is low in the 30—39 age

category but with increase in age there is an increase in the proportion of men suffering from CED malnutrition. To understand the level of under nourishment, the people showing CED malnutrition and low normal BMI are combined, then we see that in the 60+ age category 55 per cent men and 72 per cent women are under nourished.

Ageing and Nutritional Status among the Deuris

Table 5

Distribution of Mean Weight and Stature among the Deuris in Different Age Groups (N=400)

Age Group	*Weight (in Kg.)*					
	Male N=200			*Female N=200*		
	No	*Mean±SE*	*SD±SE*	*No*	*Mean±SE*	*SD±SE*
40–49	87	62.45±2.44	6.30±1.02	84	52.68±1.08	6.26±.76
50–59	42	62.71±2.24	10.20±1.58	51	50.95±1.58	7.77±1.10
60–69	47	58.32±2.39	11.49±1.69	43	48.81±1.76	8.04±1.24
70–79	18	56.64±2.21	8.58±1.56	10	48.40	
80+	6	67.66		12	41.05±1.02	2.71±.72
	Stature					
	Male			*Female*		
	No	*Mean±SE*	*SD±SE*	*No*	*Mean±SE*	*SD±SE*
40–49	87	151.5±.95	6.2±.68	84	150.75±.91	6.05±.74
50–59	42	163.01±1.54	6.8±1.08	51	151.99±.91	5.26±.74
60–69	47	162.04±1.02	4.99±.72	43	150.47±.65	3.12±.42
70–79	18	163.63±1.40	5.44±.99	10	149.33	
80+	6	170.51		12	143.60±.65	

Table 6
Distribution of the Adult Deuris by their Nutritional Status in Different Age Groups

Age Group	*Nutritional Status-male*				
	CED Malnutrition	*Low Normal*	*Normal*	*Overweight*	*Total*
40–49	4 (4.60)	7 (8.05)	55 (63.22)	21 (24.14)	87
50–59	1 (2.38)	2 (4.76)	30 (71.43)	9 (21.43)	42
60–69	4 (8.51)	7 (14.89)	28 (59.57)	8 (17.02)	47
70–79	2 (11.11)	1 (5.56)	12 (66.67)	3 (16.67)	18
80+	–	–	5 (83.33)	1 (16.67)	6
Total	11 (5.50)	17 (8.5)	130 (65)	42 (21)	200
	Nutritional Status-female				
40–49	–	13 (15.48)	50 (59.52)	21 (25)	84
50–59	3 (5.88)	12 (23.53)	25 (49.02)	11 (21.57)	51
60–69	3 (6.98)	9 (20.93)	22 (51.16)	9 (20.93)	43
70–79	1 (10)	3 (30)	5 (50)	1 (10)	10
80+	4 (33.33)	4 (33.33)	2 (16.67)	2 (16.67)	12
Total	11 (5.5)	41 (20.5)	104 (52)	44 (22)	200

*Figures in bracket indicate percentage.

Data on the Deuris were collected from the Bardeuri village under the Narayanpur subdivision of Lakhimpur district. The village is situated at about a distance of Narayanpur town. The Deuris belong to the Mongoloid group. They are a priestly class who used to perform the religious rituals of the Ahom rulers. Their society is patrilineal and they generally follow tribe endogamy in marriage. The total population of the village is 1188 of which 628 are males and 560 are females. The proportion of people in the 60+ category is 11.45 per cent and is the highest among the three communities under study. This is also much higher than the state or national figure. The people surviving to the higher ages are quite high and there is not much gender variation. 11.31 per cent of males and 11.61 per cent of the females belong to the 60+ category. Two male persons of the community are found to be living beyond 90 years.

The economy of the Deuris is based on agriculture. 44.74 per cent of the people are dependent on agriculture. 12.42 per cent of the males are involved in government service, defense service and in teaching. Women are predominantly housewives and a few of them are also engaged in service. The educational status is better in comparison to the other two communities. Illiteracy is prevalent among women and the people of the higher age groups. 5.2 per cent of the people are found to be illiterates. The educational status in the younger generation is better, though the number of girls going for higher education is found to be low.

The joint family is the dominant type of family and none of the elderly are therefore found to be living alone. The house type of the Deuris is pile dwellings. The traditional pile dwellings are built of bamboo, wooden beams and pillars with thatch roofs. Nowadays those who are economically better build concrete pile dwellings. The pillars which form the base are made of cement, sand and stones. The village has a number of such concrete pile dwellings.

The staple food of the people is rice. They eat rice three times a day. The people prefer non vegetarian food like pork, mutton, chicken, egg, fish, eel, etc. They like to have some non vegetarian item with each meal. Rice beer is prepared by them and consumed regularly. It also plays an integral part of their social and religious life.

The prevalence of morbidity has also been looked into. Among the males of the sixty years and above age category, the most prominent chronic conditions are found to be musculo-skeletal problems and diseases of the digestive system. The prevalence of other age related diseases are less. Similar is the finding for women. But the incidence of musculo-skeletal disorder is relatively higher in women. The blood pressure of the people was also measured. Most of the people were found to show high systolic and diastolic pressure, none reported to having hypertension. The high blood pressure has remained undetected and untreated.

The highest mean weight in men is 67.66 kg and that of women is 52.68 per cent. The mean weight and stature (170.51 cm) among the Deuri men is found to be the highest in the 80+ age category. This is

mainly due to two robust persons in this age group. The mean weight of the females is lower than the males in all age groups. The highest mean weight (52.68 kg) among the females is found in the 40–49 age group (Table 5). The highest mean stature in women is 151.99 cm and is found in the 50–59 age category. With the exception of the 80+ age group, the mean weight in both men and women decline with increase in age.

The nutritional status of the people differs greatly from the other two communities. The prevalence of malnutrition is much lower and the proportion of overweight persons is high. The nutritional status of the people can be said to be good. 65 per cent of the males and 52 per cent of the females show normal nutritional status (Table 6). CED malnutrition is prevalent among only 5.5 per cent males and 5.5 per cent of the females. Low normal BMI is prevalent more among women (20.5%) than men (8.5%). Prevalence of CED malnutrition and low normal BMI increases with increase in age from the 60–69 years age category. In the 40–49 years age category there are no women having CED malnutrition. But in this age category and the next the prevalence of low normal BMI is high. The proportion of adult women having low normal BMI is relatively higher in women than men. Among the three communities the proportion of overweight persons are highest in this community. 21 per cent male and 22 per cent female are also found to be overweight. Overweight persons are found in all age categories including the elderly but are prevalent more in the middle ages.

Developing countries like India have high amount of regional economic disparity. As a result they have to face the double burden of under nutrition and overweight and obesity. The rural and tribal regions show prevalence of under nutrition whereas reverse is the case for urban areas. Malnutrition thus can be recognised as a health problem for the country. It is confined to specific groups in both urban and rural areas rather than the whole population. The causes underlying most nutrition problems are poverty, ignorance and disease coupled with inadequate food supplies, unhealthy environments, social stress and discrimination (Dass,2003). The causes can be said to be true for almost all populations.

The mean weight of the males among the three communities is highest in the Deuris. The Mishing and Thengal Kachari men show similar mean weight. Of the three communities, the Deuri women show the highest mean weight. The Thengal Kachari women show higher mean weight than the Mishing women. The lowest mean weight among the Deuri men is almost equal to the highest mean weight of the Mishing and Thengal Kacharis. The lowest weight among the three communities is found in both the Mishing men (40.75 kg) and women (35.23 kg). There is high gender variation with regard to both high and low mean weight among the three communities.

When the nutritional status of the three communities is compared (Table 7), it is seen that the Deuris show the highest (58.5%) proportion of people having normal nutritional status. Overweight persons are also found to be highest among them and are relatively much higher than the other two communities. Among the Mishings (41%) and Thengal Kacharis (48%) prevalence of normal nutritional status is among less than 50 per cent of the adult population. For understanding the prevalence of under nutrition, if the CED malnutrition and low normal BMI categories are combined, then it presents a very grim picture. Among the Mishings, 56 per cent of the adult population show under nourishment and the corresponding number for the Thengal Kacharis is 44 per cent. The Deuris are in a much better position with only 20 per cent of the adult population being undernourished. However, the gender variation with regard to the prevalence of under nourishment in all the three communities is significantly high. 14 per cent of the males of the Deuris are under nourished as against 26 per cent females. Among the Thengal Kacharis, 36.45 per cent males against 50 per cent females are undernourished. In case of the Mishings, under nourishment is found among 64.71 per cent females and 46.40 per cent males. More women are found to be under nourished than men in all the three communities. Moreover under nourishment in women is found in all ages with their proportion growing in the elderly. This is irrespective of the socio-economic condition of the society. The variation in the socio-economic condition can be seen from the variation in the proportion of under nourished people. The community which is

lowest socio-economically show higher proportion of under nourished people. Thus from the point of view of the communities, the Mishings can be said to be nutritionally the least followed by the Thengal Kacharis and the Deuris.

The Mishing community of the Lakhimpur district is economically poor. Their educational level is low and the source of income other than agriculture is wage earning. Moreover, their settlement being near the river, they are ravaged by floods every year during the monsoon. This has been their condition for generations. A combination of these factors may be the reason for their low nutritional status. CED malnutrition is prevalent in very high proportion in all age groups. It is generally seen that those who live through their childhood, youth and adult life in trying circumstances grow old in poor health and functionality with major shortcomings in social, economic and behavioural aspects of their lives (Dey, 2010). It is therefore, natural to find poor nutritional status among the Mishings even in their later lives.

The socio-economic condition of the Thengal Kacharis is slightly better than the Mishings. This can be said from the occupational pattern with a small number of adult males being involved in service, and their having semi concrete as well concrete houses. However, a lot remains to be done in their nutritional status.

The Deuris, on the other hand are found to be enjoying a privileged position from a very long time ago since the time of the Ahom rule. The priestly class generally enjoy a special status in receiving different forms of gifts and donations from kings and common men as well. Moreover, the Deuris are socio-economically the best among the three communities. Their educational level is better and a good number of people are involved in service. This may be the reason for their better socio-economic condition and relative nutritional status. But it has also brought with it some evils like overweight and high blood pressure. However, in spite of their better socio-economic condition, their awareness level is not found to be very good. Most of the people show high blood pressure readings but they are unaware about their physical condition.

The need therefore, is to create awareness about these varying conditions. Both under nutrition and excess may lead to increased morbidity and decline in functional ability. Another factor that has emerged from the study is that most conditions prevalent among elderly are thought to be a normal part of the ageing process. They do not think of them as manifestation of disease conditions and have therefore ignored the symptoms. Thus, the people should be made aware that these conditions can be treated. Efforts to improve nutritional and health status should focus on specific groups and addressed at the community level.

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How to Actively Involve Service Users and Carers in Ongoing Care and Rehabilitation

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ABSTRACT

Over the past few decades it has been noted in many countries that people with intellectual disabilities (ID) in essence, live much longer than they did in the past, with the result that population of elderly parents who are continuing to care for a son or daughter well into old age is expanding. Any service which is run for the use of the general public needs regular evaluation and, therefore, regular feedback systems have to be implemented to enhance and improve the system wherever and whenever this is required. The main subjects discussed in the literature are either carer-oriented, user-oriented or patient-carer oriented and include 'participation and inclusion', 'education', 'attitudes', 'support systems', 'services' and 'products technology'. The appropriate use of these aspects would, theoretically, aim to improve communication between the individual and the world/environment which, in essence, signify the basis of identity, social engagement and human interaction of persons with ID. There is a constant need to adapt and alter accepted methods of service evaluation to be able to cater as much as possible for people with intellectual disability to allow for optimal communication and participation with staff, carers and family members.

Keywords: Intellectual disability; Service; Rehabilitation; Evaluation

Over the past few decades many countries have noted that people with intellectual disabilities (ID)[1] are, in essence, living much longer than they did in the past, with the result that there is also an expanding population of elderly parents who are continuing to care for a son or daughter well into old age. The purpose of this brief report is to assess the needs of this subset of persons to be able to inform any available or future service provision whose aim is to involve the care and/or rehabilitation of these persons. The following will describe what is available to people with ID to improve their functional ability, what can be done to improve this, and finally, what can possibly be done to improve the service and evaluation of existing or suggested practice.

Services in the community are greatly required by people with ID to allow them to access opportunities to make decisions, to gain confidence, learn new skills and to contribute towards their integration into society. It is greatly recommended that these people should be provided with ample opportunities for autonomy and to get involved in policy making at some level. Improved information services, counselling services and job seeking should be included in the carer's duties to ensure that the user is informed and is given the opportunity to achieve greater levels of independence which should be one of the main aims of any service provided.

Background

As a disability characterised by significant limitations both in intellectual functioning and in adaptive behaviour, this involves a variety of everyday social and practical skills. (AAID) People with ID are less likely to be involved in community groups, and leisure activities are mostly solitary and passive in nature. The experiences of people with ID have largely been reported as quite negative due to lack of knowledge of the nature of ID and their inevitable dependence on carers. (Sowney, 2008) Families and front-line care staff are the key agents in helping deliver behavioural interventions to people with intellectual disability and even when adequate care is given the participation level is still much lower than non-disabled and other disability groups. (Allen, 2001. & Verdonschot *et al*., 2008) This issue highlights an obvious need for more user-friendly services for both carers and

users to improve functional ability and social interaction in people with ID.

Any service which is run for the use of the general public needs regular evaluation and, therefore, regular feedback systems are implemented to enhance and improve the system wherever and whenever this is required. This should be given an even greater emphasis in the care of vulnerable groups such as people with intellectual disability (ID) and in the elderly population. The needs of these population subsets vary considerably from those of the general population; the evaluation and feedback of the services provided will also be of a different nature. It may be much more difficult to obtain feedback from these users. This translates into a greater need for evaluation of services given to people with ID, but this is also coupled to the difficulty by which feedback can be obtained from people with ID to be able to implement change to better suit their needs.

Areas for Improvement and Evaluation

People with ID should be given every opportunity to enhance their daily activities and level of independence but this should also be coupled with an ongoing system of feedback and evaluation of services and products. It is vital that this feedback should not only be gathered from the user but also from the care provider wherever possible. The main subjects discussed in the literature are either carer-oriented, user-oriented or patient-carer oriented and include 'participation and inclusion', 'education', 'attitudes', 'support systems', 'services' and 'products and technology'. All of these aim to improve communication between the individual and the world/environment which, in essence, signify the basis of identity, social engagement and human interaction.

Participation and social inclusion have been demonstrated to enhance the care and activity received by people with learning impairment and ID and this is the cornerstone of any form of care allowing for interaction and evaluation (and thus, hopefully, improvement!). (Myers *et al*., 1998) The level of participation is still; however, lower than in non-disabled and other disabled groups and this has, in return, prompted the introduction of policies to increase

inclusion and community participation. (Social Exclusion Unit, 2001. and Department of Health, 2007) The level of inclusion of people with ID depends entirely on what other people and organisations supply and for this reason it is ideal for people with ID to be able to express their opinions freely and openly about a service which is in direct contact with them. Their opinions and response to a service's current practice may suggest the induction of a minor change which could radically improve the service's outcome and usability from the users' point of view.

Support Systems are vital and the lack of these, under any circumstance, is perceived to be a barrier but this is multiplied in people with ID. When people with ID were asked what they perceived their barriers to leisure activities to be; an overwhelming majority believed carer support to be one of the main factors. (Beart *et al*., 2001) This highlights the need for improved carer education and also family education (especially in the younger generations). Family involvement in the care of people with ID has been shown to boost community participation but does not necessarily solve all participatory problems.

People with ID may not feel confident enough to integrate themselves in society or in their immediate community for fear of getting lost, running into dangerous circumstances, or even for fear of requiring physical assistance to overcome minor barriers. To deal with these problems more time has to be allocated to carer assistance and engagement with regular meetings and evaluation sessions. (Perry and Felce, 2005) These sessions can either be done on a one-to-one basis as well as a regular group session which may also double up as a social event. It is also recommended that staff and carers encourage the families to be more involved in the residents' lives and that they should involve them in their decision-making and daily planning.

Attitudes: People with ID are very susceptible to the attitudes of others and most times these attitudes may be misinterpreted depending on the level of cognition of the individual. Users of any facility or service should be made to feel welcomed and more importantly allowed (and empowered) to engage in free communication.

Positive staff attitudes have the ability to create a sense of empowerment in their service users, as well as their families, and this would result in improved outcomes.

Technology has been found to be of great assistance to people with ID by achieving optimal functional ability and independence. (Phillips and Zhao, 1993) Technology (aka assistive technology) positively impacts the everyday functioning with regards to activities of daily living, social and leisure activities and especially community participation. (Uslan, 1992) In practice it has been found that people with ID rate their own functional performance much higher with the use of an assistive device than without it. Policies and laws on assistive technology will greatly enhance the funding availability for such projects, making the devices more accessible and user friendly (once feedback on initial device usage is received). The only remaining factor on which technology is dependent is the level of education which is available to the user with regards to the use of the device in question. The less comfortable the user is with the device then the greater the chance of abandonment of the device and, subsequently, loss of improved functionality. (Phillips, and Zhao, 1993) It is vital that if a new product is introduced as a part of a service then the user should be given ample time to familiarise with the device and that sufficient education accompanies its introduction. Involvement in policy making groups or focus groups would also greatly benefit present and future ID users of technology and this would directly involve the service being given.

Patient Centred Approaches and their Evaluation

Patient-centred approaches have become increasingly important and common with numerous systems being implemented to enhance and evaluate its effectiveness. This type of approach should definitely not be down-played in the case of intellectually disabled persons. Evaluation methods such as a Q-methodology approach may be one such option for future evaluations. It is a system developed to involve service users and their circle of support in making individual plans. In practice; Q-methodology has been shown to be a useful adjunct to person-centred planning. Q-methodology highlights the similarities

and individual differences for goal planning as well as highlighting potential areas for service change and development. It has been suggested that using Q-sorts over time may be a way to demonstrate the subjective change in peoples' values that occur through person-centred planning and hence result in a review of progress of the individual/s. (Combes *et al*., 2004) (Evaluations should be carried out both qualitatively and quantitatively from both subjective and objective positions.)

Suggestions

Educational sessions (such as those intended for assistive devices induction) should be attended by users, carers and family members wherever possible to allow for participation inside and outside the "classroom". As is current practice; a clear and understandable language should be maintained when undergoing any form of educational sessions (formal as well as informal) with people with ID; keeping in mind the diverse linguistic backgrounds and cognitive levels they may possess. The clearer anything is made the greater the chance of the individual obtaining autonomy and independence. The greater understanding of any activity undergone will also improve the feedback the service is likely to receive from the user thus improving the feedback cycle.

Training sessions or seminars (and refresher sessions) for staff and carers in communication techniques and dealing with problems in people with ID should be implemented into a system where regular contact is likely. Similar sessions may be made available to family members to improve their interpersonal skills when dealing with a family member with ID. Living with someone who requires regular attention and care may be extremely frustrating for some families and the means to cope and deal with these issues should also be made a priority. Counselling services for carers and family members can also be implemented or made more accessible to deal with the stress and conflict that arises.

The final suggestion would be to create a focus group of people with ID which would meet regularly with members of staff, carers and other professionals (including specialists, policy makers, rehabilitation

specialists, allied health professionals, general practitioners, managers, etc.) on an informal basis to allow for discussion and feedback on specific areas such as service provision, technology use, staff support, and social inclusion. It is important to maintain a good multi-disciplinary network as these are the people who, with regular communication, have got the ability of recognising, evaluating and managing the episodic functional impairment and illnesses which predispose in the service users. Without a doubt, the focus group would be an idea platform from which to develop possible policies to improve the service provision for aging people with ID, the outcomes of which may be of significant importance in the future. These people would need to be supported along the way and would be able to view the positive changes for themselves; and once they feel involved in their own care this would, in effect, be of a positive influence on their feeling of well-being, quality of life and independence.

With regards to evaluations methods it would be possible to attempt new methods, such as Q-methodology, to allow for new and fresh approaches to problems which may arise or may not have been dealt with in the past. Giving the users greater say in their care, as well as giving them the opportunity to give feedback on how they feel about the current practice would benefit the service as well as any future users. These assessments, from a service provider's point of view, should aim at mobilising resources with the intent to assist persons with ID to embark on life-span curricula of life skills. (Bertelli and Brown, 2006) There is a constant need to adapt and alter accepted methods of service evaluation to be able to cater as much as possible for an aging population which is beginning to include more and more persons with ID.

Notes and References

1. Intellectual disability is used as a term used to describe disabilities which are characterised by, occasionally significant, limitations. These limitations can be both higher cerebral functioning and behavioural in nature; both of which severely affect the everyday

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Ageing, Art and Well-Being: Older Adults Associated with a Voluntary Art Promotion Programme in India

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ABSTRACT

The broad objective of this study was to examine the interface between ageing, art and well-being through the perceptions of older adults. The research design was quantitative using the survey method of investigation. A random sample of 1098 older adult members associated with one voluntary organisation in Mumbai, India having a strong art promotion programme was selected. Two well-being scales used were: Satisfaction with Life Scale and Meaning in Life Questionnaire. Multiple linear and logistic regression techniques identify predictors of respondents' perceptions on the instrumentality of art for well-being, importance of art for themselves and the ageing process in general. Results show that older adults who were financially comfortable, had a history of training in art forms and were currently engaged had a higher likelihood to perceive positive influences of art. The odds ratio of perceived positive importance of art for self and the ageing process was highest for those currently engaged. Further physically mobile older adults with good self-rated health and those who saw art as promoting aesthetic and spiritual experiences were more likely to see its positive importance. Those who did not see the importance or efficacy of art had depression and anxiety disorders. Well-being scores of this older adult cohort were significantly influenced by art exposure training and engagement. Finally it may be said that art

can be a useful therapeutic and social instrument for planning interventions with the older adults. Art oriented interventions could provide scope for activity engagement, self-enhancement and promoting an overall sense of well-being among older adults.

Keywords: Ageing, Art, Well-Being, Older adults' Perceptions

Several life cycle related changes occur during the ageing years which also manifest as stressors. These include disengagement, diminished activity, deteriorating social support and networks and adjusting to the ideas and issues relating to death, dying and bereavement (Gadow, 1986). In ageing literature a prime focus has been to look at aspects of subjective well-being of the older adults. The modalities which promote well-being include: activity-engagement efforts, religiosity and spirituality connections, relationship maintenance, stability and social networks development, counselling and therapeutic initiatives (Reynolds, 2010). Art is one such modality which has embedded aspects of therapy, enculturation and spiritual enhancement (Berger, 2000). This paper explored the interface of ageing, art and well-being. The primary focus was to examine the perceptions of older adults towards art in terms of understanding of art, propensity to engage with art forms and perceived significance and efficacy for self and the ageing process in general.

Art, broadly classified as performing art and fine art, has several epistemological understandings. One vein of understanding looks at the similarities between art experience and creative experience, the evidence of religious impulses in the artistic process and the integration of the spiritual with the aesthetic (Apostolos-Cappadona, 1996). Aesthetic value of art and its role in developing the human consciousness is another dominant view (Scruton, 1974). Expressiveness, creation, imitation, transformation and symbology have been looked at in literature as the key domains of art (Langer, 1957). At a philosophical level and drawing from Kant's central theme of aesthetic necessity which justifies all demands based on the experience of beauty, art is looked at as having an association with morality (Kemal, 1986). The symbolic relation of beauty to moral good is seen as a means of justifying aesthetic necessity. Further social theories of art look at it as a form of self-expression (Ducasse, 1966) and as

depicting the extent to which the imaginary is rooted in collective life (Duvignaud, 1972). Within the social theorisations there are two forms: (1) the nihilist theories which discuss art as play, escape and conscious self-deception thereby relegating art to the realms of pleasure (Gotshalk, 1947) and, (2) change oriented critical theories which look at the emacipatory potential of art as having a capacity to reconstruct and move beyond representations thereby transgressing the limits of reason. Indic theorisations on aesthetics look at art as a combination of transcendence and emotion (Hiriyana, 1954). Conceptually thus, art's capacity to contribute positively and influence well-being is supported.

Well-being or subjective well-being in literature is understood as a combination of self-efficacy, quality of life and happiness indicators subsuming assumptions of positive health. Culture, religion, religiosity, spirituality and social networks are some variables that impact on and affect well-being (Smith, *et al*., 2004; Sanderson *et al*., 2010). Some theoretical contributions to the construct of well-being from the structuralist lens point towards liberation from abuse and economic/financial security as crucial factors (Straka & Montminy, 2006; Wakabayashi & Donato, 2006). Specific theorisations on the interface between ageing, art and well-being are not explicitly available. However within culture as a domain of subjective well-being, art's correlation with it emerges. Hence art can be a medium of therapy, lend enabling subjective experiences, promote self-efficacy and self-esteem development as well as deconstruct hegemonic societal notions, probably about ageism as well (Bond *et al*., 2007).

There are studies that have experimentally explored the benefits of art and dance therapy for the older adults (Irwin, 1971; Dewdney, 1973; Garnet, 1974; Helm and Gill, 1974; Caplow, *et al.,* 1979). The dominant themes of the studies have been art education for creative self-expression among the older adults (Corso, 1972); art as a medium of life review (Zeiger, 1976) and reminiscence (Sandel, 1978). Fitzner (1980) developed an art education curriculum for the older adults around three major lines of focus: the productive, critical-appreciative, and the historical aspects of the visual arts. Fersh (1980) has discussed that art therapy with the older adults also has a spiritual goal – to

produce the possibility for a transcendent experience which offers the older adults the opportunity to connect with the ongoing energy force which supports the continuity of life. This could help the older adults to deal with the fear of death through the focus on inner resources.

Bertman (1991), Sheldon (1997) and Senior (1998) have examined the use of creative arts in dealing with illness, disability, fear of death and disability among the older adults. The power of poetry was stressed as a narrative art in palliative care, loss and bereavement among older adults. Experimental studies by Portenoy & Bruera (2003), Coulehan & Clary (2005) and Jarrett (2007) have focused on use of art in the contexts of palliative care for older adults. Duesbury's (2005) work uses art forms with the hospice older adults and Bolton's (2008) qualitative study has looked at art as providing therapeutic support in confrontation of issues pertaining to death and dying among the older adults.

Reynolds' (2010) study showed that working with visual arts by older women protected these women's identities, helped them to resist the stereotypes and exclusions which were commonly encountered in later life and hence promoted subjective well-being. Lin *et al's.* (2011) study looks at the use of music during hemodialysis as a complementary therapy to improve overall well-being in older adults patients. De Guzman *et al's.* (2010) study dwells on the use of Traditional Filipino Arts in the form of Puni as an intervention in facilitating the enhancement of self-esteem of Filipino older adults in a penal institution. Teater & Baldwin (2012) have explored a singing community-arts programme (the Golden Oldies) to determine the extent to which the programme contributes to participants' sense of health, self-development and social connectedness. In descriptive or experimental ways, the above studies show the positive implication of art for older adults as therapy, enculturation, engagement and negotiating boundaries which add to their well-being.

However older adults remain the 'subject of intervention' in these efforts. Rarely has the volition, opinion and perspective of older adults towards engaging with art forms been explored. Further the predictors or determinants (socio-demographic and art exposure and training history related) of the older adults' views on whether art can contribute to well-being for themselves and the ageing process in

general needs analysis. This paper thus focuses on the perspectives of the older adults towards art and its propensity to promote well-being.

There is a rich heritage of indigenous art forms in the Indian context. With the current demographic transition and the growing proportion of older adults in India, there is also a parallel growth of state and non-state endeavours such as voluntary organisations in addressing issues of the older adults. Common issues of Indian older adults in cities are loneliness, diminished activity, lack of social support and networks and coping with issues of death, dying and bereavement (Rajan, 2006). Voluntary organizations and associations in various cities constantly strive to design efforts to promote well-being among the older adults so that these issues do not escalate to the level of abuse and neglect (Cohen *et al.,* 2006). Promoting meaningful activity-engagement among the older adults is one of the tested ways of ensuring subjective well-being (Chaplin & Holbert, 2010).

Objectives of the Study

The objectives of this study were to examine the: (1) socio-demographic profile of the older adults (2) their art exposure, training, current engagement and understanding of meaning, purpose and functions of art (3) perceived interface between ageing, art and well being in terms of perceived importance of art for self and for the ageing process in general and significant predictors of the perceptions, and (4) older adults' scores on well-being scales and differentials by art exposure, training and engagement.

Method

Sample

A quantitative research design was used with the survey method of investigation. Older adults associated with one voluntary organisation in Mumbai city, India having a strong art promotion programme for the older adults formed the study universe. Started as an informal group of older adults who were also art connoisseurs, it was formally registered in 2001 as a voluntary organisation for older adults. The broader focus is on activity engagement and empowerment of older adults. The list of members of the current year (2011–12)

formed the sampling frame which comprised of 5,492 older adult members. These members included (1) those who had enrolled for specific art training programmes such as music classes, dance classes, theatre groups and painting, sculpture and pottery classes (2) those who had signed up for cultural groups (which organised viewing of performances and exhibitions for the members organised across the city and in its vicinity) and (3) those who had enrolled as ordinary members and were open to joining the cultural groups as well as participating in connoisseur courses. The organisation did not have watertight distinctions between member categories and members were free to move across. However enrolling for the art training programmes had to be done only at the beginning of the year to ensure a sense of continuity in the learner group. The sample of older adult members (1/5th of the total) was selected through the method of systematic random sampling. Every 5th member in the list was contacted either through telephone or email. The overall response rate was 74.82 per cent. The sample size of older adult members included in the study is 1098.

Tools Used

An interview schedule was used for the older adult respondents which had questions on socio-demographic profile, health basics, art exposure, training, meaning and perceived instrumentality for well-being as well as two scales: the Satisfaction with Life Scale and Meaning in Life Questionnaire. Questions on socio-demographic profile and health basics were close ended. Respondents were asked about their exposure to various art forms (music, dance, theatre, fine arts), art training history across life course, current engagement and type of engagement. The questions on meaning, understanding and purpose of art along with the importance of art for self and the ageing process were semi-open ended with broad cues provided. Respondents were asked to highlight the core/main response which was later recoded into core categories for analysis.

The Satisfaction with Life Scale developed by Diener *et al.* (1985) contains a list of five statements for agreement/disagreement: (1) In most ways my life is close to my ideal. (2) The conditions of my life are excellent. (3) I am satisfied with life. (4) So far I have gotten the

important things I want in life. (5) If I could live my life over, I would change almost nothing.). It is a Likert type scale and on a seven level continuum of agreement/disagreement (strongly disagree, disagree, slightly disagree, neither agree nor disagree, slightly agree, agree, strongly agree), the score range is 0–35, the higher end score indicating higher levels of satisfaction with life. The value of Cronbach's alpha for the Satisfaction with Life scale is 0.93. Meaning in Life Questionnaire developed by Steger *et al.* (2006) contains a list of ten statements examining what makes life and existence significant and important to an individual. These cover aspects of life's meaning, purpose, significance and propensity to take affirmative actions towards the same. The score range on the Likert type rating is 10–70 with higher end scores indicating higher meanings in life. The value of Cronbach's alpha for the Meaning in Life Questionnaire is 0.84.

Scales were cross-checked in terms of permissibility of utilisation as well as cultural relevance/adaptability and a pretesting of the entire schedule was done with few members for validity and reliability. The two scales used in the study have universal applications and apart from translations into two local languages (Marathi and Gujarati) no changes were made in the original performs. In cases of respondents with hearing impairment and mild speech impairment, the primary caregiver's assistance was taken for repeating/interpretation. Thirty-two such cases were encountered in which case the responses were jointly obtained through the primary caregiver and the older adults. Older adults were interviewed either at their residence or at the programme centre. An interview typically lasted for an hour.

Results

Socio-Demographic Profile of Older Adult Respondents

Table 1
Socio-Demographic Profile

Socio-Demographic Profile	*Percentage*	*Number*
Age		
60–69	51.64	567
70–79	24.86	273

Contd...

Contd...

80 and above	23.50	258
Sex		
Male	40.16	441
Female	59.84	657
Marital Status		
Currently Married	41.89	460
Never Married	21.40	235
Widowed	30.97	340
Divorced	2.91	32
Separated	2.82	31
Education		
Primary Level Schooling	7.01	77
Schooling completed till matriculation	22.68	249
Graduation degree	32.70	359
Postgraduate	18.21	200
Professional qualifications	19.40	213
Occupation		
Currently working/employed	5.01	55
Retired	24.50	269
Part time work	14.66	161
Never employed/homemaker	55.83	613
Religion		
Hindu	52.37	575
Muslim	5.74	63
Christian	5.83	64
Protestant	5.92	65
Zoroastrian	7.01	77
Jew	5.74	63
Jain	5.92	65
Buddhist	5.74	63
Sikh	5.74	63
Living arrangement		
Living with spouse	28.60	314
Living with spouse and/or children	20.49	225
Living with grandchildren and/or extended family	21.40	235
Living alone	26.32	289
Living in institutions	3.19	35

Contd...

Contd...

MPCE (in INR)		
5,001–10,000	28.32	311
10,001–15,000	53.10	583
15,001 and above	18.58	204
Economic dependence		
Fully independent	29.60	325
Partially dependent on spouse	28.96	318
Partially dependent on children	20.49	225
Partially dependent on grandchildren/extended family	20.95	230
Ethnicity		
General category	53.83	591
Minority	36.89	405
Economically and socially backward class	9.29	102
Self-rated health		
Fair	27.96	307
Good	69.40	762
Very good	2.64	29
Physical mobility		
Fully mobile	93.90	1,031
Partially mobile	5.92	65
Confined to bed	0.18	2
Mental agility		
Fully active	95.26	1,046
Partially active	4.74	52
Main/persistent ailment		
Hypertension	14.03	154
Type II diabetes	14.03	154
Cardiac related	13.75	151
Osteoarthritis and/or osteoporosis	9.56	105
Neurological – stroke/parkinson's disease	9.56	105
Asthma	13.48	148
Cancer	5.01	55
Ocular	5.10	56
Ear-Nose-Throat Ailments	5.01	55
Depression	5.37	59
Anxiety disorders	5.10	56
Total	**100.00**	**1,098**

Table 1 presents the socio-demographic profile of the respondents. Close to half (51.69%) were in the young old age group. This was followed by respondents in the old-old (24.86%) and oldest old (23.50%) age groups. Women respondents (59.84%) outnumbered men (40.16%), probably providing testimony to the fact that women are more inclined towards art forms. Currently married (41.89%) respondents were highest in number followed by widowed (30.97%) and never married (21.40%) older adult persons. Around one-third (32.70%) of the respondents had a bachelor's degree, followed by those who had completed schooling till matriculation (22.68%), had postgraduate (18.21%) and professional qualifications (19.40%). A little more than half (55.83%) of the respondents were never employed or homemakers. Around one-fourth of them were retired (24.50%) and 14.66 per cent of the older adults in the sample undertook part-time work. A small proportion were also currently in regular employment (5.01%). In terms of religion, around half of the respondents were Hindus (52.37%) and the others were Muslims, Christians, Zoroastrians, Jews, Jains, Buddhists and Sikhs. A little more than one-fourth of the respondents lived with their spouses (28.60%) or lived alone (26.32%). Around one-fifth of the respondents lived with their spouses and/or children (20.49%) and a similar proportion lived with grandchildren and/or extended family (21.40%). A small proportion also resided in paid institutions (3.19%). Around half of the respondents had monthly per capita expenditure (MPCE calculated in Indian rupees) in the range of 10,001–15,000 (53.10%). A significant proportion had MPCE in the range of 5,001–10,000 (28.32%). Close to one-fifth of the respondents were in the highest MPCE group of 15,001 and above (18.58%). In terms of economic dependence, a significant proportion of the respondents were fully independent (29.60%) or partially dependent on spouse (28.96%). Around one-fifth were partially dependent on children (20.49%) or partially dependent on grandchildren/extended family (20.95%). In terms of ethnicity, around half of the respondents belonged to the general/open category (53.83%). A significant proportion belonged to minority groups (36.89%) and economically and socially backward classes (9.29%). Majority rated their health as good (69.40%). Close to one-fourth of the respondents said that their health was fair (27.96%). Majority of

the respondents claimed to be fully physically mobile (93.90%) and fully mentally active (95.26%). In terms of main/persistent ailments, respondents claimed to have hypertension (14.03%), type II diabetes (14.03%), cardiac related ailments (13.75%) and asthma (13.48%). Other persistent ailments mentioned were osteoarthritis and osteoporosis (9.56%), neurological ailments (9.56%), cancer (5.01%), ocular ailments (5.10%), ear-nose-throat ailments (5.01%) as well as mental health issues such as recurrent depression (5.37%) and anxiety disorders (5.10%).

Art Exposure, Training, Current Engagement and Meaning

Table 2

Art Exposure, Training, Engagement, Meaning and Purpose

Older Adults on Art	*Percentage*	*Number*
Exposure to art forms		
Music	30.05	330
Dance	22.27	250
Painting and sculpture	22.13	243
Theatre	21.13	232
No exposure	3.92	43
History of art training		
In school	19.95	219
Voluntary	20.22	222
Formal training	19.22	211
Continuous learning/practice for pleasure	19.49	214
Connoisseur courses	16.58	182
No training	4.55	50
Current engagement with art forms		
Yes	91.53	1005
No	8.47	93
Type of engagement		
As spectator	20.49	225
As connoisseur	19.40	213
As participant/learner	18.31	201
As practitioner/teacher	18.12	199

Contd...

Contd...

As member of a cultural group	15.21	167
Not applicable	8.47	93
Meaning of art		
Aesthetic expression	44.08	484
Knowledge form	30.69	337
Enabling spiritual experience	25.23	227
Understanding of art forms		
Distinction as performing art and fine art	37.80	415
Distinction as folk art and classical art	32.70	359
Knowing distinctions but all art forms essentially one	29.51	324
Perspectives on purpose and functions of art		
Value education	10.47	115
Enculturation	14.57	160
Therapeutic	16.03	176
Maintenance of tradition	14.75	162
Liberation of soul/enabling spiritual experiences	16.21	178
Enabling aesthetic experiences	17.30	190
Change agent through creativity element	10.66	117
Total	**100.00**	**1,098**

Table 2 presents data on art exposure, training and engagement of the older adult respondents. Around 30.5 per cent of the older adult respondents claimed that they had an earlier exposure to music. Roughly one-fifth of the respondents claimed that they had exposure to dance (22.27%), painting and sculpture (22.13%) and theatre (21.13%). Around 3.92 per cent said that they had no exposure to any type of art forms. In terms of history of art training, an equal proportion, approximately one-fifth, of the respondents claimed that they had received some training in school (19.95%). Yet others said that they had undergone some training voluntarily (20.22%) and some said that they had received formal and rigorous training (19.22%). Some respondents also said that they were into lifelong learning or practicing the art form on their own for self-pleasure and fulfilment. Some older adults in the sample had undergone connoisseur courses (16.58%) and a small proportion also said that they had received no training. Thus in terms of current engagement with art forms,

majority (91.53%) of the respondents claimed to be currently engaged. Of those who were engaged, they did so as spectators (20.49%), as connoisseur (19.40%), as participant/learner (18.31%), as practitioner/teacher (18.12%) and as member of a cultural group (15.21%). Some older adults however claimed no engagement with art forms (8.47%). In terms of understandings on the meaning of art, around two-fifth of the older adult respondents claimed that it was as aesthetic expression (44.08%). Other understandings of art were that it was a form of knowledge (30.69%) and that it enabled spiritual experience or brought individuals close to their spiritual existence (25.23%). In terms of understanding the distinctions or finer nuances of art forms, some said that broadly one could distinguish between performing arts and fine arts (37.80%). Others said that the broad distinctions are between folk or mass art and classical or high art (32.70%). Some respondents proposed that although there were various kinds of distinctions, all art forms were essentially one (29.51%). The older adult respondents proposed different versions or perspectives on the purpose and function of art. This included art for: value education (10.47%), enculturation or enabling the establishment of cultural roots (14.57%), therapeutic purposes (16.03%), maintenance of tradition or cultural heritage (14.75%), liberating the soul and enabling spiritual experiences (16.21%), enabling aesthetic experiences (17.21%) and playing the role of a change agent or instrument through the creativity element (10.66%).

Ageing, Art and Well-Being

Table 3
Art and Well-being

Art, Older Adults and Well-being	*Percentage*	*Number*
Whether art can be instrumental in well-being		
Yes	91.80	1,008
Cannot decide	8.20	90
Perceived importance of art for self		
As therapy	17.21	189
As giving aesthetic experience	16.85	185

Contd...

Contd...

As enabling productive leisure time activity	15.85	174
As giving spiritual experience of calmness	15.66	172
As giving meaning to existence	13.30	146
As enabling the establishment of roots with culture	12.93	142
No specific importance	8.20	90
Perceived importance of art for the aging process		
For therapy/stress relief/relaxation	20.13	221
For productive engagement	19.31	212
For recreation	18.67	205
For spiritual enhancement	18.21	200
For overall well-being	15.39	169
No specific importance	8.29	91
Satisfaction with life scale score		
5–11 (dissatisfied with life)	1.73	19
12–18 (moderately satisfied with life)	13.21	145
19–25 (satisfied with life)	78.60	863
26 and above (very highly satisfied with life)	6.47	71
Meaning in life scale score		
30 and below (diminished and poor meaning in life)	12.39	136
31–50 (moderate to fair meaning in life)	80.69	886
51–70 (high and very high meaning in life)	6.92	76
Total	**100.00**	**1098**

Table 3 looks at how older adults view art for themselves and the ageing process and whether it can be instrumental in well-being. Two scales were used to understand well-being – Satisfaction with Life scale and Meaning in Life questionnaire. The various score ranges depict the levels of satisfaction with and meaning in life as perceived by the older adult respondents. In terms of whether art can be instrumental in well-being, majority (91.80%) of the older adult respondents replied in the affirmative. Around 8.20 per cent said that they could not decide whether they believed that art could be instrumental in well-being. With respect to perceived influence of art for well-being, older adult respondents said that art was therapeutic (17.21%), gave an aesthetic experience (16.85%), enabled a productive leisure time activity (15.85%), gave a spiritual experience of calmness (15.66%), gave

meaning to existence (13.30%) and enabled establishing roots with one's culture (12.93%). In terms of perceived importance of art by the older adults for the ageing process, around one-fifth of them said that art was significant as a therapy and served the purpose of giving relief from stress and promoting relaxation (20.13%). Other dimensions of perceived importance of art for the ageing process included viewing art as: productive engagement (19.31%), as an aspect as recreation (18.67%), for spiritual enhancement (18.67%) and as promoting overall well-being (15.39%). The proportion of the older adult respondents who could not decide whether art was instrumental in well-being also did not perceive any specific importance of art for themselves (8.20%) as well as for the aging process (8.29%). On the satisfaction with life scale score as a measure of well-being, data showed that majority (78.60%) of the older adult respondents of the study were satisfied with life. Others were moderately satisfied (13.21%) and very highly satisfied (6.47%). A small proportion of the older adult respondents also said that they were dissatisfied with life (1.73%). Similarly on the meaning in life scale score, majority (80.69%) of the older adult respondents' scores revealed that they saw a moderate/fair meaning in life. Around 6.92 per cent of the respondents' scores were in the higher ranges which depicted high/very high meaning in life. Around 12.39 per cent of the respondents' scores however, were on the lower end, depicting diminished/poor meaning in life.

Table 4

Older Adult Respondents' Views on Whether Art can be Instrumental In Well-being: MLR by Background Predictors

Background Predictors	*Linearised Coefficients*	*Std. Error*	*t*	*P>|t|*	*[95% Interval]*	*Confidence*
Constant	–0.8969	0.0699	–12.83	0.000	1.0341	–0.7597
Age	0.0045	0.0053	0.84	0.403	–0.0060	0.0150
Sex	0.0238	0.0155	1.54	0.125	–0.0066	0.0541
Marital status	0.0013	0.0121	0.11	0.914	–0.0225	0.0251
Education	0.0023	0.0034	0.67	0.504	–0.0045	0.0092
Occupation	–0.0060	0.0058	–1.03	0.304	–0.0174	0.0054
Religion	0.0011	0.0017	0.65	0.515	–0.0022	0.0043

Contd...

Contd...

Living arrangement	–0.0074	0.0089	–0.84	0.403	–0.0249	0.0100
MPCE	–0.0177	0.0086	–2.06	0.040	–0.0347	–0.0008
Economicdep endence	–0.0022	0.0063	–0.34	0.731	–0.0145	0.0102
Ethnicity	0.0103	0.0136	0.76	0.448	–0.0163	0.0369
Self-rated health	0.0082	0.0095	0.86	0.391	–0.0106	0.0269
Physical mobility	0.0068	0.0083	0.82	0.411	–0.0095	0.0232
Mental agility	–0.0207	0.0346	–0.60	0.550	–0.0887	0.0473
Main ailment	–0.0014	0.0021	–0.66	0.512	–0.0054	0.0027
Exposure to art	–0.0031	0.0047	–0.66	0.511	–0.0122	0.0061
Art training history	–0.0055	0.0028	–1.97	0.049	–0.0109	–0.0001
Current engagement	1.8800	0.0535	35.17	0.000	1.7752	1.9849
Type of engagement	0.0071	0.0048	1.46	0.145	–0.0024	0.0165
Meaning of art	0.0065	0.0069	0.94	0.345	–0.0071	0.0201
Understand art forms	–0.0017	0.0061	–0.29	0.775	–0.0136	0.0101
Art purpose functions	0.0021	0.0027	0.79	0.431	–0.0032	0.0074

a. Dependent variable: whether art can be instrumental in well-being.

Table 4 looks at the multiple linear regression (MLR) model of the influence of certain predictor variables on the dependent variable of older adult members' views on whether art can be instrumental in well-being. Nominal/categorical level predictors have been converted into suitable dummy or contrast variables for the MLR. In the regression model depicted in the table, the adjusted R square is 91.88 per cent. Around 91.88 per cent of the variability of the older adult respondents ' views on whether art can be instrumental in well-being is due to the predictor variables comprising of socio-demographic profile, art exposure, training history and engagement. The standard error of the estimate or the unexplained variability is 0.1564. Further the model significance is through F test statistic, F (23, 1,075) =

1,075.02, $p < .001$ referring to the fact that at least one predictor is significantly influencing the dependent variable. The predictors that are significantly related to older adult respondents ' views on art for well-being are: monthly per capita expenditure or economic class of respondents among the socio-demographic variables and art training history and current engagement with art forms. The coefficient of variation of regression is greater than 10 per cent which means that the model is not useful for prediction purposes.

Overall 16.95 per cent of the older adults who had depression as the persistent ailment and 10.71 per cent of those who had anxiety disorders said that art was of no specific importance in promoting well-being. Mental agility was particularly associated with the view of whether art was instrumental in well-being on the Pearson's chi-square test ($\chi 2(1) = 3.75$, $p = 0.04$). Around 15.38 per cent of those who were partially active said that they did not see art's importance or that they could not decide whether art was instrumental in well-being. Further of those older adults who were not currently engaged in art forms, 9.68 per cent had depression and 7.98 per cent had anxiety disorders vis-à-vis those associated with art forms, 2 per cent of whom claimed to have depression and anxiety disorders.

Table 5

Logistic Regression of the Perceived Importance of Art for Self by the Older Adult Respondents (reporting odds ratio)

Background Predictors	*Odds Ratio*	*Std. Error*	*z*	*P>|z|*	*[95% Interval]*	*Confidence*
Constant	1.68e+09	1.63e+10	2.18	0.029	8.8775	3.18e+17
Age	0.3694	0.2597	–1.42	0.157	0.0931	1.4656
Sex	0.0084	0.0181	–2.23	0.026	0.0001	0.5593
Marital status	1.1573	0.6728	0.25	0.802	0.3703	3.6168
Education	0.5191	0.2732	–1.25	0.213	0.1850	1.4564
Occupation	7.8321	7.3867	2.18	0.029	1.2333	49.7370
Religion	1.0445	0.2960	0.15	0.878	0.5993	1.8204
Living arrangement	3.3913	2.3021	1.80	0.072	0.8965	12.8289
MPCE	8.6688	8.1224	2.31	0.021	1.3817	54.3889
Economicdependence	1.1771	0.5326	0.36	0.719	0.4849	2.8575

Contd...

Contd...

Ethnicity	0.2926	0.4223	–0.85	0.394	0.0173	4.9499
Self-rated health	7.2896	1.7025	0.28	0.030	0.1309	15.0928
Physical mobility	225.7866	43.8398	0.43	0.028	0.0004	180016.9
Mental agility	65.8803	7.8442	0.53	0.029	0.0363	316.4382
Main ailment	0.9857	0.1449	–0.10	0.922	0.7389	1.3148
Exposure to art	1.6691	0.8658	0.99	0.323	0.6038	4.6134
Art training history	1.7088	0.7324	1.25	0.211	0.7376	3.9586
Current engagement	5.46e–06	8.69e–06	–4.28	0.000	8.57e–09	0.0001
Type of engagement	0.1666	0.1255	–2.38	0.017	0.03806	0.7291
Meaning of art	1.0611	0.6612	0.10	0.924	0.3128	3.5991
Understand art forms	1.1988	0.7591	0.29	0.775	0.3465	4.1474
Art purpose functions	0.6186	0.1913	–1.55	0.120	0.3374	1.1341

a. Dependent variable: importance of art for self (yes/no).

Recoding the variable of importance of art for self as a binary variable, a logistic regression analysis was conducted to predict whether it was or was not perceived as important for the older adult respondents themselves. Table 5 is a logistic regression analysis of the perceived importance of art for self by older adults through reporting odds ratio. Nominal/categorical predictor variables were suitably recoded into binary or dummy variables for the analysis. Odds ratio is highest for current engagement with art forms. This is followed by higher odds ratio in favour of socio-demographic and health related variables such as: MPCE (older adults belonging to higher economic class more likely to favour art for self); physical mobility (fully mobile older adult respondents more likely to perceive art as important for self than partially mobile or confined to bed respondents); occupation of respondents (never employed/homemakers more likely to favour art's importance for self than retired or currently employed); living arrangement (older adults residing in family or extended family set-ups more likely to perceive art as important for self than those living alone or in institutions); and, mental agility (fully mentally active older adults more likely to favour art than those not so active). Certain other predictor categories also influenced the older adult members' perception of importance of art for self to some extent such as: being single (never married, widowed, divorced and separated), Hindu, with

good self-rated health, having had an exposure to art and history of art training. Further those who saw an aesthetic and spiritual meaning to art (vis-à-vis as a knowledge form) as well as understood/appreciated the nuances/distinctions between art forms were also more likely to perceive art's importance for themselves.

Table 6

Logistic Regression of the Perceived Importance of Art for the Aging Process by Older Adult Respondents (Reporting Odds Ratio)

Background Predictors	*Odds Ratio*	*Std. Error*	*z*	*P>|z|*	*[95% Interval]*	*Confidence*
Constant	1.68e+09	1.63e+10	2.18	0.029	8.8775	3.18e+17
Age	0.6947	0.4088	–0.62	0.536	0.2193	2.2011
Sex	0.0180	0.0321	–2.25	0.025	0.0005	0.5973
Marital status	1.0314	0.5668	0.06	0.955	0.3513	3.0281
Education	0.7368	0.3119	–0.72	0.471	0.3214	1.6893
Occupation	6.5201	5.6891	2.15	0.032	1.1791	36.0549
Religion	0.7899	0.1970	–0.95	0.344	0.4845	1.28784
Living arrangement	3.1661	1.8904	1.93	0.054	0.9824	10.2034
MPCE	12.2806	10.1260	3.04	0.002	2.4398	61.8132
Economicdependence	1.6715	0.7503	1.14	0.252	0.6935	4.0291
Ethnicity	1.6419	1.9468	0.42	0.676	0.1607	16.7743
Self-rated health	7.2895	6.6567	2.18	0.030	1.2173	43.6521
Physical mobility	225.7866	558.6162	2.19	0.028	1.7691	28816.87
Mental agility	65.8803	126.4781	2.18	0.029	1.5297	2837.309
Main ailment	1.1132	0.1549	0.77	0.441	0.8475	1.4623
Exposure to art	1.4658	0.5833	0.96	0.337	0.6720	3.1974
Art training history	1.6319	0.6043	1.32	0.186	0.7898	3.3719
Current engagement	5.46e–06	0.0001	–5.06	0.000	4.99e–08	0.0006
Type of engagement	0.1831	0.1180	–2.63	0.008	0.0518	0.6476
Meaning of art	1.0070	0.5554	0.01	0.990	0.3414	2.9682
Understand art forms	1.5668	0.9272	0.76	0.448	0.4912	4.9972
Art purpose functions	0.7022	0.1959	–1.27	0.205	0.4064	1.2132

a. Dependent variable: perceived importance of art for the aging process (yes/no).

Table 6 is a logistic regression analysis of the perceived importance of art for the ageing process by the older adults through reporting odds ratio. Nominal/categorical predictor variables were suitably recoded into binary or dummy variables for the analysis. Odds ratio is highest for current engagement with art forms. This is followed by higher odds ratio in favour of socio-demographic and health related variables such as: physical mobility (physically active older adults persons were more likely to see the importance of art for the ageing process than their less active counterparts including those confined to bed); mental agility (mentally active older adults persons were more likely to see the importance of art for the ageing process); MPCE (older adults belonging to higher MPCE bracket were more likely to perceive the importance of art for the ageing process); self-rated health (older adult respondents with good self-rated health were more likely to perceive the importance of art for the ageing process); occupation of respondents (never employed/homemakers more likely to favour art's importance for the ageing process than retired or currently employed); and living arrangement (older adults in family set-ups having a more generous view towards art's importance for the ageing process vis-à-vis those in institutions and/or residing alone). Certain other predictor categories also influenced the older adult members' perception of importance of art for the ageing process to some extent such as: being single (never married, widowed, divorced and separated), having had an exposure to art and history of art training. Further those who saw an aesthetic and spiritual meaning to art (vis-à-vis as a knowledge form) as well as understood/appreciated the nuances/distinctions between art forms were also more likely to perceive art's importance for the ageing process.

Although age was not a significant predictor in the above regression analyses, for the perceived importance of art for self and the ageing process, some age-wise differences were significant. More young old respondents felt that the importance of art for themselves was its therapeutic value (18.52%) vis-à-vis old-old (16.12%) and oldest old (15.50%). Around 16.85 per cent of the old-old said that art was an enabling and productive leisure time activity. For 17.05 per cent of the oldest old, art gave a spiritual experience of calmness and for 17.58 per cent of the old-old it gave meaning to their existence. In terms of art's

perceived utility for the ageing process, one-fifth of the old-old said that art was crucial as therapy and for stress relief and relaxation and 16.48 per cent of them said that art was important for overall well-being. For 19.58 per cent of the young old, art was important for the ageing process as a medium of recreation and for 19.05 per cent of the old-old, art's instrumentality for the ageing process lay in its capacity to provide scope for spiritual enhancement.

Table 7
Satisfaction with Life Scale Score – Differentials by Art Exposure, Training and Related Factors

Art Exposure, Training, Engagement, Meaning and Purpose	*Satisfaction with Life Scale Score Range (in%)*				*Number*
	5–11 (Dissatisfied with Life)	*1218 (Moderately Satisfied with Life)*	*19–25 (Satisfied with Life)*	*26 and above (Very Highly Satisfied with Life)*	
Exposure to art forms*					
Music	1.52	8.48	84.24	5.76	330
Dance	2.00	10.80	82.40	4.80	250
Painting and sculpture	0.41	12.35	79.01	8.23	243
Theatre	0.43	12.07	79.31	8.19	232
No exposure	16.28	74.42	6.98	2.33	43
History of art training*					
In school	1.37	10.50	80.37	7.76	219
Voluntary	1.35	9.46	83.78	5.40	222
Formal training	0.95	8.06	87.20	3.79	211
Continuous learning/practice for pleasure	0.93	9.35	81.78	7.94	214
Connoisseur courses	1.10	13.74	76.37	8.79	182
No training	14.00	78.00	6.00	2.00	50
Current engagement with art forms*					
Yes	0.00	7.56	85.47	6.96	1,005
No	20.43	74.19	4.30	1.07	93
If yes, type of engagement*					
As spectator	0.00	8.00	84.44	7.56	225
As connoisseur	0.00	6.57	88.73	4.69	213
As participant/learner	0.00	5.97	87.56	6.47	201
As practitioner/teacher	0.00	7.54	84.92	7.54	199

Contd...

Contd...

As member of a cultural group	0.00	9.58	81.44	8.98	167
Not applicable	20.43	75.27	3.23	1.07	93
Meaning of art*					
Aesthetic expression	1.86	12.60	76.86	8.68	484
Knowledge form	2.08	10.39	81.60	5.93	337
Enabling spiritual experience	1.08	17.69	77.98	3.25	227
Understanding of art forms					
Distinction as performing art and fine art	1.45	13.01	78.80	6.75	415
Distinction as folk art and classical art	2.79	12.26	79.67	5.29	359
Knowing distinctions but all art forms as one	0.93	14.51	77.16	7.41	324
Perspectives on purpose and functions of art					
Value education	1.74	14.78	78.26	5.22	115
Enculturation	0.63	15.00	79.38	5.00	160
Therapeutic	4.55	14.20	75.57	5.68	176
Maintenance of tradition	0.62	14.81	76.54	8.02	162
Liberation of soul/enabling spiritual experiences	1.68	14.04	80.90	3.37	178
Enabling aesthetic experiences	2.11	8.42	80.00	9.47	190
Change agent through creativity element	0.00	11.97	79.49	8.55	117

* significant on Pearson's chi-square.

Table 7 is about the satisfaction with life scale score range and the differentials due to art exposure, training and engagement. Exposure to art forms has a significant association with satisfaction with life scores on the Pearson's chi-square test ($\chi 2(12) = 221.12$ $p < .001$). Roughly 80 per cent of the older adult respondents who were exposed to art forms such as music, dance, painting and sculpture and theatre said that they were satisfied with life vis-à-vis 6.98 per cent of those who had no exposure. Similarly history of art training ($\chi 2(15) = 258.84$ $p < .001$), current engagement with art forms ($\chi 2(3) = 567.43$ $p < .001$) and type of engagement ($\chi 2(15) = 584.60$ $p < .001$) also had significant association with the satisfaction with life scale scores of the older adult

respondents . Majority of those older adults engaged with art as spectators (84.44%), connoisseurs (88.73%), participant/learner (87.56%), practitioner/teachers (84.92%) and as member of a cultural group (81.44%) said that they were satisfied with life. Around 8.68 per cent who defined art as aesthetic expression, 5.93 per cent of those who defined it as a knowledge form and 3.25 per cent of those who said that it enabled spiritual experiences were very highly satisfied with life. Older adults' construction of the meaning of art (aesthetic expression, knowledge form, enabling spiritual experiences) was also significantly associated with Satisfaction with Life Scale score on the Pearson's test ($\chi 2(6) = 16.16$ $p = 0.0131$). The table shows that 78 per cent of the older adult respondents across varied understandings of art forms said that they were satisfied with life. A similar pattern was seen in terms of perspectives on purpose and functions of art: 78.26 per cent of those who saw the function of art as value education, 79.38 per cent of those who saw art as enculturation, 75.57 per cent of those who saw the function of art as therapeutic, 76.54 per cent of those who saw the function as maintenance of tradition, 80.90 per cent of those who saw art as promoting spiritual experiences, 80 per cent of those who saw art as enabling spiritual experiences and 79.49 per cent of those who saw it as a change agent said that they were satisfied with life.

Table 8

Meaning in Life Questionnaire Score – Differentials by Art Exposure, Training and Related Factors

Art Exposure, Training, Engagement, Meaning and Purpose	*Meaning in Life Scale Score Range (in%)*			*Number*
	30 and below (Diminished and Poor Meaning in Life)	*31–50 (Moderate to Fair Meaning in Life)*	*51–70 (High And Very High Meaning in Life)*	
Exposure to art forms*				
Music	7.88	86.06	6.06	330
Dance	10.00	84.00	6.00	250
Painting and sculpture	10.29	80.25	9.47	243
Theatre	9.05	83.19	7.76	232
No exposure	90.7	9.30	0.00	43

Contd...

Contd...

History of art training*				
In school	9.13	83.11	7.76	219
Voluntary	7.66	86.04	6.31	222
Formal training	6.63	89.10	4.26	211
Continuous learning/practice for pleasure	8.41	82.71	8.88	214
Connoisseur courses	11.54	79.12	9.34	182
No training	92.00	8.00	0.00	50
Current engagement with art forms*				
Yes	5.97	86.47	7.56	1,005
No	81.72	18.28	0.00	93
If yes, type of engagement*				
As spectator	6.22	86.22	7.56	225
As connoisseur	5.16	90.14	4.69	213
As participant/learner	3.98	89.05	6.96	201
As practitioner/teacher	6.53	85.93	7.54	199
As member of a cultural group	7.78	80.24	11.98	167
Not applicable	82.80	17.20	0.00	93
Meaning of art*				
Aesthetic expression	12.19	78.72	9.09	484
Knowledge form	10.68	82.79	6.53	337
Enabling spiritual experience	14.80	81.59	3.61	227
Understanding of art forms				
Distinction as performing art and fine art	11.33	81.69	6.99	415
Distinction as folk art and classical art	13.09	80.78	6.13	359
Knowing distinctions but all art forms essentially one	12.96	79.32	7.72	324
Perspectives on purpose and functions of art				
Value education	13.91	81.74	4.35	115
Enculturation	12.50	81.25	6.25	160

Contd...

Contd...

Therapeutic	15.34	79.55	5.11	176
Maintenance of tradition	12.35	77.78	9.88	162
Liberation of soul/enabling spiritual experiences	14.61	81.46	3.93	178
Enabling aesthetic experiences	8.95	82.11	8.95	190
Change agent through creativity element	8.55	81.20	10.26	117
Total				**1,098**

* significant on Pearson's chi-square.

Table 8 shows the differentials in meaning in life questionnaire score by factors such as art exposure, training and engagement. For the older adult respondents of the study, exposure to art forms was significantly associated with meaning in life scale scores on the Pearson's chi-square test ($\chi 2(8) = 257.42$ $p < .001$). This was also so for history of art training ($\chi 2(10) = 314.59$ $p < .001$), current engagement with art ($\chi 2(2) = 450.43$ $p < .001$) and type of engagement ($\chi 2(10) = 474.38$ $p < .001$). Respondents with no training history and lack of current engagement with art forms had poorer scores on the meaning in life questionnaire scale. There was also some association seen between how art was construed by the older adult respondents and scores on the meaning in life scale ($\chi 2(4) = 10.31$ $p = 0.03$). Around 14.80 per cent of the respondents who said that art enabled spiritual experience, fared poorly on the scale score. This meant that a cognitive understanding of the connection between art and spirituality (which endeavours to promote self-efficacy) did not necessarily translate into better scores on well-being scale. This pattern was also reflected in understanding of art forms and purpose and functions of art. A comprehension at the cognitive level did not necessarily contribute to higher end scores on the scale. Around four-fifths of the older adult respondents who gave different views on the purpose and functions of art such as art for: value education (81.74%), enculturation (81.25%), therapy (79.55%), maintenance of tradition (77.78%), enabling spiritual experiences (81.46%), enabling aesthetic experiences (82.11%) and as a change agent

(81.20%) had scores in the range 31–50 signifying that they saw a moderate to fair meaning in and to their lives.

Apart from art related variables, well-being of the older adults was also associated with factors such as education, health and class. The Satisfaction with Life scale scores of the respondents were also significantly associated with education ($\chi 2(12) = 34.18$ $p < 0.001$), class indicator ($\chi 2(6) = 15.34$ $p = 0.0180$) and health ailments ($\chi 2(30) = 384.20$ $p < 0.001$). The Meaning in Life Questionnaire scores of this cohort of older adults were significantly also associated with education ($\chi 2(8) = 23.56$ $p = 0.0028$), MPCE ($\chi 2(4) = 10.55$ $p = 0.0324$) and health ailments ($\chi 2(20) = 262.53$ $p < 0.001$).

Discussion and Conclusion

The study has thus shown that membership with the art programme was more popular among the young old, women, largely homemakers, Hindus and financially comfortable. Older adults from privileged social classes as well as minority groups were equally inclined (see Anderson, 1976; see Eijck, 2012 for socio-demographic determinants such as age and education for visual arts appreciation). Furthermore, those who claimed good self-rated health and were physically mobile and mentally active were more likely to seek membership to the program. Hence the general composition of the art program participants revealed that they were socio-economically above the average population of older adults in India. The major bulk of Indian elderly face issues of financial dependence, dilution of family/intergenerational support, poor health and impaired functional status (Alam, 2004). Although there are inter-state variations, sex ratio of the older populations is unfavourable to women and income insecurities and poverty issues in old age are on the rise (Bose and Shankardass, 2004) which leave little scope for leisure or other engagements thereby adversely impact subjective well-being.

Majority of those who sought membership had some prior exposure to various art forms. Several had also undergone some form of art training earlier or had participated in connoisseur courses. Despite the open nature of the programme, majority of the members were currently engaged with art forms in various ways – as spectators and cultural group members, as connoisseurs and as practitioners. Art

was understood by the older adults as aesthetic expression, knowledge form and that which enabled spiritual experience. Hence the purpose of art was also therapeutic, promoting value education, endowing spiritual experiences and enabling a connection with cultural roots. Majority of the older adults thought art as instrumental in promoting well-being, as a means of recreation and productive engagement. Well-being was promoted through art's propensity to give therapeutic, spiritual and aesthetic experiences. The scales reflected a general satisfaction with life and a general trend to see moderate/fair meaning in life.

Older adults who were financially comfortable, had a history of training in art forms and were currently engaged had a higher likelihood to perceive positive influences of art. Those who generally had unstructured time at their disposal, the never employed/homemakers, were more likely to favour art's importance for self. Art being a time engaging activity (Zeiger, 1976) demanded this and those who had the means were more likely to engage and see its utility. This was vis-à-vis those who were retired or currently employed for whom the transition from structured schedule to unstructured time availability and its concurrent appreciation required a certain practiced self-generosity. A sharper exploration of the nature of differences of perceived importance of art for self by occupational histories of older adults is warranted. This could also build into an analysis of nature of 'time use' of older adults and the view of time (leisure/structured) as a developmental variable in interventions with them. The odds ratio of perceived positive importance of art for self and the aging process was highest for those currently engaged. Further physically mobile older adults with good self-rated health and those who saw art as promoting aesthetic and spiritual experiences were more likely to see its importance for themselves. Older adults who perceived art as important for self also viewed it as critical for the aging process in varied ways: promoting productive experience, endowing aesthetic and spiritual experience, therapeutics and enabling connection with cultural roots. Hence art is productive work (Lieberman and Lieberman, 1983) through which it is possible to enjoy camaraderie with other art-inclined older adults cohorts, gives scope for leisure (Nystrom, 1974), a level of public recognition

(Larson, 1985) and fulfils the older adult persons' needs for reminiscence, dreaming and leaving behind a legacy for posterity (Taylor, 1987; see also Moody & Phinney, 2012 for art education programme fostering social inclusion among the young and older adults). Interestingly those who did not see the importance or efficacy of art had depression and anxiety disorders as the key/persistent ailment. Well-being scores of this older adults' cohort were significantly influenced by art exposure training and engagement. However there were also other significant factors such as education, class indicators and health ailments which influenced/impinged on the sense of well-being.

The findings of this study thus corroborate the results of two genres of studies: one that looks at the social and therapeutic functions of art and the second that experimentally deploys art as a technology for intervention with the older adults. Theoretically the results with this older adults cohort support the contention of art (as a cultural commodity) being a marker of well-being. What is distinctive to the results of this study is its emphasis on older adults as active agents in determining art's instrumentality, utility and propensity for promoting well-being. This determination is of course, contingent on proximate predictors such as art exposure, training history and persistent current engagement with art forms along with crucial socio-demographic factors.

The main limitation of this study was that older adult respondents of the study were a relatively homogeneous group with some variations in education levels. This gave little scope for mapping differentials. Although a random sample was taken from the membership list, a relatively small proportion had not enrolled, were not interested in the art program or had no prior exposure to promote inclination. Hence binary differentials were skewed, but nevertheless gave some robust support to the analysis of those who were and were not in favour of art's utility and instrumentality in promoting well-being.

The results thus imply that art can be a useful therapeutic and social instrument for planning interventions with the older adults. The goals of interventions could range from: clinical, activity engagement promotion, self-enhancement and promoting an overall sense of well-being through art's embedded aesthetic. Various art forms can be used for therapeutic intervention with older adults.

Further learning and engaging with art forms in the older years could be an exercise in promoting scope for activity-engagement. This could be a medium for self-efficacy, self-actualisation and overall sense of well-being in the older years. Two other aspects are crucial to the intervention package: the training-cultural group-connoisseur course combination and the optional-volitional element that permits a laissez-faire non-formal environ for enabling full participation/expression.

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Social Position and Deprivation among Elderly Widows: A Study of Rural Jharkhand

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ABSTRACT

The present study was an attempt to understand the social position and deprivations of elderly widows (N = 300) in rural areas of the East Singhbhum district of Jharkhand state. The findings of this study revealed that elderly widows face problems within their families and within the village community. Elderly widows are usually given a role in family decision-making on social matters. But in major issues like financial matters, elderly widows were mostly not consulted. Few elderly widows were experiencing mistreatment or abuse within the family. In general, elderly widows face many problems and discrimination. This ranges from economic hardships, lack of physical help and social stigma. Since they have no other option, many silently suffer this neglect and abuse. The family as a fundamental unit of the society has to be strengthened as a support system for the provision of care and protection to older persons, particularly for elderly widows.

Keywords: Widowhood, Elderly Women, Social Position, Deprivation

As the age structure of developing countries changes, demands on resources by different segments of population also expected to grow. There are many priorities that may push the interests of the elderly to the background. Ageing itself has major socio-economic implications,

but when ageing is combined with being widowed, another important dimension is added. According to 2001 census, there are 34 million widows in India constituting 6 per cent of the total female population and 52 per cent of the women over the age of 60 years. According to National Sample Survey (NSSO, 60th round), there were 62 widows and 22 widowers per 100 old persons (60 years and above) in rural areas. The respective figures were 38 and 10 for urban areas. In other words, more than 50 per cent of elderly women in India live without a spouse as compared to only 20 per cent of elderly men. There are three reasons for this gender disparity in widowhood in India – longer life span of women than that of men, the general tendency for men to marry women younger than themselves, and the higher rate of remarriage among widowers compared with widowed women.

Despite the increasing education and improved technology, the familial position of the women does not seem to have undergone any radical change. Even in family, they are mostly dependent throughout their life. Widowhood is characterized as one of the most distressing of all life events (Holmes and Rahe, 1967). It is said that a women is not to outlive the husband and that she should be fortunate to die before the death of her husband. As a result, there is a strong stigma attached to widowhood. Widowhood is the drastic change in the status of women brought out by the death of the spouse and this necessitates the establishment of new support within the family, within the kin-group and within the community. Mostly, widowhood implies a shift in position from that of a wife with economic, social and emotional security to that of socially and financially insecure women. For many women, "Widowhood is more than the loss of a husband – it may mean the loss of a separate identity" (UNFPA, 1998:42).

In India, the social structure is constituted of classes defined in relation to their role in social production in the background of caste. Castes accentuate class exploitation through mythical and religious legitimization. Women being subject to such exploitation are deprived of and oppressed on the basis of gender discrimination and widowhood (Halakatti, 1988).

"A widow is supposed to be disfigured; her ornaments are removed, her heads shaved, and she has to dress white sari. After that she is expected to give up eating 'hot' foods, and avoid auspicious

occasions because she is considered inauspicious and to remain celibate, devout and loyal to her husband" (Chen, 1998: 26). However, there are no such restrictions for male. Widows face negative, long-term and severe problems and these seem to be derived from social, economic, cultural and emotional deprivations than from the widowhood itself. In India the consequences of losing one's spouse are very different for men and women. A widower not only has much greater freedom to re-marry than his female counterpart, he also has more extensive property rights, wider opportunities for remunerative employment, and a more authoritative claim on economic support from his children.

Societies differ considerably in culture and social systems. The status of a widow varies considerably among the societies. In India, many Hindu women regard widowhood as a punishment given to them by god for the crimes committed in their previous birth. Moreover, widowhood is a life-event that removes not only a person's support system but also reduces the size of informal support network at the same time (O'Bryant, 1988). Census of India (2001) shows there are more than 19 million elderly widows, comprising about 51 per cent of the total elderly female population of the country. Despite this, little is known about the social position and the deprivations they experience on a daily basis. Existence of stigmatized social perception, negative attitude towards widowhood and lack of social support systems would manifest in poor mental health and problems of adjustment which will make them more vulnerable. Combined effects of ageing and widowhood aggravate the miseries of women in rural areas. The circumstances of widows vary a great deal between different regions, communities, classes and age groups. Therefore, there is a need to understand the social position and deprivations of the rural elderly widows. In this context, the present paper is an attempt to understand these aspects related to elderly widows of rural areas.

Objectives

The broad objective of the present paper is to examine the status and deprivations of rural elderly widows and the specific objectives are:

(1) To understand how elderly widows perceive their status within the community and within their family.

(2) To understand the deprivations among rural elderly widows.

Method

Sample

Selection of Study Area: Jharkhand state was purposely selected for the survey. All districts of Jharkhand state were ranked according to the proportion of elderly widows. The district having higher proportion of elderly widows, East Singhbhum (7.8%), was selected for the field study. From the selected district, two blocks were randomly selected. In first selected block, there are 27 panchayats. One panchayat which was having large number of villages (20 villages) was selected. In Jharkhand, the average village size is not very big. So the villages having more than 100 households were selected for the survey. Before starting the survey, preliminary visit to the study area was made. Out of these 20 villages, 7 villages were covered in the survey by keeping in mind the avaibility and accessibility of villages. In second selected block, there are 14 panchayats. One panchayat was chosen for conducting the survey. Total 5 villages were covered to collect information from 150 elderly widows. So, keeping the time, cost and labour in consideration, it was targeted to interview 300 respondents from two blocks, with equal number of respondents from each block. In order to complete the targeted sample size (300 elderly widows), 12 villages from the two blocks were visited.

Three stage sampling design was adopted with the selection of blocks in the first stage, villages in the second stage and households in the third stage. With the help of Sarpanch, Anganwadi workers and other locals from the villages, the households with eligible respondents were identified.

Instrument for Data Collection

The present paper has both quantitative and qualitative components. For quantitative component, primary data was collected from the field. Case studies and key informant interviews were used to explore issues related to social position of elderly widows, relationship

with children and other relatives, coping mechanism, the extent and nature of deprivation they face, etc.

Statistical Analysis

Along with the descriptive statistics such as frequency distribution, mean and median, chi-square test and paired t-test were also applied to understand the existing differentials across various parameters. To understand the emotional deprivation among elderly widows, a series of statements were asked to the elderly widows. They were requested to mention either *'Yes'* or *'No'* to each of the statement. A composite index was computed using the seven statements canvassed. After checking the reliability with alpha values (0.8649), the composite index was computed. The total score ranging from 0 to 7 indicates the emotional deprivation among them. On the basis of total scores and the mean value, the scores were categorized into three – *'normal'*, *'low'* (score ranging from 1–2) and *'high'* deprivation (score 3 and above) Categories.

Findings and Discussion

Profile of the Surveyed Households and Respondents

Most of the surveyed housholds (80%) were Hindus, followed by 13 per cent belonged to the *Sarna* religion and seven per cent were Muslims. Scheduled tribes constitute 40 per cent of households. Around one-fifth of the surveyed households do not have any male member. Ninety-six per cent of the surveyed households had one elderly person, around 3 per cent had two elderly persons and less than one per cent of households had three elderly persons. Ninety per cent of the selected households were having one widow and ten per cent of the households were having two widows.

With regard to the household's ownership of the agricultural land it was found that most of the households (55%) owned no land. Less than one-fourth of households were having small land holdings (1.6 to 2.4 Acre). Thirty-seven per cent of the households stated average yearly income (more than Rs 3,500) from the irrigated land. Interestingly, 23 per cent of the households owning land reported no income from their land.

About three-fifth of the households (59.7%) lived in kachcha houses (constructed from mud or other low quality materials), 16 per cent lived in semi-pucca houses and remaining lived in pucca houses. Only 40 per cent of the households had a separate kitchen for cooking. Around 30 per cent of the households cook inside their living rooms. The main source of cooking fuel was dry leaf/wood/coal/charcoal/dung cakes as reported by majority of the households. Around 8 per cent of the households were using Liquid Petroleum Gas (LPG) and 3 per cent were using kerosene. Seventy per cent of the households do not have access to a toilet facility. Slightly more than one-fourth (28.3%) of the households were having pit toilet facility.

To understand whether the households were benefited from any government programmes, the information was gathered about the type of government programmes/schemes availed by the households. Half of the surveyed households were having below poverty line (BPL) cards and were receiving food grains and kerosene meant for BPL card holders. Majority of the households were getting kerosene under the BPL scheme.

Among the surveyed elderly, around half of them were not receiving any pension. Those who were receiving pension, majority were receiving widow pension and 19 per cent were getting old age pension. The amount of widow as well as old age pension per month is Rs 400. Five per cent among pensioners were receiving pension for retired employees. It was observed during the data collection that all the elderly widows were interested to avail pension from the Government. When asked about the reasons for not getting the pension, they stated many reasons, such as – "they do not know how to apply, officers told them to wait, or they are not eligible for the pension".

To understand the household's economic condition, questions were asked to the heads of the households that whether they have borrowed money from any source. Findings suggest that 22 per cent of the households had borrowed money during the last one year. The most important reasons mentioned for barrowing money were: for treatment of diseases, to meet out the household expenditure, etc. Twelve per cent of households borrowed money to meet marriage

related expenses. Neibghours are the major source for borrowing money, followed by relatives. About 15 per cent took loans from banks and 14 per cent depended for borrowing on local money lenders, inspite of higher interest rates changed by them.

About sixty-four per cent of the elderly widows were in the young-old age group (60–69 years). Twenty seven per cent of them were in the old-old age group and eight per cent were in oldest-old age group. Religious composition suggests that majority of the respondents were Hindus. Forty per cent of the respondents belonged to the scheduled tribes. Majority of the elderly widows were non-literates. Work status of the elderly widows indicates that around 30 per cent of them were engaged in one or other form of economic activity at the time of survey. Among them, 30 per cent of the elderly widows were engaged in agricultural work and 21 per cent were self-employed. Many elderly widows were working as maids in households.

More than half of the respondents (66.7%) were staying in nuclear families. It is important to mention here that 13 per cent of elderly widows were staying alone. Household wealth index suggests that slightly more than one-fourth (26%) of elderly widows belong to the poorest households. Three-fourth of the respondenets revealed that they have changed their place of residence after widwhood. Half of those who were staying in nuclear families at the time of data collection had changed their place of residence after husband's death. Seven per cent of the respondents have become widow before 30 years of age wheras one-fifth of them became widow after 60 years of age. Nearly half of the respondents were widowed for a duration of atleast11 to 20 years.

Status of Elderly Widows within Community and within their Family

Forty–two per cent of elderly widows felt that their status is low in the village and only one-out of-seven felt that widows have good status in villages. When asked about the factors responsible for the low status of elderly widows, majority of them replied that "economic constraints are the main factors for the poor status of elderly widows in the villages". One-fourth respondents believed that social factors are responsible for the low status of widows. To examine the status within

their own households, a question was asked -"*In your opinion, what is your status within your family?*" The responses were categorized into three – *low, medium and good Categories*. Forty nine per cent of elderly widows opined that they have medium status in their households whereas around 32 per cent felt that their status is low. Further, more than half (59.8%) of elderly widows were satisfied with their present status within their families. Forty per cent of them were not satisfied with their status in the house. Majority of elderly widows (59.7%) felt that their status has changed after widowhood. Those who have felt that their status has changed, nearly half of them stated that there is lack of respect from family members after widowhood. One-fourth of them expressed their opinion that they are not consulted in any family matters after widowhood. Around 12 per cent of the elderly widows also said that after becoming widow, they have to take permission from their children on all important matters. One-in-ten elderly widows were not involved in any family functions after widowhood (Table 1).

Table 1

Self-Perception about Status of Elderly Widows within Village and within their Family

Elderly Widows Status Within and Outside Their Family	*Per cent*	*Number*
Status of widows in the village		
Low	42.0	126
Medium	51.0	153
Good	7.0	21
Factors responsible for the low status of widows		
Economic factors	49.5	149
Social factors	23.7	71
Family factors	21.0	63
Religious factors	5.7	17
Elderly widow's status within their own family		
Low	32.3	97
Medium	49.3	148
High	18.3	55

Contd...

Contd...

Are you satisfied with your status within your family?		
Yes	59.7	179
No	40.3	121
Whether your status in the family has changed after becoming widow?		
Yes	56.7	170
No	43.3	130
If yes, In which aspects, your status has changed*?		
Lack of respect	47.1	80
Opinion not sought	25.3	43
Need permission for everything	11.8	20
Not involved in family functions	9.4	16
Other reasons#	6.4	11

Note: *among those who said their status has changed after widowhood (N= 170)

 # other reasons include health related problems, economic problems, loneliness, etc.

Here, an attempt was made to understand whether elderly widows are satisfied with their status in the family. Majority of elderly widows whose status within their family is low are not satisfied. But, among those who are having better status in the family, around ninety per cent of them are satisfied with their present status. Half of the economically dependent elderly widows revealed that they are not at all satisfied with their status within their own family (Table 2).

Table 2

Elderly Widows Satisfaction with the Perceived Status within Family and Level of Economic Dependency (In Percentage)

Perceived Status of Elderly Widows Within their Family	*Satisfied With Status within Family*		
	Yes	*No*	*Number*
Low	18.6	81.4	97
Average	75.0	25.0	148
High	90.9	9.1	55
Level of Economic Dependency			
Fully dependent	68.6	31.4	121
Partial dependent	64.2	35.8	53
Independent	49.2	50.8	126

Further, perceptions about the status of elderly widows within their family according to living arrangements were analysed. Only five per cent of elderly widows who were living alone perceive their status is good within their extended family. Those elderly widows who were living with their married daughters, 33 per cent of then consider their status is low in the household.

The state of widowhood is exacerbated by conditions of poverty. The findings of this study revealed that 81 per cent of elderly widows had to face many problems immediately after becoming widow. More than half of the elderly widows faced economic problems. Around 35 per cent of elderly widows faced child care problems. Around 14 per cent of elderly widows faced social problems. In many rural communities, women are blamed for the death of their husbands. A 65 years old tribal widow revealed – *"after my husband's death, people said that I am a witch and I only killed my husband. My neighbour one day said – if you want to be alive, then do not show your face to anyone and stay inside your home"*. Widowhood is still considered as a curse for women in villages. They were exploited and humiliated by villagers for no reasons.

After the death of the earning member of the family, it is very difficult for a widow to manage the house all alone. Widowhood is a crisis with emotional shock, a drastic change in social status, and often an economic crisis (Bhatt, 2006).

The help from the community, family members or from relatives and friends is a great support during this crisis period. The findings of present study revealed that more than half of elderly widows did not receive any help from any one immediately after their husbands' death. It was thought important to examine whether the elderly widows continued contact with their husbands' family or not. A question was posed – "*How is your relationship now with the members of your husband's family?*" Thirty per cent of the elderly widows were not having any contact with their husbands' family.

Did elderly widow get the same respect and care from her husband's family after widowhood? The question was -*"Before and after the death of your husband, you were treated with respect by your husband's family?"* More than half of elderly widows reported that they were not treated with respect by husbands' family after widowhood.

There is an increase in percentage of elderly widows who were treated badly by husbands' family. Twenty-two per cent of the elderly widows were looked after badly by their husbands' family before widowhood. But after widowhood, it has increased upto 45 per cent, indicating a significant difference in the behaviour of husband's family before and after widowhood.

Emotional Deprivation

Widowed are emotionally deprived and do not have any intimate person to share their problems. On the basis of the computed composite index of emotional deprivation, 46 per cent of elderly widows felt high level of deprivation at emotional level. Further, it has found that more than half of the oldest-old widows are at high derivation level on emotional issues. Oldest-old widows usually stay at home most of the time and nobody is there to talk to them. High emotional deprivation was found among the elderly widows who were living alone. Further, it was observed that economic dependency and emotional deprivation is significantly co-related (Table 3).

Table 3

Emotional Deprivation among Elderly Widows according to Selected Background Characteristics

Selected Characteristics	*Level of Emotional Deprivation*			*P2 value*
	Normal	*Low*	*High*	
Age-groups				
Young-old (60–69 years)	30.1	23.3	46.6	2.53
Old-old (70–79 years)	25.9	30.9	43.2	
Oldest-old (80+ years)	26.9	19.2	53.8	
Type of family				
Single	10.3	23.1	66.7	11.41
Nuclear family	31.0	23.5	45.5	
Joint family	32.8	31.1	36.1	
Economic dependency				
Economically dependent	35.1	30.5	34.5	23.39***
Economically not dependent	19.8	17.5	62.7	

*Significance level given as ***: P < 0.01*

The widowhood places women in a disadvantaged position, particularly in their old age. Widows are the most vulnerable segment of the elderly population in rural India. Elderly widows face several problems such as lack of status within family as well as in society, loneliness, poor economic status, lack of social recognition, depression, health problems, lack of care from the family members, etc. Elderly widows suffer multiple problems attributable to gender, widowhood and old age.

Elderly widows are usually given a role in family decision-making on social matters. But in major issues like financial matters, elderly widows were mostly not consulted. More than half of elderly widows felt that their status in the family has deteriorated after the death of their husbands. Elderly widows opined that their views were taken seriously on family matters when their husband's were alive. But after husband's death, majority of them were not consulted in any family matters. Thirty two per cent of elderly widows perceive that they have low status in their families. The economic constraints are the main factors for the low status as stated by elderly widows. Most of the elderly widows blame their own fate for the present pathetic condition. However, many have an opinion that village community and the widows themselves are responsible for the situation. On the other hand, few elderly widows blamed the government and the existing traditions in the rural society for their helpless situation.

Suggestions

Being aged as well as widowed they do not have intimate persons with whom they can share their problems. Though family members are taking care of the elderly widows in most cases, they also face neglect and abuse in some families. Along with poverty and economic constraints, mistreatment and neglect by the family members make them further vulnerable. Loneliness many times leads to depression and other mental problems in widowed women. So, there should be some support system, especially for those who are suffering from physical or mental illness. need to be provided. Even today, widows in rural areas are accused of being responsible for the death of their husbands. Based on the realization that widowhood is generally stressful for women, it is hereby recommended that massive and

intensive campaign should be started to sensitize people on the need to stop all forms of abuse and discrimination associated with widowhood. The likelihood of receiving help for an elderly widow not only depends upon the socio-economic characteristics but also the presence of the children. The family as a fundamental unit of society has to be strengthened as a support system for the provision of care and protection for older persons, particular for elderly widows. The emotional, social, physical and economic support provided by the family is indispensable and cannot be replaced by any other institution. For this reason, attention should be given to promote co-residence through housing policies and financial incentives for those households where the elderly are family members. Policies and programmes should ensure that older persons have a reasonable and adequate living environment. For this, incentives should be given to facilitate appropriate housing schemes for elderly widows who live alone either by choice or by circumstances. Besides, there should be an evaluation of the various ongoing schemes of the government to establish the usefulness of these provisions to the welfare of elderly and widows.

Limitations of the Study

In the present study, mainly the elderly widow's experiences and opinions were considered. The perspective of other family members of the household was not taken into account. Due to operational reasons, the elderly widows who refused to be interviewed or not in a healthy condition to be interviewed were left out of the sample.

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Role of Family in the context of Care-giving to Rural Elderly: An Experience from Odisha

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ABSTRACT

The present study was conducted on 120 elderly respondents of 60 years and above of both the sexes, selected through convenience sampling from two villages of Kendrapara district of Odisha. The findings of the study suggest that till now elderly people prefer to live with their family instead of any institution, as the family members (primarily spouse, daughter-in-law, who are considered as primary care giver) provide all types of support to them and the elderly mainly dependent upon them for their ADL and IADL activities. The findings also suggest that in spite of differences in attitude of two generations, members of family provide care to the elderly people and the relationship between care giver and care receiver is positive till date in rural areas of Odisha.

Keywords: Family care-giving, ADL and IADL activities, Care giver, Care receiver

A vast majority of older people in India live in rural areas, where 90 per cent are from unorganized sector with no social security and 30 per cent are below poverty line which makes them directly or indirectly dependent upon their family members for their later life care. Old age dependency ratio has consistently increased from 9.8 per cent in 1951 to 12.6 per cent in 2001 (office of Registrar general and Census Commissioner of India, 2001). This trend shows that the

burden of larger group of older people will have to be borne by a relatively smaller younger working group. The elderly people face a variety of problems, mainly associated with those of health, housing, physical, economic, emotional insecurities, etc. These problems become more acute in the absence of social security, loss of social role and recognition, and above all very little scope is left to lead a life of dignity. Obviously they need assistance from others which is mainly provided by informal support sources mainly drawn from family. Though the quality of relationship between two generations has changed due to many external factors yet in the Indian context, family is still considered as a constant source, for providing care to this vulnerable section of society.

Studies related to gerontology show that parents-especially women expect help from their adult children (Blieszener & Mancini, 1987). Similarly, adult children feel a sense of responsibility to their parents (Adams, 1968) and are ready to provide all sorts of care to them (Marshall, *et al.,* 1983). An inherent need arises to examine this filial responsibility, which is missing in literature. The relationship between care giver and care receiver and the quality of this relationship is also not given due emphasis in literature. It is possible that feelings of obligation or discretion in intergenerational care giving are reflected in the close proximity experienced by both generations. It has been shown that relationship quality is lower and care giving burden is higher among care givers who face unrealistic expectations about care giving (Scharloch, 1987).

The quality of parent-child relationship is changing in the present context and also the rights and responsibilities of older parents. This change is the result of urbanisation, industrialization and the ongoing phenomenon of globalisation which cast their shadow on the traditional values and norms within the society. Gradual nuclearisation of the joint family system, changes in the value system, migration of youth to urban areas and increasing participation of women in the work force are important factors responsible for the marginalisation of older people in India. As a result the elderly depend on 'Money-order economy' and remain in touch with their children only from a distance (Kumar, 1999).

Being a vulnerable section of society, more emphasis is given to rural elderly because of the migration of rural youth to urban areas, has led older people to live disproportionately in rural areas (Beale, 1982) Furthermore, the comparative literature indicates that older rural residents are in a disadvantaged position with regard to housing, income, education, transportation and access to medical care (Coward and Lee,1985;). Thus, the needs of rural older people are unmet while the resources to address these needs including funding, gerentological research and service delivery model, etc., are limited (Ambrosius, 1981)

It is generally accepted among social gerontologists that the availability and use of informal, mainly familial support is a key element in providing care services to the elderly people (New house and McAculey, 1987; Anderson, 1987). Older people perceive the informal network of kin, friends and neighbours as the appropriate social support in most situations of need (Arling, 1981).Family members provide approximately 80 per cent of the necessary care for the elderly. Usually there is one primary care giver and most often this is an adult daughter or spouse. Stone *et al.* (1987) estimated that adult daughters comprise about 29 per cent of caregivers, wives make up 23 per cent and husbands represent 19 per cent. Male care givers, are typically overlooked in research on care giving. They are older on average than females (Ibid.). A sense of duty enhances parent child ties and it is motivated by feeling of obligation where as discretionary motives include affection, closeness, enjoyment of relationship is motivators of intergeneration contact, and aid (Walker, *et al.*; 1990). So here a question arises: do these elderly people enjoy the same status they used to enjoy before? Does the relationship between young and old generations still bonded by care, respect, affection and morality?

The present paper examines the role of family in providing care to the rural elderly and the services given by family mainly focus on activities of daily living (ADL) e.g., bathing, dressing, eating and instrumental activities of daily living (IADL) e.g., house work, money management, food preparation, shopping, etc. As age increases the need for assistance with ADLs and IADLs is also increased. It also examines the quality of relationship between care giver and care receivers. This examination of the predictors of in-home care

utilization in rural environment should be useful to both policy makers and practioners in establishing and understanding the existing informal care giving system and the relationship quality in rural areas.

Methodology

120 respondents (above 60 years of age) from two rural villages "Bachharai" and "Godhan" of Kendrapara district of Odisha were included in this study. To assess the functional capability, ADL and IADL activities of elderly people was coded as (1) Independent, (2) Partial dependent, (3) Fully dependent. The satisfaction with care services, was coded as satisfied and not satisfied . The relationship of elderly with his family members was rated as poor , good and very good.

The services provided to the elderly members included were: continuous supervision; home maker/household assistance (to perform chore such as cleaning and laundry); meal preparation (to assist with meal management activities); nursing care (to administer prescribed treatments and medication); and personal care (to facilitate activities of daily living such as bathing, dressing and toileting). Service use was formulated as: (1) Independent, (2) Partially dependent and (3) Fully dependent.

Findings and Discussion

Table.1

Demographic Characteristics of Respondents N=120

Characteristics of Respondent	*Frequency*	*Percentage (%)*
Age		
60 to 65	43	35.8
66 to 70	32	26.7
71 to 75	24	20.0
76 to 80	5	4.2
Above 80	16	13.3
Gender		
Male	67	55.8
Female	53	44.2

Contd...

Contd...

Caste		
SC	21	17.5
OBC	74	61.7
General	25	20.8
Marital Status		
Married	70	58.3
Widow	31	25.8
Widower	19	15.8
Education		
Illiterate	62	51.7
Primary	23	19.2
Middle	23	19.2
High School	7	5.8
Higher Secondary	2	1.7
Graduation	2	1.7
Higher Education	1	

The data presented in the table No.1 show that 35.8 per cent respondents belong to the age group between 60 to 65 years, which is highest in comparison to other age groups. More than half of respondents (58.3%) were living with their spouses and reported better health status than widows (25.8%) and widowers (15.8%) . The married respondents reported that their spouses act as main care takers during their later life. It was noticed that those who were active in their daily life expressed more satisfaction and better adjustment in comparison to those who were not active. Most of the elderly were involved in agriculture for their livelihood, their income varied from Rs 1000 to Rs 4000 per month. About 60.8 per cent of respondents received financial assistance in the form of widow pension, old age pension, retirement pension, etc. Approximately half of the respondents (53.3%) were dependent upon their children for financial and physical support.

Nearly half of the respondents (47.5%) live in joint family with their spouses, sons, daughters-in-law, unmarried sons and daughters, their grand children, etc., and about 41.7 per cent respondents are living with their sons and daughters-in-law. Only few respondents live

with their married daughters though they know that it is considered socially below status to live with a married daughter. They are bound to live with their married daughters because they do not have any other options. The younger generation migrated for jobs to urban areas leaving the old parents in village, and this situation compelled the elderly to lead an isolated life in their houses. The financial support provided to the old parents by their children, and their frequent visit to elderly parents don't satisfy the expectations of elderly. What is most distressing and depressing to old parents is their isolation from a joint household. It is bearable to some extent as long as both the partners are alive, because they can support each other. When one of them passes away, isolation of the remaining parent becomes a critical issue. It was found that widows or widowers suffer more from isolation and distress in comparison to married couples. The economic status of these elderly is very low as most of them, nearly 60 per cent of elderly are now unable to work and earn due to ill health. They are totally dependent upon their children for their livelihood, which compel them to limit their monthly expenditure between 500 to 1000 rupees per month. Limited income also decreases the amount of expenditure, as most of the respondents did not like to ask for money every day from their children. Regarding their health status, it is observed that, more than half of the respondents were self-dependent in their daily activities such as eating, dressing, toileting, ambulating, etc., and their health status is good while nearly 30 per cent of the respondents were partially or fully dependent upon their kin members for their ADL (such as eating, bathing, dressing, etc.) and IADL activities (such as marketing, laundry, food preparation, etc.) (See Table No. 2). Study also shows that female members were mostly dependent for IADL activities while male members are mostly dependent for ADL activities. More male members (35.8%) suffer from diseases such as: diabetics, blood pressure, asthma, eye problem, insomnia, etc. In this study it was also found that there exists a positive relationship between health and income, that is , elderly with higher income reported better health. The elderly having good earning sources or not dependent financially on their children were more free to avail good medical treatment anytime without any hesitation. On the other hand this was not possible for most of the elderly of this sample.Findings also

Table 2
Dependency level in daily life activities

	Age	*Toileting*	*Eating*	*Dressing*	*Ambulating*	*Bathing*	*Shopping*	*Cooking*	*House Keeping*	*Laundry*	*Travel*	*Taking Medicine*
60–65	Independent	35.8%	35.8%	35.8%	35.8%	35.8%	26.7%	8.3%	8.3%	10.8%	20.0%	26.7%
	Partial dependent	0	—	—	0	0	5.0%	8.3%	5.0%	4.2%	4.2%	7.5%
	Fully dependent	—	—	—	0	—	4.2%	19.2%	22.5%	20.8%	11.7%	1.7%
71–75	Independent	25%	26.7%	26.7%	25%	26.7%	13.3%	0.8%	1.7%	4.2%	15.%	15.0%
	Fully dependent	—	—	—	0	—	10.0%	16.7%	18.3%	17.5%	6.7%	5.8%
	Independent	18.3	20%	20%	15.8%	20%	6.7%	1.7%	0.8%	0	2.5%	5.8
76–0	Partial dependent	1.7%	—	—	42.%	0	3.3%	5.%	3.3%	2.5%	10.0%	11.7%
	Fully dependent	—	—	—	0	—	10.0%	12.5%	15.8%	17.5%	7.5%	2.5%
	Independent	3.3%	4.2%	4.2%	2.5%	4.2%	0.8%	0	0.8%	0.8%	0.8%	2.5%
Above 80 year	Partial depenent	0.8%	—	—	1.7%	0	0.8%	2.5%	0	0.8%	0	0
	Fully depenent	—	—	—	0	—	2.5%	1.7%	3.3%	2.5%	3.3%	1.7%
	Inependent	9.2%	13.3%	13.3%	3.3%	11.7%	0.8%	0	0	0	3.3%	3.3%
	Partial depenent	4.2%	—	—	9.2%	1.7%	0	4.2%	0	0.8%	1.7%	6.7%
	Fully depenent	—	—	—	0.8%	—	12.5%	9.2%	13.3	12.5%	8.3%	3.3%

revealed that the care was mainly provided by female members (94%)—mainly spouses and daughters-in-law and to some extent daughters. They are the primary care provider for the health of the elderly in the family.

Care giving Role

As age increases, the dependency of elderly on next generation also increases. The elderly become dependent on care givers for their activities of daily living (ADL) and instrumental activities of daily living (IADL). Elderly of this sample mostly preferred in-home care services rather than institutional care. The home care is mainly provided by family members and primarily female members. They are the primary caregivers. Findings suggest that spouse plays an instrumental role in providing care to male elderly member. Daughter-in-laws and daughters are also help them. The role of children as a part of significant support system of elderly care can not be ignored. Care giving as an important variable is primarily based on the relationship between care giver and care receiver. Spouse act as an important care provider in family for 36.7 per cent of respondents; it was observed that among the elderly couple, female elderly is more conscious about the health and well-being of her husband while the male members are not so much attentive towards their wives. In a hierarchy based society like India, it is found that husbands consider themselves superior in comparison to their wives, Wives in turn also think first about their husbands before thinking about themselves. They are the main source of support in old age of husbands. It was observed that widows or widowers are more isolated and depressed in their life in comparison to those respondents who live with their spouses. In case of respondents who were staying with their married sons, daughters-in-law play the role of primary care provider for their old in-laws. It was found that one fourth of them (25%) cooked food for them, gave medicine at the right time, washed their clothes and also gave company when they were in need of it. Un-married daughters also played the same role in providing care to their older parents.

Though primarily care was provided by family members in both ADL and IADL activities, it was also observed that besides ADL

activities 94.16 per cent respondents took help in instrumental activities of daily living (IADL) such as shopping, going outside, preparing food, taking medicines, etc. More than half of the respondents (66.4%) received care from their sons. The respondents mainly depended upon male care giver (sons, grandson, etc.) for IADL activities while for ADL activities they were mainly dependent upon female care givers (wife, daughter, daughter-in-law). The data (See Table 3). show that sometimes help was also provided by neighbours (8%), followed by relatives (3.5%) and friends (2.7%). They take help from these non-kin members (friends, relatives) in different situations. It is observed that three out of ten (36.6%) of respondents took help from others (friends, neighbors, relatives, etc.) in the absence of kin, i.e., when their children were not available or the children were living away from home. 34.1 per cent elderly, neglected by family members, were cared by others. Sometimes poor economic condition of family also compeled elderly to take help from others. Finally, it was observed that mostly care was provided by family members.

Table 3
Source of Help in Instrumental Activities of Daily Living (IADL)

Source of Help	*Help in IADL Activities*		*Total*
	Received	*Not-received*	
Spouse	14 (12.4%)	1 (14.3%)	15 (12.5%)
Son	75 (66.4%)	1 (14.3%)	76 (63.3%)
Daughter	2 (1.8%)	0	2 (1.7%)
Grand children	6 (5.3%)	1 (14.3%)	7 (5.8%)
Friends	3 (2.7%)	0	3 (2.5%)
Neighbours	9 (8.0%)	0	9 (7.5%)
Others	4 (3.5%)	4 (57.1%)	8 (6.7%)
Total	113 (100%)	7 (100%)	120 (100%)

Filial expectations held by parents from their adult children influences family relationships and their own well being. More than half of the respondents had highly satisfied relationship with their spouses (55.8%) and children (62.5%), (See Table 4). The reason being the greater supportive role performed by spouse and adult sons and they

express affection, obligation, concern, etc., to them which strengthen the emotional bond between these two generations. However, a small portion of elderly were not satisfied with their relationship due to large generation gap between parents and children. The younger generation expresses a greater degree of discomfort in the presence of elderly and they also have negative attitude about the behaviour, habits and outlook of the elderly, which affect the relationship between the two generations. Besides, 3.3 per cent of children do not visit their parents at all. They are all well settled outside the village and do not have any contact with their old parents. This behaviour indicates very poor contact of parents with their children and declining trend of parent child relationship due to materialistic attitude of children. Sometimes this apathetic behaviour of sons take the form of elderly abuse. Though the extreme form of elder abuse is less in rural areas but still it exists in the form of verbal abuse and physical abuse. In some cases lack of respect and negative attitude of the younger generation towards elderly parents was also noticed. Due to the over dependence of the older parent the care givers felt extreme physical, mental and economic stress. It is the most obvious cause of maltreatment and negligence in the present day society. It was also noticed that as compared to the male elderly female elderly (specially widows) are more abused in family because of their financial dependence and poor health. Most of them remain in house and are not able to adjust with their daughter-in-laws.

Table 4
Relationship with Family Members

Relationship	*Relationship with Spouse*	*Relationship with Children*
Poor	1 (0.8%)	7 (5.8%)
Average	5 (4.2%)	28 (23.3%)
Good	67 (55.8%)	75 (62.5%)
Not applicable	47 (39.2)	10 (8.3%)
Total	120 (100%)	120 (100%)

Regarding the support system, findings suggested that 89.2 per cent of respondents get all types of support such as physical support, emotional support and financial support from their children.

Regarding the help in ADL and IADL activities, elderly people mostly prefer in-home care services rather than institutional care and this care is mainly provided by family members and primarily female members. Data shows that spouse (mainly female) acts as an important care provider in family (36.7%) followed by daughter-in-law (25%), daughter (15%).

However, caregivers such as spouses, daughters-in-law, who primarily provide care to the elderly also suffer from certain problems such as sadness, grief, anger, guilt, etc., while providing care to their elderly parents, it is observed that they have no time to take care of their health and it is also found that the stress of the caregiver is double, when the elderly is disabled and also the caregiver has multiple roles to play in their family. This care giving also affects their personal life because they have no time to take proper care of their children and husband, which sometimes create misunderstanding between husband-wife relationships. Changing attitude of younger generation towards their elderly parents creates generation gap between two generations and this leads to conflict between them. But still in this context, we cannot undermine the role of family and particularly the role of primary care givers.

Conclusion

Ageing in Indian context, mostly reflects the issues pertaining to socioeconomic and demographic profiles, living arrangements, inter-personal relationships, problems of and services for elderly which is highlighted among the urban elderly and issues of rural elderly is a neglected aspect in the gerentological literature. Though studies have covered many aspects of ageing issues, however no single study gives a holistic understanding of the above phenomena. Issues of care giving of elderly, particularly rural elderly is a major aspect of gerentological literature which must be given due emphasis as it is associated with the ageing problems. Being a vulnerable section of the rural society, elderly face a number of problems in their day to day life, which compels them to depend upon their younger generation. Though it is painful for them, they have no other option to carry their life in the later period of their age. It also provides an insight to the parent child

relationship in the care giving context. The two generations are differing in their beliefs, values, and outlook but still they are concerned about their filial responsibility. Over all this study demonstrates the positive ties that exist in care giving situations. Though certain things have changed in this relationship due to the impact of modernisation and globalisation but still the feelings of care, respect are present in the hearts of younger generation and family acts as most preferable source for providing care to these elderly people in their later life. Besides that the results also suggest that services should be targeted to frail and impaired elders who are more isolated and less mobile and have limited financial resources and there is also a need to develop suitable policies and programmes to integrate them into the development process.

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Economics of Ageing: Research Area and Perspectives

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ABSTRACT

Economics of Ageing, a field of research with notable relevance for the future, has in Europe until now, placed its focus primarily on the financing of social security systems, especially pension schemes. In the USA and Japan however, the economical potential associated with these demographic trends has long been recognised and methods searched for to attain and interlink the two main objectives – an improvement in the quality of life of the ageing on the one hand and a tapping of the market and employment potential on the other. The central aim of this paper is therefore to analyse the latest findings on the economical potential of ageing and compare them primarily from a consumables perspective. For this, narrative systematic publications were thoroughly reviewed and collated. The relevant question relating to this research is: What impact does the demographic development have regarding the private demand on products and services by the elderly? In general, this relatively new perception of conceiving the ageing as an economic opportunity is gaining ground against the demographic crisis scenarios.

Keywords: Economics of Ageing, Gerontology, Economy; Demographic Change, Age

Overview, Background of the Study

After decades of being pushed aside, the topic of "demographic change" has now not only entered politics and economics, but is also causing a frenzy of activity (Weber, 2010; Lee/Mason, 2010). It is currently undergoing a certain change in perspectives (*Eitner, et al.*, 2011). A few years ago, the demographic development was still almost exclusively viewed as a threat and a burden for the sustainability of the society and the economy (Birg, 2004), as impressively underlined by the statement by Lee/Mason (2010, 151): "Some analysts view population aging as economically catastrophic [...]." This view is slowly changing, however, and the deficiency hypothesis that had been dominant for decades must now compete with the emphasis on competences and potentials in old age (Heinze, *et al*., 2011; Cirkel, 2011; Eitner, 2011; Fretschner, *et al.,* 2011; Naporra, 2011). Academics have for a while pointed out not just the problems and risks, but also explicitly the potentials and opportunities of an ageing society (Heinze, *et al.,* 2011; Kruse/Wahl, 2010; Kofidou, 2008; Neundorfer, 2008; Feige, 2006; Kölzer, 1995; Gaube, 1994; Goeldner/Munn, 1964). Politics and the economy also appear increasingly to have understood that the interests of older people relating to consumption can be a good basis for generating demand in the market with specific products and services, as well as for securing and increasing turnover, profits and employment (Heinze *et al*. 2011; BMFSFJ 2008; *Pepper Institute on Aging & Public Policy* 2007; Lienhard, 2006; Haimann, 2005; Etrillard, 2004; Hölper, 2002; Härtl-Kasulke, 1998; Grosskopf, 1998; Sherman/Forman 1988; Meyer-Hentschel, 1986).

Given the demographic development, collective ageing and their high purchasing power, older consumers will in future become one of the most important customer groups and a decisive driver for the success of companies in many industries (Heinze, *et al.,* 2011; Cirkel, 2011; Bloom, *et al.,* 2011; Klausch, 2008; Arnold/Krancioch, 2007; Gassmann/Reepmeyer, 2006; Hunke/Gestner, 2006; Martin, 2004; Kirsch, 2003; Peterz, 2003). Many politicians and economists see this as the source of significant potentials for economic growth and new jobs (Herrmann 2012). Reinmoeller (2011, 134) also emphasizes the increasing significance of older consumers: "The size, financial

volume, and sophistication of demand in the silver market offer opportunities for businesses capable of adjusting." In fact – historically speaking – older people have never before enjoyed such market power as today (Heinze, *et al.,* 2011; Eitner, 2011; Pompe, 2007). Recent scientific studies on the income and asset situation also describe the target group of older consumers as extraordinarily significant for private demand. According to them, today's seniors have above-average income and savings, spend significantly more on consumer goods than younger groups of buyers, asked for higher quality products, spend more money on literature, travel more often, are more interested in financial investments and mainly buy new as well as luxury cars (Fachinger, 2012; Enste, 2011; Meyer-Hentschel/Meyer-Hentschel, 2009; Wahl/Heyl, 2004; Abdel-Ghany/Sharpe, 1997; Sherman/Forman 1988). Usui (2011, 325) summarizes as follows: "Older adults are potent consumers, willing and economically able to maintain independent living and a high quality of life."

Against this background, this paper aims at analysing the economic potentials of ageing primarily from the perspective of consumption. The focus of this Economics of Ageing investigation is on the "demography-related" consequences in terms of the demand behaviour of older consumers (the elderly as potential buyers). This paper above all deals with the 'silver economy' as a cross-sector campaign and research area for Economics of Ageing – a still fairly young discipline, both in science and in practical applications (Kalbermatten, 2008; Senf, 2008; Reidl 2007; Hunke/Gestner, 2006).

Research Questions

Following on from the object of this inquiry, the present paper is based around the following leading research question: *What are the economic consequences of the demographic development in relation to private demand for products and services, as well as their consumption in old age?* Five additional research questions can be deduced from this: (a) How the term "Economics of Ageing" can be defined? (b) What is the current status of research? (c) Which sectors belong to the Economics of Ageing? (d) How big is the economic potential of older consumers? (e) Is there a change in perspectives in the economy?

In particular, the effects of foreseeable changes on the sales markets to the 'silver economy' will be researched. Demographic change will not only alter the economic rules in many industries, but also update the market structures and shift market shares. As a result, up-to-date research into the Economics of Ageing in general, and the 'silver economy' more specifically, are not only desirable, but also urgently required from the point of view of older people and other stakeholders (such as companies, associations and municipalities) (Krause, 2007; Walla *et al.,* 2006; Waddell, 2005). Kohlbacher/Hang, (2011, 75) also confirm the demand for up-to-date research: "The above discussion indicates strong needs for further research, both academic and company-based." Antony, *et al.* (2011, 346) corroborate this statement by stressing that any findings so far "[...] need to be validated with rigorous research." Contrary to the functional definition of age(ing) in the context of productivity (Heinze, *et al*., 2011; Cirkel, 2011; Eitner, 2011; Fretschner, *et al.*, 2011; Choi/Dinse, 1998), this paper treats the elderly primarily as potential buyers and consumers of products and services, and less as providers or producers (Eitner/Naegele, 2012; Naegele, 2010).

Method

The systematic search was carried out in journal and book literature, databases, online and in the scientific community between November 2012 and March 2013. Before starting, the research process was split into the following five phases of characteristic types according to time and content. Phase 1: Narrative research of all general search terms describing the design of print media advertising for older consumers as a large challenge for business and as an important task for management. Phase 2: Identification of suitable search terms and their combinations for search requests in phases 3 and 4. Phase 3: Search for book literature in reference libraries and through interlending (online catalogue of the German national library, dissertation databases, etc.). Phase 4: Search for scientific publications in English and German language databases (Gero Lit, EBSCO, etc.) and manual search of selected journals not listed in the searched databases. Phase 5: Targeted search in the scientific

community, which could be identified based on the literature found (pyramid system) or which were already known (World Health Organization, United Nations Organization, etc.).

Defining "Economics of Ageing"

Clark *et al.,* already emphasized at the end of the 1970s: "The process of population aging is of economic significance because of its impact upon individual behavior affecting economic and other characteristics of a population and its economy [...]" (Clark *et al.,* 1978, 920). Nevertheless, business science and gerontological literature to this day has (not yet) agreed on consistent definitions. As a result, Economics of Ageing is defined fairly individually in books and journals because each author defines this term according to his or her own personal, often subject-based approach. There are therefore a high number of takes on the content and scope of the term Economics of Ageing.

According to Neill (2013, o.S.), Economics of Ageing is "[...] the study of the organization or production and distribution about the fact of ageing of both individuals and their organizations, with a view to efficiency and equity". Iparraguirre (2010, o.S.) calls Economics of Aging as follows: "Economics of Ageing studies the implications of individual and population ageing on economic matters". Disney (2003, 1) describes Economics of Ageing as follows: "The economics of population aging is still seen as a subject in the backwaters of economics: as a topic for the specialists in demography and in pension economics. But changes in the age structure of the population impinge on most issues of interest in the economy, including labor-force participation, hours of work, accrual and disposal of wealth, the pattern of consumption, taxation and public expenditures, and the political economy of public policy." From a primarily American perspective, Wise/Woodbury (2010, 1) present Economics of Ageing as follows: "Research in the economics of aging is not limited to the United States, or to changing age demographics, or to studies of the elderly. The field covers aging issues around the world, in both developed and developing countries. It involves research on both health and economic circumstances, for both individuals and populations, and with particular focus on how health and economic circumstances evolve

interactively over the life course. It encompasses advances in research methodology, data resources, experimental interventions, and the evolution of public policy in health, work, disability and retirement." By contrast, Schneider (2006, 7) calls the Economics of Ageing a research area containing business science analyses [...]

- of the material living conditions of older people
- of the repercussions of individual and societal ageing on economic development
- and of intergenerational justice."

State of Research

The Economics of Ageing constitute a research area with impressive future relevance, which in Europe so far primarily attracts research in relation to financing social security systems – particularly pension systems – (Naegele/Schneiders, 2012; Cirkel 2011; Kruse/Wahl 2010; WU 2010; Schneider 2006; Nyce/Schieber, 2005; Backes, 2004; Fachinger/Schmähl, 2004). Lee et al., (2010, 15) also stress these aspects in the following statement: "Most analyses of the economics of aging emphasize labor income at older ages because of the important linkages between labor supply and aging-related institutions, e.g., public pensions programs." By contrast, in the USA and Japan, the economic potentials of the demographic development were already identified a number of years ago, triggering a search for ways to combine the two objectives of improving the quality of life of older people and opening up new market and employment potentials (Heinze, *et al.*, 2011; Fretschner, *et al.*, 2011; Fretschner, 2011; Ogawa *et al*., 2011; Murata, 2011; Enomoto, 2011; Suzman, 2010; Conrad/Gerling, 2005; Conrad/Gerling, 2004; Clark *et al*., 2004; Clark/Spengler, 1980; Clark *et al*., 1978). "The goal of this research effort is to provide a systematic and comprehensive approach to measuring and analysing economic flows from a generational perspective" (Mason/Lee, 2011, 7).

At the end of the 1970s, Clark *et al*., describe the research agenda of the Economics of Ageing as follows: "1. Determinants of population age structure changes 2. Economic status of the elderly 3. Sources of income in old age 4. Empirical evidence concerning labor supply decisions of the aged 5. Influence of Social Security and private pensions on the economy" (Clark *et al*., 1978, quote from Schneider

2006, 8). 25 years later, Wise (2003, quote from Schneider 2006, 9) adds further aspects to this research agenda: According to him, the Economics of Ageing comprise the following areas: "[1. Determinants of population age structure changes] 2. Economic status of the elderly 3. Sources of income in old age 4. Empirical evidence concerning labor supply decisions of the aged 5. Influence of Social Security and private pensions on the economy 6. Socioeconomic Circumstances, Health, and Health Disparities 7. Health, Health Care, and Health Policy."

Numerous research institutes across the world deal with the topics of Age, Ageing and Older People, even though Age Research Institutes focussing on "Economics", such as the Research Institute for Economics of Aging at the Economics University of Vienna [Wirtschaftsuniversität Wien] or the Munich Center for the Economics of Aging (MEA) [previously the Mannheim Research Institute for the Economics of Aging (MEA) at the University of Mannheim], are still an exception in Europe (Schneider 2006; Waddell 2005). Gassmann/Reepmeyer (2011, 102) also confirm this: "In addition to the lack of awareness among companies, the amount of research on the economic potential of demographic change is fairly limited as well." Schoeni/Ofstedal (2010, 12) stress the significance of economic age research in the following statement: "[...] economic issues are a component of most issues addressed by scientists studying the demography of aging."

In the USA, the following research institutes and centres carry out university-based age research: University of California Berkeley, Johns Hopkins University, University of Pennsylvania, Harvard University, University of Southern California, University of Chicago, Duke University, University of Wisconsin-Madison, Syracuse University, Princeton University, Stanford University, University of California Los Angeles and University of Michigan. Non-university research in the USA is carried out by the RAND Corporation, the NIA (National Institute of Aging) and the National Bureau of Economic Research (NBER) (Schoeni/Ofstedal, 2010; Schneider 2006). In this context, Schoeni/Ofstedal (2010, 7) descrbie the tasks of the US research institutions as follows: "The centers attract and develop scholars new to the field of aging by providing an environment with a variety of research projects on aging, regular

interactions and connections to research scholars in aging, convenient access to data, and other resources."

In Europe, primarily the following research institutes carry out university-based research for the topics of Age, Ageing and Older People: Oxford Institute of Population Ageing (OIA) at the University of Oxford, London School of Economics, Centre of Researching Ageing at the University of Southampton, Vrije at the University of Amsterdam, Pensions Institute of the Cass Business School/City University London, Munich Center for the Economics of Aging (MEA), Freie Universität Berlin, Humbold Universität Berlin and Universität Freiburg (Research centre Intergenerational Contracts). Non-university-based research sites in Europe include the Centre of Research into Older Workforce (CROW), Leicester, the Netherlands Interdisciplinary Demographic Institute (NIDI), the The German Centre of Gerontology [Deutsches Zentrum für Altersfragen] (DZA) Berlin and the Max-Planck-Institute for Demographic Research (MPIDR), Rostock (Schneider, 2006).

In the USA, the special research area Economics of Ageing became systematically institutionalised across the country as early as the 1980s (Schneider 2006; Waddell 2005), even though Schoeni/Ofstedal (2010, 6) in retrospect critically comment: "As recently as the early 1990s, the quantity of research and research infrastructure focusing on the demography of aging was underdeveloped." The current head start enjoyed by American research is due to the fact that the demographic development in the USA is 15 to 20 years ahead of that in Europe, and that the American generation of "baby boomers" is already retired today (Schulz 2001). As a result, Fretschner (2011) identifies an excellent amount of data. Wahl/Heyl (2004, 65) even point out that "[...] up to the present day, the research situation in North America serves as an example and a reference, so that taking a peek "across the pond" can be particularly illustrative and significant [...]". Schoeni/Ofstedal (2010, 14) describe the current level of American research as follows: "However, an incredibly rich research infrastructure is now in place that did not exist just 20 years ago."

In Europe, on the other hand, this research area is facing a rather more heterogeneous research landscape. There are numerous local

centres with different areas of focus, which have however agreed topic-based cooperations both on a university level and outside universities. In Europe, economic data originates primarily from independent studies (Schneider 2006). In this context, in Germany for instance, there are the German Age Survey [Deutschen Alterssurvey] (DEAS), the Age Survey [Alterssurvey] (AS), the Bonn Longitudinal Study of Ageing [Bonner Längsschnittstudie des Alterns] (BOLSA), the Berlin Age Study [Berliner Altersstudie] (BASE), the Infratest Care Study [Infratest Pflegestudie], Age Security in Germany [Alterssicherung in Deutschland] (ASID), the Interdisciplinary Longitudinal Study of Adult Age [Interdisziplinäre Längsschnittstudie des Erwachsenenalters] (ILSE) and the Generali Age Study [Generali Altersstudie] 2013 at the Demoscopy Institute [Institut für Demoskopie] Allensbach (Schneider, 2006; Motel-Klingebiel, *et al.*, 2003). International age studies include The Health and Retirement Study (HRS), Survey of Health, Ageing and Retirement in Europe (SHARE), Asset and Health Dynamics Among the Oldest Old (AHEAD), Old Age and Autonomy: The Role of Service Systems and Intergenerational Family Solidarity (OASIS), English Longitudinal Study of Aging (ELSA), Swedish National Study on Aging and Care (SNAC), The Norwegian Life Course, Ageing and Generations Study (norLAG), Korean Longitudinal Study of Aging (KloSA), Longitudinal Aging Study of Amsterdam (LASA), Mexican Health and Aging Study (MHAS), Longitudinal Aging Studie India (LASI) und Chinese Health, Aging, and Retirement Longitudinal Study (CHARLS) (Kapteyn, 2010; Schneider, 2006; Motel-Klingebiel, *et al*., 2003).

Sectors of the Economics of Ageing

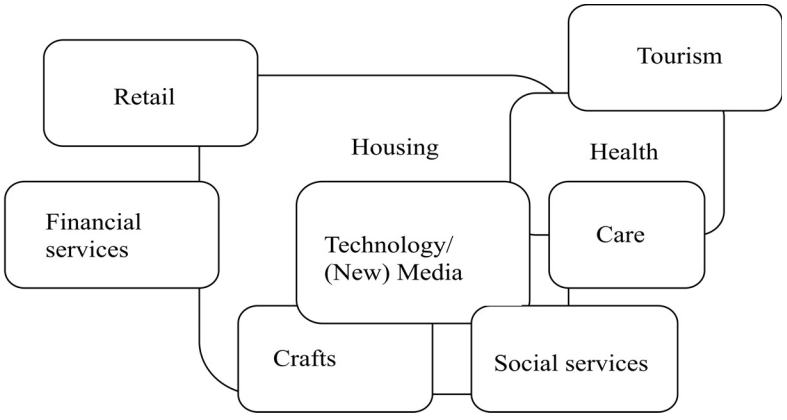
Demographic change is altering demand and consumption (Fachinger, 2012; Fachinger, 2006; Wodok, 2004; Fachinger, 2001; Leventhal, 1997). In many industries, it will not only change the rules, but update market structures and shift market shares (brand eins, 2009; Klausch, 2008) "There will be challenges in the financing of retirement and health care, and there will be shifts in the purchasing behaviors of shifting consumer groups" (Mertens, *et al.*, 2011, 353). It is apparent that particularly age-specific products and services benefit from the demographic development and that spending in this area will perceptibly increase in the future (Cirkel/Enste, 2011; Lienhard, 2006;

Rutishauser, 2005; Clark, *et al*., 1978). Fachinger, (2012, 615) also confirms the increasing demand especially in this market segment: "The few indicators suggest that the corresponding increase in demand will more likely occur in the area of health and care." However, today – in contrast to the 1970s and 1980s – discussions not only focus on "typical" products and services for seniors in the context of care products, geriatric agents, or special senior tourism, but also on services in varied, by now means only social, market segments. Therefore, Economics of Ageing is not an independent economic area but rather a cross-section market, which in turn can be split into individual sectors (Jasny, 1997; Bone 1991). Eitner, *et al.* (2011, 315) points out in this context: "All in all, the silver economy should not be regarded as an economic sector in itself but rather as a cross-section market, in which numerous industrial sectors are involved." However, these sectors are not always congruent with commercial sectors and sector definitions. Instead, Economics of Ageing is characterised by a mixture of various segments (Heinze, *et al.,* 2011; Cirkel/Enste, 2011; Haimann, 2005).

Heinze, *et al.* (2011) list nine sectors belonging to Economics of Ageing in general and the specifically the silver economy (see Figure 1):

Figure 1

Sectors of the Economics of Ageing (based on Heinze, et al., 2011, 120)



Other authors add further sectors and typical senior growth markets to this list, such as travel, beauty/wellness, education, entertainment and automotive economics (Wahl 2008; Kalbermatten, 2008; Reidl, 2007).

Economic Potential of Older Consumers

"As the earth's population ages, businesses globally need to become more attuned to the needs of older consumers" (Moschis/Pettigrew, 2011, 229). For decades, the focus of many businesses was primarily on younger consumer groups because Economics stereotyped older people as financially weak individuals or reluctant consumers, viewed as rather modest, undemanding, and reticent (*Dwight/Urman, 1985; Bivins, 1984; Hiemstra, et al.,* 1983; Allan, 1981). Eitner, *et al.*, (2011, 313) also confirm this: "For a long time, the providers in the consumer goods and services markets paid little attention to older people as consumers; this was, inter alia, due to the largely negative connotations of the term 'old age', as well as to the prevalent negative stereotypes on old age." As a result, older people at best attracted attention on the private consumer goods markets in health and care-related contexts, such as consumers of geriatric agents and tonics, or as users of wheelchair aids (Cirkel/Enste, 2011; Eitner, *et al.,* 2011). Against this background, the demographic development was almost exclusively viewed as a burden and a threat towards the sustainability of society and the economy (Birg, 2004). The underlying image of age cannot deny its relationship with the deficit model of age (Heinze, *et al.,* 2011). This primarily negative view is changing slowly, since seniors make up a sizeable and largely unexploited market for many businesses of often competent customers who both have purchasing power, meaning they are financially independent, and are free-spending (Klebl, 2007; Etrillard, 2007; Wahl/Heyl, 2004; Kim *et al*., 2003; Hölper, 2002; Miller et at. 1999; Moschis/Mathur, 1997; Baumann, 1990). Eitner, *et al.,* (2011, 309) also confirm this:

"The days are long gone when the concept 'silver market' was seen to pertain only to typical seniors' products or seniors' services such as geriatric agents, elderly care products or special recreational and touristic offers (for the elderly) [...]." This change in perspectives

in the economy overrides the traditional deficit focus, reflecting a potential-oriented view of age with the new concept "productive" and "active ageing" (BMFSFJ, 2008; Heinze, *et al.,* 2011; Cirkel, 2011; Eitner, 2011; Fretschner, *et al.,* 2011; Meier/Schröder, 2007; Choi/Dinse, 1998; Wolfe, 1997). The frame of reference is "[...] the gerontological productivity discourse, which has increasingly shifted its focus towards economic age productivity since the 1990s" (Gerling, *et al.,* 2004, 293). In this context, Eitner. *et al.* (2011, 310) state: "The seniors of today have many potentials [...] which could be utilised to greater social and personal advantage than to date, e.g., in the labour market, in education, in volunteer service, in social and political participation, and precisely also in and by the economy."

Scientific studies show that today's seniors enjoy above-average income and assets, even though Fachinger (2012, 611) bemoans the fact "[...] that asset distribution demonstrates a drastic inequality, with a concentration of very high assets belonging to a low number of private households and relatively low assets being split among the majority of private households." 55-to 65-year-olds have twice the financial reserves and spend twice as much money on goods and consumables for everyday needs than their 25- to 44-year-old fellow citizens. They request higher-quality products, travel more often, spend more money on literature, are more interested in financial investments and mainly buy new and luxury cars (Fachinger, 2012; Enste, 2011; Szallies, 2007; Stroud, 2005; Hurd, 1990). Antony, *et al.* (2011, 346) confirm "[...] that the elderly make excellent prospects for luxury goods, travel-related products and services, and financial services." This makes older people one of the most important groups of buyers of the next decades and a success driver in many commercial sectors (Heinze, *et al.*, 2011; Cirkel, 2011; Tempest *et al*., 2011; Martin, 2004; Kirsch, 2003; Peterz, 2003). The senior generation is the richest generation in the world (Engel, 2008; Strauch, 2008; Haimann, 2005; Verheugen, 2004; Wodok, 2004). Numerous surveys confirm this.

For instance, in Japan, households of the age segment "60 to 60 years" have average private assets in the value of _100,000. They head all age segments with this high value (Kohlbacher/Herstatt, 2008). And in the USA, the age segment "over 50 years" controls a little more

than two thirds of the income available for consumer purposes. Representatives of this age segment earn more than USD 2 trillion per year and own a little more than three quarters of all US assets (Pepper Institute on Aging & Public Policy, 2007). Younger age segments are comparatively worse off. Their number is decreasing steadily, and on average, they do not have as high financial assets. Their income situation is often worse, and they are more strongly encumbered by family consumer spending, which limits financial scope (GREY, 2005). Van Praag (1988, 9) states in this context: "With respect to purchasing power a young society will not have many rich individuals, many standing at the beginning of their career."

Change in Perspectives in the Economy

Given the financial resources and enormous market potential, it is not surprising that the senior target group is becoming more and more interesting for companies (Fachinger, 2012). Irrespective of this, a study shows that around a third of all companies view the societal ageing process with pessimism in light of their own business development. Only eleven per cent believes the demographic change to be positive and identifies economic impulses due to societal ageing (Capgemini, 2005). The situation in the advertising industry is similarly deflating: Only every third advertising agency intensely deals with the senior generation (PwC 2006).

By now, companies are however increasingly identifying the need to integrate seniors into marketing and to offer goods specifically for older consumers (Eitner, *et al.*, 2011; Hoffmann-Kramer 2007; Mohr/Wodok, 2006; Gassmann/Reepmeyer, 2006; Brünner, 1998). This is because: "People aged 60 or above have different needs and behaviors than young individuals. [...] Those aged 80 or over also have different needs" (Bloom, *et al.*, 2011, 8). Kohlbacher, *et al.* (2011, 3) therefore emphasize: "The accelerated aging of many populations and the demographic shift are expected to have major implications for innovation management and new product development across all industries." As a result, in 2003, four of every five companies in Switzerland considered it necessary to take the special requirements and needs of seniors very seriously and to take them into account

when developing their products (Gassmann/Reepmeyer, 2006). Murata (2011, 285) stresses in this context: "The customers' needs are the basic focus, not the products." Around 60 per cent of the Swiss companies interviewed even expect age-specific goods and services to contribute to average or even above-average growth of operations (Gassmann/Reepmeyer, 2006). Another survey shows that around two thirds of German businesses can already feel the consequences of societal ageing in their own sales and distribution markets and are responding with specific product offers. In particular, the existing range of offers is to be adjusted to changing market conditions or even extended. The companies also increasingly plan to adjust how they address older groups of buyers in advertising. German retail wants to take particular action in this area. Here, often regressive turnover is to be bolstered by intensified communication. However, few age-specific products are developed (TNS/Commerzbank, 2009).

Nevertheless: not every company will profit from demographic change and the in many instances growing senior market, and be successful (Fachinger, 2012; Heinze, *et al.,* 2011; Eitner, 2011; Ramme, *et al.,* 2008; Gassmann/Reepmeyer, 2006; Haimann, 2005). One quarter of all companies will even suffer reductions in sales due to the ageing population (TNS/Commerzbank, 2009). A comparison of all industries reveals that especially retail (above all food, clothes and shoes), as well as the energy and construction industries, must prepare for reductions in their sales markets (Heinze, *et al.,* 2011; Wodok, 2004).

Finally, it is worth noting that older people are not an uncomplicated consumer group that simply hands over its money. As a result, intensively dealing with the special features and idiosyncrasies of the senior segments is advisable (Meyer-Hentschel, 2008). The more knowledge companies have of the senior market, the more will they be able to precisely adapt their marketing to appeal to and reach old consumers (Maas/Erbslöh, 2007; Etrillard, 2004; Walker 2004; Underhill 2000; Abdel-Ghany/Sharpe, 1997; Gelb, 1978). The limited actual knowledge in relation to older consumers becomes apparent in the following statement by Murata (2011, 279): "Many enterprises

consider the older adult market or the Boomer generation as a single homogeneous iceberg."

Conclusion and Prospects

Economics of Ageing is a research area with high future relevance (Heinze, *et al.,* 2011; Fretschner, *et al.,* 2011; Fretschner, 2011; Murata, 2011; Bloom, *et al.,* 2011; Kruse/Wahl, 2010; WU, 2010; Clark, *et al.,* 2004; Moschis/Mathur, 1997; Meadow, *et al.,* 1981). Even though numerous research institutes across the world are currently dealing with the topics of Age, Ageing and Older People, and although there are now also numerous theoretical approaches to Economics of Ageing, Age Research Institutes focusing on "Economics" are still an exception particularly in Europe (Schneider 2006). And that in spite of the fact that the economic potential of age is very high, even if not every company will profit from demographic change and the growing senior market (Fachinger, 2012; Heinze, *et al.,* 2011; Eitner, 2011; Ramme, *et al.,* 2008; Gassmann/Reepmeyer, 2006; Haimann, 2005). However, Economics of Ageing is not an independent economic area but rather a cross-section market, which in turn can be split into individual sectors (Heinze, *et al.,* 2011; Cirkel/Enste, 2011; Haimann, 2005). These sectors demonstrate significant growth potential from an Economics of Ageing perspective, which so far however only a low proportion of companies have activated (Hanser, 2006). Differences particularly exist between, but also within, individual sectors. Whereas the sectors Social Services, Care and Health have always focused on the target group of the elderly, Retail, Tourism and Crafts are still at the start of a strategic repositioning (Heinze, *et al.,* 2011).

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