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Role of L-ascorbic acid in the stability of human erythrocytes during aging

Pawan Kumar Maurya, Khushboo Arora and Sohini Sarkar

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ABSTRACT

Many epidemiological studies showed increased consumption of fruits and vegetables is associated with a lower incidence of diseases such as cancer, cardiovascular diseases and alzheimer's disease. Aging is associated with many changes in the erythrocyte and its membrane which contributes to former's stability. A study was carried out on normal healthy subjects of both sexes between the age of 22-78 years. A significant ($p < 0.001$) increase in osmotic fragility as a function of human age is observed. A significant ($p < 0.05$) protective effect of L-ascorbic acid was observed at a concentration of $10^{-5}M$ in all age groups. We hypothesize that increase in osmotic fragility during aging in humans may be due to decrease in stability of human erythrocyte and increase in oxidative stress.

Key words : Aging, Ascorbic acid, Erythrocytes, Osmotic fragility

Ascorbic acid is one of the most important antioxidant known since the time when free radical theory of aging was proposed by Harman (1956). There have been several speculations about the possible role of ascorbic acid in aging processes. Several epidemiological studies indicate the dietary intake of antioxidants may help in delaying aging process (Ames, 1998) and this leads to possible role of ascorbic acid in delaying aging process and in integrating the stability of human erythrocyte from fragility.

Aging is the accumulation process of diverse detrimental changes in the cells and tissues with advancing age, resulting in an increase in the risks of disease and death (Harman, 2006). Of other hypothesis oxidative stress offers the best mechanistic elucidation of the aging process and other related phenomenon (Beckman and Ames, 1998; Junqueira *et al.*, 2004). Aerobic cells produce ROS as a byproduct of their metabolic processes. ROS cause oxidative damage to macromolecules. A certain amount of oxidative damage takes place even under normal conditions, however the rate of this damage increases during the aging process as the efficiency of antioxidative and repair mechanisms decrease (Gil *et al.*, 2006).

Many in vitro studies have demonstrated that several parameters of blood are negatively affected by increased oxidative stress, such as changes in membrane fluidity and inactivation of membrane bound receptors and enzymes (Halliwell and Gutteridge, 1986), ionic parameters (Maridonneau *et al.*, 1983), an increase in lipid peroxidation (Rohn *et al.*, 1990), oxidation of glutathione and protein sulfhydryl groups (Tsantes *et al.*, 2006). Recently, we have reported the role of L-cysteine influx in erythrocyte during aging in humans (Rizvi and Maurya, 2008) which gives some indication about the membrane function. A significant age dependent decline in plasma antioxidant capacity was also reported (Rizvi *et al.*, 2006). Several oxidative stress biomarkers and enzymatic antioxidants play role in aging and stability of erythrocytes (Rizvi and Maurya, 2007a, b). Since antioxidant capacity of the plasma is related to dietary intake of antioxidants (Cao *et al.*, 1998) it is important to study the use of L-ascorbic acid in the stability of human erythrocyte in the prevention of oxidative stress in aging.

MATERIAL AND METHODS

The study was carried out on 80 normal healthy subjects of both sexes between the ages of 22-78 years. The criteria for selection of subjects was the same as described earlier (Rizvi *et al.*, 2006; Rizvi and Maurya, 2007a). The subjects were divided into three groups viz. young, middle aged and old. The subjects were screened for diabetes mellitus, asthma, tuberculosis or any other major illness. None of the subjects were smokers or were taking any medication. All persons gave their informed consent for the use of their blood samples for the

study. The protocol of study was in conformity with the guidelines of the Institutional Ethical Committee.

Blood was obtained by venipuncture in heparin, centrifuged at $1800 \times g$ for 10 min at 4°C and after the removal of plasma, buffy coat and upper 15% of the packed RBC were washed twice with cold PBS (0.9% NaCl, 10 mM Na_2HPO_4 , pH 7.4).

Determination of Osmotic fragility and experiments with L-ascorbic acid and induction of oxidative stress

The osmotic fragility experiments were performed following the method of Dacie and Lewis (1984). The effect of L-ascorbic acid on osmotic fragility was investigated as follows: Blood was washed two to three times with KRPB containing 5 mmol / L glucose (KRPB-G), pH 7.4. Erythrocytes were then suspended in 4 volume of KRPB-G. The *in vitro* effect of L-ascorbic acid was evaluated by incubating erythrocytes in the presence of 10^{-5} mol / L (final concentration) for 60 min at 37°C . The erythrocytes were again washed two to three times with KRPB, pH 7.4, and finally; packed erythrocytes were used for the assay. In parallel control experiments, blood was incubated without L-ascorbic acid.

Oxidative stress was induced *in vitro* by incubating washed erythrocytes with *tert* - butyl hydroperoxide (t-BHP; 10^{-5} mol / L final concentration). The concentration of t-BHP used in the present study to induce oxidative stress of erythrocyte was in the range used by Simplicio *et al.* (1998).

Statistical analyses were performed using software PRISM 4.

RESULTS

Figure 1 shows osmotic fragility curve in different age groups. There was significant ($P < 0.05$) increase in the osmotic fragility in elderly persons as compared to young and middle aged indicates less stability of erythrocytes in elderly persons. Decrease in the stability of human erythrocytes as a function of human age may be due to increased oxidative stress in elderly as compared to young once. Elderly persons were more susceptible to oxidative stress and ROS production was also more.

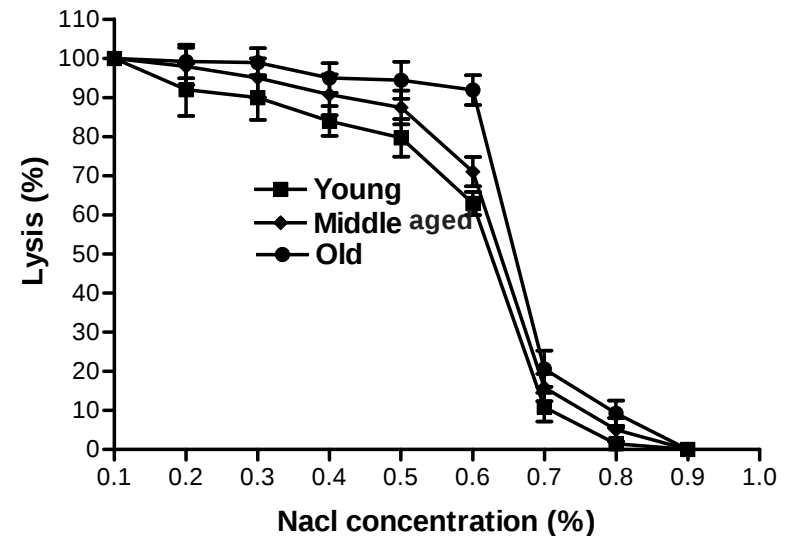


Figure 1 : Osmotic fragility in different age groups (mean $\pm$ S.D.)

Subjecting erythrocytes to increased oxidative stress by incubating them with t-BHP caused an increased in osmotic fragility above basal level in young age groups (Figure 2a). The presence of L-ascorbic acid in the incubation medium protected the erythrocyte from t-BHP induced oxidative stress, as evident by decrease in osmotic fragility. A significant ($p < 0.05$) protective effect of L-ascorbic acid was observed at concentration of 10^{-5} M.

Figure 2b depicts the effect of L-ascorbic acid on osmotic fragility when RBC were subjected to increased oxidative stress by incubating them with t-BHP in middle age group. Figure 2c shows the incubation of erythrocytes with t-BHP which caused a decline in the osmotic fragility in old age group. A significant ($P < 0.05$) protective effect of L-ascorbic acid on osmotic fragility in all age groups was evident, but a significant level was achieved in elderly as compared to the young and middle aged.

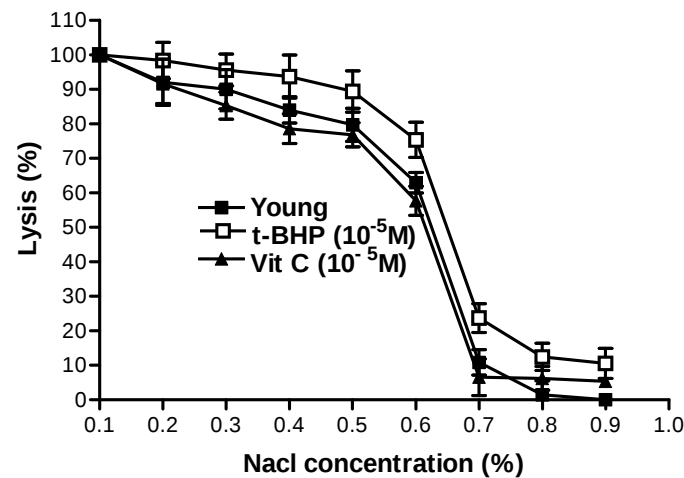


Figure 2(a) Effect of L-ascorbic acid on tert-butyl hydroperoxide induced changes in osmotic fragility in young age group (mean $\pm$ S.D.).

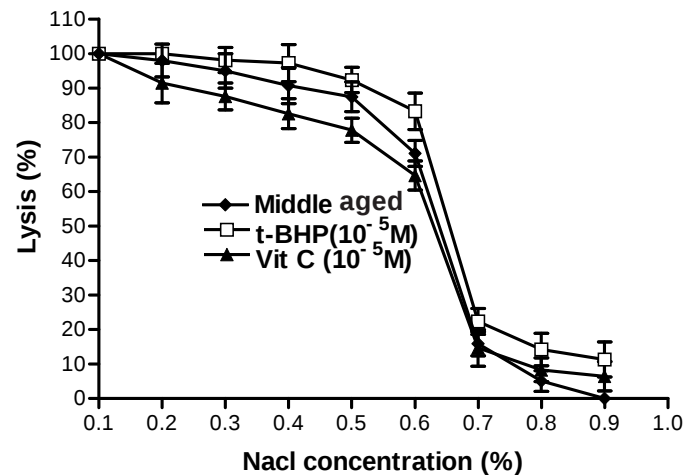


Figure 2(b) Effect of L-ascorbic acid on tert-butyl hydroperoxide induced changes in osmotic fragility in middle age group (mean $\pm$ S.D.).

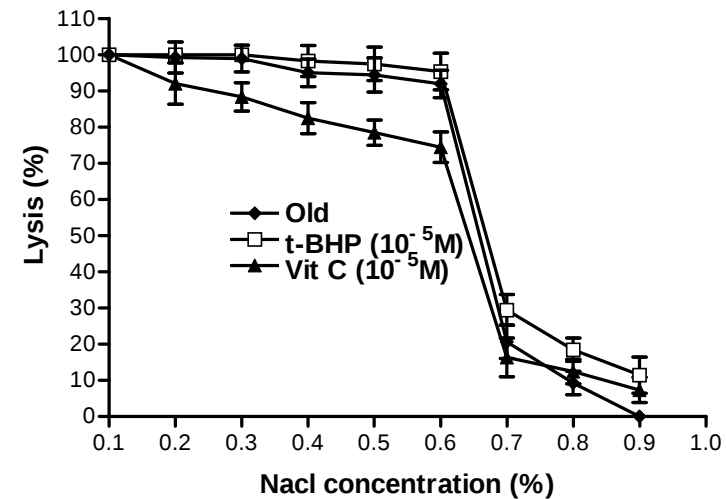


Figure 2(c) Effect of L-ascorbic acid on tert-butyl hydroperoxide induced changes in osmotic fragility in old age group (mean $\pm$ S.D.).

DISCUSSION

Oxidative stress has been reported to increase with aging. Several studies showed a significant oxidation of plasma redox states between age groups in humans (Gil *et al.*, 2006; Rizvi *et al.*, 2006; Jones *et al.*, 2002). A recent report showed age dependence of H_{50} suggesting that erythrocyte membrane stability was enhanced with increasing age (Penha-Silva *et al.*, 2007). Erythrocyte membrane stability depends upon pressure (Weber and Bont, 1996). Osmotic fragility of erythrocyte is dependent on the percentage of spherocytes in blood and on the osmolarity of the medium they are suspended in (Delano, 1995) and the membrane composition.

Ascorbic acid (AA) is considered one of the most important antioxidants in human but its role in the stability of human erythrocytes is not well known. AA is capable of reducing a variety of oxidative compounds, especially free radicals. AA is first oxidized to ascorbate free radical (AFR) and then to dehydroascorbic acid (DHA). DHA is unstable and can be degraded fast. Under oxidative stress, the consumption of ascorbate can be high, and without regeneration,

ascorbate would soon be depleted. It is also established that the plasma membrane redox system (PMRS) in erythrocytes is involved in reduction of extracellular dehydroascorbic acid (DHA) providing a mechanism for the recycling of ascorbate between intracellular and extracellular compartments (VanDuijn et al., 2000; VanDuijn et al., 2001). The extracellular recycling of ascorbate by erythrocytes would be especially important in areas of inflammation or atherosclerosis in the vascular bed, since such ascorbate could recycle α -tocopherol and prevent lipid peroxidation in LDL and lipids (Jialal et al., 1990). These findings suggest the role of ascorbic acid in the membrane function of erythrocytes, given that ascorbic acid is a primary antioxidant and it is consumed first during an oxidant stress. Protective effect of L-ascorbic acid against t-BHP induced oxidative stress on osmotic fragility suggest that AA may help in quenching more ROS in higher age group which could lead to decrease in osmotic fragility. The authors hypothesize that increased consumption of ascorbic acid by elderly persons may help in increasing the stability of human erythrocytes and help delaying aging and other age related diseases.

Erythrocyte membrane stability can be affected by various factors. It may be due to the osmolarity of suspending medium, hemoglobin content, hematocrit value and the turn over rate. Since aging is associated with oxidative stress which results in changing the composition of membrane, such as breakdown of lipids, proteins and other components. Ascorbic acid helps in decreasing osmotic fragility and thus increasing the stability of erythrocyte but exact mechanism remains speculative. These results may have implications in designing the strategies for the use of dietary antioxidants as anti-aging agents in age related diseases.

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Senescence in the Aquatic Fern, *Azolla* – A Review

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ABSTRACT

Floating water fern, *Azolla* has a symbiotic relationship with nitrogen fixing bacteria. An *Azolla* plant (generally called a frond) consists of a main stem (main rhizome) which has alternate leaves and adventitious roots at regular intervals. The main mode of reproduction is vegetative. This process occurs when a frond reaches a certain size. Secondary stems (lateral rhizomes) detach from the main stem as a result of formation of an abscission layer. The young plant with rhizomes, leaves and roots are called daughter fronds which live independently or in cluster. The fronds have definite life span. They undergo clonal senescence. There is also clear indication of senescent changes in leaves (leaf senescence). It is still not clear whether the senescence is controlled by environmental risk factors or due to intrinsic changes or by both the factors.

Key Words: Clonal Senescence-Aquatic Ferns-*Azolla*-Vegetative Propagation.

Senescence is a deteriorative change that causes increased mortality in living organisms. Three types of senescence have been envisaged (Finch, 1990); rapid, gradual and negligible. Examples of these types are available in both the plants and animal kingdoms.

Rapid senescence has a well-defined hormonal basis in vascular plants particularly the monocarpic angiosperms in which senescence and death of plant rapidly follow the reproductive phase of flowering and fruiting (Leopold, 1961). The distribution of gradual senescence in

plants and invertebrate animals is more difficult to establish than the rapid senescence. A few vascular plants show gradual losses of function and are examples of gradual senescence. Certain conifers (Gymnosperms) have enormous longevities of many thousand years in nature (redwood, *Sequoia sempervirans*, bristle pine, *Pinus aristata*) (Stebbins, 1950; Nooden, 1988). Many scientists concluded that the lifespan of long-lived perennial trees and other vascular plants are not limited by endogenous senescence. In other words they show negligible senescence (Leopold, 1981). Certain living organisms reproduce asexually. Protozoans (e.g. *Amoeba*) reproducing asexually (binary fission) produce new individuals, clones. Similarly, *Hydra* buds off new offsprings and many plants have the ability to reproduce vegetatively. The question very often raised is whether these organisms are “potentially immortal” or they show “clonal senescence”. According to one definition ‘a clone is a population of cells or organisms that are genetically identical and are produced as a result of asexual reproduction from a single ancestor’.

The present review includes description of a species of aquatic fern (Pteridophyte), *Azolla* and its exhibition of clonal senescence. A total of seven species (*Azolla caroliniana*, *A. filiculoides*, *A. mexicana*, *A. micropylla*, *A. nilotica*, *A. pinnata* and *A. rubra*) are reported of which *A. pinnata* is commonly found in India.

Life cycle of *Azolla* plant

The life cycle of *Azolla* shows alternation of generation between haploid gametophyte to diploid sporophyte. Haploid spores generated under the leaves of sporophyte divide to form the gametophyte. The gametophyte, is an inconspicuous thin heart shaped structure called prothallus. Within the gametophyte, sperms and eggs are produced and unite in fertilization to give rise eventually to sporophyte.

The sporophyte is the dominant phase and it propagates through vegetative reproduction. The gametophyte is inconspicuous phase and sexual reproduction is rare. The gametophytic cycle is usually absent in most situations in many species (Lumpkin and Plucknett, 1982)

Mature *Azolla* plant

The mature sporophyte is the *Azolla* plant, generally called a frond. It consists of a main stem (main rhizome). Leaves on the rhizome are

bilobed with alternate pinnation. Roots are present along the rhizome (Fig.1). *Azolla* fronds are triangular or polygonal in shape and horizontally float on the water surface individually or in mats (clusters). Leaves consist of a thick aerial chlorophyllous dorsal lobe and thin ventral lobe. The ventral lobe is boat shaped and rests on the surface so that the frond floats. The upper lobe has a central cavity which houses a population of symbiotic cyanobacteria (blue green algae), *Anabaena azollae* for nitrogen fixation. The main rhizome is also multibranched. Lateral rhizomes (secondary stems) develop at the axils of the leaves.

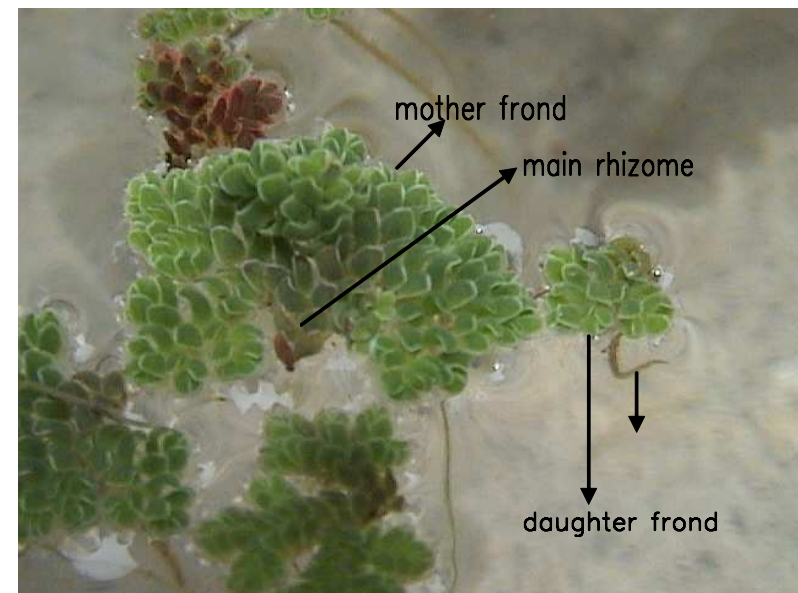


Fig.1: Photograph of a matured mother frond of *Azolla pinnata* with a freshly detached young daughter frond.

Vegetative reproduction:

This type of reproduction occurs asexually by vegetative fragmentation and is the main mode of reproduction in *Azolla*. It occurs when the frond reaches a certain size. Vegetative proliferation occurs as a result of the formation of abscission layer at the base of lateral

rhizome allowing it to detach from the main rhizome. A small root and few odd leaves (11-15) are present on the detached young plant, known as 'daughter frond'. Vegetative fragmentation is rapid in *Azolla* with a doubling time of two days under optimal conditions (Peters et al, 1980) or 3-5 days under suitable field conditions (Lumpkin and Plucknett, 1982) (Fig. 2, 3, 4, 5).

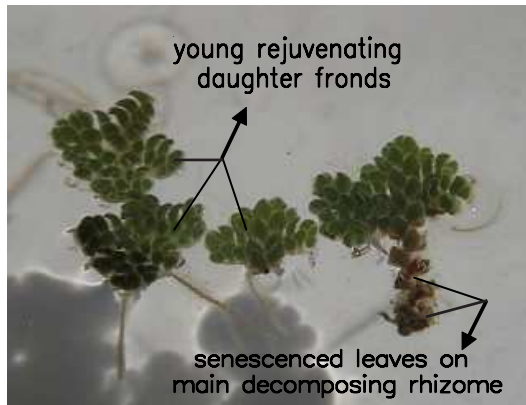


Fig. 2: Detachment of lateral rhizomes from leaf axils of main rhizome in *A. pinnata*.



Fig. 3a: The lateral branch is still attached to the main rhizome as highlighted within the circle.



Fig. 3b: The lateral branch is just detaching from the main rhizome as highlighted within the circle.

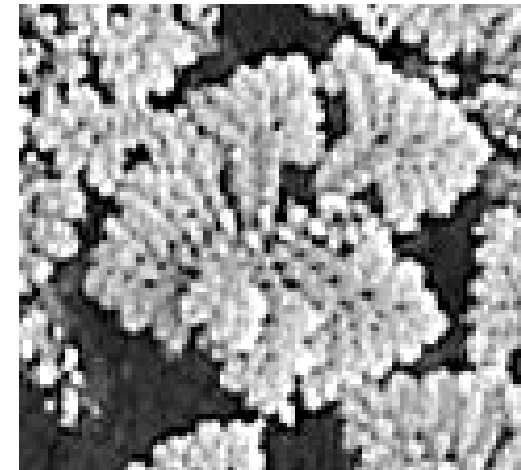


Fig. 4 : A young colony of *A. pinnata* showing senescence-rejuvenation cycle.

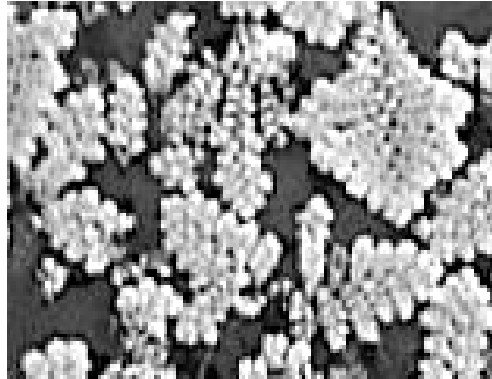


Fig.5: An old colony of *A. pinnata* showing senescence but slow growth.

Senescence and rejuvenation cycle:

The *Azolla* plants (fronds) have a definite life span during which a set number of daughter fronds are produced. Each of these daughter fronds is a smaller mass than the one preceding it and its life span is reduced. Late daughter fronds also produce fewer daughters than the early daughter fronds. (Fig.2)

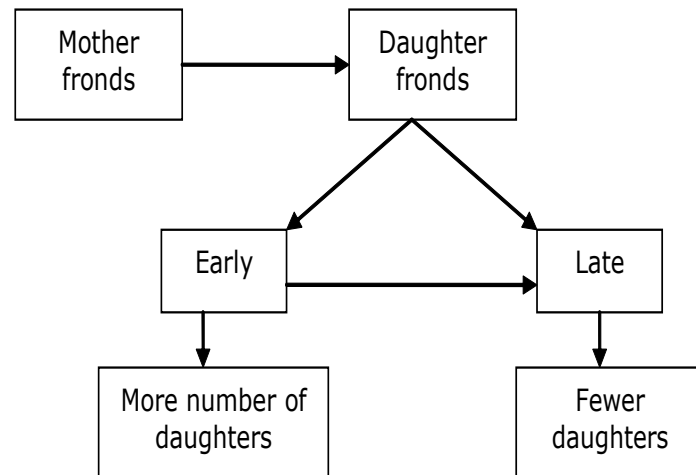


Fig.2: Vegetative reproduction in *Azolla*.

Daughter fronds with $\frac{1}{2}$ the life span of early daughter fronds produce larger daughter fronds. When the largest size is produced senescence starts. Such type of senescence –rejuvenation cycle is also reported in duckweed, *Lemna minor* (Ashbey and Wangermann, 1949). Most of the strains of *Azolla* start to senesce after 3 weeks (Fig. 3, 4).

A number of factors control the life cycle of *Azolla*. These are light intensity, photoperiod, plant density, nutritional deficiencies (e.g. phosphorous) and hormones (e.g. gibberellic acid) and temperature. Of these, elevated temperature is known to induce senescence in *A. caroliniana* and *A. filiculoides* as evident in decrease in protein and chlorophyll content (Tung and Watanabe, 1983).

Senescence in *Azolla* leaf:

In plants “leaf senescence” involves a well-regulated rapid series of events (Strother, 1988). In plants, degeneration of particular organ (senescence) need not involve degeneration of the whole plant. Generally, loss of chlorophyll, protein and arrest of protein synthesis are observed during leaf senescence (Woolhouse, 1984). Nitrogen content and dry matter have been found to decrease with leaf age in some species of *Azolla* (Shi and Hall, 1988), but C/N₂ ratio increased. C₂H₂ reduction method used to measure nitrogenase activity in leaves of *A. imbricata* and *A. filiculoides* increased progressively in older leaves (Shi et al, 1981). Total phycobilin protein /g. fresh weight increased with leaf age (Peters et al, 1980).

Lead accumulation in *A. filiculoides* indicated that mature leaves accumulated more metal ion than the young leaves (Benoroya et al, 2004). This suggests that mature leaves are more susceptible to oxidative damage caused by generation of free radicals induced by the metal ions. This is significant in view of the proposed free radical theory of aging (Harman, 1981) and the role of free radicals in leaf senescence discussed by Strother (1988).

Conclusion

Many plants and some animals (e.g. protozoans, coelenterates) have the capacity for indefinite vegetative reproduction by budding, fission or fragmentation. Individuals (e.g. daughter fronds of *Azolla*)

of asexually reproducing species may have definite life spans that are determined by environmental risk factors but whether true senescence occurs in these individuals is not confirmed definitely (Finch, 1990). However, these individuals (also called clones) of vegetatively reproducing plants and animals some times eventually fail to survive. Moreover, even though the older parts (e.g. rhizome of mother frond in *Azolla*) degenerate, the vegetative reproduction goes on to produce new individuals (e.g. daughter fronds in *Azolla*). Leaf senescence suggests organismic senescence.

There is some evidence that vegetative propagation leads to accumulation of lethal mutation. *Onoclea sensibilis* and *Matteuccia struthiopteris* are two fern species; the former reproduces both vegetatively and sexually and the later reproduces mostly by vegetative method. They share same habitat but *M. struthiopteris* accumulates more lethal mutations (Klekowski, 1984). These facts suggest the occurrence of clonal senescence i.e. the clones or the individuals (e.g. daughter fronds in *Azolla*) derived from mother frond undergo senescence. But this cannot be compared with the senescence in most of the plants and animals with sexual reproduction.

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Geriatric Suicide : A Brief Clinical Review

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ABSTRACT

Geriatric suicide is on the rise worldwide. The present paper reviews the current literature on the risk factors of suicide in the elderly that may be detected through clinically routine practice. Medical illness, loneliness, physical disability and caregiver burden along with financial strain are some of the factors that may lead to elderly suicide. Divorce and widowhood are other important indicators. Management and preventive strategies including social management, outreach programs and other issues are discussed.

Keywords: Geriatric Suicide, Loneliness, Illness, Physical disability.

Older adults with a suicide risk pose a challenge to clinicians as more often than not their risk is under-appreciated. They have mental health symptoms that are rarely severe and rarely seek help from mental health professionals (Conwell, Duberstein & Caine, 2002). Another fact in geriatric suicide is that people who have never made a prior suicide attempt account for approximately 75% suicides in older age (Beautrais, 2002). Often in clinical practice, suicidal ideation, attempted suicide and completed suicide are conflated in discussions of suicidal behavior leading to inaccurate risk estimation, misguided and iatrogenic treatments and poor prevention efforts (Conwell *et al.*, 2000). This article reviews the clinical aspects of geriatric completed suicide.

EPIDEMIOLOGY

An overall suicide rate of 15.3 per lakh was noted amongst elders in the year 2000. Also true is this that attempted suicide is far less frequent in old age than in the younger years (Waern *et al.*, 2003). The suicide rate is known to increase with age and is greatest in the oldest old. The rates in those aged 85 and above are 6 times the nation's adjusted rate in USA. The male female ratio for such suicides is 7 : 1. As per WHO statistics this same trend is followed worldwide (Pearson, 1995).

Suicide rates in the elderly who are widowed or divorced is greater than those who are married (McMahon & Pugh, 1965). Suicide risk is elevated in the first 4 years after widowhood often due to complicated grief and is increased by the fact that geriatric depression refractory to most treatments sets in this group (Prigerson *et al.*, 1995). Living alone has been identified by some studies as a risk factor for suicide (Cheng *et al.*, 2000). Unemployment, lack of a stable income, staying away from their children and disability of the physical type are all risk factors for suicide in the elderly (Duberstein *et al.*, 2004). Access to firearms has been recognized as a common risk factor where the method of suicide is readily available (Conwell *et al.*, 2002). The suicide rate in the elderly has been rising since the mid 1980s and shall probably constitute the next suicide epidemic (McIntosh, 1992).

CLINICAL RISK FACTORS FOR GERIATRIC SUICIDE

Retrospective studies have shown that in all geriatric suicides, 71-90% had a major mental disorder at the time of the act. Mood disorders like recurrent major depression, dysthymia and minor sub clinical depression all increase the risk for suicide (Harwood *et al.*, 2001). On going alcohol and substance abuse confers increased risk while a risk exists even in people with a history of remitted alcoholism or substance abuse (Wearn, 2003; Conner *et al.*, 2000). High self rated depression scores on testing was significantly associated with increased suicide risk (Lyness *et al.*, 1995).

Older patients are less likely to report in depressed and sad moods compared to younger people (Cavanagh *et al.*, 2003). They are also less likely to report suicidal ideation and intent compared to young people (Duberstein *et al.*, 1999).

Around 30-40% geriatric suicide cases have had a previous diagnosis of a personality disorder. Antisocial, avoidant, borderline and schizoid personalities have been noted in these cases. Obsessional and anxious traits significantly distinguished those that died from suicide and natural causes (Duberstein & Conwell, 1997). Higher levels of neuroticism and lower levels of openness to experience along with muted affective responses distinguish suicide risk cases (Duberstein, 2001).

In a review of 235 prospective studies with at least 2 years of follow up, it was noted that suicide rates were greater in older adults with debilitating physical illness (Harris & Barraclough, 1994). Objective indicators of illness amplify the risk of suicide in elders even after controlling for mental disorders with cancer being a significant factor (Waern *et al.*, 2002; Grabbe *et al.*, 1997). Physical illness generates stress in life, increases burden on caregivers, causes family discord and drains financial resources (Emanuel *et al.*, 2000).

Biological theorists propose that there are pathophysiological pathways by which a particular disorder affects brain function and increases suicide risk with some tumors having direct effect on the central nervous system (McDaniel *et al.*, 1995; Musselman *et al.*, 1998). Physical illness robs one's independence which causes huge losses of self esteem in societies that place a high premium on autonomy (Goodwin & Olfson, 2002).

Financial strain and interpersonal relationships are effected in most elderly with suicide (Pinquart & Sorensen, 2003).

TREATMENT AND PREVENTION STRATEGIES

Treatment of disorders that increase the risk of suicide is of paramount importance in reducing suicidality, but this hypothesis has not yet been adequately tested in the geriatric group. Older people that commit suicide rarely receive mental health treatment.

Various population based general strategies may be implemented by the government like restricting access to lethal means, crafting better economic policies, improving access to palliative and mental health care. There is also a growing need to reduce ageism and elder abuse. Over-the-counter dispensation of medications that may be fatal in overdose

without a valid doctor's prescription must be stopped (Lewis *et al.* 1997).

Suicide prevention initiatives can be designed for implementation by the primary care physician treating the elderly. Education with regard to diagnosis and treatment of geriatric depression along with proper screening and treatment algorithms is essential. An active collaboration between primary care physicians and psychiatrists is important to achieve this end (Luoma *et al.*, 2002). Collaborative care strategies have been tried out but with modest responses and care is not as with specialty care (Bruce *et al.*, 2004).

There is a need for outreach programmes in suicide prevention. This is essential for those with physical disability, immobility and lack of access to managed care (Florio *et al.*, 1996). Home visits by community health workers have yielded little success with many elders declining help and many preferring to be alone. Strategies that identify circumscribed problems, seeking a well defined and motivated target population and tailor made interventions are essential for treatment and prevention of geriatric suicide (Clarke *et al.*, 1992).

Older adults at risk of suicide pose specific public health challenges but health care professionals may not recognize that risk. Physician based methods of suicide detection in the elderly are important in early detection and prevention. People and medical professionals need to be educated and myths regarding geriatric suicide need to be dispelled. It is only when depression in old age is no longer left untreated that geriatric suicide prevention will be a reality.

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A Cross Sectional Study of Health Profile Among Rural Elderly of North-West Rajasthan

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ABSTRACT

This cross sectional and community based study was conducted to assess the health profile and morbidity profile of 382 rural elderly aged 60 and above of both the sexes, belonging to Udairamsar village (field practice area of the department of Community Medicine, S.P. College, Bikaner). It was found that the commonest reported complaints were : dental problems (48.83%), diminished visual acuity (29.05%), arthritis and disorders of muscles and joints (24.60%), hypertension (23.82%), hearing impairment (19.63%), gastrointestinal complaints (14.65%), diabetes (12.82%). A significant statistical difference between males and females was found out in the number of diseases. Arthritis, skin problems and miscellaneous eye disorders (excluding vision) were more commonly found in females with highly significant difference ($p < .001$).

Key words : Exclusive breast-feeding, Complementary feeding, Weaning, Adolescent girls, Baby friendly hospital.

Aging is defined as the process of deterioration in functional capacity of an individual in consequence of structural, physiological changes, and ongoing accumulation of the chronic pathological processes. The overall effect of these alterations is an increase in the probability of dying, which is evident from the rise in the age-specific death rates in the older population. This should be regarded as normal inevitable biological phenomenon (WHO, 1974).

Demographic trends of India and other developing countries since past few decades are leading to rise not only in the absolute numbers of older persons but also in the relative share of the population. Indian elderly in 1961 were 5.63%, numbering around 24.7million whereas in 2001 it rose to 7.4% (76.6 millions). This is mainly contributed by boost in the life expectancy and shrink in fertility rates because of improvements in socio-economic status and health care developments. In terms of demography this process of aging of population is known as demographic transition (Sathiya Susuman, 2006).

Geriatric people have special health problems that are different from those of young. Most of the diseases in the aged are chronic in nature as cardiovascular diseases, arthritis, stroke, cataract, deafness, cancers, chronic infections and dementia. Usually the disease process in the elderly is multiple and the duration and severity of both acute and chronic conditions are longer for the aged than the young (Puspanjali *et al.*, 2005).

The present study was conducted with the objective of determining the major causes of morbidity among the elderly population in Udairamsar (Rural Health Training Center under Department of Community Medicine, S.P. Medical College, Bikaner, Rajasthan).

Methodology

Study population

There are around 1070 total families in Udairamsar village), out of whom only 535 families were selected for the study by systemic random sampling. {Every second family was included in the study whether it has aged (60+) or not}. The information was collected on a pre-designed, pre-tested proforma. Information regarding current morbidity profile of the study population was confirmed by asking for prescriptions and investigations done on the spot.

382 aged (60+) were found in 535 surveyed families (total surveyed population was 4260) the proportion being 9.24%. The sex ratio of the aged was 1141, against 899 of the study population.

Out of 382 elderly, 230(60.23%) were of 60-69 yr. age group (107males, 123females), 121(31.63%) belonged to 70-79 years group

Table: 1. Table showing the morbidity profile of both the sexes (N = 82).

Disorder	Male(179)	Female(203)	Total(382)	χ^2	d.f	P	Significance
Arthritis	32 (17.87)*	62(30.54)	94(24.60)	7.55	1	0.006	S
Asthma	8(4.46)	16(7.88)	24(6.28)	0.43	1	0.509	NS
Cancer	1(55)	2(98)	3(78)	0.01	1	0.913	NS
Dental problems	69(38.54)	87(42.85)	156(40.83)	0.10	1	0.745	NS
Diabetes	20(11.17)	29(14.28)	49(12.82)	0.569	1	0.451	NS
Gastrointestinal	25(13.96)	31(15.27)	56(14.65)	.046	1	0.830	NS
Hearing disorders	34(18.99)	41(20.19)	75(19.63)	0.028	1	0.868	NS
Ear disorders	4(2.22)	6(2.94)	10(2.61)	0.142	1	0.706	NS
Heart disorders	19(10.61)	17(8.37)	36(9.42)	0.328	1	0.567	NS
Hypertension	39(21.78)	52(25.61)	91(23.82)	0.820	1	0.365	NS
Mental anxiety	8(4.46)	18(8.86)	26(6.80)	2.248	1	0.134	NS
Stroke	3(1.67)	1(0.49)	4(1.04)	0.397	1	0.529	NS
Piles	6(3.35)	5(2.46)	11(2.87)	3.35	1	2.46	NS
Prostatic hypertrophy	18(10.04)	-	18(10.04)				
Skin problems	6(3.35)	19(9.35)	25(6.54)	4.67	1	0.031	S
Tuberculosis	2(1.11)	4(1.97)	6(1.57)	0.066	1	0.797	NS
Diminished visual acuity	48(26.81)	63(31.03)	111(29.05)	1.193	1	0.275	NS
Eye problems	2(1.11)	12(5.91)	14(3.66)	4.909	1	0.027	S
Others	23(12.84)	31(15.27)	54(14.13)	0.282	1	0.596	NS

(Values given in parentheses are proportions out of total in respective group)

(59 m, 62 f) and rest of 31(8.14%) were the age group of 80yrs. and above (13 m, 18 f).

Tools Used

For evaluating socioeconomic status of the family Modified B.J.Prasad Classification was used. Mercury sphygmomanometer, Glucometer and strips were used to assess BP and random blood sugar. The statistical analysis of study was done with the help of primer of biostatistics software.

Results

The current morbidity profile of the study population is given in the Table 1

Discussion

The present study aims to generate morbidity profile of the study population.

The commonest reported complaints were: dental problem (40.83%), diminished visual acuity (29.05%), Arthritis and disorders of muscle and joints (24.60%), hypertension (23.82%), hearing impairment (19.63%), gastrointestinal complaints (14.65%), diabetes (12.82%). This study confirms the findings reported in literature that visual impairments, hypertension, arthritis and dental problems are extremely common complaints in the elderly (Rahul Prakash *et al.*, 2004; Sathiya Susuman 2006; Anil Jacob *et al.*, 2006).

A statistically significant association of gender was found with a number of diseases. Arthritis, skin problems and miscellaneous eye disorders (excluding vision) – all were found to be more common in females with a highly significant association ($p < .001$). Several other diseases were also common in females as asthma, dental problems, diabetes, hearing disorders, hypertension, mental anxiety and diminished visual acuity but association was found to be non significant. Some diseases were found to be common in males as heart diseases, stroke and piles but this was not statistically significant ($P > .05$). Several studies document significant gender difference in the prevalence of various diseases. Wingard (1987) stated that women suffer more often than men from arthritis while the reverse is true for coronary heart disease.

Wyller (1999) reported that the incidence of stroke is higher in men than in women in all age classes, and women are, on an average, several years older than men when they suffer their first stroke. The incidence rates are higher for men compared to women at all ages. Female preponderance in psychiatric problems has been documented in a number of studies (Nandi *et al.*, 1997 and Reddy *et al.*, 1998).

Recommendations:

1. There is an urgent need for setting up Geriatric Clinics at all levels of health care.
2. A multidisciplinary approach needs to be adopted with formation of medical teams consisting of the gerontologist, geriatrician, demographer, the clinical psychologist, the medical/psychiatric/social worker and geriatric nurses working together for the health care of the aged.
3. Efforts need to be made to create a nation wide database of geriatric morbidity data and to maintain networking among institutions and researchers involved in gerontological work.
4. Government should provide medical insurance to elderly at very low premium rates.

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Health Status and Health Needs among the Aged Population in Chapai Nawabganj District of Bangladesh

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ABSTRACT

This study was undertaken to understand the health status of elderly people and to gather some information about their perceived health needs using the information from 300 elderly population of aged 60 and over of Chapai Nawabganj district of Bangladesh. Findings reveal that majority of the elderly, both male and female, are unhealthy. The most common health problems aged people face include blood pressure, followed by diarrhoea, asthma and prolonged coughing, arthritis, kidney/bladder problems, paralysis and gastritis. More health problems were reported by women compared to men. The study shows that 68.0 percent of male elderly and 62.2 percent female elderly have lost their teeth. It was also found that 80.7 percent and 79.2 percent male and female elderly have lost eye sight and 60.0 percent and 59.6 percent have hearing problems. The study observed that a significant percentage of elderly take treatment from M.B.B.S doctors followed by village doctors and homeopaths. From the logistic regression, we found that respondents' age, sex, education, sources of treatment, household electricity and type of toilet facility significantly affect the health status of the aged population.

Key words : Elderly, health problems, health facility, physical deterioration, logistic regression analysis

Aging brings about a number of physiological changes. It not only affects a person's looks, but also becomes a cause of physical deterioration (Abedin and Samad, 1996). Bangladesh is one of the twenty countries in the world with the largest elderly populations, and by 2025, along with four other Asian countries, will account for 44% of the world's total elderly population (Monawar GM, 2003). This rapidly increasing population is a new and important group in terms of social and health policy in the country. In developing countries like Bangladesh, the elderly face a number of personal problems, viz. high rates of physical illness, emotional difficulties, low status and low meaningful role in society (Kabir and Humayun, 1995). Old age is only one factor that causes stress in the elderly person's life. Poverty, inaccessible services and lack of financial support make it difficult for them to weather stresses inherent to Bangladesh. Every elderly population has the right to lead a healthy, active life with less sufferings. For these they need clothing, housing facility, medical and social care. Many of the health problems can be overcome or delayed by changing their life style (Sattar MA, 1996). This thesis aims to establish a knowledge base about aspects of the health situation of elderly people in Bangladesh by examining the situation prevailing in one particular area, Chapai Nawabganj district. It also aims to adapt existing instruments assessing health status in terms of gender sensitivity in the context of Bangladesh.

Data Collection and Methodology

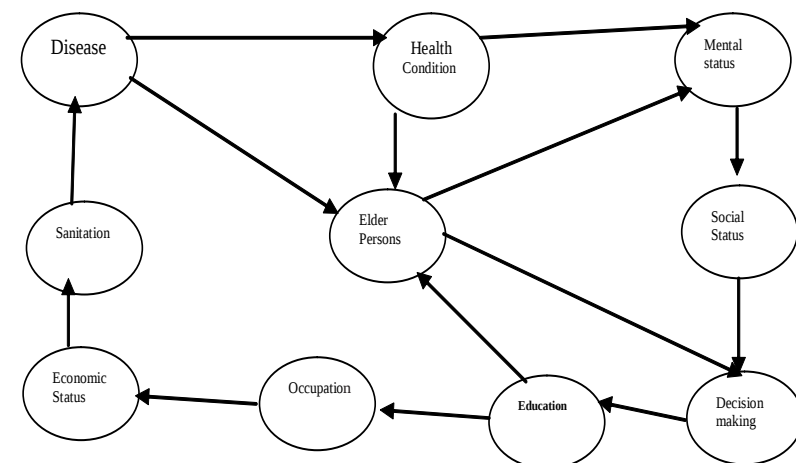
The data were collected from a field survey conducted in the district of Chapai Nawabganj of Bangladesh. These data were collected from both, rural and urban areas of Chapai Nawabganj district. Information was collected of 300 elderly (Population ages 60 and over) by interview method. Of them 150 were taken from rural areas and 150 from the urban areas respectively. Respondents were selected by purposive sampling method. For rural areas we had selected three villages under Baroghorian union, and for urban areas we have selected Chapai Nawabganj thana of Chapai Nawabganj District. Data analytic methods envisaged in this paper are percentage distribution and logistic regression analysis.

Conceptual Framework

In our study, the health status of the elderly, which is measured by the consideration whether the elderly population suffered from any physical problems, is the dependent variable.

Health status of the aged population as the dependent variable is influenced by a number of factors. Generally we can say that education is the determinant of occupation. It is obvious that every educated person would like to hold service as a major occupation. On the other hand illiterate persons cannot hold a job. Hence most of them are farmers. In this way, education influences occupation. In Bangladesh, better occupation means better economic status and better sanitation facility. Sanitation facility mostly affects diseases. Diseases also influence health condition. Those who have sound health have also better mental and social status. That is, there is a close relation between them. Education, diseases and health condition significantly affect the older persons. Mental status, social status and decision making influence aged persons. In lieu of these factors the status of health of the elderly can be analyzed by using a simple framework

Fig. 1 : A conceptual framework of the interrelationship between social-economic variables and health status of the elder persons



Findings

Current Health Status of the Elderly Population

It is obvious that people become more and more susceptible to chronic diseases, physical disabilities and mental incapacities in their old age. As age advances, due to the deteriorating physiological conditions, the body becomes prone to illness (Strong and Michael A, 1992). To assess the health status of respondents a question was asked: "What is your current health status?" The answer was recorded on a three-point scale: healthy, fairly healthy and unhealthy.

Table -1 : Percentage distribution of the elderly by current health status and sex

Current health status	Male	Female	Both sexes
Healthy	20.8	10.4	15.6
Fairly healthy	33.9	29.3	31.6
Unhealthy	45.4	60.3	52.8

From table 1 we see that majority of the elderly, both male and female, are unhealthy (45.4 per cent for male and 60.3 per cent for female) and about 33.9 per cent male and 29.3 per cent female elderly population are in a fairly healthy condition and only a small number of them (20.8 per cent male and 10.4 per cent female elderly) are in a healthy condition. For both elderly population 52.38 per cent are unhealthy, 31.6 per cent are fairly healthy and the remaining 15.6 per cent are healthy.

Health Problems of the Elderly Population

Health events are usually more frequent and become confused with one another. The illnesses of the elderly are multiple and chronic in nature. The idea that old age is an age of ailments and physical infirmities is deeply rooted in Bangladeshi mind and many of the sufferings and physical troubles within the curable limits are accepted as inevitable by the elderly. In old age the elderly are found of suffer from diseases like arthritis, gastritis, blood pressure, diabetes, asthma and so on. Prevalence of malnutrition, eye sight problems, hearing problems among the old are also observed. The health problems in old age are often compounded by attributing ailment to the onset of old age.

Table-2: Percentage distribution of elderly according to the various diseases and by sex

Type of illness	Male	Female	Both
Arthritis	8.1	7.1	7.7
Gastric	3.8	7.1	5.4
Diabetics	24.0	14.0	19.0
Asthma and prolonged coughing	13.7	12.1	12.9
Blood pressure	56.1	52.1	54.1
Kidney/bladder	7.7	5.1	6.4
Stroke	3.2	1.2	2.2
Paralysis	6.3	2.0	4.1
Others	36.0	32.1	34.1

From table 2 we observed that most of the elderly are suffering from diabetics and blood pressure (54.1 and 19.0 per cent respectively). With regard to arthritis and gastritis 8.1 and 3.8 per cent male elderly suffering from it; and the corresponding figure for females are 7.1 and 7.1 percent. 13.7 percent of the aged men revealed that they were suffering from prolonged coughing and asthma where as 12.1 percent aged women said that they were suffering from such types of diseases. About 34.1 percent of the total sample aged population complained about other diseases like cancer, tuberculosis, senility diseases, fever, piles and joint pain.

Table 3 shows the distribution of the elderly population by physical deterioration. The data in table 3 shows that 68.0 per cent of male elderly and 62.2 per cent female elderly have lost their teeth, and 46.3 percent male aged and 40.1 per cent female aged have lost hair. In total 43.2 percent elderly population of both sexes have lost their hair

Table-3: Distribution of the respondents by physical deterioration

Physical deterioration	Male	Female	Both
Loss of teeth	68.0	62.2	65.1
Loss of hair	46.3	40.1	43.2
Loss of eye sight	80.7	79.2	79.9
Loss of hearing	60.0	59.6	59.8
Coherence in speech	23.0	20.1	21.6

Table 3 also elucidates that 80.7 per cent and 79.2 per cent male and female elderly have lost eye sight and 60.0 per cent and 59.6 percent have hearing problems and 23.0 per cent and 20.1 per cent male and female elderly in total 21.6 percent aged population lack coherence in speech.

Health Care Facility of the Elderly Population

Medical facilities are limited in Bangladesh and thus lead to greater problems for the elderly. The country has neither separate health care provision nor infrastructure for elderly population. As a part of a vulnerable group the older population has a greater need for, but less access to health care. The medical facilities are not adequate to meet the health care requirements of the total population, let alone the elderly (Sattar MA and Rahman M, 1993). The information about the nature of treatment of the elderly are shown in table 4

Table-4: Percentage distribution of the respondent's treatment sex-wise

Sources of treatment	Male	Female	Both
M.B.B.S	85.6	69.3	78.0
Homeopathy	3.1	2.1	2.7
Village doctor	10.6	28.6	19.0
Others	0.6	—	0.03

Table 4 shows that significant percentage of elderly takes treatment from M.B.B.S doctors which contains 85.6 per cent for male and 69.3 per cent for female elderly, followed by village doctors 10.6 and 28.6 per cent for males and females respectively, also by homeopathy 3.1 percent and 2.1 per cent respectively. For both populations most of the elderly taking treatment from M.B.B.S doctors are 78.0 per cent

Determinants of the Health Status of the Elderly Population: Logistic Regression Analysis

The logistic model is fitted by considering the relative risk if the elderly suffered from any disease during the last three months which we dichotomized by assigning 1 if the elderly suffered from any disease during last three months and 0 if they did not. Odd ratios are shown in

place of regression coefficients for the easy interpretation of results. A statistically significant odd ratio below 1.00 means a negative effect of an independent variable, while a statistically significant odds ratio above 1.00 means a positive effect. The results are described as follows:

Table-5: Results of logistic regression analysis according to physical problem of aging people by selected characteristics.

Variables	Coeff. of $\hat{\alpha}$	Odds ratio Exp ($\hat{\alpha}$)
Respondents' age		
60-69	-0.855	0.413***
70+ (Ref)	—	1.000
Respondents' sex		
Male (Ref)	—	1.000
Female	0.001	0.997**
Marital status		
Married (Ref)	—	1.000
Widowed	0.304	1.356
Respondents' education		
No education (ref)	—	1.000
1-5 years	0.488	0.614**
6 years+	-0.516	0.579*
Source of treatment		
M.B.B.S (Ref)	—	1.000
Others	0.723	1.485***
Electricity in household		
No (Ref)	—	1.000
Yes	.235	.456**
Toilet facility		
Modern	-0.365	0.562**
Traditional (Ref)	—	1.000
Occupation		
Service	-0.712	0.489
Others(Ref)	—	1.000
Constant	2.543	

Note: Ref = Reference Category. Here ***, ** and * indicated $p < .001$ (highly significant), $p < .01$ (significant) and $p < .05$ (less significant).

From table 5 we found that the elderly populations in the age group 60-69 were 0.413 times less likely to suffer from any type of disease than the elderly belonging to age group 70 and higher and this relationship is found to be highly significant. Elderly, females suffer 0.997 times less from any diseases during last three months as compared with male elderly. Most of the widowed elderly suffered 1.356 times more from diseases than those elderly who are married. Table 5 also shows that as the level of education increases the probability of suffering from diseases also decreases, elderly who have completed 1-5 and 6-years of education are 0.614 and 0.579 times less likely to suffer from any disease than those elderly who have no education. The sources of treatment also strongly associated with the dependent variable.

The elderly who received treatment from others (Kabiraji, Hakim, etc.,) were suffering 1.485 times more from some type of disease or the other than those who receive treatment from M.B.B.S doctors (from various health related institutions such as hospitals, clinics etc.). Elders who have electricity facility had 0.45 times less physical problem when compared to those who have no such facility. Elders who use modern toilet facility faced any physical problem 0.56 times less than those who use traditional toilet facility. With respect to occupation elders who have engaged in service face 0.489 times less physical problem compared to those elders who have engaged in other types of work (farmers, day labors etc.,)

Conclusions and Recommendations

This study was undertaken to understand the health status of elderly people and to gather some information about their perceived health needs. Findings reveal that majority of the elderly, both male and female, are unhealthy (45.4 per cent for male and 60.3 per cent for female). The most common health problems aged people face include blood pressure, followed by diarrhoea, asthma and prolonged coughing, arthritis, kidney/bladder problems, paralysis and gastritis. The study indicates that the perceptions about health problems in terms of the principal chronic diseases vary between men and women within the elderly age cohort. There were conclusive data which showed that women suffered more than men. With regard to the distribution of the elderly population by physical deterioration, the study shows that 68.0 per cent of male

elderly and 62.2 per cent female elderly have lost their teeth, and 46.3 per cent male aged and 40.1 per cent female aged have lost hair. In total 43.2 per cent elderly population of both sexes have lost their hair. It was also found that 80.7 per cent and 79.2 per cent male and female elderly have lost eye sight and 60.0 per cent and 59.6 per cent have hearing problems and 23.0 per cent and 20.1 per cent male and female elderly, in total 21.6 per cent aged population, suffer from lack of coherence in speech. The available medical facilities are not adequate to meet the health care requirements of 120 million people in Bangladesh. The study observed that a significant percentage of elderly take treatment from M.B.B.S doctors which contains 85.6 per cent for male and 69.3 per cent for female elderly, followed by village doctors and homeopaths. From the logistic regression, we observed that six out of eight variables are significant to explain health status of elderly population. Respondents' age, sex, education, sources of treatment, household electricity and type of toilet facility significantly affect the health status of the aged population.

The overall scenario of the health status of the aged population is not found satisfactory. Still much work has to be done in this arena to cope with the problems of our country. In the light of the above discussions the following recommendations are made:

- The aged require direct humanitarian assistance and they should receive special attention and be adequately covered by the social safety net. Government should identify and assess the size of these groups and the extent to which assistance is required. In this regard, widows, one of the most vulnerable groups, should receive particular attention to meet their special needs.
- The promotion and implementation of low cost, prevention-based initiatives, such as health and physical education and social participation, could significantly enhance the possibility of maintaining good health for the elderly.
- Health needs of older persons are multidimensional. Not only physical health but also mental and emotional health of older persons is equally important for their well being. A system of coordinated care needs to be provided instead of person-oriented intervention. Health education programs should be introduced to understand and

create awareness about the health problems amongst the elderly, and help them adopt a healthy life style.

- Preparations for a productive and meaningful role in old age should be undertaken at both individual as well as societal levels.
- Government should supply latrines at a cheap rate to improve the health and sanitation facility.
- There is a need to conduct research on questions related to demographic, social, health and economic characteristics of the aged people, and their implications for formulating public policy.

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Working Elders in India: A Gender Specific Situation Analysis

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ABSTRACT

India is aging at a rapid pace. The elder's (60+) work participation rate is decreasing over the years according to various rounds of census. In economic activity elderly men's participation is declining whereas the elderly women's participation is increasing both in rural and urban areas. Looking back at the low literacy level almost 50 years ago in India, one wonders what kind of occupation these women might be involved in. Periodical National Sample Surveys (NSSO) provide an ample opportunity to analyse elderly population's work participation and why, how these elder's are working. This paper is an attempt to explore the elderly person's work participation over the decades and also explores the background characteristics of these elderly workers. It also finds some determinants which contribute to gender-specific work participation at this age.

Key words : Elderly, Work participation, Gender differences, Determinants

Population aging has become a challenge for many developing countries as their socio-economic development has not kept pace with the rapid speed of population aging. Many nations are not equipped with the social and economical ability to cushion their elderly people to lead a dignified healthy life (Kalache A and Keller I, 2000). Healthy elders are a resource to their families, communities, countries and economies (WHO, 2002). But for many older people with no savings, lack of old age economical security, poor health, no economic support from their children and little help from their children, friends and

communities, old age is not a phase of life worth looking forward to (UNFPA, 2002).

The active ageing approach was adopted by WHO in 1999, which is based on the recognition of the human rights of the older people, independence, participation, care and self-fulfillment. It generated a shift from 'needs-based' approach (elders as passive targets) to 'rights based' approach towards elders. This active ageing approach to policy and programme development has the potential to address many of the challenges of individual and population ageing in many developing countries. The United Nations had initiated the "society for all ages" from the 'ageing society' and described it as the one that sees older persons as both agents and beneficiaries of development. Numerous countries across the world have adopted it as the theme for their national observance of the International Year of Older Persons and India is one amongst them (Sidorenko, A., 1999). Further the need to improve the quality of life of the elderly population has been stressed by WHO (Voigtlander, H. 1999).

Development has both positive and negative impact on the elderly. Development creates more employment opportunities in formal economy which means fewer employment opportunities for elderly men but more work opportunities for elderly women (UNFPA, 2002). Interviews with older women reveal active participation in work in rural and urban areas. Despite various ailments and locomotive disabilities, older women contribute to their families and communities in many meaningful ways - cook, clean, fetch water, take care of grandchildren, and make repairs (UNFPA, 2002).

Higher proportion of elders increases the old age dependency ratio, implying a rise in the number of retirees relative to that of workers. Recent census results reveal a decline in the labour force participation among the 60+ age group. Such declines in labour force participation may be due to lack of employment opportunities for the elderly or due to obsolescence of skills or due to the expansion of the old age support systems in the form of pension and retirement programmes (Vaidyanathan K, 2006).

India has been in the process of ageing and is moving towards it at a faster pace. In India, the proportion of elderly persons has risen

from 5.63 per cent in 1961 to 6.58 in 1991, 7.4 in 2001 and is expected to be 9.87 in 2021 (Rajan I. *et al.*, 1999). In absolute numbers, India had 25 million elderly persons in 1961, which has doubled to 55 million in 1991 and 76.6 million in 2001; and is expected to reach 113.5 million by 2016 according to Indian Government's estimate (Government of India, 2005) and 134 million by 2021 (Rajan, I. *et al.*, 1999). Currently in India the advancing medical technology and healthcare provision has dribbled to almost everyone's reach. So it is expected that the elderly will live longer than was expected earlier. The life expectancy at age 60 has almost doubled from 1901 to 2001, 9.5 years to 16 years for men and 10.2 to 18.1 years for women respectively (Government of India, 2005).

Elderly persons' active participation in social and economical activities enhances their health status (Rajan, 2006, Fenech. 2006). In developed countries elders' work participation is a welcome one as their working population is on the decrease. In Indian scenario, the booming fertility in the past has created a big volume of working population. With limited employment opportunities the competition between the young adult population and old population will be different. Women gain relatively higher autonomy in the later stages of their life cycle. In a familial setting, her primary role as a care giver could elevate her status relatively better than elderly men (Sengupta and Agree, 2003). Gender discrimination often restricts women to attain empowerment resources in the earlier stages of life. A majority of the illiterate and poor elderly women are in a vulnerable situation where rigid gender role expectation exists and social custom and family law discriminate against women (Kinsella and Gist, 1998).

While there are many studies exploring the gender and health aspects of elders, there are very few studies to highlight the active work participation of elders. This study tries to fill the gap by analysing the profiles of the working elders in India. Then an effort is made to study why these elders work, so as to identify some of the determinants separately for men and women, using multivariate analysis.

Objectives

The objective of this paper is four fold :

- To study the trend of elderly population's work participation in India,

- To study the pattern of work participation among the elders in India and its various regions, and
- To explore the demographic and socio-economic characteristics of these working elders.

Data source and methodology

To find out the first objective various sources of information such as Census 2001 and National Sample Survey, 61st round are used. The 61st round of NSSO survey focused on employment and unemployment situation in India. It was conducted from July 2004 to June 2005 covering 1,24,680 households comprising of 79306 from rural and 45376 from urban areas. Some socio-economic characteristics of the aged were also used from NSSO 60th round data. (They are mentioned in the text when discussing the results). The NSSO survey covered all the regions of India, with the exception of some interior areas of Nagaland and Andaman and Nicobar Islands, and Leh (Ladakh) and Kargil districts of Jammu & Kashmir.

Individuals aged 60 and above are considered as elderly in this study. In India the retirement age for formal or organised jobs for central and state governments varies from 55 to 60. Irrespective of the state level formal retirement age, this paper takes the work status of the population of 60 and above for all the regions of the country. Work participation according to Indian Census is defined as 'participation in any economically productive activity with or without compensation, wages or profit. The reference period for determining a person as worker and non-worker is one year preceding the date of enumeration' (Census 2001). While calculating the work participation only the main workers are taken (elders who have worked for more than six months during the reference period). The NSSO 60th round did not exclusively focus on the work participation status of the respondents. One question was asked, 'What was their usual activity?' during the reference period. The usual activity status as per NSSO relates to the activity status of a person during a reference period of 365 days preceding the date of the survey. According to NSSO 2004, the usual activity status given by elders is the following : own account worker (self employed); employer (self employed); helper in household enterprises; unpaid family worker; regular salaried wage employee; casual employee; other type of

workers; elders who do not work but seek work; attend some educational institution; domestic duties; domestic duties and free collection of goods; renters/pensioners/remittance receivers; not able to work due to disability; beggars/prostitutes; and others. As of activity status, it shows that elderly men are mostly self employed, that is, more than one third (35.8%) of the elderly male workers are own account workers. Elderly women are mostly involved in domestic duties (32%). With no available economic participation data, the elders are divided in to two groups, workers and non workers. Elders whose usual activities are own account worker (self employed); employer (self employed); helper in household enterprises; unpaid family worker; regular salaried wage employee; casual employee; and other type of workers are clubbed and termed as workers in this study.

Findings

I. Change in elderly population and their labour force participation

Table-1 shows the trend in the proportion of elderly population to the total population since 1961. The increasing proportion of elderly population shows the aging situation of the country. The proportion of elderly who were 5.6 per cent to the total population in 1961 has increased to 7.7 per cent in 2001. There is a sharp increase in the proportion of elderly population between 1991 and 2001. The share of elders to the total population in rural India is higher than that of urban areas. As per the recent Government census statistics, the proportion of elderly in rural areas is 8.3 per cent whereas in urban areas it is 6.5 per cent.

Table 1: The trend of elderly population (60+) in India

Census years	Proportion of elderly to total population (in percent)		
	Rural	Urban	Combined
Census 1961	5.8	4.7	5.6
Census 1971	6.2	5.0	6.0
Census 1981	6.5	5.1	6.2
Census 1991	7.0	5.4	6.6
Census 2001	8.3	6.5	7.7
NSSO 2004-05	7.3	7.0	7.2

Source: Indian Census 1961-2001; and NSSO 2004-05

Table 2, provides the proportion elderly reported as workers by their sex and type of residence (based on Census and NSSO definition). The elderly person's involvement in labour force shows that the proportion of elderly workers is high in rural areas than in urban areas for both men and women. The recent NSSO results too reveal the same, 41 per cent in rural areas and 22 per cent in urban areas. On the whole the work participation rate are decreasing steadily as per the census results, that is, 38 per cent during 1981 to 32 per cent during 2001. When we become gender specific, men's work participation is decreasing where as female work participation is increasing between Census 1981 to 2001, 64 per cent in 1981 to 53 percent during 2001 and 10 per cent in 1981 to 12 per cent in 2001. The female work participation is far less than their male counterparts. The gender gap in work participation is high in urban areas than rural areas, three times in rural areas and four times in urban areas.

Table 2: Proportion of workers among elderly population

	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Census 1981*	37.6	63.9	10.2	40.2	67.8	11.3	26.8	47.6	5.6
Census 1991*	36.2	59.5	11.2	39.6	64.2	12.9	24.3	42.4	5.4
Census 2001*	32.1	52.8	12.0	35.0	56.8	13.7	23.4	40.7	6.8
NSSO 2004	33.8	53.1	14.6	38.2	59.3	16.7	20.2	33.0	8.0
NSSO (2004-05)	36.4	56.4	16.9	41.2	63.0	19.7	21.5	35.5	8.6

Source: Census of India, 1981-2001 and computed from unit record data of NSSO 61nd round (2004-05)

Note * Only the main workers

Table 3 gives the per cent distribution of elderly people as per their usual activity during the reference period. Nearly 36 per cent of the elders are involved in some economic activity – own account worker (21.4%), employer (1.7%), regular salaried employee (1.5%), helper in household industry (4.8%), Casual wage labourer (0.1%) and other type of work (6.9%). Elderly men are more involved in some economic activity than elderly women, 56.4 per cent and 16.9 per cent respectively. Receivers of rent / pension / remittance are only 10.5 percent. Four percent of the elders are disabled and the proportion of disability among men is higher than women, 6.2 per cent and 5.3 per cent respectively. Elderly women are more involved in domestic duties and free collection

of goods. In rural areas nearly double the proportion of elders are working than in urban areas, 40.7 percent and 23.1 percent respectively.

Table 3: Per cent distribution of elderly population in India by their Usual Principal Activity Status, NSSO 61st round 2004-05

Nature of Usual Principal Activity	Male	Female	Total
Own account worker (self employed)	39.2	4.1	21.4
Employer (self employed)	2.9	0.4	1.7
Helper in household enterprise/unpaid family worker	2.8	6.8	4.8
Regular salaried-wage employee	2.3	0.8	1.5
Casual wage labour	0.1	0.0	0.1
Other type of work	9.0	4.8	6.9
Did not work but seeking work	0.1	0.1	0.1
Attended educational institutions	0.1	0.1	0.1
Domestic duties	0.8	28.3	14.7
Domestic duties and free collection of goods	0.4	13.2	6.9
Renters / pensioners / remittance receivers	15.3	5.9	10.5
Not able to work due disability	6.2	5.3	5.7
Others (including begging, prostitution, etc.	20.8	30.2	25.5
Total	100.0	100.0	100.0

Source: Computed from units record data of NSSO 61nd round (2004-05)

The percentage distribution of working elders' type of activity in Rural and Urban India by their sex are presented in Table 4. The study shows that majority of the elders (58.9%) are involved in self employment. Self employed elders are found more in urban areas than in rural areas, and are high among elderly men than women on the whole. The proportion of self-employed elders is (70.8% to 63.2%) for men elders and (22.5% to 34.6%) for women elders respectively in rural and urban areas. Majority of the unpaid family workers are high among elderly women than men (4.7% to 43.0% in rural areas and 6.3% to 21.2% in urban areas). It is interesting to note that proportion of women elderly workers exceeds men elderly workers in regular salaried work (15.6% to 22.1%) respectively.

Table 4. Percent distribution of working elders 's type of activity in Rural and Urban India by their Sex, NSSO 61st round 2004-05

Type of work	Rural			Urban			All India
	Male	Female	Both (M+F)	Male	Female	Both (M+F)	
Self employment	70.8	22.5	59.1	63.2	34.6	57.2	58.9
Own account worker	5.1	2.5	4.4	6.1	2.0	5.3	4.6
Unpaid family worker (helper in HH enterprise)	4.7	43.0	14.0	6.3	21.2	9.4	13.3
Regular salaried-wage/employee	2.0	2.2	2.0	15.6	22.1	17.0	4.2
Casual wage labourers	0.2	0.2	0.2	0.0		0.0	0.2
Other type of work	17.3	29.6	20.3	8.8	20.1	11.2	18.9
Total percentage of workers	100 (19.7)	100 (41.2)	100 (35.5)	100 (8.6)	100 (21.5)	100 (36.4)	100 (63.0)

Source: Computed from units record data of NSSO 61nd round (2004-05)

Table 5 shows percentage distribution of elderly reported as workers to total elderly population by their age, sex and Rural-Urban residence. The work participation rate decreases as the age increases and nearly 40 percent of the male elders in the age group 75 to 79 are workers in rural areas. Elderly women's work participation is much lesser than their counter parts in both rural and urban areas. The gender gap between the elder's work participation in rural areas is nearly double than in urban areas, i.e., 42.6 per cent points in rural areas to 25.1 per cent points in urban areas. Though the work participation of elderly men reduced over the years since 1981, the same for the elderly women is increasing noticeably, from 10 per cent during 1981 to 12 per cent during 2001. The increase in elderly women's work participation is high in rural areas than in urban areas, nearly 3 per cent in rural areas and 2 per cent in urban areas between 1981 to 2001 period (not shown in the table).

The work participation rate decreases as the age increases. There is sharp reduction in the work participation rate among elderly in rural areas from 60-69 age group to the next 70-75 group, where as the

decline is almost gradual in urban areas. More than three-fourth (80.7%) of the male elders in rural India have reported themselves as workers. The work participation rate decreases as the age increases and nearly 39 per cent of the male elders in the age group 75 to 79 that age group are workers in rural areas. Elderly women's work participation is much lesser than their counterparts in both rural and urban areas. The gender gap between the elder's work participation in rural areas is nearly more than one and half times than in urban areas, i.e., 43.3 per cent points in rural areas to 27.0 per cent points in urban areas.

II) Spatial distribution of elders and elderly workers in India

Table 5 highlights the spatial disparity in the proportion of the elderly to the total population, sex ratio of the elderly and the work participation rate among elders in different regions of India. The proportion of elders to its total population is 11.2 per cent in Kerala and it is the highest in the country. The states where proportion is higher than 8 per cent are Goa, Pondicherry, Himachal Pradesh, Tamil Nadu and Orissa. The states where aging is slow are Chandigarh, Nagaland, Assam, Meghalaya, Damman & Diu, Dadra & Nagar Haveli, Andaman & Nicobar and Delhi.

The urban areas of all the south, central, west and north (except Jammu Kashmir) states, the proportion of women elders among the total women population is higher. Aging is very high among the rural women in rural Kerala, 12.3 per cent and very low among Nagaland women, 1.9 per cent in rural area and 0.7 in urban areas.

Table 6. The estimated sex ratio for the elderly population and the proportion of the elderly workers to the total population by different regions of India (NSSO 2004)

State	Estimated Sex ratio among elderly	Percentage of workers among elderly population		
		Male	Female	Both
All India	1030	56.4	16.9	36.4
North				
Delhi	1064	22.9	1.5	11.9
Haryana	997	44.0	6.6	25.3
Himachal Pradesh	1047	69.8	37.2	53.1

Jammu & Kashmir	838	72.0	3.6	40.8
Punjab	1081	54.0	4.0	28.0
Rajasthan	1094	56.7	17.7	36.4
Central				
Madhya Pradesh	1018	64.0	22.8	43.2
Uttar Pradesh	965	68.5	17.0	43.3
Uttaranchal	979	66.8	32.8	50.0
Chhattisgarh	1142	61.1	23.8	41.2
East				
Bihar	736	70.0	8.9	44.1
Orissa	1066	53.7	13.7	33.1
West Bengal	919	50.6	4.9	28.7
Jharkhand	849	62.4	18.1	42.1
Northeast				
Arunachal Pradesh	916	68.7	53.6	61.5
Assam	821	62.5	4.6	36.4
Manipur	874	71.8	25.0	50.0
Meghalaya	1173	62.5	35.5	48.0
Mizoram	951	59.2	28.7	44.4
Nagaland	730	71.3	60.5	66.8
Sikkim	657	69.4	29.4	53.5
Tripura	1105	52.4	3.7	26.8
Western				
Goa	1335	24.1	2.8	11.9
Gujarat	1238	52.1	11.0	29.4
Maharashtra	1119	50.8	25.8	37.6
South				
Andhra Pradesh	1089	47.5	21.1	33.8
Karnataka	1132	51.5	18.7	34.0
Kerala	1211	46.6	12.1	27.7
Tamil Nadu	1101	50.5	25.2	37.2
All Other UT's				
Chandigarh	886	44.1	13.5	29.7
Daman & Diu	2275	37.8		11.5
Dadra & Nagar Haveli	2207	80.8		25.2
Lakshadweep	562	59.2	6.7	40.4
Pondicherry	1354	44.0	23.0	31.9

Source: Computed from units record data of NSSO 61st round (2004-05)

Economical Dependency of Elderly

The National Sample Survey (60 round, 2004) collected data on the economic dependence of the elderly. Nearly one third of the elderly populations (33.5%) are economically independent. Among the elderly rural males, 52.0 per cent claimed that they were not dependent on others, 15.5 per cent were partially dependent and 32.5 per cent were fully dependent on others. The economical dependency among elderly women is quite high; about 85 per cent of them are fully or partially dependent on others. In the case of elderly rural females, 73.2 per cent were fully dependent on others, 12.6 per cent were partially dependent; only 14.1 per cent of the rural women do not depend on others economically. In urban India relatively more proportion of elderly are economically independent than their rural counterparts. Most of the supporters of elderly are their own children (78%). Among elderly who depend on others for economical support, more than 90 per cent depend on their own children and spouses for economical support.

Table 7 : The Economical Dependency of the Elderly in India

	Rural			Urban			All India
	Male	Female	Both	Male	Female	Both	
<i>Economical dependency*</i>							
Economically independent	52.0	14.1	33.2	56.1	17.3	36.3	33.5
Partially depend on others	15.5	12.6	14.1	13.5	9.7	11.5	13.3
Fully depend on others	32.5	73.2	52.7	30.4	73.1	52.2	51.8
<i>Who support when economically (fully or partial) depend on someone</i>							
Spouse	7.0	15.9	12.7	6.0	19.2	14.8	13.2
Own children	85.0	74.6	78.4	86.5	71.0	76.2	77.9
Grand children	2.2	3.1	2.8	1.8	3.0	2.6	2.7
Others	5.7	6.3	6.1	5.7	6.8	6.4	6.2
Total	100	100	100	100	100	100	100

Source: NSSO (2004)

Note: 1.4 percent with missing information

Table no 7 explains the economical dependency of elders. It also explains on who they depend, if they are dependant. Nationally 65 per cent of the elderly people economically depend on others. Their proportion is almost same in rural and urban areas. The economical

dependency among elderly women is quite high; about 85 per cent of them fully or partially dependent on others. Economically independent elderly men and women are found in urban areas of India. Most of the supporters of elderly are their own children (78%). Among elderly who depend on others for economical support, more than 90 per cent depend on their own children and spouses for economical support

II) Socio-economic and demographic profile of working elders

Table 8 provides some selected socio-economic and demographic profiles of working elders. The elders are divided into three groups : old (60-69); older (70-79) and oldest (80 and above). On the whole the work participation of elders in rural India is higher in urban areas, 41.2 per cent and 21.5 per cent respectively. Rural areas more than double the proportion of elderly working women.

More than half of the elderly men who are either totally illiterate or educated upto the primary school level are working (58.6% to 62.2%). Elders belonging to Hindu religious faith (37%) have higher percentage of workers followed by Islamic faith elders (34%). Among Christian elders only 29.3 per cent are working. The work participation of elderly women belonging to Islamic faith (10%) have much less work than elderly women belonging to other faith groups (14 % and above).

Table 8. Percentage of elderly workers by their background characteristics, NSSO, 2004-05

	Old (60-69)	Older (70-79)	Oldest (80 and above)	Age 60+		
				Men	Women	Both (M&F)
Type of residence						
Rural	50.1	28.0	11.6	63.0	19.7	41.2
Urban	26.4	15.1	5.7	35.5	8.6	21.5
Education						
Illiterate	42.7	21.0	8.7	58.6	18.8	33.7
Schooling less than primary	52.6	35.7	12.7	62.2	11.1	44.3
Primary & middle	51.6	32.7	12.2	60.0	10.1	44.0
High School & above	37.3	26.7	12.9	40.5	5.6	34.0

Religion						
Hindu	44.9	25.3	10.6	56.8	17.9	37.0
Islam	41.8	21.5	11.8	57.1	10.2	34.0
Christian	37.1	20.5	6.1	45.2	14.2	29.3
Other religions	43.7	20.5	4.0	53.7	14.0	33.3
Social Groups						
Scheduled tribes	56.5	24.3	9.7	67.6	27.6	47.1
Scheduled castes	46.2	24.9	9.7	58.1	19.8	38.4
Other backward castes	47.2	25.2	12.2	58.4	19.4	38.4
Others	37.6	24.1	8.3	51.4	10.8	31.1
Marital Status						
Never married	25.5	23.8	9.5	35.6	8.9	22.9
Married	52.1	36.1	20.7	60.8	20.9	47.0
Widow/widower	28.6	12.4	4.6	38.8	14.2	20.0
Divorcee/Separated	53.1	23.5		57.5	35.9	46.2
Living arrangement *						
Alone	45.9	23.0	17.4	55.3	32.5	38.4
With spouse/ spouse & children	49.1	34.6	15.0	57.1	17.3	44.1
With children / without spouse	22.5	9.9	3.9	35.6	9.2	16.0
With relatives / Non relatives	37.6	12.4	4.6	37.7	17.4	23.9
Household size						
1 to 2 persons	50.9	34.9	21.0	60.3	29.9	44.8
3 to 5 persons	42.3	22.9	7.6	55.5	15.0	34.4
6 to 10 persons	42.3	20.3	8.1	54.3	12.5	33.3
More than 10 persons	47.4	28.8	12.0	61.2	14.0	39.1
Total	44.4	24.7	10.2	56.4	16.9	36.4

* Based on NSSO 2004 unit data records

Among Scheduled Tribe (SC) elders 47 per cent were working. Elders belonging to Scheduled Tribes (ST) are more involved in work where as this proportion among Scheduled Castes (SC) and Other Backward classes (OBC) are about the same as 38.4 per cent. ST elderly men are much more involved in work than the other three ethnic groups.

Currently married elders are involved in work and their proportion is very high among currently married men. Elderly women who are

never married/separated/divorced are working more than currently married or widowed elderly women.

Important findings

- 1) The proportion of elderly people living in rural areas is higher than the urban areas.
- 2) The work participation among elderly is on the decline as per the Government's decennial census (Table no. 2). Gender specific analysis reveals that work participation among elderly men is decreasing whereas, work participation among elderly women is increasing.
- 3) Work participation among elders is high in rural areas, that is, 38 per cent in rural areas and 20 percent in urban areas.
- 4) Work participation is high among currently married elderly men.
- 5) Elderly women who are never married/separated/divorced are working more than elderly women who are currently married or widowed.

Discussion

Government policies should include elder's involvement in social, economic, cultural and political life. Awareness should be inculcated in young population itself as they will be at this stage after a certain age. Ageing issues should be addressed in the school curriculum so as to propagate the need of familial support, dignity, and respect to the ageing elders in the family as well as in the community. Educational training should be given to elderly persons in order to empower them to assert their rights, income security, health protection and social participation. Employment policy and programs for elderly should maintain a reliable database of the previous work of experience, skills and capacities of employees in the 55-60 age group so that they can be placed in some economic activity even after their retirement.

Conclusion

India is ageing at a rapid speed. The proportion of elderly population to the total population is on a steady increase. The proportion of elderly who were 5.6 per cent to the total population in 1961 has increased to 7.7 percent in 2001. Their share in rural India has been higher than in the urban areas all through these decades. More than half (51.8 %) of

the elderly population in India depends on someone economically. Among them majority (77.9%) depends on their own children. Economical dependency is high (73%) among elderly women, both in rural as well as in urban areas. ST elderly men and women are much more involved in labour force than the other ethnic groups.. At the national level the work participation rate is declining. However, female work participation is increasing for elderly women. Age-specific work participation rate highlights, the higher proportion of economically active male workers in the 60-65 years age group. This issue on the one hand one can argue so as to increase the working age from 60 to higher and on the other hand with changing economic cycle - the struggle for employment will become acute – between these workable elders, new labour force entrants, residual workable population and the involuntarily job-lost workforces.

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Alcoholism and The Baby Boomer Population : A Life Course Perspective

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ABSTRACT

Drinking alcohol is associated with many events in American culture. Many youth commemorate adulthood (turning the age of 21) by legally taking their first drink of alcohol. Families include alcohol in holiday traditions. Countless parties offer a variety of alcohol or instruct invitees to B.Y.O.B. on fliers (Bring your own beer). Advertisements for alcohol in newspapers, billboards, magazines and commercials are viewed daily by individuals too young to drink as well as those of age. None of the previously listed examples related to alcohol or alcohol consumption constitute alcohol addiction. However throughout one's life course, the exposure to these messages related to drinking alcohol; and other factors can lead to the chronic illness referred to as alcoholism.

The aim of this paper is to discuss alcoholism using the life course perspective, specifically for the baby boomer population. Additionally, this perspective will be used to offer circumstances (biological, psychological, social and environmental) for determining how casual drinking patterns transition into alcoholism. Baby boomers are a part of a generation that spans 20 years (1946-1966). The first baby boomers turned 60 years old in 2006. It is important to determine the implications of alcohol abuse as well as the causes for participating in this type of behavior so that more specialized treatment programs can be offered.

This paper will not provide a resolution for each reason of alcoholism; however it will offer several reasons that could affect one's abuse of alcohol. Continual research in the subject is needed to provide a more comprehensive analysis of this cohort. The period of emphasis

of this paper will be midlife and how this time period has affected baby boomers and their tendency towards alcohol abuse.

Application of Aging Theories

Ferrini and Ferrini (2000) defined *alcoholism* as “the excessive use of alcohol despite problems with work, family, or health. It is considered to be a progressive, [and] debilitating chronic illness”. Alcoholism can be a precursor to many other health conditions that negatively affect every organ of the human body and can result in death. Alcoholism may be associated with psychological issues, worsened conditions of pre existing chronic illnesses and can lead to cognitive impairment and emotional conditions such as dementia, psychosis and depression. Alcohol dependence can affect one’s judgment, balance and the ability to respond quickly. Alcohol is also one of the number one causes of motor vehicle accidents in the United States. Over 60 per cent of American men and nearly 50 per cent of American women consume alcoholic beverages. Of these percentages, nearly 15 per cent of men and nearly 5 per cent of women regard themselves as people who drink heavily. Heavy drinking is labeled for individuals who consume 14 or more alcoholic beverages in a week.

Alcoholism’s effects in older adults can prove more detrimental due to slower metabolisms that can speed up the rate of intoxication. Adverse effects in older adults are also heightened when medications are mixed with alcoholic beverages which can result in toxic and sometimes lethal environments inside the body. Although the onset of alcohol dependence can occur in the older adult, alcoholism throughout one’s life course is more common. What are some of the reasons that alcoholism occurs in the baby boomer population? This paper will utilize aging theories to formulate reasons to answer the previous question.

Aging theory incorporates the following factors for review of the life course: trajectories, transitions, turning points, cultural influences, timing in lives, linked lives and adaptive strategies (Wethington, 2005). “A life-course perspective uses both developmental and historical frameworks, focusing on the timing of life transitions and their impact on intergenerational relationships” (Binstock & George, 2001). The life course perspective provides insight into how certain issues, requirements, wants, and adaptive strategies which surface in adulthood

have their foundation in childhood development for each individual as he or she ages. Applying the life-course perspective as it relates to alcoholism will benefit the aging population specifically regarding preventive programs and treatment for older alcoholics.

Trajectories as a component of the life course perspective involve both transitions and linked states throughout an individual’s lifetime. Trajectories, therefore include events and occurrences that impact one’s life such as home life as a child, treatment in school and acceptance by peers, career pathways, single life and or marriage, becoming a parent, losing a spouse and entering retirement. In order to better understand the addictive behavior of baby boomers toward alcohol it is important to identify those life patterns, circumstances and challenges that would create an environment for alcohol dependency.

The first step in characterizing trajectories and transitions is to understand the childhood of baby boomers. Many of the parents of the baby boomer population spent their childhood during the Great Depression. Their experience during this era had many implications for their families. The Great Depression in the United States represents a period of crisis resulting from the drastic reduction of available finances per household. This economic hardship resulted in the inability at times to purchase basic items such as food needed for survival. “For the child [the parents of baby boomers] in a family which has suddenly lost income and status, adaptation may involve redefinition of self and others, the restructuring or clarification of goals, and the assumption of a new status or role” (Elder, 1999).

The childhood of those during the Great Depression was plagued with economic hardship, and the added responsibility to manage the household, and work to provide supplemental income. Research indicates that deprived families during the Great Depression had a considerably greater impact on family life and dynamics. “Among deprived families, conflict over expenditures, criticism of the husband’s faults as a provider, and attempts by the more powerful parent to enforce his will were common elements in most battles. Disparagement of the father was most evident with mother as the dominant figure. Adults from these families vividly recalled father’s drinking bouts, prolonged ‘silent treatments,’ mother’s nagging, name calling and ridicule” (Elder, 1999). This argumentative environment (not prevalent in all families

during the Depression) could be the underlying reason for the prevalence of alcohol dependence in baby boomers today.

The affects of alcoholism is not limited to the abuser. If a parent drinks then it is very likely that their children will display an addictive behavior. Turning points within the life course provide an excellent way of understanding significant changes that could impact one's ability to cope with environmental factors. Turning points of the baby boomer population may include a childhood event, college or educational experience, marriage, parenthood, divorce, an occupational event or circumstance, own illness or disability, illness of spouse and death of family members. Stressors resulting from turning points may have psychological effects such as depression- a common cause leading to alcohol abuse. The ability to cope with turning points during one's life course is partially dependent on the parental style of their parents. "Adolescents raised in authoritative homes are better adjusted and more competent; and less likely than their peers to get into trouble. Adolescents raised in neglectful homes are consistently compromised [in the areas of] competence, self-perceptions, misbehavior, or psychological distress. Adolescents from indulgent homes were relatively disengaged from school and showed higher frequency of involvement in deviant behaviors, including drug and alcohol use and school misconduct" (Moen & Luscher, 1995).

Turning points can trigger the dependence on alcohol consumption that is represented throughout the life course in the form of underage drinking, excessive alcohol consumption after gaining independence from parents that continues in the later years of one's life. A significant portion of variability that occurs during the life-course is represented during midlife. Chronic illnesses and disease become more prevalent during this time period. Lifestyle habits are forced to change as a result of disease diagnoses. The medical diseases that emerge during midlife may alter habitually chronic alcohol drinking patterns for some while others continue to heavily drink.

The twentieth century America was marked by greater financial freedom and wealth for families in addition to better health conditions. A product of the nation's affluence and improved health choices, environments and care resulted in very high birth rates during this time. The baby boomer population is a result of this time period in American

history. However, the healthy legacy of the twentieth century may be cancelled out by the lifestyle practices of the baby boomer generations. For example, more baby boomers are overweight and consume illegal drugs which result in premature death and various chronic conditions. The detriments to health caused by lifestyle choices including chronic alcohol abuse and other circumstances will drastically affect the healthcare system as the 78 million baby boomers continue to age. Americans can expect ¼ of the population to be over the age of 65 no later than the year 2050. This demographic shift is projected to result in assisted and long-term care costs more than doubling and total spending for personal care services for the aged are estimated to increase approximately 170 per cent from 1991 and 2050 (Minkler & Estes, 1999).

Cultural influence can have negative or positive effects during the turning points within an individual's life. These influences have undoubtedly led to more health conscious individuals in the baby boomer population. These same influences have resulted in tremendous pressures that result in addictive behaviors. Many baby boomers continue to drink in spite of the numerous health warnings associated with alcohol consumption. "Cultures supply the motivational patterns and symbolic interpretations in light of which individuals think of narrative histories, project their visions of the good life, interpret their needs and the like" (Minkler & Estes, 1999). A common cultural influence in American society is that of productivity. This idea is disconnected from individuals who are past middle age. Baby boomers, as they grow older, may not be considered as productive members of society which could continue to fuel the addictive behaviors of baby boomers as they enter into retirement. If older alcoholics do not have the needed support and value of society they may not have the incentives to change their life long pattern of alcohol abuse.

The timing of events in one's life-course can change individual trajectories and result in turning points. "The timing of lives refers to historical location or time, the social timing of transitions across the life course, the synchrony of individual careers and the lives of significant others, and one's life stage at the point of social change. The timing of an event may be more consequential than its occurrence" (Moen & Luscher, 1995). Baby boomers whose parents were less than 9 years

of age were impacted differently than their older counterparts. This differentiation may be the cause of the varying parenting styles displayed by the baby boomers parents. Children of the Great Depression illustrates that developmental impairments of small children (1 to 8 years old) were more prevalent during the Depression due to increases in family stressors to provide for dependents who were too young to contribute to financial resources of the family. The substantial loss of wages and savings per family resulted in an increased jeopardy to not uphold moral standards and the replacement of promotion family togetherness with familial chaos.

Linked lives are another component of the life course. Applying this concept to the baby boomer population may first be illustrated by their relationship with their families. People throughout their lives usually have interconnected relationships with their relatives, acquaintances and close friends. The scope and depth of linked lives and the responsibilities associated with these relationships can either support treatment for alcoholism or become the source of the illness. What makes one child transition into alcoholism in adulthood while the other displays no addictive behavior? Aging theory states that parents establish the psychological framework of their children first. The determinant of successful psychological development in children and throughout their lives is mental and emotional resilience. This form of resilience facilitates good judgment and promotes value of the individual, his or her family and community. Persons who acquire psychological resilience better manage the obstacles, hardships and problems associated with life itself. Baby boomers who possess this quality will be better equip to handle the stressors of life and therefore be less likely to become dependent on alcohol as an alleviator of stress and depression.

Turning points, cultural influences, timing in lives and linked lives all affect one's ability to adapt to a changing environment. The parent's perspective and adaptation to change will undoubtedly effect their children's opinions and sensitivities inside outside of the home. For example, parents who are obsessively protective of money and other valuables have the potential to foster the mistrust of nonfamily in their children.

Proposed Methodology

Research pertaining to prevalence of alcoholism within the baby boomer generation should include retrospective interviews of the cohort. The areas of interest should include childhood, midlife and current perceptions to help determine the importance of turning points, linked lives cultural influence as reasons for their alcohol dependence. After the completion of each interview the life course information obtained will be categorized as either trajectories, transitions, turning points, cultural influences, timing in lives, linked lives or adaptive strategies. This will provide a unique perspective per individual for their life long addiction to alcohol.

Conclusion

Aging theory as it applies to the life course provides the framework for understanding how addictive behavior begins, ensues and continues or discontinues. The life course perspective journeys with an individual as he or she ages and relates historical trajectories, transitions, turning points, the timing of events, linked lives, and cultural influences to their adaptive strategies and behavioral expressions throughout his or her life. Reviewing the impact of change, historical events, family dynamics and resilience over the course of a life time will prove more beneficial for the treatment of alcoholism in baby boomers. The most important concept within the life course is that individuals and their reactions to change are unique as a result of varying circumstances throughout their lives. If these variations are better understood within the context of the baby boomer population the reduction of alcoholism within this cohort may be greatly reduced.

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Old Aged Quality of Life : Brazil – India a Cross-cultural Perspective

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ABSTRACT

With the purpose of serving as a reference on dealing with the old aged this cross-cultural research aimed to compare Quality of Life of aged from two opposite civilizations to establish parameters of impact on Quality of Life of old aged world-wide. Two non-selected low income samples of aged volunteers, one from Brazil (Figueira, 2008) and another one from India (Verma, 2008) were taken. In this correlational descriptive research, the old aged answered a WHOQOL questionnaire on Quality of Life, from World Health Organization (WHOQOL-Old and WHOQOL-100 respectively). Comparing their answers it was presented a comparison of priority, Quality of Life, in the themes of the questionnaires by the old aged of both populations. The statistical treatment contemplated two dimensional techniques of descriptive statistical: mean and standard deviation. The evaluation showed relation between life expectations and QOL. Death and dying revealed through the lowest QOL the existence of a substantial preoccupation in Brazil opposed to India. The same happened with present past and future activities. Satisfaction with past present and future raised the QOL level in India old aged opposed to that in Brazil. In general the Indian aged QOL finding was higher than that of Brazil's low income old aged. This research confirms the inference of social adjustment influencing hopes and expectations in QOL. It also informs that Brazil's old aged quality

of life concerning death and dying plus future and present activities are lower than India's. As both samples are composed by low income old aged the observed QOL was also low. It is suggested that works directed to the aged take in consideration this comparison of evaluation of quality of life by aged of two distinct civilizations.

Keywords: Quality of life (QOL); WHOQOL-Old; WHOQOL-100; Old aged.

In a world scale the percentage of the over sixties population increased considerably (Carrasco, 2007), and they are so numerous that it is impossible to quite forget about them (Beauvoir, 1990). Life's expectation is increasing nowadays, and populational aging occurs worldwide (Dantas; Vale, 2008). In every country the measures to help the old aged to remain healthy and active are a must, not a luxury (WHO, 2002). Old age is a product of history, individual experiences and social forces (Tareque, 2008), and the dignity of senior men overcomes the analysis of elements like physical or moral pain, socio-familiar isolation, loss of psychic autonomy and economic sufficiency (Sommer-Père, 2008). Investigating on ageing and evaluating ageing effects on Quality of Life discloses relevant and actual realities, leading to better understanding of aging and elderly. Quality of life (QOL) as an eternal quest for human beings is conceptualized as a generic, multidimensional construct that describes an individual's subjective perception of his or her physical and psychological health, as well as his or her social functioning, environment, and general life status (Jang, 2004). Defined as a subjective well-being that reflects the distance between individual hopes and expectations and the effective experience, its subjectivity can be supported by objective factors such as achieving socio-cultural goals as status, wealth, and physical well-being (Dantas, 2002). For old aged **quality of life** is more than rating their physical health status; emotional and social health are also recognized as very important factors for their well-being (Srapyan *et al.*, 2006). An individual QOL perception, in socio-cultural reality, according to the value system in which the person is inserted, as described by World Health Organization (WHO), expresses a position related to ones goals,

expectations, patterns and worries (WHO, 2006). Hence a broad approach is essential for the purpose of comprising human being as a whole (Varejão *et al.*, 2007). With the purpose of approaching this increasing population in a way that is adequate to its reality in substitution of the WHOQOL-100, WHOQOL group elaborated the WHOQOL-Old: a transcultural questionnaire that evaluates the QOL of the old aged, allowing a comparison between its self-evaluation on aging at: sensory functioning; autonomy; future, present and past activities; social participation; death and dying; and intimacy (Fleck, 2002). Aiming favorable conditions of a healthy ageing rich in quality of life characterizing the variables that determine a good quality of life in ageing is a must. Realizing the personalized, individualized QOL evaluation, of old aged in both countries is an attitude driven to prevent or to minimize their real necessities, either existential or not. Therefore the purpose of this cross-cultural study is to bring together relatively unrelated socio-cultural-geographic areas presenting their old aged QOL evaluation comparison.

Material and Methods

As cross-cultural researches require the use of common protocols if the results are to be compared (Hawthorne *et al.*, 2006a), a comparative analysis was performed with the WHOQOL instruments, only on the common areas. Based on this, comparing those researched essays a comparative interpretation of value judgment was held underlying the reality of the populations, generating a collective value judgment, comparing facets and sample groups.

Preliminaries - Data Collection

The utilized protocols for QOL observation were the WHOQOL questionnaires developed by The World Health Organization (WHO) in search of an evaluation instrument of quality of life. Data were collected by QOL instrument application: WHOQOL-OLD (Brazil) and WHOQOL-100 (India). The items were on 5 point Likert scale ranging from strongly disagree (1) to strongly agree (5) hence high score indicates high quality of life. The WHOQOL-100 (World Health Organization Quality of Life instrument, with a hundred questions) had

its questions tested and those with strongest statistical weight and high relevance pondered in order to develop a specific WHOQOL-Old instrument for elderly (WHO, 2008). Nineteen out of 24 original facets of WHOQOL-100 were cited as relevant for QOL of old adults. However, the facets' body image and appearance, work capacity, negative feelings, sexual activity and dependence on medication or treatment received suggestions of relevant alterations by the old people themselves (Fleck *et al.*, 2003). The WHOQOL-Old is a WHOQOL adaptation to aged in a transcultural approach (Winkler, 2006). Hence the total score of QOL and some items that remained still were compared, as a facet by facet comparative analysis was not feasible. Therefore it was possible to perform a special comparison. The questionnaire is individually applied via face-to-face interviews, and it is asked of individuals to have in mind their own values, hopes, pleasures and concerns, based on the last two weeks when they're answering to it. Every old aged that participated in those researches was individually oriented related to the actions driven in the QOL tests, to which they were submitted, according to Helsinki Declaration (1996).

Sample

Both samples are composed by old aged, (defined as over sixty (WHO, 2002), both genders, low income, non-selected, volunteers. Brazil's sample is composed by 31 (Figueira, 2008) old aged attended by Family Health Program and India's sample is composed by 60 old aged from both rural and urban areas (Verma, 2008).

Data Analysis

The mean (a descriptive statistical technique through frequency distribution in relative values) was utilized aiming to observe the evaluation of quality of life in each sample. In order to homogenize the QOL values coming from both WHOQOL questionnaires a uniform percentile scale was adopted transforming data.

Results

Table 1 presents that concerning to the total score of quality of life this old aged self-evaluation was around the same value, although Indian elderly revealed to be more satisfied. The same happened

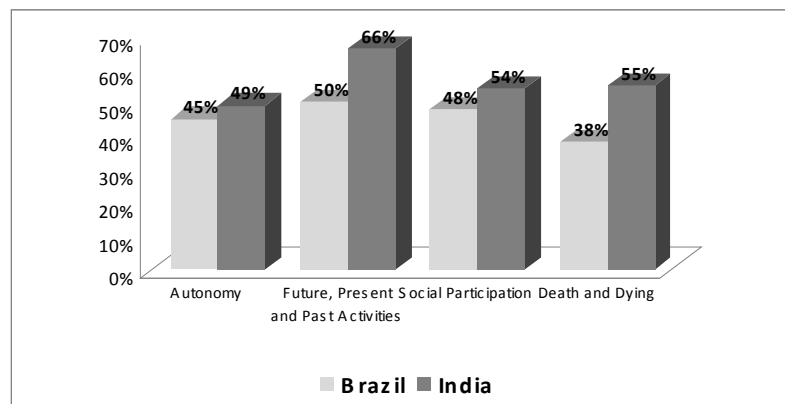
concerning social participation where Brazilian aged revealed 48% of QOL, in contrast to 54% in India. But, on the two other themes there was higher difference, as Brazil's lowest QOL on death and dying, 38% of satisfaction, demonstrates the existence of a massive preoccupation on the theme, quite opposite to Indian aged that revealed regular satisfaction in this area (55%). Another remarkable difference was on future, past and present activities: while Brazilian aged are not much satisfied, nor unsatisfied (50%), Indian aged related the higher satisfaction in this area (66%).

Table 1 : The Means Comparative Analysis

Contents	Brazil	India
Autonomy	45%	49%
Future, Present and Past Activities	50%	*66%
Social Participation	48%	54%
Death and Dying	38%	55%
Total Score (TS)	48%	51%

Observation: * not measured with WHOQOL, but with a Diener scale

Figure 1 presents that in all the studied area the self-evaluated quality of life of old aged in Brazil's low income population attended by Family Health Program was always lower than the self-evaluated quality of life found in India. Although India and Brazil observed means at each theme analyzed were quite similar related to autonomy, and also not much different on social participation, Indian old aged self-evaluation of quality of life showed to be always higher than the ones of Brazilian old aged. Adding to this observation it is possible to visualize the meaningful difference on the quality of life concerning the other two themes: death and dying plus future, present and past activities. The graphic presentation on figure 1 allows checking the distinctive quality of life of these samples on those themes. It makes it possible to distinguish, to recognize the difference between the old aged quality of life in both countries, via these two sample studies' results. It enables one to observe the remarkable characteristics of the self-evaluated quality of life with no possible misrepresentation or distortion as the numbers in the table speak for themselves.

Figure : A graphic comparison between the analyzed topics means

Aged presented some dilemmas in this research, establishing value judgment on important aspects of their existential lives: on their lives and existence.

Discussion

Population ageing has major consequences and implications for all facets of human life: impact on economic growth, savings, investment and consumption, labor markets, pensions, taxation and intergenerational transfers; health and health care, family composition and living arrangements, housing and migration; influencing voting patterns and representation (Tareque, 2008). Hence studying the elderly quality of life is an actual contribution on the proposal of improving social balance. Investigating the relationship between judgments about different dimensions of quality of life and the importance attributed to them, Skevington *et al.* (2006) applied what they stated as the WHOQOL Group's definition of QOL which indicates that those who report the very poorest QOL will be least likely to have met their own goals, expectations, standards and concerns. The main effects from overall analysis confirmed that those reporting the largest negative differences tended to report the poorest QOL and also attached a high degree of importance to these dimensions in that survey with 4802 participants, in 15 countries. Having the purpose of asking elderly what they do consider important on determining their quality of life, developing

interviews to a large population with large range on many communities, with or without infirmities, it is found that aged differ from adults mainly for attributing low weight to labor and high to health. Aged constitute a particular group, and as so, they present relevant specificity to the quality of life. It is observed sufficient unanimity to confirm that old adults have peculiar questions in common with themselves. Populational ageing demands specific studies involving the aged. Each old aged population has a personal evaluation of certain domains, according to Browne *et al.* apud Fleck *et al.* (2003), though the aged have questions that can be generalized and that differ from grown-up populations. It is seen in this Brazil-India essay. Attention towards conditions regarding quality of life in old aged, as well as variations or restrictions brought by ageing, are issues of scientific and social relevance (Fleck *et al.*, 2002).

Over the last few years, there has been a growing consensus that quality of life includes objective dimensions, e.g., diagnosis, housing, and economy, as well as subjective dimensions (Luleci, 2008). Related to the total score and to autonomy, both groups revealed similar concern. Related to the other themes, there was a meaningful difference. Concerning social participation Brazilian old aged revealed 48% of QOL, in contrast to 54% in India. Social inequalities may contribute to a poor quality of life, states Lucchetti *et al.* (2008) while investigating the role of social, environmental, and economic factors in determining subjective perception of aging in older people coming from metropolitan and rural areas of Southern Italy. Social and physical domains were relevant in Pereira *et al.* (2006) WHOQOL-Bréf aged research that confirms this Brazil-India study where, concerning social participation Brazilian aged revealed 48% of QOL, in contrast to 54% in India.

A comparative observation with elderly random sample community researched by Hawthorne *et al.* (2006b) examining QOL via WHOQOL-Bréf instrument where the author suggests that the preliminary results may be used as reference points for interpreting QOL scores shows that PSF elderly population of this research presents poor quality of life. As it was observed that in all domains the quality of life verified was above 70%, while in this study of Brazil aged in no facet reached 60% and the total score remained below 50% and in India, although higher, did not reach the 70% either. Quality of life is quite low for the elderly populations of these studies, compared to Dutch

nursing home residents aged (Nijs *et al.*, 2006), that verified total quality of life of 60% (TS). Results lead to a bad quality of life by Brazil and India's non-demential population, with the QOL found being almost the same mean total score for demencial level 1 population in Giani (2005) via WHOQOL-100. Findings of Scocco *et al.* (2006) comparing demented old aged to "healthy" subjects obtained them to be no different and in some areas (general QOL, independence and social relationship) even better (demented total score equals 72; "healthy" total score equals 71). Also among elderly people living in nursing homes in Turkey using the WHOQOL-Bréf, the study indicates a mean score of 54.29. This research on Brazil and India aged found a mean score for the group of 49% and 51% respectively. Comparison drives to the conclusion that the quality of life related by Luleci *et al.* (2008) is much more satisfying than the one observed in these studies, and also inferior to the 60.76 found by Prosenewicz (2006) through WHOQOL-Bréf leading to a conclusion that the quality of life in these studies is lower than that of the 600 low income old aged in a Brazil's South Region city. Comparing a survey conducted on wealthy aged by Mello and Morucci (2005) utilizing WHOQOL-100 that identified the total score of quality of life equals to 63.4 with these two samples studied of low income average population in India and Brazil, it is possible to reaffirm the conclusion that quality of life of higher income level old aged overcomes quality of life of low income ones. This observation confirms the anterior concepts of QOL being related to income, as stated by WHO (2002) in the first QOL definitions. This conclusion is emphasized by the research based on the WHOQOL-100 for the assessment of quality of life where Rocha and Fleck (2002) developed a QOL study in Brazil with 238 aged. WHOQOL domains showed results between 50% and 72%. Comparing with this study, it is observed that the quality of life related by them is wider range and higher than the one observed in this Brazil's study although similar in values to the India population. Also the obtained scores in these studies compared to the aged studied by Varejão *et al.* (2004; 2007) through WHOQOL-100, it is observed that there are some quite inferior scores and some that are quite superior to the finding of that population, varying wide range. This opposes the smooth pattern in the facets of QOL of Family Health Program old aged from Brazil's study and is similar to those of India.

Examining the quality of life of old aged in Canadian and Brazilian regions Paskulin (2007) concludes that the general QOL was higher in Canada than in Brazil via the WHOQOL-Bréf applied to random samples of 202 elderly in Canada and 288 in Brazil, finding that the same pattern of factors (satisfaction related to health, enough money, meaning of life and leisure opportunities) contributed to the variance of QOL in both countries. That matches the finding of this old aged India study where meaning of life was a contributor to improve the QOL level. And Brazil's lowest QOL on death and dying, 38% of satisfaction, demonstrates the existence of a massive preoccupation on the theme confirming the quoted pattern. Also Indian aged revealed satisfaction in this area (55%).

Another remarkable difference found between the old aged related to quality of life in Brazil and India was on future, past and present activities: while Brazilian aged are not much satisfied, nor unsatisfied (50%), Indian aged related the higher satisfaction in this area (55%). That can be explained by Beauvoir (1990) conclusion that in western society the tragedy of old age is that the system does not offer to the individual a reason to live: the overwhelming work turns daily life into a masquerade absence of a life's goal. As age advances the old aged has to face that he has no long a place in this world, as he has never had it although he just had no time to recognize it. It is Indian common sense that the old aged should be considered not as a burden to the society but their valuable experience "should be utilized fruitfully, and it should be the responsibility of the society and the government to impart an improved and effective quality of life to them in return for their lifelong dedicated services towards their children and the nation" (Tareque, 2008).

Conclusions

Knowing the concepts of the researched population and searching for the perception of their needing it is possible to develop strategies to know how the old aged perceive their aging. The proper concerning of asking the old aged what they consider important on determining their quality of life makes it possible to help them produce themselves, in this new phase of their lives as old aged, to transcend their aging dilemmas. As both samples are composed by low income old aged the observed

QOL was comprehensible low. Observing ageing as an existential problem on the old aged lives it is clear in these findings that aged of this Brazil's studied sample attributing higher weight to death and dying, were less satisfied dealing with that theme than with no other. On the other hand this India's studied sample relates a feeling of well-being regarding that theme, and the highest QOL related to future, present and past activities. Hence it is possible the inference, from the results found in this research that being negatively influenced by death and dying, fearing death and also not at all stimulated by future activities this Brazilian population opposes the Indian who is positively influenced by it rejoicing over future, present and past activities and not living the perspective of death in the same way.

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Comparative Study on Stress, Coping Strategies and Quality of Life of Institutionalized and Non-institutionalized Elderly in Kottayam District, Kerala

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ABSTRACT

This study aims to assess the stress, coping strategies and quality of life of institutionalized and non-institutionalized elderly in Kottayam district, Kerala. Data used in this study were collected from an old age home and a village in Kottayam with sample of 150 respondents aged 60 or older. The survey used different tools such as socio-demographic proforma for institutionalized and non-institutionalized elderly, stress rating scale, a coping inventory, and WHOQOL-BREF scale. The present study reveals that institutionalized elderly have more stress and less quality of life compared to non-institutionalized ones.

Key words : Stress, Coping strategies, Quality of life, Institutionalized elderly, Non-institutionalized elderly.

Ageing is a progressive generalized impairment of function resulting in the loss of adaptive response to stress and growing risk of age associated diseases (Boon et al, 2006). As per the WHO guidelines people 60-74 years of age are called elderly and those between 75 and 85+ years of age as old (Ghosh, 2006).

The world is rapidly aging: the number of people aged 60 and over as a proportion of the global population will double from 11% in 2006 to 22% by 2050. By then, there will be older people than children (aged 0-

14) in the population for the first time in human history (WHO, Geneva; 2007).

According to the 2001 census, India is home to more than 76 million people aged 60 years and over. The absolute numbers will increase from 76 million in 2001 to 137 million by 2021. Life expectancy has increased enormously from 42 years in 1947 to 65 years today (Rao TSS and Shaji KS, 2007).

For the past 50 years there has been a distinct change in the Indian family system. Joint families are turning into nuclear families. The status of the elderly has also changed in the present family system. Earlier aged members were regarded as having supreme power and their experience and wisdom were utilized to solve important family issues. This conflict in the value pattern makes elderly people, particularly those who are retired from service and other occupation, mentally isolated from the family. The feeling of loneliness along with the natural age related decline in physical and physiological functioning makes them prone to psychological disturbances. In some cases elderly members of relatively rich families or aged persons who have nobody to look after take shelter in old age homes. The elderly live in these homes merely in terms of existence to complete the last phase of their lives (Ghosh, 2006).

According to 1991 Indian census figures the highest proportion of elderly among the states and union territories was found in Kerala with 8.77% and is expected to increase to 19 per cent in 2021 and to 35 per cent in 2051. With life expectancy approaching 70 years an average Keralite spends one fifth of his / her lifetime in old age. Currently, Kerala has more than 100 old-age homes, the highest number among all the states and Union Territories of India (Centre of Developmental Studies, Trivandrum).

Minal P. and Kamala R (1995) conducted a study to find out the adjustment pattern of 30 institutionalized and 30 non-institutionalized elderly in Ahmedabad city, Gujarat. The mean adjustment scores of institutionalized elderly were 52.96 showing less adjustment and that of non-institutionalized elderly was 35.43 showing high adjustment which reveals that the institutionalized elderly are having poor adjustments compared to the non-institutionalized elderly.

Kanwar P. and Chadha N.K. (1998) conducted a comparative study to assess the psycho-social determinants of 60 institutionalized and 60 non-institutionalized elderly in Delhi. It was found that the mean scores of depression and loneliness of institutionalized elderly were 23.66 and 66.15 against 20.90 and 46.30 among non-institutionalized elderly. This reveals the severity of depression and loneliness among institutionalized elderly. Another study conducted by Agarwal S. and Srivastava S.K. (2002) indicated that emotional states like anxiety, depression and guilt are more in old people living in institutions.

The foregoing review of literature depicts a clear picture of psycho-social problems of institutionalized elderly. The researcher already had an experience of working with institutionalized elderly and knowing their problems as a part of academic posting which, along with the literature evidences, proved her to undertake the present study.

Two main hypotheses have been formulated for the present investigation.

- H₁. There will be significant difference between the stress, coping strategies and quality of life of institutionalized and non-institutionalized elderly.
- H₂. There will be significant relationship between
- Stress and coping strategies
 - Stress and quality of life
 - Coping strategies and quality of life

Method

Sample

The sample consisted of 150 elderly (60 yrs. and above) i.e., 75 institutionalized and 75 non-institutionalized elderly. Subjects were selected from an old age home in Kottayam district (Mundakapadam Agathimandiram, Mangalam.) and Paingana village in Mundakayam panchayat using purposive sampling technique.

Tool I & II- Socio-demographic proforma for institutionalized and non-institutionalized elderly

The socio-demographic proforma for non-institutionalized elderly consist of 11 items such as age, gender, religion, marital status,

educational status, occupation in the past, monthly family income, number of children, type of family, source of income and living arrangements.

The socio-demographic proforma for institutionalized elderly consisted of 12 items which covered items like age, gender, religion, marital status, educational status, occupation in the past, monthly income, number of children, reason for institutionalization, person responsible for admission, duration of stay and source of income.

Tool III-Stress rating scale

This is a structured scale which consists of 25 items covering various dimensions like physical, psychological, family, social, spiritual, etc. Each item of the tool was scored on a four point rating scale under the options "always (1), sometimes (2), rarely (3) and never (4)". The maximum and minimum scores were 100 and 25 respectively. The scores were arbitrarily classified as mild stress (25-49), moderate stress (50-74) and severe stress (75-100).

Tool III-Brief COPE (Carver, 1997)

The Brief COPE is an abbreviated form of the COPE (Carver, Scheier & Weintraub, 1989) consisting of 14 scales of 2 items each measuring conceptually different coping styles. Response options range from 1 (I haven't been doing it all) to 4 (I have been doing this a lot). The author recommends no overall score on this measure but generating dominant coping styles for a given person.

Tool IV-WHO QOL-BREF scale

The WHO QOL-BREF is an instrument to measure quality of life. It produces scores relating to 4 large domains, namely physical domain, psychological domain, social relationship domain and environmental domain. This scale contains a total of 26 questions. Domain scores are scaled in a positive direction (i.e. higher scores denote higher quality of life) on a five point scale.

Results and discussion

Data in fig: 1 reveal that among the institutionalized elderly, majority (72%) had mild stress and 28% had moderate amount of stress. None of them reported to be having severe stress. Among the non-institutionalized elderly majority (90.7%) had mild stress and those with

moderate and severe stress reported to be 8 % and 1.3%. This findings get support from Kanwar P and Chadha N.K. (1998) reporting that mean scores of depression and loneliness were higher among the institutionalized elderly compared to the non-institutionalized group (20.40 and 65.50 against 18.50 and 48.40). Agarwal S and Srivastava SK (2002) reported that emotional states like anxiety, depression and guilt are more in old people living in institutions.

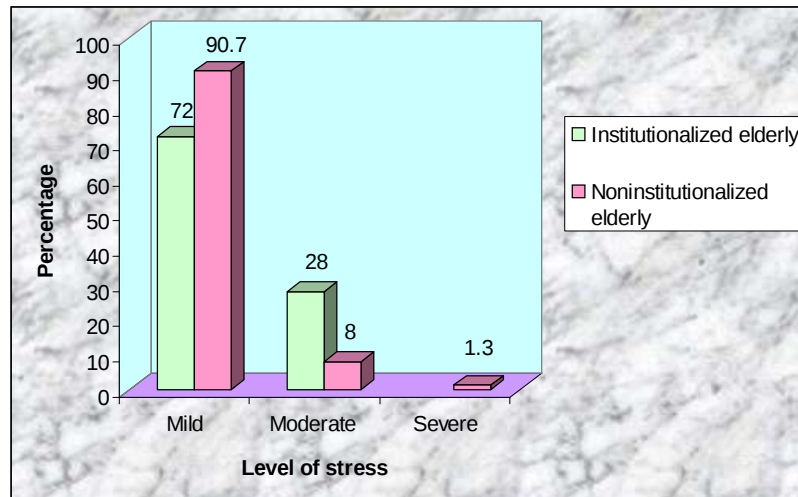


Figure 1 : Level of stress of institutionalized and non-institutionalized elderly

Data in table 1 reveal that both among the institutionalized and non-institutionalized elderly percentage scores were higher in the area of religious coping (96.5% & 97.2%); other coping mechanisms were use of instrumental support (81% & 86.3%) and acceptance (81.2% & 80.7%). Basha SA and Ushasree S (2003) reports that 80% of the ashramites used religious coping while non-ashramites preferred 40% for religious coping followed by 15% for active cognitive coping.

Data in table 2 reveal that the mean scores were higher in the domain of environmental health for both the institutionalized and non-institutionalized elderly and the total mean scores were higher among the non-institutionalized elderly compared to the institutionalized elderly. Barua A *et al.* (2005) conducted a study to assess the domains of

quality of life in the geriatric population in Karnataka. Results indicate that the mean scores in each of the four domains were found to be similar (physical-2.9, psychological-2.6, social relations-3.5 and environmental -2.7).

Table 1: Percentage scores of coping strategies used by the institutionalized and non-institutionalized elderly
N=150 (75+75)

Sl. No.	Coping strategies	Institutionalized elderly		Non-institutionalized elderly	
		Obtained score	%age	Obtained score	%age
1	Self-distraction	236	39.3	270	45
2	Active coping	367	61.2	349	58.2
3	Denial	168	28	152	25.3
4	Substance use	192	32	150	25
5	Use of emotional support	470	78.3	492	82
6	Use of instrumental support	490	81.7	518	86.3
7	Behavioral disengagement	176	29.3	156	26
8	Venting	418	69.7	438	73
9	Positive reframing	288	48	185	30.8
10	Planning	281	46.8	174	29
11	Humor	223	37.2	152	25.3
12	Acceptance	487	81.2	484	80.7
13	Religion	579	96.5	583	97.2
14	Self-blame	210	35	168	28

Maximum score-600

Table 2: Mean and standard deviation of domain scores of quality of life among institutionalized and non-institutionalized elderly N=150(75+75)

Sl. No.	Domains	Institutionalized elderly		Non-institutionalized elderly	
		Mean	SD	Mean	SD
1	Physical	18.7	3.2	21.9	3.9
2	Psychological	18.3	2.3	20.8	2.7
3	Social relation	9.7	1.5	11.7	1.5
4	Environmental health	31.2	2.4	31.9	4.4
Total		77.9	9.4	86.3	12.5

Data presented in table 3 reveal that there is significant difference between stress and quality of life of institutionalized and non-institutionalized elderly which clearly indicates that institutionalized elderly experience high stress and low quality of life compared to the non-institutionalized elderly. An empirical study conducted by Kanwar P, Chadha N.K.(1998) which is consistent with the present study revealed that there is significant difference between loneliness of institutionalized and non-institutionalized elderly at 0.01 level of significance.

Table 3 : Comparison of stress, coping strategies and QOL of institutionalized and non-institutionalized elderly N=75

Variables	Institutionalized elderly		Non-institutionalized elderly		't' value
	Mean	SD	Mean	SD	
Stress	43.9	10	33.1	11.5	6*
Coping	56.9	4.2	61.1	9.9	1.4
Quality of life	82.2	11.1	97.8	15.8	3.09*

* $t_{(148)} = 1.96$, $p < 0.05$

Naik A (2007) reported there is significant difference in senior citizens staying with family and senior citizens staying in old age home at $p < 0.01$. The findings get further support from Kavitha A K (2007) reporting that overall mean score regarding quality of life was found higher among senior citizens living in family set up than the senior citizens living in home for the aged.

The data presented in table-4 shows that there is significant relationship between stress, coping strategies and QOL of institutionalized elderly. Thus it can be interpreted that there is a negative correlation between stress and coping strategies, and stress and quality of life. Frazier L.D. *et al.* (2002) reported that anxiety sensitivity was significantly correlated with emotional regulation ($r = 0.29$, $p = 0.006$) and distancing ($r = 0.26$, $p = 0.01$).

The data presented in table-5 show that there is significant relationship between stress, coping strategies and QOL of non-

institutionalized elderly. Thus it can be interpreted that there is a negative correlation between stress and coping, and stress and quality of life.

Table 4: Relationship between stress, coping strategies and QOL of institutionalized elderly N=75

Variables	r	df	S
Stress & coping	0.70	73	S
Coping & quality of life	0.67	73	S
Stress & quality of life	0.85	73	S

* $r_{(73)} = 0.232$, $p < 0.05$

Table 5 : Relationship between stress, coping strategies and QOL of non-institutionalized elderly N=75

Variables	r	df	S
Stress & coping	0.58	73	S
Coping & quality of life	0.71	73	S
Stress and quality of life	0.81	73	S

* $r_{(73)} = 0.232$, $p < 0.05$

The aforementioned results indicate that elderly people need special attention as a special concern group. There is much scope to reduce the physical and psychosocial problems and improve the quality of life of the elderly by providing health care services based on the needs of the elderly. There is also a need for organizing counseling programmes for the elderly living with family and staying in the geriatric homes. Much of the psycho social problems can be prevented or minimized with communication and having people to share the problem. This calls the need for more social agencies.

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Understanding Sexuality in the Later Years*

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ABSTRACT

A significant gap exists between the reality and meaning of sexuality – sensuality for the elderly and the persistent, widespread mythology and destructive stereotypes associated with this age group. Evidence indicates the importance and centrality of sexuality through out the development of the human family from primitive to modern times. Research, although still rudimentary, has provided data which indicated the continuity of the interest in and need and capacity for sexual expression among human beings into the ninth decade of their lives. Most of the early research on sex focused on the physical acts of intercourse and orgasm but ignored the whole person. It has now become increasingly evident that the whole person –personality, physiology, and integrated life experiences – is involved in sexual-sensual behavior. There is little doubt that gender identity, role ascription, and the qualities of femaleness and maleness contribute to the sexual behavior of every human being; yet these attributes are largely submerged in the neuterdom assumed to be the state of the late middle and older ages. The many jokes and stories that ridicule sexuality in the later years accurately reflect our society's hostile, insulting attitudes towards both sex and old age. The stereotyping of older men and women as sexless is the ultimate example of ageism. But, as with other forms of prejudice, this devastating myth about the nature of ageing can be laid to rest once we obtain and disseminate correct information regarding various myths about sexuality in the elderly from physiological, psychological and social perspectives.

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Key words : Sexuality, Stereotypes, Ageism, Elderly.

Throughout their youth individuals are given to understand the code of sexual conduct of their culture. These include information pertaining to sexual behaviour and conduct. Today the sexual concerns of the young are at least discussed, though the opinions, coming from different sources such as parents and peer groups, often conflict. It is generally felt that while sexual interest starts during adolescence it peaks during young adulthood and slowly tapers down and declines with the age.

The heavier emphasis on sexuality in the first 25 years of the life cycle, the 'formative years', results in poor preparation for the life crises that must be faced by many in the later years (Weg, 1978). This leads to a paradoxical situation. While they are concerned about their sexuality they are also subjected to the effects of their socialization during their childhood, which indicates that they should not be concerned about sex once they pass this youth.

Defining Sexuality

Sexuality involves giving and receiving sexual pleasure, as well as enabling reproduction. Sexuality is a total sensory experience, involving the whole mind and body, not just the genitals. Sexuality is shaped by a person's values, attitudes, behaviours, physical appearance, beliefs, emotions, personality, likes and dislikes, their spiritual selves, as well as all the ways in which one has been socialized.

Defining Later Years

There is no cultural universality about the point at which someone passes into the status of an 'old man' or an 'old woman'. There are indications, however. In many cultures the climacteric in a woman marks a change in her status and roles. No such change is marked in a man, although a man monogamously married to a woman who has experienced menopause may be seen as sharing her status change. In other cases, the marriage of children or the appearance of grandchildren are the demarcations of age. Another major change, particularly in extended families, is the point at which the adult child, usually an oldest son, and daughter in law – become practical heads of the house, although the parents may maintain positions of respect. Still another more commonly recognized transition is reached when individuals, usually

by this point widowed, are no longer capable of caring for themselves physically and must become dependant on relatives.

At this stage, once they attain the status of older persons, there is be no consideration for their privacy as it is assumed that they will no longer indulge in sexual acts or sexual expression. It is only till they have earning power and are independent that they can live on their own terms (Bali, 2000).

In many families in the Indian context, the older parents cease to have a separate room, and a bed in the living room becomes their place. Even if it is recognized that the elderly need privacy, they are expected to make adjustments at the cost of their freedom for sexual expression (Sharma, 2002). The restrictions made by the family for sexual expression are more in case of an unmarried or single man or woman in the later years.

Sexual Myths and attitudes related to the elderly

Although sex roles have changed and there has been more freedom of sexual expression since the 1960s, the stereotypes that older people are physically unattractive, uninterested in sex, and incapable of achieving sexual arousal are still widely held (Hall, Selby & Vanclay: 1982).

Three repeated themes stand out regarding myths about sexuality in the later years.

- Not sexually desirable.
- Not sexually desirous.
- Not sexually capable.

The first two themes have their origins in cultural, social and psychological views the society and individuals have in general about sexuality. The third theme has its origin in the myths about decrease in vigour and vitality to perform during the later years.

Hence, various physiological, psychological, cultural and social (attitudes) factors in the individual and society cause these myths that lead to constraints on sexuality in persons in the later years. Let us discuss these themes one by one.

Many sexual myths and stereotypes work against older people and challenge whether the expression of sexuality in old age is appropriate.

- As people age it is generally believed that they no longer look physically attractive and thus do not have sexual needs and, if they have any, they would need to suppress them. This is somewhat consistent with findings from older people who reported that they no longer felt physically attractive and thereby felt sexually unattractive (Richardson & Lazur, 1995).
- Despite studies reporting that older people can be potentially sexually active into later life (Marsiglio & Donnelly, 1991), the society still continues to devalue older people's sexuality with humour, ridicule and distaste (Spurgeon, 1994).
- One major challenge is trying to change people's attitudes towards sex in later life and to help them outgrow the deeply embedded beliefs that sexuality is only the province of a youthful society (MacRae, 1999).

These commonly held misconceptions have unnecessarily coerced and socialized the sexual older people into becoming asexual beings - who have lost their physical attractiveness, have no sexual needs, not capable of engaging in any form of sexual behavior (Kessel, 2001) - in order to comply with societal expectations and social values.

The Physiological/Biological Perspective. 'Love and be loved'. This familiar prescription suggests the typical advice to all women and men down through the centuries, except for the older people. Those who are wrinkling, greying, and over 65 years have been assigned to the category – sexually inert, uninterested, and dysfunctional. Young and old alike are uncomfortable with the reality that older persons are involved with intimacy, pleasure, and tenderness of sexual expression that are associated primarily with the younger years.

A 74-year-old woman describes honestly and lovingly what self-image and sexual expression mean to an older woman.

"Sex isn't as powerful a need as when you are/were young, but the whole feeling is there; it's as nice as it ever was. He puts arms around you, kisses you, and it comes to you-satisfaction – just like it always did... don't let anybody tell you different. Maybe it happens only once every two weeks, but as you get older its a

release from tensions. We love each other the way we are; so sex is beautiful".

Only from 1960 onwards, scientific information on human sexual functioning in later years came to light when articles on the subject have been published on biology of human sexuality. Later, observations and studies (for e.g. Masters and Johnson, 1966; Freedman *et al.*, 1976) have dramatically substantiated what had been known but not widely acknowledged-that sexuality, sensuality, and loving relationships among the elderly are not the fantasies of sexologists.

Also contrary to the common belief there was no loss of satisfaction for the postmenopausal women. There may be even increase in pleasure, because the concern with conception is at an end. Further it was noted that sexual experience in the earlier years influences libido in the postmenopausal years.

In the Indian context, there is not much research regarding sexuality in the elderly. There are myths and misconceptions that indicate that the sexual act is for the purpose of procreation and the ability and vigour to perform the sexual act decreases, as one grows older. These views internalized by the elderly, act as constraints to their sexual-sensual expressions. Hence the urge to develop their sexual vigour during later years by using potions, food and ambience to perform better and satisfy the spouse which is most active in the youth and young adults fades with the age (Bali, 2000).

Normal ageing of the reproductive system leaves more than adequate capacity for the physical components of sexual expression. Although a number of anatomical and physiological changes do take place in the genital and related organ systems there is nothing in the changing biology that warrants the prevalent image of sexless, neutered, loveless ageing. The nature of sexual experience changes from physical to emotional. What then accounts for the stereotype of the impotent, sexless later years? Some illness and disease with age are a current reality, but where there is normal ageing, pathology is not inevitable (Weg, 1983). Nevertheless, the 'sick role' has been imposed on many elders. When the aged are dependent and out of mainstream living patterns, their human needs and wants become easier to ignore. Other sources of the label 'sexually uninterested and dysfunctional' stem from

the effects of more specific disease entities and overall health status of the elderly. Systemic disease, drug abuse, surgery and depression can affect sexual interest and expression at any age, though their incidence increases with the years (Sharma, 2002).

Despite the physical changes associated with the decrease in hormonal secretions etc., research shows that other factors may have a greater impact on sexual expression in later life. Leiblum and Segraves (1989) suggest that older adults experience sexual problems and concerns that aren't different from young people. However biological and psychosocial factors may need to be looked at more closely with an aging population. Although many older people experience sexual difficulties, traditionally they have presented for treatment relatively infrequently, being more prepared to live with the problem than younger adults (Baikie, 1984). Over the past decade, however, there has been an increase in the number of elderly persons seeking treatment for sexual difficulties (Renshaw, 1983).

The physiological and social aspects of sexuality in the later years are really inseparable (Weg, 1978). Intrinsic physiological ageing effects provide the parameters within which the social variations of sexual expression can be played out. From the point of view of psychological studies, social factors are often the direct contributing causes of phenomena such as impotence and anxiety about loss of sexual interest in the elderly (Masters and Johnson, 1966). The notion that sexuality is a lifelong process goes contrary to the thinking of some elderly people, their children, and health care providers (Kennedy, Haque & Zarankow, 1997). As a result of this thinking, the topic of sexuality and the elderly is generally avoided, and when it is discussed, it is riddled with myths and misconceptions. Buying into these myths, or simply lacking an awareness of them, makes it difficult to treat, or even discuss problems of sexuality in the elderly.

The Role Perspective. The important roles in any society are assigned to individuals according to their age. Sexual roles are no exception. Shared expectations, norms, rules and values determine both for young and old people what is acceptable in the way of their sexual thoughts, interests, activities, and the age, race, appearance, and gender of their partners. Winn and Newton (1982) used Human Relations Area Files to compare the sexuality of older adults in 106

cultures. They concluded that continuance of sexuality for elderly persons in many societies indicates that cultural factors may be key determinants in their sexual behaviour. Individuals usually experience these normative sanctions not only as external constraints on their behaviour but also as their own natural inclinations and preferences (Prakash, 2003).

Often, the elderly internalize views the society has regarding sexuality in the later years and bury their desires and need for sexual expression. As they have decreased scope for sexual activities owing to lack of privacy they start looking for socially sanctioned activities for themselves such as religious and spiritual interests, care giving, celibacy etc.

When elderly show interest in sexual activities, their own adult children and relatives see it as perversion. In this context, the constraints on the sexual behaviour depend on the attitudes and values of the current cohort of older persons, and the current social environment of negative sanctions against sexuality in the old age.

Attitudes towards Sensuality and Sexual expression in the elderly. Unfortunately, a wide variety of negative attitudes exist within society concerning sexual behaviour and older people which have influenced the thinking of older people themselves, in addition to the helping professions and the general population (Spence, 1992). Cultural attitudes that revere reproductiveness and youthful good looks may contribute to the expectation that older people are, or ought to be, asexual (Deacon, Minichiello, Plummer, 1995). The only sexual behaviours viewed as being acceptable were hugging and kissing on the cheek (Szasz, 1983).

Kass (1981) theorized it as a *Geriatric Sexuality Breakdown Syndrome* through which elderly people internalize the negative attitudes to which they are exposed and perceive themselves as nonsexual. He further said that this syndrome can be broken eventually by changing society's negative attitudes through education but more immediately by providing individual or group counseling or therapy to aging adults about their sexuality and helping them develop ways to cope with the negative attitudes they receive.

Society's constraints on the sexual freedom of older people are neglected in the negative, ageist, and custodial attitudes of staff, particularly in nursing homes. Older residents who display any form of sexual expression are often regarded by staff as having a behavioural problem and may even be tranquilized (Brown, 1989). Studies (for eg. Deacon, Minichiello, Plummer, 1995) highlight the need for education for caregivers to promote attitudinal changes and, therefore, more therapeutic and holistic care to ensure the rights of older residents to sexual expression.

Understanding Sexuality in the elderly

Attitudes toward sensuality, sexuality, and sexual behaviours are learned. Reality-oriented information about life span changes in sexuality could make a difference in self-image and confidence among older persons and could allay their anxieties and fears. This form of learning should start in childhood and extend through old age. The later years need not be seen as years of deprivation in affection, love, and intimacies – a sexless future. Few would deny victimizing older people for their overt sexual behaviours and labeling them as socially unacceptable.

Follow the seasons of human love

Human love, like human sexuality has two manifestations. The first, corresponding to sexuality for procreation, is generative love: a love of family, home; a love for young creatures; a love that makes sacrifices today for tomorrow. Generative love may, perhaps, represent our belief in an eternal future. The second manifestation of human love, which has some parallels to sexuality for pleasure, is existential love. If generative love reaches out for immortality, existential love seizes the brief moment of mortality. Existential love means love that is aware that all life is transient, that existence is brief, and that our days are numbered – an awareness that comes with old age and maturity, when we can no longer deny our mortality. Existential love represents a recognition that all things pass away, and that life is more precious because it is fleeting. Existential love, the capacity to cherish the present moment, is the greatest gift of maturity. (Datan, Rodeheaver, 1983).

At such a point in life, labeling the elderly as sexless and incapable of sexual activity due to 'sick-role', negative sanctions in society, restrictions of adult children to parents' sexual activity, lack of consideration for privacy and baseless assumptions regarding sexuality of the elderly cause unhappiness, frustration and pain in them.

Basing on the above discussion it can be said that:

1. In the presence of reasonably good health and available partners, sexual activity among older people continues into the seventh, eighth, and ninth decades. Among those who are no longer sexually active it is not uncommon to find a continuation of sexual interest.
2. Within the older age group, the range of sexual drive varies from very great to very little. Sexual capacity varies from individual to individual and from time to time in a particular individual.
3. There is an overall pattern of decline in sex interest and activity with age. However sexuality continues to hold a place of importance in the lives of most older persons.
4. Although there is a gradual decrease in sexual activity and interest, there is definitely no sudden cessation at any fixed chronological point.
5. Among older men and women, sexual interest and activity are directly related to individual sexual histories. The sociological environment of the sexually formative years, post sexual habits, and former sexual experience, all strongly correlate with sexuality in old age and
6. The maintenance of sexual capacity and activity is dependant upon the opportunity for regular sexual expression. A willing and cooperative partner is essential to continued sexual activity.

Conclusion

Just as social changes have lead to present widespread dissatisfactions with ageing, it will soon lead one to expect and to create new satisfactions and to accept the natural rhythms of the lifecycle and the expressions of sexuality and love that are uniquely appropriate to each of the seasons of human life. In this context the following are suggested,

- Gynecological and other medical texts require careful review. It is time that those books or sections that continue to incorporate myths about ageing and sexuality be rewritten. With the increasing number of older persons who are alone, single, and alienated, efforts for greater acceptance of alternate lifestyles appear reasonable.
- The helping and health professionals should be aware that sexual expression continues to play an important role in the lives of many older persons. Many of the professionals who deal with the rapidly growing number of older persons – doctors, therapists, social workers, and staff of old age homes – are either unaware of the data that indicate that sexual interest and capability of the aged continues or they are unable to psychologically accept the data. These helping persons need to be educated to the realities of sexuality in the later years in order to change their negative attitudes towards sexuality in the elderly as ridiculous and unappealing.
- Gerontological research has shown that knowledge and attitudes toward sexuality influence perceptions about sexual needs and feelings in later life. Hillman and Stricker (1994) concluded that there is generally a positive relationship between knowledge of and attitudes toward sexuality in later life. The media is an important influence on attitudes in the wider community. Social and cultural definitions of sexuality and aging reflected in the mass media also influence how older people perceive themselves. As pointed by Vasil and Wass, (1993) education in sexuality and aging is essential for those responsible for portraying images of older people in all forms of the media. This will help in dispelling myths and negative attitudes and promote the perception that full sexual expression is part of the entire extent of adulthood.
- There is ample evidence to suggest that sex education for older people leads to the development of more positive attitudes.
- Counseling on sexuality and sexual adjustments should be made available to older persons and
- Lastly, in order to alter attitudes towards ageing and the needs of elderly, basic positions regarding sex-roles and ageing need to be public and positive.

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The Elderly in a Rights Framework: Beyond Tradition, Law or Economics

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*I grow old, I grow old,
I shall wear the bottoms of my trousers rolled.*
— T. S. Eliot

ABSTRACT

This paper seeks to address three key issues in the current and emerging situation in the context of assuming responsibility for the care of the elderly in the Indian society. It begins by looking at the aspect of tradition, the changing social structure and values and points out some implications for elderly care. It then outlines the presence of a legal recourse, including human rights law and questions its suitability in the specific cultural context. The notion of human development is introduced to examine what this approach has to offer, and to further examine the practicality of this approach for evolving social policy. Finally, the framework of human rights education is offered as a possible strategy in the cause of achieving the aim of a life with dignity for the elderly. The issues that emerge from the discussion are likely to be relevant for further academic research.

Keywords: Elderly, India, Law, Tradition, Human Rights

An old woman was being teased by some children. Annoyed, she caught hold of one and said, “Son, will you not be old one day?” Indeed, if we live long, we shall all be old one day, if we are not so already. The ever-growing ageing population of India is a welcome sign that we are living longer. It is estimated that the number of older persons will grow to 137 million by 2021. Yet many sometimes wish they had died earlier,

for a life of helplessness and indignity can often appear to be “a fate worse than death.” As Bose (2008:41) asserts: “There is enough evidence to indicate that generally speaking, the quality of life of the elderly goes down with advancing years.”

Recall the story of Sybil’s enduring youth recounted in Ovid’s *Metamorphoses*. Or the story of Yayati’s bartering of his old age with his son Puru’s youth. Or the story of Tithonus, narrated by Lord Alfred Tennyson. Tithonus, whom “only cruel immortality consumes” and who is left: “to dwell in presence of immortal youth/ Immortal age beside immortal youth,” and who is then led to talk “of happy men that have the power to die.” Poetry catches the soul of our existence and the discerning will unravel truths in these. The point I wish to emphasize here is that a long life is perhaps not always a blessing.

The paper seeks to raise and address three key issues in the current and emerging situation in the context of assuming responsibility for the care of the elderly in the Indian society. The paper is divided into three broad sections. It begins by looking at the aspect of tradition, the changing social structure and values and points out some implications for elderly care. Next, it outlines the presence of a legal recourse, including current legislation and problematizes its suitability in the specific cultural context. Taking the debate forward, in the third section, the notion of human rights and development is introduced to examine what this approach has to offer, and further examine the practicality of this approach for evolving social policy. Finally, in the concluding section, the framework of human rights education is offered as a possible strategy in the cause of achieving the aim of a life with dignity for the elderly. In this paper, I shall use the term “elderly” to include both the male and female elderly. The issue of gender is extremely important and would require a specialized treatment. The issues that emerge from the discussion have a bearing on future public policy and are likely to be relevant for further academic research.

Changing Tradition and its Implications

In some advanced industrial societies, each person has to make sure that the funeral arrangements are made and paid for in advance. People select and pay for the kind of casket they can afford to be buried in. This would be really horrifying to the Indian elderly. Yet it

seems that the future would indeed cause the Indian elderly to confront similar situations. One important aspect of having children – which has religious sanction – is to have someone do the last rites – without which *moksha* is not possible.

Social change is inevitable and this impacts our lives in more ways than we can immediately comprehend. We assume that the elderly must be taken care of by their children. This is a part of our tradition, best exemplified in the story of Shravan Kumar and the absolute dedication that he displayed towards his old and visually challenged parents. But what if the widely believed notion that in the past, the elderly were looked after well by their children or the community is not entirely correct? As Mishra (2007) has pointed out, the realistic position, at least in the medieval period was that only those who possessed wealth, social status, or power of some kind enjoyed care in the family or the community. Neither care nor prestige was accorded on the basis of age alone. The miserable condition even forced them to end their lives. It is common knowledge that the ancient and dominant Hindu tradition sought to get rid of the elderly by sending them to the forest to attain *moksha*, or in other words, to meet with certain death. We must therefore be sceptical of the romanticized, stereotypical portrayal of the Indian elderly as revered figures in the family and the community (Cohen. 1992).

Be that as it may, it is widely accepted that the tradition, whereby the sons (and sometimes, daughters) took care of their elderly parents, is now giving way to a society where the elderly are being increasingly left to fend for themselves. There are several reasons for this trend that have been amply researched and written about. But essentially, it is asserted that elderly traditionally lived with their children, but that now the increasing demands of modern living and lifestyle do not leave much room for the aged parents; that in the urban areas, it is the middle class urban lifestyle that is the cause; and in the rural areas, it is largely the migration of the young. A high proportion of the elderly live in the rural areas, and the widows among the elderly females is a category that needs special attention. The proportion of the destitute is steadily rising, leading to a rise in old age dependency or income insecurity (Bhattacharya, 2005; Kumar and Anand, 2006). Thus the critical gaps in elderly care are ever expanding.

The implications of the changes taking place are significantly wide: for the family, in terms of providing overall care; for the state, in terms of generating resources and more importantly in ensuring that the allotted resources are used in an appropriate manner; and for civil society organizations, in terms of activism and prioritising efforts. The position of the elderly concerns us all.

Expansion of Legislation: From Shame to Punishment

As the history of humankind has evolved, the place of law has become increasingly entrenched. Henry Maine's classic thesis (1861) states that law and society developed from "status to contract." Earlier, individuals were bound by status to groups and community; in the modern world, individuals are viewed as autonomous beings, free to make associations with whomever they choose. Laws, as obligations backed by state sanction, are instruments for resolving the contradictions that emerge in the social domain and for generally achieving social goals. So we need to ask: How will the law affect the elderly or the behaviour of others towards them?

In the Indian context, the constitution carries references to old age and provides directives to the state for their welfare. These include Entry 24 in list III of schedule VII (old age pension), Article 41 (old age social security), item 9 of the state list, and item 20, 23 and 24 of the concurrent list that relate to old age pension, social security and social insurance. Other legal provisions include section 125 of the Indian Penal Code and section 20(3) of the Hindu Adoption and Maintenance Act 1956, prescribing the entitlement of elderly parents to maintenance.

Several attempts have been made in the last decade to frame laws that would criminalize abandoning the perceived traditional duties of children towards their parents. These include several private members' bill introduced in both houses of the parliament, and attempts by the governments of Goa and Maharashtra to formulate laws. The Himachal Pradesh Maintenance of Parents and Dependants Act 2001, legislated in 1996 and operational since 2002, is an example of a successful initiative, which is also a model for the Maintenance and Welfare of Parents and Senior Citizens Act 2007, the most recent all-India legislation (Government of India, 2007).

In an analysis of the Himachal law, Thakur (2008) suggest several problems and impediments in the functioning and implementation of the law, including the reluctance of the elderly to take advantage of the law and the unhelpful attitude of the lower bureaucracy. Further, she points out that this law covers only those who have some property. The critical need is to ensure safety net mechanisms for all the elderly. Some instruments and schemes in this regard do exist, but these are widely acknowledged to be inadequate (Mishra 2005).

The Indian elderly are near unanimous in their rejection of the law as a solution to their problems. Some of the reasons are as follows: One, the family, tied to the social tradition of filial duty, provides care in order to fulfil this duty; but the law would force them to do so taking away the element of religious merit, the approval of community members or the extended family. The element of force would also take away any potential pleasure that the elderly derive from receiving such care in addition to social opprobrium. Two, the structure of the family is changing, with nuclear families giving way to extended ones; recognizing this, it does not seem fair to impose this duty which would be a burden to the children. Parents are often willing to bear hardships rather than put their children through trouble. Three, parents are often reluctant or unwilling to drag their children to a court of law or through a legal procedure for this brings shame to both themselves and their children. And four, even if a court of law was approached or a legal procedure initiated, either the cases are withdrawn or the notoriously slack system breaks their resolve. The economic cost involved in moving the court is bound to discourage the poor elderly, in addition to mental trauma it entails. Transforming a duty of the children into a legally enforceable right of the elderly seems to be a solution that few of the elderly are prepared to accept at the moment.

Beyond Economics: Human Development

Since the adoption of the Universal Declaration of Human Rights in 1948 (UN 1948), the rights framework in human affairs has been accepted at a global scale. Further, the Declaration on the Right to Development in 1986 (UN 1986) firmly placed the agenda of "human development" on a world scale.

The “holistic approach” of human development goes beyond economic parameters, seeking to make access to a good life possible, and enhancing peoples’ choices in the manner that is most agreeable to them. Most fundamentally, it is “what Adam Smith called the ability to mix with others without being ‘ashamed to appear in public’” (UNDP 1990: 10). The discourse on human rights and development acknowledges that special group interests, including the rights of the elderly, should be recognised as human rights.

As rights claims are ordinarily addressed to governments, the question then boils down to the implementation of human rights by governments. Duties mainly refer to that of the state to protect the individual. Thus from a rights perspective, duties, responsibilities or obligations are primarily of the governments or the state. These duties extend to ensuring that individuals or non-state actors do not violate human rights in their relations with others. The role of the state can hardly be overemphasised in recognising the rights of the elderly. In this sense, the new legislation is perhaps a way forward as it recognizes the special place of the elderly. It creates legal and positive space for action.

However, as the new law imposes duties on children or legal heirs, it might be said to be problematic. Whereas human rights concerns are state-directed, the new legislation directs it at children or legal heirs. As Mohanty (2002) has argued, the experience with the imposition of duties on individuals in India has not been a very happy one. Ordinarily, in the field of human rights, it is not the principle that is contested, but its implementation. In this case however, the principle, too, is open to challenge.

It is sometimes argued that duties or responsibilities of citizens constitute an alternative to human rights. Such assertions have been made by moralists and reformers, by socialist as well as democratic regimes. The notion of “Asian values” advances the notion that the idea of human rights is a Western one that emphasises the individual and is inimical to the collectivist and communitarian principles that the Asian societies value most. Thus the “Asian debate” centres on questioning the appropriateness of the idea of rights across cultures (Bauer and Bell 1999). The cultural argument is a powerful one, quite

often an emotional one, too. The new law should be seen from this perspective as it reaffirms the so-called traditional values. One criticism that cannot be levelled against the new law is that it does not conform to the so-called indigenous tradition of respect and care for the elderly.

It is perhaps possible to justify the new law as a measure by providing some sort of economic rationale for the law. Whereas this would satisfy the pragmatic criteria, as far as social policy is concerned, the dominant view within the rights framework is that the element or question of governmental resources should not be the primary or the guiding issue. In other words, social policies must be the result of our collective attitude towards the problem and defining priorities. To a large extent, social or public policy must take into account the needs of the people that it seeks to benefit. Consider for example, the issue of access to health care which must be accessible to all – irrespective of gender, caste, or age for that matter. But the point here is that the social policy must be sensitive to and take into account the particular and specific needs of different sections of the population, including the elderly while framing such policies. So, social policies need to be age specific. On the surface this might seem to violate the principle of equality, but as we know by now, social policies are often based on what following John Rawls (1971) is called the principle of distributive justice.

I do not wish to argue that the state has to shoulder the entire responsibility. Each individual, as a member of the family or the community or as a stakeholder in the nation state would have to do their bit. There also exists a series of institutions that must be strengthened. This includes: religious organizations, civil society organizations, hospitals, old age homes and various institutions funded or run by philanthropic organizations.

Concluding Remarks

In a multicultural country as diverse as India, with its numerous divisions based on religion, caste, class, gender, etc. it would be presumptuous to generalize. Yet, it is apparent that the moral paradigm seems to be giving way to the legal paradigm of responsibility for the elderly. Such a notion of responsibility is fraught with the danger of promoting asymmetric relationships, rather than filial attitudes of

cohesion, solidarity and mutual respect. It also needs to be emphasized that in the human rights framework, it is the state that has the obligation, not individuals *per se*. But social policy is an intricate subject and is open to many pulls and pressures that must be both acknowledged and respected.

Human rights are both moral rights as well as legal rights. Interestingly, the modern Indian human rights framework accommodates both the notion of human rights as moral as well as legal rights. As I have elaborated elsewhere (Jha 2004), the Gandhian approach to rights is a moral one that emphasises duties and rejects the rights paradigm. Gandhi's notion of duties, applicable to both individuals and the state alike, advocates programme of social reform based on duties rather than rights. This is in counterdistinction to the views and approach of Ambedkar, who believed that only legal measures could guarantee rights to the people, especially the vulnerable groups.

Perhaps a multi-pronged, long-term strategy is needed that would respect the cultural ethos and at the same time promote a life of dignity of the elderly. Drawing upon lessons from the field of human rights and development, or more specifically from what has come to be known as "human rights education," it would be possible to employ its most salient feature, "the concept and practice of a transformative pedagogy... which holds the potential for altering the power structure behind most forms of oppression and repression" (Marks 2003: 23). According to Dias (1997), this approach also helps form a rights framework in several ways including mobilising support for victims' struggles for rehabilitation, redress and justice, and by promoting understanding of the rationale for social action and public policy. The approach of human rights education emphasises the dignity of the individual and in the long run, helps both the victims and those who abuse.

In the final analysis, the realisation of the goal of social policy is possible by way of empowerment of the people through participatory methods. After all, the most significant contribution of the human rights movement in India lies in its role in the growth of consciousness and awareness about rights and therefore enhanced participation of the citizens. Then we can all participate in the process – as young, as old, and as those getting there, hopefully.

In the ultimate analysis, we have to ensure that the elderly are not dependent on anyone, that they are self-dependent, that they are enthused with the capability to exercise choice of options for a life of dignity. This will truly promote human happiness (see Thinley 2004). The need is to ensure that the elderly do not rue, "We have lost our children."

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