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Lipids Regulating Activity of *Asparagus racemosus* Root in Young and Aged Rats

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ABSTRACT

Ageing has been defined as the changes that occur in living organisms with the passage of time that lead to functional impairment and ultimately to death. A general decline in various biochemical and physiologic functions is noted in most organs during aging, resulting in increased susceptibility to age associated diseases. Aging is attributable to several alterations including lipid metabolism. In recent times, focus on plant research has increased all over the world. Medicinal plants are assuming greater importance in the primary health care of individuals and communities in many developing countries. Medicinal plants are believed to be much safer and proved elixir in the treatment of various ailments. Number of plant and plant products are used against hyperlipidemic. In Indian system of medicine Asparagus racemosus Willd root (Liliaceae) (Eng: Willd asparagus, Tamil: Thanner Vittan Kizhangu,) is an important medicinal plant widely used in pharmacological activity. Our objective was to investigate the effect of Asparagus racemosus (ARR) root extract on lipid profile such as cholesterol, triglycerides, HDL, LDL, VLDL-cholesterol and glucose and insulin in young and aged rats. Supplementation of ARR to young and aged rats restored the age-associated changes in lipid profile and insulin. The restorative activity of ARR was due to the presence of enriched phytotherapeutic constituents.

Key words: Ageing, Lipid profile, Insulin, *Asparagus racemosus* (ARR).

Ageing is characterized by slow, progressive, structural and functional changes that take place at cellular, tissue and organ level. These changes resulting in gradual functional decline, decreased adaptability and ability to face stress and increased probability of age associated diseases including cardiovascular disease, cancer, diabetic etc. (Terman *et al.,* 2006). Aging is associated with major risk factor for cardiovascular disease (CVD), including coronary heart disease, stroke, peripheral vascular disease, and is one clinical expression of advanced atherosclerosis, characterized by the focal development of atherosclerotic lesions in large arteries (Schwenke, 1998). The mechanistic relationship between atherosclerosis and aging is complex (Cherubini *et al*., 2001). The American Heart Association has identified that primary risk factor associated with atherosclerosis is elevated levels of cholesterol and triglycerides in the blood (Kannel, 1997). Aging is attributable to several alterations in lipid metabolism. The cholesterol, triglycerides and phospholipids level increase with aging (Celine Joseph, 1992). This age related changes in lipid composition in various tissues and organs are thought to account not only for the age related accumulation of body fat, which is a risk factor for diabetes and atherosclerotic diseases, but also for age-related cellular hypo function (Tanaka *et al*., 2004). Therefore, reversing age related changes in plasma lipids would help to maintain normal cellular function and prevent age associated cardiovascular diseases.

Medicinal plants are assuming greater importance in the primary health care of individuals and communities in many developing countries. There has been an increase of demand in international trade because of very effective, easily available, no side effects and used as alternative to allopathic medicines. Medicinal plants are believed to be much safer and proved elixir in the treatment of various ailments (Ashis, 2003). Number of plant and plant products are being used as hypolipidemic activity (Mukherjee, 2003; Sairam, 1998). The medicinal value of the chosen plant *Asparagus racemosus* has been extensively worked out. However, its lipid-regulating activity has not been evaluated in aged rats.

In Indian system of medicine *Asparagus racemosus* Willd root (Liliaceae) (Eng: Willd asparagus, Tamil: Thanner Vittan Kizhangu,) is an important medicinal plant. Traditionally it is used as health tonic (Pandey and Chunekar, 1998) and common Indian home remedy used as a rejuvenator and promoter of strength (Dash, 1991). Roots of the plant have been used in the Indian traditional system of medicine for the treatment of various ailments in human being (Nadkarni, 1976; Goyal *et al*., 2003). *Asparagus racemosus* is a well known ayurvedic rasayana which prevent aging, increase longevity, impart immunity, improve mental function and add vigour and vitality to the body and also is used in nervous disorders, tumors, inflammation and hepatopathy (Sharma, 2001). Reports indicate that the pharmacological activities of *A. racemosus* (ARR) root extract include antiulcer (Sairam *et al*., 2003), antioxidant (Kamat *et al*., 2000), anti-diarrhoeal (Venkatesan *et al*., 2005), hypolipidemic (Visavadiya and Narasimhacharya, 2005) antidiabetic (Govindarajan *et al*., 2004) and immunomodulatory activities (Thatte and Dahanukar, 1987). *Asparagus rasemosus* has also been reported to have potent adaptogenic activity (Rege *et al*., 1999). It was reported that ARR contain saponin (Gaitonde and Jetmalani, 1969), alkaloids (Sekine *et al*., 1994), polysaccharide (Kamat *et al*., 2000), polyphenols, flavonoid and vitamin-C (Venkatesan *et al*., 2005; Visavadiya and Narasimhacharya, 2005). Choudhary (1992) showed that the mineral content of *Asparagus racemosus* root contain calcium, manganese, magnesium, potassium, copper, zinc and cobalt. Therefore, our study was concentrated on the role of *Asparagus racemosus* root extract on plasma lipids in young and aged rats.

Materials and methods

Animals

Male albino rats of wistar strain approximately 3-4 months old rats weighing approximately 140-160g (young) and 24-26 months old rats weighing approximately 380-410g (aged) were used in this study. They were healthy animals obtained from Sri Venkateswara enterprises, Bangalore, India. The animals were housed in spacious polypropylene cages bedded with rice husk. The animal room was well ventilated and maintained under standard experimental conditions (Temperature 27±2ºc and 12 hours light / dark cycle) throughout the experimental period. All the animals were fed with standard pellet diet (Gold Mohur, Mumbai,

India) and water *ad libitum*. They were acclimatized to the environment for 1 week prior to experimental use. The study protocol was carried out as per the rules and regulation of the institutional animal's ethics committee (IAEC).

Plant Material

The roots of the *Asparagus racemosus* were collected from the kolli hills, Tamil Nadu, South India. The collected roots were identified and authenticated by Dr. M. Jegadeesan, Department of Herbal and Environmental Science, Tamil University, Thanjavur, Tamil Nadu. A voucher specimen (Specimen no: 29) has been deposited at the Herbarium of the department. The roots were cut into small pieces and shade dried and powdered finely before using for extraction.

Preparation of plant extract

A required quantity of the powder (5g) was suspended in a measured amount of distilled water (600ml). The suspension was boiled until the quantity was reduced to 100ml. The resultant decoction was cooled and used in the present study. The concentration of resultant decoction was 50 mg/ml. For experiments 500mg/kg body weight of *asparagus racemosus* (ARR) root extract was used. This effective dose was selected based on dose dependent studies of ARR carried out in our laboratory.

Experimental Design

Body weights of the animals were recorded and they were divided into 4 groups of 6 animals each as follows.

Group I	:	Control young rats
Group II	:	Young rats administered *Asparagus racemosus* root extract (ARR)(500mg/Kg b.wt/day) orally for four weeks.
Group III	:	Control aged rats
Group IV	:	Aged rats administered *Asparagus racemosus* root extract (ARR) (500mg/Kg b.wt/day) orally for four weeks.

After the completion of experimental regimen, the rats were fasted over night and blood samples were collected from tail vein in the centrifuge

tubes. The blood samples were allowed to stand for 30 minutes at room temperature and then centrifuged at 5000 rpm for 15 min. Plasma samples thus obtained were stored at -20ºC until biochemical estimations were carried out.

Biochemical assay

Plasma insulin was assayed by enzyme-linked immunosorbent assay (ELISA) kit (Diagnostic production corporation, UK) The kit included human insulin as standard and labelled human insulin antibody, which cross reacts with rat insulin. Homeostasis model assessment (HOMA) was used as an index to measure the degree of insulin resistance and was calculated by the formula: [insulin (µU/dl) x glucose in mmol/L) / 22.5](Pickavance *et al*., 1999). Plasma glucose levels were assayed by glucose oxidase/peroxidase method (Trinder, 1969). Cholesterol, Triglyceride and HDL-cholesterol were estimated according to the method of Allain *et al.* (1974), Werner *et al.* (1981) and Allain *et al.* (1974). VLDL and LDL in plasma were also calculated as per Friedewald's (1972) equation.

Statistical analysis

Values were expressed as mean ± SD for six rats in each group and statistical significant differences between mean values were determined by one way analysis of variance (ANOVA) followed by the Tukey's test for multiple comparisons (Harvey, 1998). Statistical analysis carried out by Ms-Windows based graph pad Instat software (Graph Pad Software, San Diego, CA, USA) 3 version was used and $p< 0.05$; and $p< 0.001$ were considered to be significant.

Results

Effect of *Asparagus racemosus* on insulin

The levels of plasma glucose and insulin in control and experimental animals are listed in Table 1. The level of glucose and insulin were significantly elevated in aged control rats as compared to young rats. The increase was 16.56 per cent for glucose and 39.13 per cent for insulin. Supplementation of ARR to aged rats restored the age-associated increased in plasma insulin. The decrease was 7.19 per cent for glucose and 34.26 per cent for insulin. In young rats, supplementation with ARR the levels of plasma glucose and insulin did not show significant changes.

The insulin resistance index was significantly elevated in aged control rats as compared to young and aged ARR treated rats. ARR treatment to aged rats prevented the increases. In the case of young rats with ARR, the index was unaltered. The degree of insulin resistance as measured by HOMA was higher in aged control rats while in ARR treated rats the value was normal.

Table 1: Effect of *Asparagus racemosus* root on plasma insulin and insulin resistance in young and aged rats.

	Young		Aged	
	Control	Treated	Control	Treated
Glucose	81.22±7.79	84.99±6.62	97.35±2.37 [a***]	87.52±6.22 [b*]
Insulin	55.21±4.03	57.40±8.04	90.70±4.00[a***]	59.63±5.49 [b***]
Insulin Resistance Index	12.52±1.24	12.70±1.56	21.59±1.0 [a***]	13.56[a]±0.67 [b***]

Values are expressed as mean ± SD for six rats in each group.
Glucose mg/dl ; Insulin - µU / ml.

Insulin resistance: [@] $HOMA = \frac{\text{Insulin (µU/ml) x glucose (mmol/L)}}{22.5}$

[a]As compared with young control rats, [b]As compared with aged control rats.
[*]$p < 0.05$ [***]$p<0.001$.

Effect of *Asparagus racemosus* on plasma lipids

Aged control rats showed significant increase in plasma cholesterol, triglyceride, LDL and VLDL-cholesterol levels and decreased in HDL-cholesterol levels as compared to young control rats. The increase was 44.81 per cent for cholesterol, 25.26. per cent for triglyceride, 69.39 per cent for LDL-C, 25.24 per cent for VLDL-C and decrease being 37.39 per cent for HDL-C in aged rats (Table 2). Supplementation of ARR to aged rats showed significant decreases in plasma cholesterol, triglyceride, LDL and VLDL-cholesterol levels and increased in HDL-cholesterol levels as compared to aged control rats. The decrease was 39.38 per cent for cholesterol, 22.83 per cent for triacylglcerol, 59.46 per cent for LDL-C, 22.82 per cent for VLDL-C and increase being 33.95 per cent for HDL-C. Supplementation with ARR to young rats did not show significant changes in plasma lipid profile.

Discussion

Insulin also plays an important role in the metabolism of lipid apart from its regulation of carbohydrate metabolism. Insulin is potent inhibitor of lipolysis. Since it inhibits the activity of the hormone sensitive lipases in adipose tissue and suppresses the release of free fatty acids (Loci *et al*., 1994). Aging has been implicated in the development of insulin resistance in both rats and humans (Ferrannini *et al*., 1996). During aging, enhanced activity of this lipase enzyme increases lipolysis due to insulin resistance and releases more free fatty acids into the circulation (Ferrannini *et al*., 1996; Agardh *et al*., 1999). Increased fatty acids concentration also increases the beta-oxidation of fatty acids by increasing the activity of HMG-CoA reductase, producing more acetyl CoA and cholesterol during aging (Rolband *et al*., 1990). In our study, we also observed the increased level of insulin and insulin resistance index in aged rats. This finding is in agreement with Novelli *et al.* (2000) study. Supplementation of ARR resorted the levels of insulin and insulin resistance index in aged rats. Our results corroborate the earlier work done by Velavan and Hazeena Begum (2007) where it has been reported that *Asparagus racemosus* root extract decreases the levels of insulin and insulin resistance index in aged rats. Administration of ARR to the aged rats restored the glucose level as compared to young rats which was consisted with Velavan and Hazeena Begum (2007) study.

An elevated level of insulin is generally associated with hyperlipidemia (Kadnur and Goyal, 2005). Analyses of plasma samples in experimental animals indicate that cholesterol, triglycerol, LDL-C and VLDL-C levels increased but there was a decrease in HDL-C with ageing. We also observed the increased level of plasma cholesterol, triglyceride, LDL and VLDL fractions, along with a decrease in HDL cholesterol in aged rats (Table 2) as compared with young control rats. Our results concord with the earlier work done by Carlson *et al*., (1968), showed that the increased in the levels of plasma lipids in aging rats. The age related increase in the concentration of plasma VLDL has been shown to be attributable to enhanced secretion of triglyceride from the liver and to decrease removal of triglyceride from plasma. Ageing was found to decrease lipoprotein lipase activity in adipose tissue, which explains the higher plasma triglyceride levels in aged animals (Tanaka *et al*., 2004). Several other studies have also demonstrated that in

conditions of hyperinsulinemia, hypertriglyceredimia becomes the strongest indicator of cardiovascular disease. A strong correlation exists between insulin resistance and dyslipidemia. Insulin resistance at the adipocyte leads to release of free ratty acids and their increased flux to the liver, which leads to stimulation of liver for synthesis and release of VLDL with consequent hypertriglyceredimia (Ginberg, 2000).

Table 2 Effect of *Asparagus racemosus* root on plasma lipids in young and aged rats.

	Young		Aged	
	Control	Treated	Control	Treated
Total Cholesterol	104.24±6.12	96.43±6.33	188.86±5.84 ^{a***}	114.49±5.61 ^{b***}
Triglycerides	64.83±4.01	58.15±4.44	86.74±4.17 ^{a***}	66.94±4.08 ^{b***}
HDL cholesterol	45.49±4.25	52.44±3.63	28.48±4.87 ^{a***}	43.12±3.06 ^{b***}
LDL cholesterol	43.78±4.14	32.36±4.18	143.03±4.88 ^{a***}	57.98±4.10 ^{b***}
VLDL cholesterol	12.97±1.02	11.63±0.94	17.35±1.23 ^{a***}	13.39±1.14 ^{b***}

Values are expressed as mean ± SD for six rats in each group.
Lipids - mg/dl plasma.
[a] As compared with young control rats, [b]As compared with aged control rats.
$^{***}p<0.001$.

The increase of plasma cholesterol levels in aged rat was mainly attributed to an increase in cholesterol in the LDL fraction. This observation is consistent with the finding that age related hypercholesterolemia was caused by LDL and HDL. Plasma LDL cholesterol levels are known to be regulated by receptor mediated clearance of the lipoprotein (Ginsberg, 1998). So the increase of plasma LDL-C in aged rats is thought to be caused by the reduction of catabolic pathways. High levels of LDL cholesterol show a positive correlation with atherosclerosis, whereas high levels of HDL cholesterol have a negative correlation. HDL inhibits the uptake of LDL by the arterial wall and facilitates the transport of cholesterol from peripheral tissue to the liver, where its catabolised and excreted from the body (Buring *et al*., 1992).

Supplementation of ARR to aged rats significantly reduced plasma cholesterol, triglyeride, LDL-C and VLDL-C levels and increased HDL-C with ageing. Our findings are in agreement with Visavadiya and Narasimhacharya (2005) study, which reported that supplementation of *Asparagus racemosus* root powder decreased plasma lipids. The possible mechanism of ARR in significantly increasing the activity of lipoprotein lipase and to restore plasma traclglycerol secretion rate to the normal level and inhibition of endogenous triglyceride production. In addition, decreased insulin resistances in aged rats were observed in our earlier study (Velavan and Hazeena Begum, 2007) might be to promote the lipoprotein lipase activity through the insulin sensitivity to target organ. These observations suggest that ARR supplementation can reduce the risk factors for cardiovascular diseases in ageing. ARR treated young rats had non-significant changes in lipid profile compared to their control ones.

Flavonoids are considered as active constituents in many medicinal plants and natural products with positive effect for human health (Wollenweber, 1988). Mukherjee (2003) reviewed many plant products having hypocholesterolemic potentials. These natural compounds may act separately or synergistically to regulate lipid homeostasis. ARR contain flavonoids, polyphenols and vitamin-C (Velavan *et al*., 2007) exhibits the regulation of plasma lipids in aged rats treated with ARR.

Conclusion

The results of the present study shows that supplementation of ARR is beneficial to aged rats as it can reduce the age associated increased insulin, cholesterol, triglyceride, LDL-C, VLDL-C and increase the age associated decreased HDL-C. The findings of the present study suggest that ARR regulated the plasma lipids in aged rats as like young rats. Supplementation of ARR to young rats could maintain the plasma parameters and increase HDL-C, which is antiatherogenic cholesterol. This lipid regulating activity of ARR mainly attributed to the presence of enriched therapeutic phytochemical constituents such as flavonoid, polyphenol, polysaccharide and vitamin C. Results of the present study clearly indicates that ARR possess hypolipedimic or antiatherogenic activity.

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Low Bone Mineral Density among Women : A Threatening of Geriatric Osteoporosis

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ABSTRACT

Osteoporosis, a silent disease causing brittle bones, affects every third woman and eight man over the age of fifty. By the year 2050, it is estimated that 6.20 million hip fractures will occur world wide due to osteoporosis. The WHO defines osteoporosis as bone mineral density (BMD) levels more than 2.5 SD below the young normal mean. In the Indian scenario, women both rural and urban are ignorant about the gradual bone loss in their life time. In this context, the present research aimed at bone density assessment among middle aged and aged women (120 members) of 35-70 years age through ultra sound bone densitometry to predict current and future risk of geriatric osteoporosis. The findings revealed that 51.7 per cent women suffered from osteopenia and 30.8 % with osteoporosis against the 17.5 per cent of women with normal BMD levels. It was interesting to find that no women above 55 years age had normal BMD values indicating that elderly women are either osteoporotic or osteopenic. Among elderly (>55 years), 60 per cent of them suffered from osteoporosis. The current low BMD levels emphasized the need of proper nutrition and health education to reduce the future risk of geriatric osteoporosis.

Key Words: Geriatric osteoporosis, Bone Mineral Density, Ageing, Body Mass Index, Menopause, Elderly.

Osteoporosis is characterized by skeletal fragility, represents a common degenerative health problem, especially in post-menopausal women. About 40 percent of women aged 50-75 years will be affected by fractures due to osteoporosis, 35 percent of which will be vertebral related, making vertebral fractures as the most common complication of osteoporosis. Osteoporosis is a disease of ageing. Ageing is one universal phenomenon that brings a risk of osteoporosis and fractures among elderly women (Liu *et al.*, 2004). In addition to age, female

gender and menopause, body weight and body man index (BMI) were associated with bone mineral density (BMD) and fracture risk.

The life span of an average Indian has also increased and this contributed to the increased incidence of geriatric osteoporosis. In India, it is projected that by the year 2030, the population of postmenopausal women will be the second highest in the world. Thus the burden of osteoporosis in the Indian scenario will also be immense. An estimated 61 million people in India are reported to be affected by osteoporosis (Goswami *et al.,* 2000). Bone mineral density testing is the preferred method to diagnose osteoporosis. Hence, the present study is focused on estimation of bone mineral density among adult and aged women to assess the prevalence of low bone mineral density.

Methods

The out patient women above 35 years of age from Tirupati urban, semiurban and nearby rural areas are enrolled for testing of bone mineral density during BMD campaigns at the local orthopedic hospital. The relevant information was collected through structured schedule and undergone for anthropometric measurements. Three different age groups viz. 35-45 years, 46-55 years and 56-70 years were purposively selected. A group of 40 women in each age group was studied which comprised of totally 120 women subjects in the present experimental study.

Menopausal Status: The status of menopause was obtained from the women subjects through interviewing them orally. During this research period, both women with naturally induced menopause due to cessation of menstruation on aging and artificially induced menopause through surgical removal of either ovaries or uterus were considered as the postmenopausal women and the rest of the women experiencing menstrual bleed were considered as pre-menopausal women.

Bone Mineral Density (BMD): Bone mineral density was analyzed through portable ultrasound bone densitometer and evaluated bone status of each individual based on WHO criteria in terms of BMD t-score standard deviation (SD) against the young normal mean. The women containing BMD t-score up to -1.0 SD considered as normal, -1.0 to -2.5 SD t-score as osteopenia and below -2.5 SD as osteoporosis. Thus the women were categorized into three groups based on BMD t-score viz. normal, osteopenic and osteoporotic women.

Body mass index (BMI) : The heights (cm) and weights (kg) of women were taken using graduated height scale and a calibrated balance –beam scale respectively and calculated the index, BMI by using the formula weight (in kg) / height^2 (m^2). Based on BMI scores, the women were categorized as under weight (<20 kg/m^2), normal weight (20-24.9 kg/m^2), overweight (25-29.9 kg/m^2), obese (30-39.9 kg/m^2) and severely obese (>40 kg/m^2) (Bainbridge *et al.*, 2004)).

Statistical Analysis: The data obtained were subjected to statistical analysis using SPSS 11.0 version. The experimental data on BMD was analyzed in relation to age, menopausal status and BMI for statistical constants F-ratio and t-value. The effect of the variables, age and body mass index on BMD was tested through ANOVA and menopausal status on BMD through t-test values.

Results

The bone health status of the women group is evaluated through bone mass analysis with the association of age, menopausal status and body mass index of women recruited in the study.

BMD in relation to age: Based on the findings of BMD t-score SD, each age group was categorized into normal, osteopenic and osteoporotic women separately. Both osteopenia and osteoporosis are treated as the conditions of low bone mineral density indicating relatively poor bone health. Distribution of the extent of low bone mass in each age group as the age advanced is shown in the Table 1.

Table 1: Distribution of osteopenic and osteoporotic women based on bone mineral density (BMD) in relation to age

Age group	Findings of BMD t- score		
(years)	Normal	Osteopenic	Osteoporosis
35-45 (n=40)	12 (30.00)	28 (70.00)	0 (0.00)
46-55 (n=40)	9 (22.50)	18 (45.00)	13 (32.50)
56-70 (n=40)	0 (0.00)	16 (40.00)	24 (60.00)
N= 120	21 (17.50)	62 (51.70)	37 (30.80)

Note: Values within parenthesis indicate percentage

The data clearly indicated that the incidence of osteopenia and osteoporosis is increased as the age advanced. It is to be noticed that all the three age groups women had lower mean BMD values. None of the respondents in the younger age (35-45 years) suffered from osteoporosis but majority as high as 70 percent had osteopenia due to poor nutritional status and changing lifestyle pattern. In the age group of 46-55 years, the percentage of normal BMD t-score and osteopenia shifted to osteoporosis. This was a very remarkable observation need to be noticed that the proneness to osteoporosis increased significantly even by 45 years age onwards and the prevalence is increased with advancing age. The finding needs to be focussed during the current analysis was that absolutely no women had normal BMD value and seemed to be either osteopenic or osteoporotic representing very low bone mass in the geriatric women.

The effect of age on BMD is expressed through statistical analysis by F-test. The results from the Table 2 showed highly significant difference at 1 percent level. This was attributed mainly due to the lowered bone mass as the age advanced showing inverse relation on bone strength with the increasing age.

Table 2: Effect of age on bone mineral density (BMD) t-score among the women subjects

Age group Age (years)	Number (n)	BMD t-score (Mean ± SD)	F-ratio
35-45	40	-1.39±0.51	
46-55	40	-1.98±0.80	33.094 *
56-70	40	-2.58± 0.59	

Note: * Significant at 0.01 level.

The changing trend on bone mass with the progressing age is denoted graphically in the Fig. 1. Though the sample size was small, the trend of results appeared to be representative where the BMD curve had undergone a linear degradation of bone mass as the age increased. Lower bone densities decreased further from younger to middle age and to the aged women indicating a threatening sign of osteoporosis in the geriatric women.

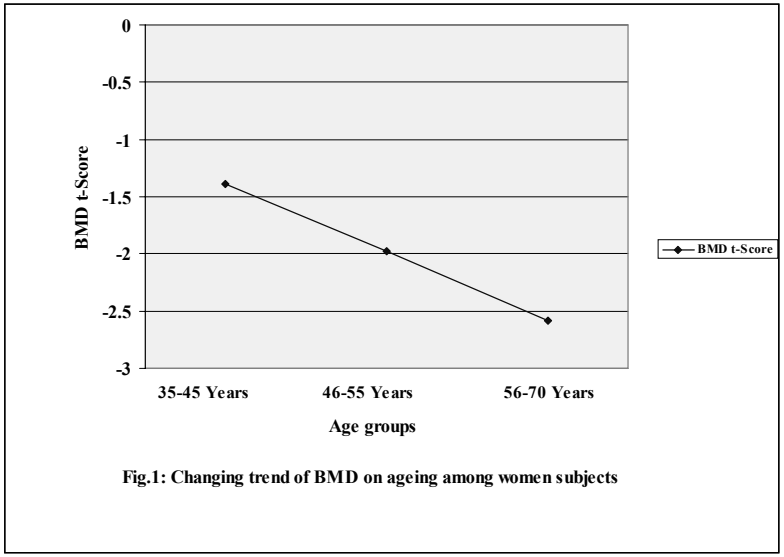

Fig.1: Changing trend of BMD on ageing among women subjects

BMD in relation to menopause: The menopausal status of women of the three age groups studied was given in the Table 3. All the women after the age of 45 years reached the menopausal stage. The findings represented that few experienced early menopausal stage before the age of 45 years either naturally or surgically induced. This small section of population represented more threat of osteoporosis risk at an earlier age.

Table 3: Distribution of women based on menopausal status

Age group (years)	Menopausal status	
	Pre	Post
35-45 (n=40)	29 (72.50)	11 (27.50)
46-55 (n=40)	0 (0.00)	40 (100.00)
56-70 (n=40)	0 (0.00)	40 (100.00)
N= 120	29 (24.17)	91 (75.83)

Note: Values within parenthesis indicate percentage

Table 4 : Effect of menopausal status on bone mineral density (BMD) t-score among the women subjects

Menopausal Status	Number (n)	BMD t-score (Mean SD)	t-value
Pre-menopausal	29	-1.35± 0.50	
Post-menopausal	91	-2.19± 0.78	6.713*

Note : * Significant at 0.05 level

The statistical analysis on menopausal status against bone density showed a significant difference at 5 per cent level (Table 4). Post menopausal condition, the natural biological change on ageing was found to be the major risk factor of osteoporosis.

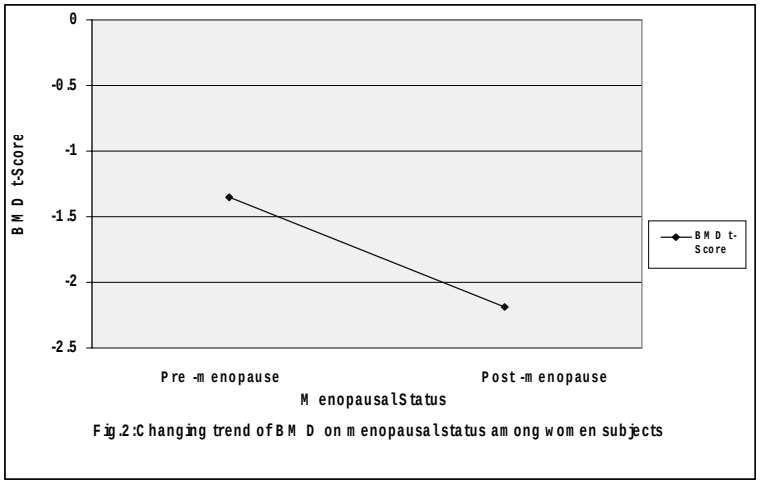

Fig.2:Changing trend of BMD on menopausal status among women subjects

The BMD t-score from the Fig. 2 revealed that the bone mass was reduced drastically among the postmenopausal women. The preva;emce pf post menopausal osteoporosis was an indicative sign of the onset of geriatric osteoporosis.

BMD in relation to BMI: Age wise distribution of experimental subjects in relation to BMI was represented in the Table 5. It was observed that around 50 percent of women belong to normal category,

15 percent to underweight and the rest of 35 percent belong to overweight and obese. None of the respondents found to be severely obese either in the aged or in adult women category studied.

Table 5: Distribution of women based on body mass index (BMI)

Age group (years)	Body mass index (kg/ m^2)			
	Under weight (<20)	Normal weight (20-24.9)	Over weight (25-29.9)	Obese weight (30-39.9)
35-45	5	22	59	4
(n=40)	(12.50)	(55.00)	(22.50)	(10.00)
46-55	7	16	14	3
(n=40)	(17.50)	(40.00)	(35.00)	(7.50)
56-70	7	19	9	5
(n=40)	(17.50)	(47.50)	(22.50)	(12.50)
N= 120	19	57	32	12
	(15.83)	(47.50)	(26.67)	(10.00)

Note: Values within parenthesis indicate percentage

Table 6: Effect of body mass index on bone mineral density (BMI) t-score among the women subjects

Body Mass Index (BMI)	Number (n)	BMD t-score (Mean SD)	F-ratio
Body mass index (kg/m^2)			3.366*
<20 (underweight)	19	-2.27±0.72	
20-24.9 (normal weight)	57	-1.75±0.82	
25-29.9 (overweight)	32	-2.12±0.72	
30-39.9 (obese)	12	-2.28± 0.80	

Note:* = Significant at 0.05 level

The effect of body mass index on the bone health status of the women group studied was found to differ significantly at 5 percent level (Table 6). This probably due to relatively lower and higher body weights observed among a group of individual subjects resulting in lowered bone density levels.

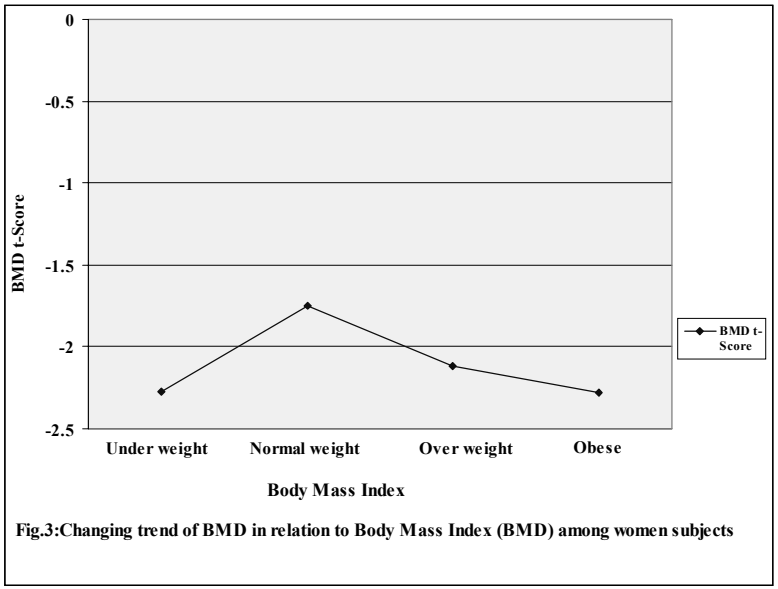

Fig.3:Changing trend of BMD in relation to Body Mass Index (BMD) among women subjects

The trend of results from the Fig.3 focused that both the women with underweight suffering from chronic energy deficiency and women from overweight and obesity were more prone to osteoporosis. It was also to be noted that women with normal BMI scores (20 to 24.9) also had lower levels of mean BMD (-1.75) denoting poor bone health status among the middle aged and elderly women analyzed for bone density testing.

Discussion

Ageing is a natural process. As the population of ageing increases progressively in the near future, osteoporosis should be considered as a disease of vast importance. The results of the bone mineral density technique analyzed showed higher prevalence of lesser bone strength with the advancing age. The highly significant F-ratio value indicated that with the 10 years of advancing age, no one in elderly had normal BMD t-score and all 40 women of the experimental subjects of above 55 years were suffering either from osteopenia or osteoporosis. Elderly women group was found to be the major sufferers of osteoporosis.

Because the female population was the most vulnerable section with inappropriate nutrition and health care. The lower bone density levels even among middle aged clearly indicated a remarkable threatening sign of geriatric osteoporosis. To protect bone mass, the women at this age really require supplements of adequate macro and micro nutrients especially with protein, calcium, vitamin D, vitamin K, isoflavones or hormone therapy.

Experiencing menopause was the next strongest predictor of loss of bone density with aging. Rapid bone loss was noticed in the post menopausal women group examined. Endocrine regulation of bone mass is the major factor related to bone metabolism that deserved separate consideration. Estrogen is essential for reaching peak bone mass and for maintenance of bone mass. Estrogen deprivation generally found among postmenopausal women is considered as the principal cause of postmenopausal osteoporosis accelerating bone loss. Several studies supported that postmenopausal osteoporosis is the commonest and most preventable of all varieties represented (Bainbridge *et al.,* 2002; Bainbridge *et al*., 2004; Shah *et al.*, 2004)).

The early menopause before the age of 45 years required early detection of bone density as the estrogen deficiency might occur at an earlier age resulting in faster bone loss. Early detection of low bone mass may be useful to find out the preventable measures before worsening the bone strength and to minimize the risk of geriatric osteoporosis. Menopause is an unavoidable biological change and thus the women should start concentrating on the measures at an earlier stage which are helpful in maintaining bone density such as proper diet, adequate maintenance of body weight and appropriate physical exercise along with supplements of calcium and/or isoflavones.

The underweight women had the minimum BMD values than the overweight and normal category of women denoted maximum risk among the women with thin body frame. Small-boned people are at greater risk of osteoporosis than those with larger bones. Also their lower body weights put less stress on their bones throughout life, which is a disadvantage rather than an advantage – in terms of osteoporosis risk because such stress on the bones causes them to increase in density. This effective health advantage reduced risk of osteoporosis is associated

with the presence of a significant amount of body fat (Rico *et al.,* 2002). Fat also helps to produce the hormone estrogen which has been proven to slow the loss of bone. Very low body weight is associated with lower peak bone mass development in the young and increased bone loss and risk of fragility fractures in older persons.

The increasing body weight had a protective effect to some extent but too much overweight and obesity was also noticed as risk factors. This represented the importance of maintaining optimal weights around 50-60 kg for their heights throughout lifetime was necessary to restore bone density. Similar results were observed by Ijuin *et al.* (2002). In overweight adults who are restricting energy (calorie) intake in order to lose weight, prudent measures to prevent bone loss include ensuring sufficient intake of calcium and vitamin D, taking weight bearing physical activity, and avoiding 'fad' diets in which whole food groups are eliminated.

The results of the present study showed a distinct incidence of low bone mineral density among the women due to varying causes indicating that osteoporosis was a multifactor preventable bone disorder. A matter of great concern is that, although the effects of osteoporosis are seen in elderly population particularly women, the roots of osteoporosis are laid down earlier in life. Thus, osteoporosis has been described as a condition dealt with by the geriatrician but with its roots in pediatrics. Hence, proper nutrition and health education is of utmost important to the women to reduce the incidence and consequences of geriatric osteoporosis.

Conclusions

The women are more prone to the lower bone mass conditions causing poor bone health status of osteoporosis. Indian women especially are vulnerable to degeneration of bone mass and face risk of bone fractures. The symptoms of osteoporosis fairly observed until one experienced severe pain and fracture. The Indian women are admitted to hospital only after fracture had occurred. Many including educated were unaware of the onset of osteoporosis which was a challenging task to educate the community on nutrition and health education for maintaining good bone health status.

Bone density techniques to screening out low bone density condition are not familiarized in the common population. Appropriate government investment is required to develop a screening tool for public awareness campaigns in collaboration with academic institutions, hospitals and expertise in research sector. The corrective measures at correct time really fetch healthy bones to reduce the incidence of geriatric osteoporosis.

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Residents Living in Care and Nursing Homes: What Factors Affect Their Compliance to the Use of Hip Protectors?

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ABSTRACT

Falls in residents living in long-term facilities are a major health concern and result in a major threat to the residents' health. Compliance is a major obstacle in the effective use of hip protectors as they will only work if they are worn by the residents. The aim of this review was to investigate the issues or factors affecting the compliance and adherence of nursing/care home residents' to the use of hip protectors. A review of the literature over the previous five years using the keywords; 'nursing homes', 'residential facilities', 'homes for the aged' and 'protective devices'. A manual search of journals was also conducted.There is a lack of research carried out to evaluate the prospective effect of organisational factors on the levels of adherence. A review of the literature over the past five years indicated that a change in design may be needed to improve adherence even though this is unlikely to solve the whole compliance issue. The effectiveness of hip protectors is still uncertain when considering the literature and this may be due to the continued low adherence or uptake seen in a number of trials conducted in nursing and residential facilities. Numerous factors were documented to be found associated with adherence and these did not differ drastically between the studies; however there are inconsistencies. The varied difference in the rate of uptake and adherence between nursing and residential facilities may be explained mainly by the staff knowledge, attitudes and availability.

Keywords: Nursing homes; Residential facilities; Homes for the aged; Protective devices; Adherence

Falls in residents living in long-term facilities are a major health concern and result in a major threat to the residents' health. Hip fracture is one of the main consequences of a fall and the literature suggests mortality, of between a fifth and a third, up to a year after a fall resulting in a fracture (Zohman and Liebermann, 1995; Magaziner *et al.,* 2000). The same number of residents is estimated to be severely disabled or incapable of walking after such an event (Lips and Obrant, 1991). This results in a very small percentage of post-fall residents returning to pre-fall functioning state. The WHO estimated a worldwide incidence of hip fracture to be in the region of 1.26 million in 1990 and this was predicted to double by 2025 (Gullberg *et al.*, 1997). Since then there has been a general recommendation for the use of protective devices in the literature and in published national guidelines (SIGN). In this review only one study took policy into consideration as a possible factor to improve adherence by evaluating the impact of organisational factors on adherence (O'Halloran *et al.*, 2007).

Many multidisciplinary strategies have been designed to reduce the incidence of hip fractures after falls. These practices may include improvement in gait or posture, increase in bone strength and modification of their living environment. The use of hip protectors is one such non-pharmacological approach. Fractures of the hip are mostly the result of a ground level impact whilst the patient is mobilising. Falls to the side (lateral aspect) directly impacts the greater trochanter of the femur and increases the chance of a fracture (Tideiksaar, 2006). The risk is increased in the presence of osteoporosis which weakens the bone resulting in a greater fracture risk (Cooper *et al.,* 1987). Hip protectors are devices designed to absorb and redistribute the impact of a fall with the aim of reducing the risk of a fracture. The current design of the hip protectors consists of high impact absorbing pads held in place with specially designed underwear (Parker *et al.,* 2005). There are different forms of hip protectors including the soft and hard shell forms.

Although the effectiveness of hip protectors is a subject for debate due to the substantial differences in results of various studies carried using these devices a number of studies have described them to be an effective tool in reducing the incidence of hip fractures in long-term care settings; especially in high risk residents (Parker *et al.*, 2005; Kannus

and Parkkari, 2006). Compliance is a major obstacle in the effective use of hip protectors as they will only work if they are worn by the residents.

Objective

The objective of this review was to investigate the issues or factors affecting the compliance and adherence of nursing and care home residents' to the use of hip protectors.

Methods

A literature search was performed in PubMed and Scopus limited to all publications available from 2005 until April 2010 using the keywords; 'nursing homes', 'residential facilities', 'homes for the aged' and 'protective devices'. A manual search of journals was also conducted. Two persons independently selected the relevant titles and abstracts. The following inclusion criteria were used; (i) intervention: hip protector, (ii) outcome measures: compliance, acceptance and adherence, (iii) persons living in nursing or residential homes. In the event of disagreement on an article, both reviewers judged the article in full text. No restriction of language or publication type was used. Study protocols which existed without results were excluded. Results combining the statistical figures could not be combined due to the diversity and heterogeneity of the study groups.

Results

The literature search performed in April 2010 resulted in 112 articles of which 76 were found in PubMed, 33 were found in Scopus and a further three were found through a manual search. Of these a total of 35 articles were selected for further review by the reviewers. Of the 35 selected articles, there were eight studies which had acceptance or compliance with hip protectors as a primary outcome measurement.

The search was limited to the last five years with the intention of limiting the literature to the adherence of the more recent designs of hip protectors currently available for use. The hip protectors mentioned in the literature were all of the "SAFEHIP" variety (http://www.safehip.com). This included both the soft and hard versions. Only one trial did not mention the type of protector used.

The definition of "adherence" was taken as the "wearing of hip protectors at times when the resident has a risk of falling" (Bentzen *et al.,* 2008). The definition of nursing homes was taken to be "an establishment which provides residential and nursing care for sick, disabled or elderly infirm people including the elderly mentally ill". Residential homes were similarly described but excluding "nursing care" (Royal Commission on Long-Term Care, 1999).

Discussion

A variety of research has been carried out over the past few years on the subject of hip protectors. Not all the research covers the adherence or compliance of the protective devices as a part of the research aims. A number of research projects mention adherence as a limitation of their research and do not delve deeper into the possible reasons for the limitation. The few publications on this subject describe the adherence factors to be dependent on three main areas; the resident, the staff and the facility. These papers all consider underlying theories of communication and education as the basis of their research. The following investigates the methods of assessment, evaluation and the factors (and possible solutions) that have been described in the literature with regards to the adherence and compliance of hip protectors in residents of nursing, care and residential homes.

Assessment of Sample Population

The population chosen for inclusion in the studies were all taken at the same point in time and therefore the subjects are at different levels of medical care and disease. The participants were chosen according to inclusion criteria which were based on a subject's 'risk of falling'. The residents who satisfied the criteria were defined to be in a position to benefit from the use of the HPs. They were then reviewed using assessments such as; the BARTHEL INDEX (Mahoney and Barthel, 1965) to assess dependency (O'Halloran *et al.,* 2007; Bentzen *et al.,* 2008), the Minimum Data Set Cognition Scale (MDS-COGS) to assess cognition (O'Halloran *et al.,* 2007), a modified STRATIFY score to assess falls risk (Thompson *et al.,* 2005), a fear of falling questionnaire by Tinetti *et al*. (1990), IPLOS Score to evaluate memory and communication (O'Halloran *et al.,* 2007) and through adapted questionnaires to assess demographic characteristics as well as

evaluation of long-term medical problems of the residents (Cryer *et al.*, 2006). In some cases the method of assessment was not mentioned even though a method of assessment was carried out (Cryer *et al.*, 2008). Data on injuries and falls during the study period was also collected from the homes as a part of the ongoing research. As these were studies to assess adherence there was no need to select control groups.

Evaluation of Adherence

Adherence to wearing hip protectors was established through a variety of methods including;

(1) Direct observation by nurse facilitator during visits to homes (O'Halloran *et al.,* 2007).

(2) Adherence diaries completed by staff (Cryer, Knox, & Stevenson, 2008)..

(3) Questionnaires completed by staff (Thompson, Jones, Dawson, Thomas, & Villar, 2005).

(4) Monthly registration on designated form (Bentzen, Forsen, Becker, & Bergland. 2008).

Initial Uptake

The first problem encountered is the initial acceptance of the hip protector (HP) and this is referred to the as the "uptake" of the device. Poor uptake by residents was described to be due to a lack of education or belief in the possible beneficial use of the devices. The residents who had fallen in the past, or who were at a greater risk of falling, were observed to have more positive views of the HP than those who were not at such a high risk. A large proportion of residents refused the HPs outright and reasons included complaints that they were too bulky or uncomfortable and this also includes concerns regarding the difficulty in wearing the devices on their own (O'Halloran *et al*., 2007).

Cryer *et al.* (2008) noted that many of the residents who initially accept the devices; many would use them inconsistently or stop using them a short time later (Cryer *et al.*, 2008). This highlighted the need to investigate the quality (time) of adherence and not just adherence as an outcome.

Adherence Factors relating to the RESIDENT

The resident has a substantial say in the use of hip protectors and the areas of concern described includes; initial uptake of the devices, comfort, incontinence, independence, and possible incompatibility with cognitive impairment and dementia.

Comfort is considered to be a major factor affecting adherence of HPs and this was shown to be true even between different forms of the same product. An increased likelihood of adherence for a longer period of time in those residents using soft-shelled HPs was observed when compared to those residents using hard-shelled HPs (Bentzen *et al.,* 2008). HPs are made in a variety of sizes and availability of the correct size affects uptake and adherence. Discomfort, poor fit and skin irritation (too cold and/or tight), and pain over previous fracture site have been documented to be barriers to continued use (O'Halloran *et al.*, 2007).

Level of independence was also an issue; the use of HPs may cause previously independent residents to become dependent on carers when requiring the toilet; due to difficulty in taking the garment down and pulling it up again (O'Halloran *et al.,* 2007).

Incontinence showed both positive and negative correlations with the adherence to HPs. Where residents are dependent on carers and staff at the home; the more likely the adherence has been shown to be positive. This is linked to the attitudes of the staff which will be described later. The need to change the HP is affected by the level of dependence the resident has and therefore the level of assistance required varies depending on upper extremity strength and dexterity.

Incompatibility with cognitive impairment, dementia and other organic diseases (such as confusion) also shows a mixed response with either positive or negative adherence. An initial disregard of the device may be reversed and these residents show good adherence once the habit of wearing the device is acquired. Residents with a lower Barthel Score and a greater MDS-COGS score were more likely to adhere to the HPs (O'Halloran *et al.,* 2007). This higher level of dependence on staff may indicate that these residents may rely more on staff decisions, be more open to persuasion to wear the devices;

resulting in a lesser likelihood of non-compliance (O'Halloran *et al*., 2007) (Thompson *et al.*, 2005). Poor cognition has been related to increased fracture risk and poor recovery from surgery; indicating that this subset of residents would benefit most from targeted approaches such as HP use.

Those residents at greatest risk of falling show a greater adherence and this indicates that those perceived to be at a lower risk may be less likely to wear protective devices (Thompson *et al*., 2005). O'Halloran *et al.* (2007) did not find a relation between history of falls and an increased adherence to HPs which may suggest that, in that instance, neither residents nor the staff acted on the perception of risk. Others found increased adherence in homes where there were a higher number of recorded fractures (Cryer *et al.,* 2008). This may due to sensitisation of staff to the risk of fracture following a fall; resulting in a modification of staff attitudes - supporting and encouraging the use of HPs. This possible explanation may be negatively affected in the event of a high turnover of staff or change in management.

The type of hip protector may also be an issue as improved adherence to the soft-shelled form of the SAFEHIP rather than the hard-shelled version was established (Bentzen *et al.,* 2008). More users stopped using the hard-shelled version at an earlier stage, however, once a resident became accustomed to the use of the HP then there was no difference in adherence. There is no clear indication as to the form of HP used in the other trials and this may have had an effect on uptake and initial adherence.

Adherence Factors relating to the STAFF

Structured education and training of the staff was described to have a positive effect on adherence with HPs. Scepticism of the device (poor perception of "usefulness" or efficacy) by staff, as well as residents, may have proved to be a barrier to the continued use of HPs. Attitude and motivation is crucial in achieving good staff compliance and this may be instrumental in convincing residents to continue using the HPs (Bentzen *et al.,* 2008; Cryer *et al.,* 2006; Cryer *et al.,* 2008; Thompson *et al.,* 2005). Compliance improves when the staff is educated about the efficacy, benefits and positive outcomes linked to the use of HPs as a part of everyday practice (Bentzena *et*

al., 2008; Cryer *et al.,* 2008). Bentzen *et al*. (2008) offered structured education and training to staff in the care homes covering the risk and consequences of hip fractures. This included information about, instructions of use and laundry of the HPs. Participating department were also give a binder with all the information given (Zohman & Liebermann, 1995).

O'Halloran *et al*. (2007) investigated the effect of implementation of a HP related policy called the "PARIHS Framework" on adherence. The introduction of the policy resulted in a greater uptake and adherence to the devices' use. This indicates the need for incorporation of HP-related departmental policy and guidelines to improve compliance by staff and residents. The adherence was also noted to be higher in the departments/homes with fewer changes of senior management during the study period. The negative impact of a change in senior management may be due to the lesser likelihood of a sustained experience of "transformational leadership" in the homes.

Carers' attitudes are indicated to be of great importance in the use of HPs; Thompson et al. mentions that carers felt "happier" when a known at-risk resident was wearing the protector. This may result in a reduced fear of falling and improved self-efficacy (Thompson *et al.,*2005).

Adherence Factors relating to the facilities

Availability of HPs in care homes would have a drastic effect on compliance as do the characteristics of the home itself (Cryer *et al.*, 2006). The protective devices were made freely available to the participating residents, with three or four HPs made available to each resident, and this was also supplemented with the support from a nurse facilitator in one of the studies.

HP turnover and destruction was an issue as incorrect cleaning methods may affect device availability. Incorrect methods used to dry the HPs resulted in the destruction of a large number of the soft-shelled protectors used in one trial (Bentzen *et al.,*. 2008). The studies did not, however, discuss the need for the formulation of policies for staff when handling soiled HPs and when and how to launder the HPs.

Limitations and Bias

Most of the studies were limited to the use of the 'SAFEHIP' design and the difference between the hard and soft-shelled versions is only given by Bentzen *et al.* (2008). One of the studies did not indicate what form was used with their participants. There are also no indications, in most studies, in the forms of 'SAFEHIP' used; whether it was the soft or hard version. This, as explained above, may have an effect on the uptake and adherence of the HP. This, therefore, limits any analysis to be directed to this one form of HP (SAFEHIP) and does not indicate the adherence or compliance of HPs in general.

Most data relied on carer and staff evaluation for risk assessment as well as data gathering. This may involve substantial subjective variation between the homes. This "staff judgement" method was deemed appropriate for these research studies as no standard of evaluation is currently available. None of the studies mentioned any testing for reliability or accuracy of the data. This crude method of data gathering would result in great variation in the adherence results and this may devalue the recorded high compliance rates seen in trials such as that conducted by Thompson *et al.* (2005) This may also be linked to the fact that the staff would be participating on a voluntary basis and are not bound by any means to give precise and detailed information.

The poor levels of adherence in the studies may also be due to the staff which was participating on a voluntary basis and this may limit the degree to which the desired practice was carried out. By including a policy as a part of an educational programme, as was carried out by O'Halloran *et al.* (2007), this may be reduced.

With regards to participants and dropouts; a small percentage of residents either died, were transferred to a non-participating home or were no longer considered as an "at risk" resident. These numbers may also have an effect on the outcome.

Conclusion

Even though nursing home residents are regarded as a high risk population for falls and fractures, not all residents in homes are prone to falling and in need of hip protectors. The risk factors are numerous and there are not yet any predictive tools which can be deemed "gold

standards" for predicting falls in nursing/care home settings. The level of adherence of HPs is still low in residential homes.

There are a number of determinants for non-adherence which have been identified. These include; poorly fitting devices, incorrect sizing, discomfort (especially with hard shell forms), extra effort and time to wear the protectors, decreased power & dexterity and poor staff education. Increased adherence is associated with younger wearers, softer HPs, positive perception of the device in terms of usefulness, efficacy and comfort, and a history of falls or risk of falling. In areas where staff were positive about the use of HPs the overall adherence and acceptance was visibly increased. The opposite was seen when the staff attitude was negative. This is, therefore, an accepted view that adherence to any form of care is linked to staff attitudes, and to organisational issues such as level of staffing, appropriate communication, regular and adequate follow-up by specialists combined with effective leadership in the care home.

There is a lack of research carried out to evaluate the prospective effect of organisational factors on the levels of adherence. Any results published on this have been a secondary concern and therefore not appropriately evaluated. There is also a visible lack of research into staff attitudes towards such devices (Cryer *et al.,* 2006; Thompson *et al.,* 2005). Many residents are highly dependent on staff and usage of these devices may increase the needs expressed by the residents resulting in mixed levels of adherence depending on staff attitudes and staffing levels. The use and promotion of HPs requires active support of care home staff and, wherever possible, the implementation of policy or departmental guidelines for more effective utilisation.

Although the literature is limited to the use of one particular form of HP; the results from Bentzen *et al.* (2008), with investigation of soft versus hard-shelled protectors, indicates that a change in design may be needed to improve adherence even though this is unlikely to solve the whole compliance issue.

The effectiveness of hip protectors is uncertain when considering the literature and this may be due to the continued low adherence or uptake seen in a number of trials. This may have compromised their power to detect a real effect. The factors found to be associated with

adherence are mostly similar across the studies; however there are inconsistencies. The varied difference in the rate of uptake and adherence between homes may be explained by the staff knowledge, attitudes and availability.

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Ageing and Caregiving Crisis in the Low and Middle Income Societies

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ABSTRACT

In the low- and middle-income countries, the growth rate of the population aged 60 or over is three times as high as that of the developed countries. It is projected that by 2030 seventy percent of world's elderly will live in low-income countries. This trend suggests an increase of demands for caregiving for the elders. But in these countries, the formal support system for the elderly is virtually absent or minimal, and almost all the eldercare is done by the family members. Along with urbanization, migration, eroding traditional family values, and changing gender roles, these informal caregivers might not be available anymore. This paper discusses the challenges of informal caregiving in China, India, Mexico, and Sub-Saharan Africa. More specifically it sketches out why and how this caregiver shortage is likely to occur in these countries. Several key issues have been highlighted: (1) eroding family values, (2) changing gender roles, and (3) changing demographics. Some implications for policy have been discussed.

Keywords: Family Caregiving, Ageing in Developing Countries, Informal Support for Elders, Eldercare.

Low- and middle-income societies are rapidly ageing. It is projected that by 2030 seventy percent of world's elderly will live in low-income countries (National Institute on Aging, 2001). Older populations in many less developed countries are growing more rapidly than those in developed industrialized countries. In 2000, China had 129 million and India had 77 million people 60 or older whereas United States had 46 million in that age group. By 2050, it is projected that China will have 437 million, India 324 million whereas United States will have 107 million people 60 or older (United Nations, 2002). In 2050, almost 38.5 per cent of the world's sixty plus population will live in China and India (Chatterji *et al.*, 2008). The ''oldest old,'' is the fastest growing group in China (National Bureau of Statistics of China, 2009). By 2050, China's population aged 60 years and older is expected to be approximately 33 per cent of the total population. Over the next two decades, Mexico will have one of the ten largest elderly populations in the world (National Institute on Aging, 2001). Although in Africa the ageing population is still smaller in number compared to other regions of the world, it is estimated that the total number of people over age sixty will triple in Sub-Saharan Africa by 2030. Concurrent with the rapid ageing are many other changes, such as increase of disability, chronic illness and need for formal and informal care to the elderly in future.

Most of these countries have little or no formal support system for the elders, and elders have to depend solely on the family members. These poorer nations with much lower income may not be able to respond to the ageing of their population by creating and expanding social policies and programs (Apt, 2007; Population Reference Bureau, 2010). In India, forty percent of older people live below the poverty line and another 33 percent are only marginally above the line (Hanspal and Chadha, 2006). As in India, in Mexico and many African countries most people are still living below the poverty line. Additionally, these countries have been experiencing epidemiological transition where chronic diseases have been replaced by the communicable diseases. Diabetes and other obesity-related diseases are on the rise. The concern is how would these countries, where healthcare systems are already stretched out beyond their capacities, accommodate the needs and provide care for its rising elder populations?

It is obvious that caregiving to the elderly will continue to remain the sole responsibility of the family members in these countries. As worldwide traditional family values are eroding and gender roles are changing family caregiving for the elderly may not be available to the extent to meet the increased needs for care in the future. Besides, due to the trends of globalization and urbanization, rural to urban migration of young adults is increasing, and thus leaving the seniors no option but to live alone. This raises concern of who will take care of the seniors in low and middle-income societies where caregiving is predominantly done by the families? And what would be the challenges to these caregivers? Although there is a rich volume of literature on informal caregiving in the Western societies, little is known about the non-western societies. This paper presents a discussion on the caregiving issues faced by the low- and middle income countries. Specifically we focused on China, India, Mexico, and Sub-Saharan Africa. Our overall objective is to examine how the demographic, economic and social changes are affecting the availability of informal caregivers in those countries.

Eroding Family Values

Older adults in low-income countries traditionally and mostly depend on their families for care and support at old age. Very little or no support is available to the elders through public programs. Children live with them as three –generational families where the elderly hold higher rank and authority due to their wisdom and control over resources. The informal caregivers also encompass relatives, friends, and neighbors. The Chinese tradition of caregiving for elder parents is a reflection of the traditional Chinese values of "*filial piety*." This value emphasized that it is a child's duty to provide financial support, physical care and psychological care when the parents are old and dependent on them (Chu and Chi, 2008). "*Familism*" in Mexico reflects the value attached to family relationships. Taking care of elderly family member is considered as a privilege and honour (Magilvy *et al.,* 2000). In Africa, the elderly express satisfaction with family care and they rarely live alone (Unanka, 2003). Caregiving to elders by family members is seen partly as a cultural norm or "*dharma*" or duty in India (Gupta *et al.,* 2009).

Across the globe, this ideology of the family being the major caregiver is slowly fading. As in the last few decades the nuclear-type

family structure is becoming more common worldwide, care and support during old age is no longer automatically provided for (Bhat and Dhruvarajan, 2001; Ching *et al.*, 2002; Makoni, 2008; Cheung and Kwan, 2009). Many theories focus on the westernization and modernization process in these societies that have transformed the family structures as well as family values (Cowgill, 1986). Although filial piety still remains the official ideology of the government and society and is employed to instill a strong sense of responsibility among the husband and wife for their ageing parents in China and co-residence with children is still a major form of living arrangement in rural China (Chu and Chi, 2008), co-residence not necessarily implies that family values are strong (Varley and Blasco, 2003; Yin, 2010).

Children find it constraining to support and care for the parents since the average families' resources and income are meager in low-income countries. In particular older men without resources are more likely to be abandoned by their children or other adult relatives. When faced with extreme poverty, many family networks built in earlier phases of the family lifecycles get broken or weaker. In Guadalajara, Mexico, one-person households of older people are typical where these older persons were left alone or abandoned by the children (Gomez and Montes, 2008). Some other changing social norms are also contributing to the isolation and loneliness of seniors- delayed marriage, new gender roles, marital dissolution and death of spouse. Even if financial support is available, the elderly are at greater risk of lacking social support when they live alone, which in turn is negatively associated with their physical and mental health (Holmén and Furukawa, 2002; Xie *et al.*, 2010).

With continuous migration from rural areas to urban areas family care giving is becoming increasingly problematic. In China, the number of empty-nest families, where only one elderly couple or one-aged person lives, is on the rise. Due to the imbalanced economic growth between the inland and coastal regions and accelerated urbanization, the number of empty-nest families is increasing specifically in the mountainous rural areas of China (Liu and Guo, 2007). Although China has laws which make it illegal to abandon their elders, in urban China elderly living alone is increasing in number. In India, younger generations leave the villages to look for work and settle in urban areas leaving the older

parents behind. The older parents must take care of themselves even when they are ill (Krishnaswamy *et al.,* 2008; Rodríguez *et al.,* 2009). The age-dependency ratio in rural Mexico is very high since most of the young adults are leaving their elderly parents to find work in the north (i.e., the US). Some Mexican villages, especially in the State of Zacatecas have experienced a dramatic shortage of younger population. The villages are left with older populations with limited or no support or care from the children. Elderly couples are increasingly living alone as a result of their children's migration to urban areas as well as to the United States (Montes and Zavala, 2009). Extensive geographic and economic mobility in India are affecting the kin availability and reshaping the family form into nuclear types. In rural areas the joint family is barely surviving in much weaker bonds while in urban India it is withering away (Singh, 2003).

As in India, the Sub-Saharan with most people still living below the poverty line, caregiving for the elderly remains a challenge. Urbanization is changing the family structure and reducing pool of kin available for eldercare (Ferreira, 2008). Apt, N. (1992), a pioneer in African gerontological research, describes how the extended family system was the center of respect, care and services for the elders, and how the trends of migration, urbanization, education, and wage labor are affecting the family structure system as well as the support system for elders in Ghana. The migrations of able-bodied young adults are gradually turning villages into settlements for the old which results in decreased farming and poorer quality of life for elders. On the other hand, in urban areas, care and services for elders are seriously jeopardized with crowded housing, limited financial resources, and the increasing education and employment of women. As traditional family roles may soon no longer be open to the elderly, elders will be increasingly vulnerable to social isolation and rural segregation (Ibid). To avoid this risk of social isolation, many adult children take their parents with them when they migrate to urban areas. This physical removal of the elderly from their traditional home creates stress and anxiety among elders who used to be closely tied with the community where they spent all their lives. Similarly, it is stressful for adult children too, as they have to care for their parents while they are employed. There is no option for institutionalization and there is a lack of minimum or no formal support (Ugwu, 2010).

There is a growing attention and interest among researchers in caregiver neglect and elder abuse and maltreatment. While most of the elder abuse studies are conducted in western societies where there is more awareness in this issue, elder abuse is relatively unexplored in the low- and middle-income countries. Research findings are recently coming out showing that elder abuse is increasing in alarming rates. Caregiver neglect is the most common form of elder abuse in China. Many adult children experience caregiver burden as they try to conform to the "filial piety" traditions (Yan *et al.,* 2002; Yan and Tan, 2004; Dong *et al.,* 2007; Dong *et al.*, 2008; Dong and Simon, 2010). Dong *et al*, (2007) report that thirty-six per cent of the victims suffered multiple forms of abuse and neglect. This probably is an underestimate of actual abuse and neglect that are going on in the society. Chinese elders are reluctant to talk about abuse to outsiders in order to prevent family harmony and honor. When the caregivers are their own spouses or children, it is highly unlikely that the older parents would report the incident.

In India, growing individualism among the younger generation is threatening the traditional value of respecting and caring for older persons. There is no systematic data available on elder abuse. Although elder parents are expected to be cared for by their children, the younger generation is unwilling to live with their parents and care for them. Some studies show that children actively and passively abuse their parents. If elder parents live with their sons, many of them are likely to distance themselves both physically and psychologically (Sankardass, 2008; Jain, 2008). Widows have a low status in the low-income countries, and cannot inherit property. In addition to discriminatory laws various customary practices put them at risk. For example, many widows in India cannot remarry and have to comply with dietary restrictions and other neglects and abuse (Kitchlu, 1993; Ranjan, 2001; Mallick, 2008). A study among 400 community dwelling older adults in India aged 65 and above found that the prevalence rate of mistreatment was 14 per cent. Verbal abuse was the most common form of abuse, and older females experience more abuse compared to their male counterparts. Predators of elder mistreatments are usually daughter-in-laws and sons-in-laws. Generational gap, adjustment problems in the joint families, women's labor force participation and the resulted role strain are some of the cited reasons for the elder abuse (Chokkanathan, 2005).

In Africa, abuse or mistreatment by family members is a sensitive issue and hardly discussed publicly although a growing violence directed at older women as a result of witchcraft allegations is noticeable. Older women often become targets of blame for misfortunes, violence, and stigma (Gorman, 2010; HelpAge International, 2010). Elders in Africa face a number of additional violence such as social, political, and community violence and HIV/AIDS related violence (Joubert and Bradshaw, 2005; Ferreira, 2008).

Changing Gender Roles

Throughout the world, women traditionally take the caregiver role. The vast caregiving literature both from the western and non-western societies suggest that eldercare is mostly done by female children despite their increased participation in the labor force (Coward and Dwyer, 1990; Levande *et al.,* 2000; Brody, 2004; Eaton, 2005; Mendez-Luck *et al.*, 2008; Gupta *et al.*, 2009). Women's caregiving role is largely reflection of societal patriarchal ideology that women are the nurturer by nature. The female caregivers in Mexico view themselves as "guardians" and emphasize on the care recipients' emotional needs. The "*marianisma*" role is cultivated in girls from early childhood and is particularly influential in women's expected behaviors of femininity, submission, weakness, reservation, and virginity (Mendez-Luck *et al.*, 2008). The image of "self-sacrificing mother," who sacrifices her own needs and happiness for the sake of her children and family regardless of the personal hardship is glorified in Mexican culture (Finkler, 1994; Hubbell, 1993). Chinese studies show that female relatives are more willing to keep their parents with them at home (Zhan *et al.*, 2005). If they have to place them in institutional care, compared to their male counterparts they are more likely to provide physical care and visit them (Zhan *et al.,* 2006).

In the next few decades, the worldwide changes in gender roles and women's increased access to education and participation in labor force would change the scenario. The gendered cultural expectation for daughters and daughters-in-law to take care of dependent parents will be changed as women become highly educated and career-oriented. There would be fewer female family caregivers who would be willing to and be able to provide personal care to their elderly relatives. Moreover, caregiving of in-laws which was seen mostly as women's,

especially daughters-in-laws' duty might be viewed simply as a burden (Mendez-Luck *et al.*, 2008). A recent study shows that young married women in Mexico are reluctant to live with and care for the elderly mother-in-laws (Varley and Blasco, 2003). Female children in urban China are gaining increasingly equal access to higher education (Tsui and Rich, 2002), and would be unable to find the time to give personal face-to-face care to the older in-laws. Besides, the employed female adult children are likely to experience caregiver burden when they have to take the caregiver role for the elderly parents.

There is ample evidence that female caregivers who are likely to have caregiver role at multiple dimensions (i.e., caring for young children and elderly parents) experience caregiving burden and stress (Aneshensel *et al.,* 1993). Pearlin *et al.* (1990) describe two major types of stressors that family members might face in providing care to the older relatives: the primary stressors and secondary stressors. The primary stressors are the demands and tasks in daily care, while the secondary stressors develop and intensify as caregiving continues for a long time. The secondary stressors include economic hardship, family conflicts, constriction of social ties and responsibilities, as well as damage to self identity. A study conducted in Nigeria over 221 adult women among whom 113 were working mothers found that caregiver women who work outside of the home report more role overload than their counterparts (Ugwu, 2010). A survey by Zhan *et al.* (2005) over 110 familial caregivers in China shows that the female caregivers of elders were more likely to earn less income when employed. Additionally these female caregivers were involved in household chores and were more likely to report poorer health compared to their male counterparts. Zhan *et al*. (2005) suggest that with the 4-2-1inverted pyramid, gender inequalities in eldercare are likely to perpetuate or even worsen, where the female caregivers will continue to suffer from greater disadvantages that are outcomes of their eldercare tasks.

Changing Demographics

Declining birth rate worldwide will account for decreased number of family caregivers, and more specifically female family caregivers. Since 1960s, birth rate is rapidly declining in most of the developing countries. Although these countries still have the highest birth rate,

women tend to have fewer children than before. For example, in Sub-Saharan Africa births per women (average fertility rate) declined from 6.6 in 1980 to 5.3 in 1999; in East Asia and Pacific the rate declined from 3.0 to 2.1 during the same time. Overall, in the developing countries the birth rate per woman declined from 4.1 in 1980 to 2.9 in 1999 (World Bank, 2004). As mentioned earlier, in all these countries children are the major or in many cases the only support elders have during their old age. Fewer children mean fewer support and greater caregiver burden on the family.

China's one child policy is going to create a situation where smaller number of children, in most cases the only child will have to take care of the two elder parents. The elderly-support ratio in China is projected to decline drastically in next few decades. In 2050, there will 3 working-age persons per one elderly in China and 5 working age persons per elderly in India. The elderly support ratio for Mexico will be 3 in that time (Population reference Bureau, 2010). In addition, some unique factors that would contribute to possible future caregiver crisis include the imbalanced sex ratios in the Asian countries (Powell, 2006), and the HIV/AIDS related deaths in Sub-Saharan Africa. China's one-child policy has resulted in many unintended consequences, some of these are female infanticide and sex-selective abortions (Isabelle, 2009; Nie, 2010). In 2005, there were 119 boys to 100 girls in China. This imbalance was even more severe in rural areas, with 130 boys to 100 girls in some regions. Under age 20 there were 32 million more boys than girls in the year 2005 (Zhu *et al.*, 2009) In a few decades, this steadily worsening imbalanced sex ratio will contribute to a "caregiver crisis" in China. The gradual "masculinization" process is occurring in several Asian countries where the sex ratio at birth is now above the standard range of 104-106 per 100 female births. Due to increased availability of ultra sound machines and easy access to sex determination at early stages of pregnancy, sex selective abortions are increasing in India. Many studies report about millions of 'missing women' in India (Sahni *et al.*, 2008) due to sex selective abortions. Although sex selection of birth is still limited to a small section of the wealthiest urban population, with advancement of technology this trend is going to spread into society (Guilmoto, 2010; Singh, 2010). The deep rooted cultural preference for a son, lower status of women in society, and the fear of dowry burden

are contributing to the highly visible sex imbalances in some states (Sev'er, 2008). For example, in 2001 there were 775 girls per 1,000 boys in some places in India (Sharma and Haub, 2008).

Due to the AIDS epidemic across Sub-Saharan Africa, not only are seniors are losing their able-bodied children who could have been their caregivers at the old age, they themselves are left with no option but to be the sole caregivers for the children of younger generations who have died in the AIDS epidemic. The high mortality among adults with HIV/AIDS has contributed to increasing numbers of ''skipped generation households'' (Schatz and Ogunmefun, 2007). In these households, the surviving seniors are taking the role of caregiver in order to mitigate the potential devastating effects of HIV/AIDS. In seven sub-Saharan African countries up to 40 percent of people living with HIV were being cared for by older people. In Tanzania and Zimbabwe grandparents take care for as many as 40-60 percent of orphaned children (HelpAge International, 2008). In addition to experiencing caregiver burden, the seniors are also faced with loss of income due to the death of able-bodied members of the family. When they need support and care the most, these seniors find themselves not only in financial adversity but under the enormous emotional and physical stress while caring for the orphans and sick family members. Although HIV/AIDS is not as prevalent in other continents as in Africa, skipped-generational living arrangements are increasing in those parts due to out-migration of adult children (Zhang, Li and Feldman, 2005).

Discussion and Conclusion

This paper focuses on the caregiving issues for the elders in low- and middle-income societies. Family caregiving will increasingly become a policy concern given low-income societies' rapidly ageing population and the lack of needed formal care services. It is likely with the decline of caregiver numbers, future elders will depend on alternative means of elder care outside the home, which will be institutional care. Formal long-term care systems are emerging in China but remain in the preliminary stages of development where the quality of care is a concern (Chu and Chi, 2008; Wu *et al.,* 2009). Some studies show that most elders themselves initiate their move into institutions and even report improvements of physical and mental health after moving to the nursing

homes (Zhan, Liu and Guan, 2006). Attitude towards institutional care is still very negative in India. The existing eldercare institutions in India house less than 0.68 percent of the old. According to a HelpAge India survey in 1995, sixty-three percent of the "old homes" are destitute homes, where extremely poor, uneducated, childless elders are eligible to live. The majority of these homes are run by voluntary organizations. Those who are able to pay and live in old homes prefer institutional care because of their loneliness and frustration, health problems, and lack of security, and childlessness (Jamuna, 2003). The concern is how good the quality of care would be even if more nursing homes are available there?

Another issue is even if available are nursing homes culturally appropriate living arrangements for elders in those countries? While western studies are increasingly focusing on the option of 'ageing in place' as it is positively related to elders' wellbeing. It would not be reasonable to assume that the nursing homes would become desirable living options for elders in the developing countries in the near future. Community housing where multiple couples or groups of elderly might unite in one household could be one affordable alternative of the institutional long-term care for the elderly. This type of living arrangement would better suit these less individualistic societies as elders would be able to maintain relationships with some of their established previous long-time acquaintances.

Technological advancements could also serve to fill in the caregiver need to some extent. Isolation, loneliness, and emotional distance from family members could be lessened with wide use of cell phone, Internet based telephone services like Skype and others. In the Western societies, many seniors take active roles in raising their grand kids from a distance, and also maintain their social networks (Bradley and Poppen, 2003; Pfeil, *et al.*, 2009; Rodríguez *et al.*, 2009). In much of sub-Saharan Africa and in many Asian countries the use of mobile phone is on the rise. Internet can help the caregivers to provide care from distance to some extent as well as help them to juggle the role overloads. Sometimes children who live away indirectly assist in caregiving by providing financial help and hiring caregivers, such as maids and other aids. Although these long-distance caregivers are likely to spend less time in caregiving activities, they are not free of caregiver cost and stress.

Long-distance caregiver children may feel guilt and anxiety as they are not able to provide face-to-face care to their parents (Koerin and Harrigan, 2002). Additionally, there is concern about the quality of care provided by the hired aid. In many cases, the money children send for parent's care are not used efficiently. Many might not have a trusted relative near their parents to supervise the care and use of the money. This situation could be addressed to some extent if the local banks could play a role, and also by rationalizing the transfer of funds.

In western societies there are many incentives and assistance to family caregivers. For example, in Australia the number of people receiving government payments that support carers (in June 2007) were 116,614 people receiving Carer Payment and 393,263 receiving Carer Allowance (Gray *et al.*, 2008). In the U.S., a comprehensive range of services are provided to the elders with different levels of functional abilities. Services provided in the community include congregate meals, adult day care, health screening, and physical fitness. In the home, services provided include home health, home delivered meals, chore maintenance, visiting, shopping, letter writing, escort, and reader services. Support is also available for families of elderly with Alzheimer's and other similar diseases. In the context of resource limitation, the low-income countries are probably far away from the point where these kinds of services could become available for the seniors. The positive news is that in many of these countries in the last few years there has been an increased interest in gerontological education and training (Ingman *et al.,* 2010). In China many community-based long-term care services are being developed for the urban elders. These services that are targeted to support the family caregivers include daily care, home maintenance, and information and referral services (Zhang, *et al.,* 2005). Many local and international non-governmental organizations (NGOs) are working in providing care and support to the elders and family members in India and Sub-Saharan Africa. For example, international NGO, HelpAge International is working in these countries, specially in Sub-Saharan Africa to support elder caregivers with income, security, and inheritance rights. It is calling on governments to invest in "social transfer schemes," which refer to a variety of non-contributory, cash-based interventions such as non-contributory pensions and grants for children and families (HelpAge International, 2010). The effects of

HelpAge International and other such non-governmental organizations need to be evaluated. Although resource is limited, governments in those countries have to focus on developing some formal services to supplement the family members' services.

This current study is one effort to add to a growing body of literature that examines ageing issues in the low-income societies. More studies in future are needed on informal family caregiving in the low- and middle income countries to better inform policy makers, educators, and gerontologists to develop programmes and interventions to assist the family members in informal eldercare.

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Health of the Elderly in Rural Dakshina Kannada

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ABSTRACT

Good health along with acceptance of the changing health conditions determines the quality of life. This study presents the analysis of health status with quality of life. The universe for the study included all the elderly of rural Dakshina Kannada District of Karnataka State. The district comprises of five Taluks namely Mangalore Taluk, BeltangadiTaluk, SullyaTaluk, PutturTaluk and BantvalTaluk. The district consists of 20 towns and 354 villages. The total population of elderly above 60 years of age in the district is 157022 and among them 98393 thousand elderly reside in rural areas which constitutes the 8.42% of the rural population and 58629 reside in urban areas. (Govt of India, 2001). The sample for the study include all the elderly aged 60 years and above. The bedridden, mentally unsound and disable in speech were excluded from the study. A proportion of 400 elderly both male and female were drawn by systematic sampling method. A structured interview schedule was utilized for data collection. The results of the study state that a majority of the elderly have good health and are free from ailments. Apart from this some of the common ailments that are found among the elderly in the study area are asthma, anaemia, arthritis, cancer, diabetics, dental disorder, gastritis, hypertension, insomnia, spondilities and skin rashes. It was also noticed that there are three prominent type of physical disabilities due to old age, they are impaired eye sight, hearing impairment and gait disorder. Majority of the respondents consult private practitioners for medical treatment. About 46.25% of the respondents are found to have the habit of chewing paan or betel leaves.

Key Words: Elderly, Aged, Health, Well being.

What constitutes 'good' health for individuals in one period of life, may constitute poor health in a different period of life, moreover constitutes 'good' health for some individuals may constitute 'poor' health for others; the revere can also be true. People are willing to accept different physical states as 'normal' depending on past health and current demands and expectations. At best, the term 'health' is a subjective one (Sharma, 2009). According to the World Health Organisation (WHO), health is defined as a state of complete physical, mental and social well – being and not merely the absence of diseases or infirmity (WHO, 2004). According to Robert H. Binstock and Ethel Shanas (1976) "Health and illness affect an individual's performance of basic personal tasks of daily living and of expected roles. Impairment and disability increase the probability of failure in carrying out tasks and social roles; and such failures in turn increases dependency, which, particularly for adults, challenges widely shared personal and social expectation and preferences of independence. Loss of autonomy tends to have a negative effect on self – evaluation and life satisfaction. Illness also exerts economic costs in terms of both lost opportunities for productive work and charges for health services required to restore functioning. Health is thus both a keys personal resources for any individual and social concern, because performance of social roles in economic, kinship and community organization requires individuals who can function competently".

As stated by Sharma (2009) health is an important factor in the lives of the aged. Health status is the factor that has a bearing in almost every single aspects of our life, particularly for the elderly. It can determine what activities or tasks we can or cannot engage in. Health can also affect the way we perceive our self. In essence, one of the most important aspects of old age is health.As people age, their quality of life is largely determined by the health condition. Poor adjustment to health condition indicates poor quality of life, and vice versa effective adjustment leads to higher quality of life. The factors affecting good health of the elderly are many. Most important of these are the health care services that are locally available and access to those services. They indicate the quality of life the elderly would possess. The health of the elderly is partly a result of their health practices throughout their lives. Health of many individuals becomes problematic in old age. Individuals who have never had health risk in their life begin to show

signs of declining health. The physical stamina of the individuals also shows a decline in old age. Thus the health of the elderly individual may become not only a problem for himself but also for his family members.

Old age is considered as a stage with poor health in comparison to younger age group of people. This is because ageing is a time of multiple illness and general disability. In old age among all the problems, problem of health is a major problem because it is accentuated by an increasing number of physical handicaps, more frequent and serious illness, increased mental disturbances and general reactions among the aged. Thus the ill health is the major burden of the elderly (Phelps and Henderson, 1952). For this reason the well being of the elderly depends on how well they have adjusted to their changing and eroding health status.

Along with the changes in the biological compositions, life style factors are also important for disorders and diseases in old age. Old age diseases are not always curable, implying a strain on financial as well as physical health infrastructure resources, both at the macro and micro levels. However, the feeling of well being can still override actual physical discomforts if the surrounding environment is nurturing (Indrani Gupta and DeepaSankar, 2002).

Good health along with acceptance of the changing health conditions determines the quality of life. Thus this study presents the analysis of health status with quality of life. The selected universe for the study is the elderly of rural Dakshina Kannada District of Karnataka State. The district is towards the costal belt of Southern India of Karnataka State which covers 160 KMS of coastal belt. The district comprises of five Taluks namely Mangalore Taluk, BeltangadiTaluk, SullyaTaluk, PutturTaluk and BantvalTaluk. The district is well known for its beauty, which is covered with Western Ghats in the east and bounded by the Arabian Sea in the west. The district consists of 20 towns and 354 villages. The total population of the district is 1897730 and among them 1168428 are residing in villages. The total population of elderly above 60 years of age in the district is 157022 and among them 98393 thousand elderly reside in rural areas which constitutes the 8.42 per cent of the rural population and 58629 reside in urban areas. (Govt. of India, 2001).

The sample for the study include all the elderly aged 60 years and above. The bedridden, mentally unsound and disable in speech were excluded from the study. A proportion of 400 elderly both male and female were drawn through systematic random sampling.For the present study five villages from each of the five taluks of the district were selected by systematic random sampling.

Self – Perception of Health Status

Research has consistently demonstrated that individuals in poor health are less satisfied with their lives than those in good health. Subjective health perception is a better assessment of life satisfaction besides number of actual health problems. Health has also been found to influence people's estimates of their future life satisfaction levels and changes in life satisfaction over time. However, health status may affect life satisfaction for some groups more than others. According to Mannell (1996) perceived health is the best single indicator of life satisfaction for elderly. Self rating of health is important psycho social parameters in the evaluation of health status in determining the quality of life of elderly.

In this context self perception of health status is an assessment of health status of an elderly concerned to the subjective or relative opinion of oneself towards their own health. Subjective well being of physical health is viewed in terms of the general feelings towards their health conditions and feeling of acceptance with these conditions. To identify the perception of health status of the respondents, they were asked whether they felt ill at any time since the last month to one year.

Table 1: Self Perception of Health Status by the Respondents

Self perception of health status	Number	Percentage
Very poor	38	9.5
Poor	96	24
Fair	101	25.25
Good	133	33.25
Excellent	32	8
Total	**400**	**100**

The above table 1 analyses the self perception of health status of the respondents. It is heartening to note that 33.25% of the respondents have a good self perception of their health status while 8% have an excellent self perception of their health. The involvement in physical work like crop cultivation, agriculture, animal husbandry, household chores keeps them occupied, hence they find little time to think of themselves. Another contributory factor is lack of preoccupation towards health and illness. They also stated that they ignore signs, symptoms of any pains and aches. According to these respondents the realisation that they are in poor health is only, when the illness is unbearable which results in their inability to work. For these elderly, minor ailments like cough, cold, fever, bruise, cuts, and wounds are negligible. On the other hand 24% of the respondents rated themselves with poor health status and 9.5% expressed very poor health status. These respondents were experiencing general fatigue, body aches and pains and opined that the ailments they experience are common among their age mates.

As per the analyses it is possible to state that most of the respondents have positive self perception of health status and this indicate higher quality of life among the elderly of rural Dakshina Kannada. The significant contributory factors are the kind of occupation and the continued active engagement with work. The other factors that influence positive self perception of health among the respondents are ignorance of health itself, lack of awareness about illness, acceptance of one's changing and deteriorating physical conditions. Three square meals a day also help them to balance the nutritional need of the body.

Morbidity Status

Amongst the developmental stages of human life cycle, old age is susceptible period to diseases. Age related disorders include life threatening diseases such as heart disease, stroke, cancer, diabetics, eye infection as well as certain chronic disabling conditions affecting vision, mobility, hearing and cognition. Older persons also complain about various symptoms that may appear non – specific and unrelated to any classic disorder. These include general weakness, sleeplessness, constipation, diminished appetite and so forth.

According to Guha Roy (1994) the leading cause for death in old age in India is cardiovascular disease. Earlier in life, infections were the leading cause for death but among older people most deaths are due to non communicable diseases.

The Indian Council of Medical Research has attempted to compile data on morbidity from different sources. In 1996 the number of hypertensive among the elderly population was nearly 9 million. The prevalence rate of coronary heart diseases among the urban population was nearly three times higher than rural population and the estimated number of cases was around 9 million in 1996 (Shah and Prabhakar, 1997).

An estimated five million were diabetic and the prevalence rate were about 177 for urban and 35 per 1000 for Indian rural elderly people. Crude prevalence rate of stroke is estimated to be about 200 per 100,000 persons. Older persons surviving through peak years of stroke (55-65 years) with varying degrees of disability was already a major medical problem (Dalal, 1997).

Though tuberculosis related mortality has declined, it is still not eradicated effectively and the prevalence rate was reported to be higher in older age group (Dey and Chaudhury, 1997).

The morbidity characteristics of the elderly are the prevalence of disability from chronic illnesses and symptoms or vulnerabilities directly attributable to the aging process.

In this context morbidity status refers to a diseased state and poor health due to old age. The analyses also present co existence of more than one form of disease. The alternatives for each disease identifies affected from the past, affected at present and not at all affected. Affected from the past indicates the onset of the illness is before the onset of old age that is before 60 years. Affected at present explains the onset of illness after 60 years. The respondents not at all affected state that they are neither affected before nor after the onset of old age.

Table 2 : Morbidity Status of the Respondents

Disease	Affect of disease in percentage		
	Affected from past	Affected at presemt	Not at all affected
Asthma	4.75	16.5	78.75
Anaemia	-	41.75	58.25
Arthritis	1.75	28.25	70
Cancer	0.75	3.75	95.5
Diabetics	4.5	11.75	83.75
Dental	9.25	29.25	61.5
Gastritis	3	38	59
Hypertension	3.25	39.75	57
Heart disease	2.25	9	88.75
Insomnia	-	40.75	59.25
Spondilities	-	22.5	77.5
Skin Rashes	2	11.75	81.25
Tuberculosis	0.75	1	98.25

The above table shows the morbidity status of the respondents. The most important findings of the table is that the percentage of elderly who are not at all affected from any ailment is higher. The morbidity status is low in rural areas. Some of the reasons that promote good health among the aged in rural Dakshina Kannada are active physical activities, food habits, and peaceful environment.

Most of the respondents that is 41.5 per cent suffer from anaemia, and expressed the symptoms of fatigue, short breath, tiredness and feeling of weakness. Anemia is a decrease in normal count of Red Blood Cells (RBCs) or less than the normal quantity of hemoglobin in the blood. The respondents became susceptible to anaemia after the onset of old age. The reasons for anaemia found from the study are inappropriate time of having food and lack of appropriate nutritious food during old age. The physical performance and the strength of the respondents is decreased due to anaemia. In rural areas of Dakshina Kannada the main diet constitutes carbohydrates because the consumption of rice is higher. This is energy yielding and necessary for physical work. However as age increases adequate amount of iron intake along with other nutrients is also essential to overcome anaemia.

About 40.75 per cent suffer from insomnia. These respondents are found to be having disturbed sleep, sleeplessness and short sleep during the night. Insomnia is found among the aged due to the psychological changes that occur due to old age. This phenomenon is also corroborated in the study conducted by Gowri (2003). In her study she found that the elderly were facing insomnia due to psychological changes.

A percentage of 39.75 suffer from hypertension. The percentage must be higher than actually stated because most of the respondents have not gone for the diagnosis of hypertension, but have expressed the symptoms of hypertension like headache, drowsiness, confusion, vision disorders and nausea. Besides heredity hypertension is found among the elderly encountering worries, anxieties and loneliness.

It is significant to note that 38% suffer from digestive disorder like gastritis, they reported feeling full after only a few bites of food, loss of appetite and vague pain in the abdomen region. About 29.25 per cent complain of dental disorders, like carious teeth, difficulty to speak and eat with dentures. Another 28.25 per cent suffer from arthritis with common symptoms of swelling of joint and 22.5 per cent suffer from spondilities.

It is also found that 16.5% of the respondents suffer from respiratory disorder like chronic asthma due to old age. 11.75 per cent suffer from skin rashes, another 11.75 per cent suffer from diabetes a least percentage of 9 suffer from heart disease, 3.75 per cent suffer from cancer, and only one per cent suffer from tuberculosis.

Through the study it is evident that the respondents are suffering from more than one aliment. All the respondents who suffer from these aliments are under medication and have undergone medical diagnosis. The importance of Ayurvedic and other alternative forms of medicine have made people more aware and people have used to take preventive steps. Availability of doctors, better equipped Primary Health Centre. Therefore the higher development indexes of Dakshina Kannada have positively affected the self perception of health of the elderly.

Physical Disabilities

Physical disability is the major cause of concern during old age. Old age brings in physiological ineffectiveness. Ageing was found to be directly related to disability, weakness and decreased activity (Harber, 1970). Physical disability is also caused due to age related diseases and also due to multiple and complication of medical treatment. Besides this the aged are prone to accidents in the day to day activities of life. Nutritional deficiencies and undernourishment also indicate physical disability. Certain disabilities like impairment in vision, hearing and decreased mobility are common consequences of deterioration of muscles and senses in old age. Whatever may be the cause of disability, the fact is that physical disabilities make the elderly dependent on others. Because the disability continues over a longer time and recovery is slower, less favourable and sometimes impossible, some old people are severely restricted in their mobility while others are able to maintain themselves in the ordinary activities of daily living (Shanas, 1968).

Table 3 showing Respondents with Physical Disabilities

Physical disabilities	Congenital	After birth before old age	Due to old age	Not at all affected
Impaired eye sight	0.30	2	44.30	53.50
Hearing impairment	0.30	2.80	28.50	68.50
Gait disorder	-	0.50	21	78.50

The above table throws light on the respondents with physical disabilities. Normally visual disability begins in early 40's reaching its peak in advanced ages. 44.30 per cent of respondents accounted having impairments of eyes due to old age. This sensory decline is one of the overt characteristics of old age. The respondents have consistent decline in the ability to see at low level of illumination and also reported difficulty in identifying colours. All these respondents have undergone eye sight testing. The respondents are diagnosed to have cataract, among them few have not undergone eye surgery, because they feel that it is useless undergoing surgery at this age. All these respondents have spectacles, but some of them do not use due to inconvenience.

Majority of the respondents 53.5 per cent said that they do not have defects in their eye sight and have not undergone eye sight assessment. The percentage of respondents with defective eye sight is actually higher than the data presented above. This is realised after they reported about blurred vision. Another reason for not realising defective eye sight is because most of the respondents do not spend much time to read and write, but have expressed their difficulty in identifying far away things and minute objects close by.

With advancing age auditory disability begins to increase, as in old age they lose the ability to hear extremely high tones, as a result of atrophy of the nerves and end organs in the basal turn of the cochlea (Hurlock, 1981). In one study about 28.50 per cent of the respondents have partial hearing impairments tested by the physicians. They do own a hearing aid but none of the respondents are using it. They expressed difficulty in hearing soft voices, but were able to hear loud noises. These respondents expressed the difficulties in understanding the conversation of others which has affected them in day to day life. They feel ignored during conversations and misunderstood and this sometimes lead to family conflicts. They also feel insulted when the young people make fun of their disability. Moreover these respondents prefer to stay alone and be at home due to proneness to accidents. On the other hand 68.5 per cent of them do not have hearing impairments, but have lack of tolerance listening to loud noises and occasionally have ringing sensation in their ears.

It was observed in the study area that 21 per cent of the respondents are affected with gait disorder. The respondents with gait disorder have difficulty in walking, climbing steps, carrying things but are managing their personal day to day activities like bathing, grooming, dressing, washing clothes by themselves. In the initial stages of this disorder the respondents have undergone treatment but as age advanced they neglected treatment and are not under treatment. In the study area gait disorder was commonly found more among women than men. Some of the reasons for gait disorder are calcium deficiency among women, lack of nutritional intake during pregnancy and after child birth, prolonged

exposure to bent postures in physical work like collecting dry leaves for manure, transplanting and harvesting, cooking with earthen ovens for which they need to sit beside and blow fire coals to cook.

Chart 1: Showing Consultations and Treatment of Health Problems

Thle chart above describes the source of consultation for health problems by the respondents in the study area. According to the analyses most of the 64.8 per cent of the respondents consult private practitioners. This is because the availability of private practitioners is higher in rural areas of Dakshina Kannada. There is also a faith in the qualitative treatment by a private practitioner. Another reason to approach private practitioners is the availability of various diagnostic procedures and specialised care. There is also a belief that the type of medication available with a private practitioner or the prescribed medication available in the pharmacy is qualitative. On the other hand 31.8 per cent approach the Government doctors in primary health centres, community health centres and sub centres managed by the Government. The reasons for a low percentage in consulting Government doctors are because of lack of specialised care available for geriatric needs. According to the respondents the services provided by the primary health centres are good for maternity and child care. Therefore most of the elderly rely on

private practitioners for their treatment. Similar observable fact was also noticed that the elderly refrain from seeking medical aid from Government hospitals due to the reputation of Government hospitals as providers of cure is not as good as it should be.

Table 4 : Type of Medication Adopted by the Elderly

Type of medication	Number	Percentage
Allopathic	245	61.25
Ayurvedic	128	32
Homeopathy	8	2
Unani	5	1.25
Home remedy	14	3.50
Total	**400**	**100**

The above table shows the type of medication availed by the respondents. It is clear from the above table that 61.25 per cent of the respondents undergo allopathic treatment for quick and fast relief. The availability of allopathic treatment is higher in Dakshina Kannada. 32 per cent of the respondents take Ayurvedic medication due to fewer side effects and lower cost. More Ayurvedic treatment and awareness is higher this part of the country.About 2 per cent of the respondents approach homeopathic medication and 1.25 per cent are treated with Unani. It can be concluded that respondents prefer to avail allopathic treatment because of the trust that the emergency care of health and severity of illness can only be treated through allopathic medication.

Constraints in Maintaining Regular Health Check Up

Ailing elderly often feel that their death is nearing and so they need not bother themselves or others about their ailment. It is common to hear of older person refusing to take proper treatment merely because they have never taken such treatment before. Thus the frequency of going for health check up is an indirect determinant of health status.

Constrains in maintain regular health check up is a vital indicator to understand the felt need of medical assistance throughout old age. In this context regular health check up means going for general check up at least once in a year.

Table 5 : Constrains in Maintaining Regular Health Check Up

Constrains	Number	Percentage
Lack of health facilities	39	18.75
Less conscious about health	77	37.01
After all I'm at the end of life	56	26.92
Nobody to accompany me	36	17.30
Total	**208***	**100**

**only those respondents having constraints*

The table 5 looks into the constraints faced by the elderly in maintaining regular health check-up by the respondents. About 48 per cent of the respondents are aware of the need and go for regular health check up. Besides, the regular health check-ups the respondents also take medical assistance in times of minor ailments. The respondents continue treatment after diagnosis as they fear that the severity of ailment might worsen their condition.

About 37.01 per cent of the respondents are less conscious about their health, 26.92 per cent of the respondents found it not necessary to go for regular health checkups because they were at the end of their life. Similar phenomenon was also noted by Desai (1971) that an illness in old age is accepted as a common and inevitable phenomenon by the aged themselves as a result refuse to take medical care.

Only 18.75 per cent of the respondents were lacking health care facilities as they dwell in remote areas. Another 17.30 per cent said that they have no one to accompany them. These respondents said they hesitate to go by themselves to avail treatment.

Life Style Habits

In the present study smoking, alcohol dependency, chewing paan or betel leaves and snuff are found to be life style habits among the rural elderly of Dakshina Kannada.

Table 6 : Life Style Habits of the Respondents

Habits	Number	Percentage
Smoking	28	7.00
Alcohol dependency	45	11.25
Chewing pan/ betel leaves	185	46.25
Snuffing	51	12.75
No habits	91	22.75

Table 6 explains the life style habits of the respondents. About 7 per cent of the respondents have a habit of smoking beedies. All these respondents are males. The cultivation of this habit was since their early adulthood. Consumption of alcohol as a social drink was found to be common among elderly. But 11.25 per cent of the respondents are alcoholic dependents. The alcoholics consume alcohol early in the morning and continued throughout the day. These respondents are found to be less cooperative in family matters. One of the reasons for alcohol dependency is because of strenuous work they do and alcohol was used as relaxation. There is also a practice of giving alcohol or paying the amount for alcohol for agricultural labourers during transplanting and harvesting, this is also a contributory factor for alcohol dependency. About 46.25 per cent of the respondents have the habit of chewing paan or betel leaves. In rural areas of Dakshina Kannada most of them cultivate betel leaves creeper. Hence the easy availability of betel leaves is a contributory factor for this habit. Offering or eating betel leaves after meals is traditionally accepted in Dakshina Kannada from the past. 12.75 per cent of the respondents have the habit of snuffing and this was found to be common more among females than males. About 22.75 per cent of the respondents do not have any of the habits mentioned above.

Health condition of the elderly is to a large extent dependent personal habits and practices in relation to smoking, drinking, chewing etc. it is evident from the study that the most of the aged do continue to have one or the other habits.

Conclusion

. The health of the respondents in rural areas of Dakshina Kannada is found to be good since they are having positive self perception of their own health. The factors influencing for positive self perception of health are their occupation and continued engagement in work. The attitude of being healthy by itself is a vital indicator of physical well being, it is evident that majority of the respondents consult private practitioners for medical treatment. This is because there is higher accessibility of private doctors in rural areas of Dakshina Kannada. In addition it is observed that the elderly seek specialized treatment for their ailments. The respondents felt that allopathic medicines are the only ultimate life saving drugs available. The lack of health facilities, less consciousness about health, attitude of being at the end of life and lack of care takers to accompany them for regular checkups are the constrains in maintaining regular health checkups among the elderly in rural areas of Dakshina Kannada.

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Spirituality and Geriatric Psychiatry : A Review

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ABSTRACT

Spirituality is an important dimension of mental health. Spirituality and attitudes towards spiritual issues changes across the life cycle. There is an increasing awareness and growing database regarding spiritual issues in old age and geriatric psychiatry. It is now regarded that spirituality is on dimension of mental health and has important connotations for coping and recovery from psychiatric illness. Spiritual dimensions must be considered when planning and carrying out psychiatric treatments and must be made an integral part of dementia care. The present review looks at spirituality and its relevance for geriatric psychiatry with certain recommendations for geriatric psychiatrists and physicians alike.

Key words : Spirituality, Geriatric psychiatry.

There has been a marked interest in spirituality and mental health in the last decade. There have been a number of scholarly articles, chapters and books addressing the topic and it seems that an increasing number of adults and old people are searching for ways of incorporating spirituality in their are daily lives. A nationwide survey shows that 94% of Americans believe in God, 9 out of 10 Pray, 97 per cent believe their prayers are answered, and two of five report having life changing spiritual experience. India is a land with a multitude of religions, vast spiritual heritage and a plethora of ritual an spiritual practices (Lavretsky, 2010). Thus, it is prudent that geriatric psychiatrists and clinicians in this domain must incorporate the spiritual dimension in psychological treatment. There have been reviews in the past that have addressed general issues in aging and spirituality (Bosworth *et al*., 2003; Lawrence *et al.,* 2007; Atchley, 2009), but relatively few that address specific late-life considerations. Understandably, geriatric psychiatrists must

know why spirituality is important in clinical practice, and how they can utilize it in routine clinical practice and psychotherapy.

What is Spirituality

Spirituality is often misunderstood and used analogously with religion. The two however are markedly different.The thought of spirituality conjures up images that make up monastic practices, such as meditation and fasting, and crystals, drum beating, and other forms of spiritual practices, Actually spirituality represents how individuals think, feel, act, and interact in their efforts to find, conserve, and transform the scared in their lives. It has to do with a desire difficult to define, that everyone experiences but cannot satisfy, since this desire is always and continually stronger than any satisfaction. The concept of spirituality is distinct from religion, which is the search for significance through the sacred and within the context of a shared belief system. Thus spirituality could lead to a greater integration or disintegration within our bodies, minds, and souls, and further in the way we are related to God, others, and the cosmic world (Desousa, 2007).

Spirituality is not an option that only a few have or want to process in psychiatric treatment. Rather, everyone has a spirituality reflected in everyday thoughts, feelings, and actions. Thus, spiritual considerations are basic to any treatment process (Desouza and Kuruvilla, 2006). Spirituality has been noted to change across the life span. While spirituality is focused outwards in early life, spiritual growth in middle and late life calls for focusing inward, towards a more contemplative life. In fact, an intact inner life is crucial for meeting the challenges and realizing the potential of late life and old age. This is essential to help the elderly advance beyond the despair and concerns attached to age declines. Elders who are able to return to their core with new wisdom become role models for the young who often feel approach of their middle age as a threat to their integrity and self worth (Dein, 2005).

The Interface of Spirituality and Psychiatry

Four major dimensions characterize the context of spirituality in clinical practice viz. patients' needs and expectations, professional demand, a psychiatrists' professional and personal commitment to spirituality/religious sensitivity, and the treatment context (Varghese, 2008).

Psychiatric patients often search for a sense of healing and spiritual direction from sources outside religious traditions. These sources include psychotherapy, alternative medicine, as well as traditional medicine and psychiatry. These individuals seek healing not simply for physical or emotional pain but also for a sense of wholeness and wellness. They are seeking a direction that to bring meaning, purpose, and a sense of inner fulfillment to their lives. This search for healing, spiritual direction, and cure provides the background for a rapprochement between psychotherapy and spirituality and propels patients into psychiatric treatment.

There is relatively little published research that bears on the question regarding spiritual expectations from psychiatric treatments. A recent study reported that 79 per cent of patients rated spirituality as very important in their lives, and 82 per cent thought their psychiatrist or therapist should be aware of their spiritual needs and beliefs. Of those surveyed, 67 per cent believed that their spirituality helped them cope with their psychiatric illness and life stressors. A surprisingly large number 69 per cent believed that their spiritual needs should be incorporated in the treatment process (Desousa, 2002).

There have been an increasing number of studies suggesting that religion and spirituality can positively impact mental health and psychological well-being. The result is that psychiatrists are beginning to reverse their skepticism and resistance to the involvement of religious and spiritual issues in psychiatric treatment (Cook, 2009). It is important that psychiatrists should maintain respect for their patients' religious beliefs and spirituality. Accordingly, psychiatrists would need sufficient information on these beliefs to properly address them in the course of treatment. At the same time psychiatrists should not impose their own religious beliefs or spirituality on their patients nor substitute such beliefs or spiritual practices in place of accepted diagnostic or therapeutic practices.Yet, most psychiatrists have no formal training in incorporating the spiritual dimension into clinical practice. Many wonder whether this role of attending to the spiritual dimension, which in the past seemed to have been discouraged, should be a legitimate part of the practice of clinical psychiatry (Thurell, 2000).

While religion and spirituality have been found to be important in the lives of many older individuals, it has been claimed that geriatric

psychiatrists neglect the spiritual and religious issues of their patients (Fabrega, 2000). There has been very little published data to support or reject this claim. An Australian survey of the attitudes and clinical practice patterns of geriatric psychiatrists found that 43 per cent of respondents had no formal religious affiliation and only 25 per cent had participated in a religious service in the preceding month, Nevertheless, despite the fact that many did not consider themselves to have a religious or denominational affiliation, 85 per cent believed that there was a link between religion/spirituality, and health (Strawbridge *et al.*, 1997). While there appears to be a growing awareness among psychiatrists about the importance and clinical value of spirituality and religious issues in the treatment process, it should be noted that there remains wide variation of opinion among practicing psychiatrists about the place of spirituality and religious considerations in the treatment process.

The practice of geriatric psychiatry is influenced by one's training and patients' needs and expectations.The main implication is that usual and customary geriatric care requires sensitivity to spiritual and religious factors in the clinical practice. It does not mean that geriatric psychiatrists expect to change their basic beliefs or ideology about religion and spirituality but it means that they can maintain their status as agnostics, atheists or as devout adherents to a specific faith or spiritual path (Luchins, 2007).

Spirituality and Geriatric Psychiatry

Several studies on the health benefits of religious faith have been reported in the past several decades. Interestingly, most of these studies were undertaken with older adults. Older adults with strong religious faith tend to live longer than those with lesser religious faith (Oleckno and Blacconeire, 1991; Koenig *et al.,*1998). It appears that faith may provide some risk reduction from cancer and cardiovascular disease in the elderly, probably because those who practice their faith trend to lead healthier lifestyles.Older adults with strong religious faith trend to exhibit a stronger sense of well-being than their less religious peers (Larson *et al.*, 1992). This may be attributed to the cohesiveness of their family life.Older adults with strong religious faith are less likely to suffer from depression following stressful life events, and if they become depressed are more likely to rebound faster than their less religious peers (Koenig, 1999).Older adults with strong religious faith who suffer

from any physical illness typically do better and have healthier outcomes than those with lesser religious faith (Cheston *et al.*, 2003).A closer analysis of studies suggests that religious faith is a necessary but not sufficient condition for increased levels of overall health and well-being. Involvement in a faith-based community appears necessary to obtain the maximal health benefits.

Perhaps the most provocative finding is that the individual's image of God is significant factor. Thus, those whose image of God is understanding, loving, forgiving, or merciful are more likely to have positive health benefits than those whose image of God is uncaring, distant, angry, punishing, or vengeful. Koenig suggests that this does not reflect healthy behavior, and thus fewer positive health benefits are likely (Oman and Reed, 1998).Most longitudinal studies have consistently found links between active religious and spiritual involvement and increased longevity and/or improved health outcomes. However, a few studies have suggested that a patient's religion or spirituality can serve as a source of distress or conflict, and thereby result in poor or negative health outcomes (Bell and Troxell, 2001). It was surmised that negative emotions associated with feeling abandoned or unloved by God contributed to the higher mortality risks. It may have been that those older individuals who voiced distress and dissatisfaction could have alienated themselves from support by family and friends, which resulted in social isolation. In hand of itself, social isolation can increase the risk of earlier mortality and negative health outcomes (Hawkley and Cacioppo, 2010).

The Interface of Spirituality and Dementia

There is growing consensus that spirituality is of great importance for not only caregivers, but also those who suffer from a dementia.Some would contend that those with dementia are still capable of high levels of spiritual well-being even in the later stages of the disease (Jolley *et al.,* 2010). Spirituality and religious needs of dementia patients and their caregivers, families, and friends may not be adequately respected nor addressed in clinical settings, as many health care personnel are not aware of their potential importance.Those who have worked closely with dementia patients believe that spiritual care should encompass the full experience of the disease, from early to later stages (Smith and

Harnkess, 2002). Accordingly, they contend that the loss of cognitive capacity doses not reflect a loss of spiritual capacity, and those with dementia are still capable of high levels of spiritual well-being.In dementia one could do well to design religious services as multisensory experiences which emphasize non-cognitive pathways (e.g. visual symbols, touch, incense, and music) over cognitive path ways (e.g. sermons, reading, etc.). Geriatric psychiatrists should become more sensitive to the spiritual and religious needs of dementia patients irrespective of the progression of the disease and should intentionally address such needs in their treatment planning.

There is also an increasing literature on spirituality for caregivers involved with dementia patients, give the enormous burden that they face in their positions. Besides dramatically altering family dynamics, dementia often taxes caregivers to the point of compromising their own health and well-being. In addition, dementia can also pose significant legal, occupational, financial, and housing challenges to caregivers and family members (Etters *et al.*, 2008; Shah *et al.*, 2001).It appears that those caregivers who hold a spiritual perspective on life fared much better than those who had no such beliefs or for whom such beliefs cause considerable distress or conflict. Caregivers with such a spiritual perspective and integrated beliefs reported that they coped better with stressors and experienced less depression than those caregivers who questioned their faith or religious and spiritual beliefs (Stuckey *et al.,* 2002). It appears that among caregivers who maintained a spiritual perspective, those who were employed at least part-time and who made a determined effort to seek outside support tended to report less depression than those caregivers with a spiritual perspective who were not employed or had less social support (Robinson and Kay, 1994).

One must recognize that spiritual and religious issues are often involved with dementia caregivers and their families. It is also useful to assess the spiritual perspective and beliefs of caregivers. Geriatric psychiatrists might also consider referring spiritually distressed caregivers to an appropriate spiritual or religious professional.

Spirituality and Clinical Geriatric Psychiatry Practice

Geriatric psychiatry practice must try to fully incorporate spirituality into routine clinical practice. Typically, following a more detailed spiritual

assessment, the geriatric psychiatrist is able to formulate religious/spiritual dynamics along with relevant psychological and social dynamics as well as biological factors. Geriatric psychiatrists functioning at this level must have sufficient training and experience to process relevant spiritual/ religious dynamics as well as incorporate spiritual interventions, such as prayer, in the treatment process. At this time, there are relatively few clinicians who have the training and experience to practice at this level of incorporation. Generally speaking, those that do are usually also highly committed to their own personal development on the spiritual journey.The greater the commitment to religious/spiritual sensitivity and the level of incorporation of the spiritual dimensions into psychiatric practice, the broader the range of applications.

The Spiritual assessment is now considered an essential component of a geriatric psychiatry evaluation. As individuals are encouraged to discuss spiritual matters, as clinician's skill in differentiating healthy from pathological religious experiences becomes important. Three common considerations are - voices and visions, the dark night of the soul, and spiritual emergencies (Barnhouse, 1986).

The term spiritual emergency is being used to describe a range of intense conditions involving various emotional and somatic symptoms (May, 1992). The DSM-IV-TR focuses more on "spiritual crises" as brief reactive responses to specific religious and spiritual experience and provides the V-Code: religious or spiritual problem (V62.89) (American Psychiatric Association, 2001). This diagnostic category is used when a treatment focus involves a religious or spiritual problem. Such problems include: distressing experiences that could involve the loss of or questioning of one's religious beliefs of convictions; problems that are associated with conversion to new faith; and questioning of spiritual values that may or may not be associated with an organized religious institution such a church or synagogue.

Conclusion

In this review the author has tried to be consistent with scientific facts and yet hope that it shall be able to helpthe geriatric psychiatrist who treats problems influenced by thepatient's and family's religious faith and spiritual position. The author has also tried to be as descriptive and neutral aspossible in the spirit of scientific discourse. It is implicit

that in issues such as religion, faith and psychiatry, all individuals including clinicians have their own personal views no matter how they express it. The paper contains limited discussions to general issues and specific faiths that are commonly encountered in routine clinical practice. It is hoped that this article serves as a medium for future reflection, dialogue and the scientific study of spirituality and geriatric psychiatry in India.

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Implementation of the Old Age Pension Scheme in Ludhiana District of Punjab

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ABSTRACT

This study was conducted to analyze the implementation of the pension scheme in rural area of Ludhiana district of Punjab state(India). The objectives were (1) To assess whether the guidelines for identifying the beneficiaries have been followed. (2) To evaluate the extent to which the programme has achieved its aim. (3) To assess the awareness and clarity about the scheme amongst the elderly. Four villages were chosen from the field practice area of Christian Medical College. The elderly males above 65 years and elderly females above 60 years were enlisted to be 711 in number. All of them were surveyed house to house and assessed for their eligibility for the National Old Age Pension Scheme (NOAPS). Out of the total, 478 (67.2%) were either receiving some form of pension or not eligible for it. Two hundred (28.1%) eligible elderly were not receiving pension. Thirty three (4.7%) elderly were receiving pension under NOAPS though not eligible. Further awareness was assessed for the 200 eligible elderly not receiving pension. Of the 200, 122 (61%) were elderly men and 78 (39%) were elderly women. The age distribution was 47.5 per cent in 60-70 years and 41 per cent in 71-80 years and 11.5 per cent in 80+ years. Of the total, 130 (65%) had Per Capita Income between Rs. 500 -1500 and 70 (35%) less than Rs. 500. Majority (95.5%) of the elderly knew about the scheme and almost one third (29.5%) were familiar with the procedure to get their names enlisted for the pension scheme. Sources of information were relatives and friends (48%), media (42%) and sarpanch (10%).

Key words: Elderly, Geriatrics, Pension scheme

The increasing proportion and size of geriatric population in India highlight the critical importance of addressing their multiple needs. India is not far behind in the aging process. In 2001, the elderly aged 60 years and above was 7.4 per cent of the total population, or 77 million older adults (Registrar General of India, 2001). The proportion of people aged 60 and over in India is projected to reach to 20.2 per cent by 2050 (United Nations, 2006). Globally speaking, India is second in terms of number of older adult population just behind China (Chanana and Talwar, 1987; Registrar General of India, 2001). This huge number of elderly population in India is a disadvantaged group without adequate social and health security programs by the government (Rajan, 2001; Mohanty, 2002; Goel *et al.,* 2003; Chatterjee and Sheoran, 2007). One of the security program, the National Old Age Pension Scheme (NOAPS) has come into effect since August 15, 1995 and it seeks to provide financial assistance to the destitute old people, poor families who have lost breadwinner and poor expectant mothers. This scheme is implemented in the state and union territories through panchayats and municipalities. Under the NOAPS, the Central Government provides for Rs. 200/- per pensioner per month and the states are urged to contribute an equal amount (NOAPS, 2009). Pension levels vary across states with the contribution of the states. At present in Punjab, it is Rs. 250 p.m. The age of eligibility may also vary. After the expansion of the scheme to all old persons below the poverty line, the scheme has been renamed as "Indira Gandhi National Old Age Pension Scheme" (IGNOAPS). Eligibility criteria are- Age 60+ for female and 65+ for male; Income should be Rs. 1000 or less if the elderly is alone and less than 1500 in case both husband wife are together. Non eligibility criteria are - If the children are income tax payee; If son is a class one officer; If the son is a doctor, advocate, chartered accountant (C.A.), dental surgeon, architect or any kind of contractor or work related to it; If a child of the elderly is a class 2 officer or is drawing a salary of Rs 4000/ - and above. As per state guidelines, the old age pension beneficiaries should get the benefit regularly each month before 7th day of every

month (Department of Social Security, 2010). An estimate suggests that only 10 per cent of the elderly population in India is served by this scheme (Rajan; 2001). Thus, this study was planned with the following objectives:

(1) to assess whether the guidelines for identifying the beneficiaries have been followed.

(2) to evaluate the extent to which the programme has achieved its aim.

(3) to assess the awareness and clarity about the scheme amongst the elderly.

Materials and Methods

Four villages from Ludhiana district, Punjab were selected for conducting the study. The villages were Lalton Kalan, Lalton Khurd, Dolon Khurd and Daad in Sahnewal block. The elderly males above 65 years and elderly females above 60 years were enlisted to be 711. All of them were surveyed house to house and assessed for their eligibility for the NOAPS. Out of the total, 478 (67.2%) were either receiving some form of pension or not eligible for it. Thirty three (4.7%) elderly were receiving pension under NOAPS though not eligible. Two hundred (28.1%) eligible elderly were not receiving pension. These 200 elderly were interviewed further in detail to assess their knowledge. The data was collected over a period of three months from April to June, 2010.

The questionnaire comprised of eligibility criteria, the socio-demographic and economic characteristics, problems encountered in registering for the pension and the level of awareness about the scheme and procedures. The experiences of the elderly were collected with a view to identify and analyze the possible shortcomings in the implementation of the scheme. Respondents were also asked whether they knew who was entitled to NOAPS. In addition, they were probed about the procedures and formalities to be completed for getting their payment under the scheme. We also asked the elderly about the sources of information regarding the pension scheme.

Results and discussion

Table 1 : Socio-demographic characteristics

Socio-demographic characteristics	N=200	%
Age (yrs)		
60-64	29	14.5
65-70	66	33
71-75	53	26.5
76-80	29	14.5
80+	23	11.5
Gender		
Male	78	39
Female	122	61

Out of the total elderly respondents, 29 (14.5%) were in age group 60-64 years, 66 (33%) in 65-69 years, 53 (26.5%) in 70-74 years, 29 (14.5%) in 75-79 years and 23 (11.5%) elderly were of 80+ years. Amongst these elderly, there is almost a similar number, 95 and 82, not receiving pension in 60-70 years and 70-80 years respectively. Out of the 200 respondents, 122 (61%) were women and 78 (39%) were men. The gender distribution suggests that elderly females were more at a disadvantage as compared to elderly males for not receiving the benefits of pension scheme.

This is in contrast to the findings in Andhra Pradesh where elderly females (77%) outnumbered the elderly males as pensioners (Dev; 2004)

Table 2: Socio-Economic Status (SES)* of the elderly

SES (Rs per month)	Non-Pensioner (%)	Pensioner (%)
I (10000&more)	-	11 (33.3)
II (5000-9999)	-	9 (27.3)
III (3000-4999)	-	7 (21.2)
IV (1500-2999)	-	6 (18.2)
V (500-1499)	130(65)	-
VI (< 500)	70(35)	-
Total	**200**	**33**

***According to SES scale of B.G. Prasad (Prasad B. G., 1961 and Aggarwal A.K., 2008)**

Table 2- All the eligible elderly had per capita income less than Rs. 1500 per month. Their mean annual income was Rs. 10,500. In spite of fulfilling age and income criteria, they were not receiving their due pensions under NOAPS. However, there were 33 elderly who were enlisted under the pension scheme though not eligible due to the income criteria. This reflects on the guidelines being sidelined while enlisting the elderly for receiving pension indicating a bias.

Table 3: Knowledge about the scheme

Knowledge	No. (%)
Aware of the scheme	191 (95.5)
Aware of the procedure	59 (29.5)

Out of 200 eligible elderly not receiving pension, 191(95.5%) knew about the scheme. The remaining 9(4.5%) were completely ignorant. A good number 141(70.5%) had no knowledge of the procedure and only 59(29.5%) were knowledgeable. Majority (95.5%) were aware of the NOAPS but less than one-third (29.5%) had complete knowhow of the procedure. Despite their awareness, they were unable to get the pension. Those who were aware of the scheme and the procedure had filled up the forms many times but to no avail and were not included in the pension list.

Fig. 1 Sources of information

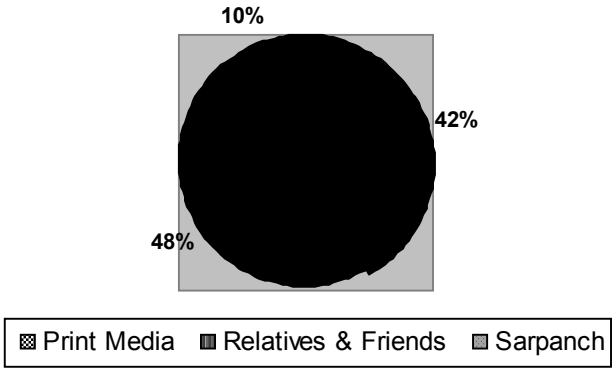

Fig 1. As per the guidelines of the NOAPS, it is mandatory to publicize widely about the scheme and the procedures to claim for the payment using both print and electronic media. In this connection, various sources of knowledge were revealed. Sources of information for the respondents were relatives and friends for 96 (48%), media for 84 (42%) and village sarpanch for 20 (10%).

Regularity of payment

NOAPS' guidelines state that the pension money should be given to the person before the 7th of every month. This regularity of payment would be highly welcome by the needy elderly. In the present study, we considered the payment schedule as irregular. Of the elderly, who were receiving the pension under NOAPS, the payments were irregular as payments were made 3 monthly, 4 monthly and 6 monthly. Similar irregularity of payment has been reported by other studies. In some states, benefits were distributed once in two months but in most there was no fixed frequency for distribution (International Management Institute; 2001). The acknowledgement and reason for this irregularity has been reported to be powerlessness of the elderly in exercising political pressure for the release of funds (Nayak *et al*., 2002).

In a study by Prasad and N. Komali (2009), some non-pensioners said that they had submitted an application to the sarpanch**,** but all in vain. In the same study, 92.3 % of the respondents were of the view that they had been filling the forms multiple times but could not get their names included in the list of pensioners. Only those people succeeded who had voted in election or the one who had a close contact with the near and dear of the sarpanch. Similar results were observed in our study. Moreover, the pension benefit of Rs 250 being given in Punjab is much lower than the pension of Rs 700 in the neighboring state, Haryana.

Even this minimal amount of Rs 250 is not easily available to the elderly. Respondents in our study felt powerless and they had to please the decision maker, the sarpanch, to get any benefit of the pension scheme. Similar findings were observed by Mander (2008) in his study in which one of the respondents whom he interviewed expressed that she had to touch the feet of the sarpanch in order to get her name enlisted for the pension. There seems to a universal exploitation of the eligible elderly pensioners. The amount is given through the political

local leaders who are biased and motivated by self-interest in choosing the beneficiaries under NOAPS. Similar results were found in our study such as: ineligible persons being included, recipients paying bribes to get registered and giving a commission on monthly payments on a regular basis. Thus, the pension scheme is unable to reach out to the eligible needy elderly.

Conclusion and Suggestions

Out of a total of 711 number of elderly in four villages, 200 (28.1%) were eligible for the pension as per the guidelines of NOAPS but were not receiving it. The age distribution was 47.5% in 60-70 years and 41% in 71-80years and 11.5% in 80+ years. Of these 200, 122 (61%) were elderly men and 78 (39%) were elderly women. Elderly females were more at a disadvantage as compared to elderly males. The mean annual income of the non-pensioners was Rs. 10500. Of the 200 elderly, 130 (65%) had Per Capita Income between Rs. 500 to Rs 1500 and 70 (35%) had a per capita income of less than Rs. 500. Majority, 191(95.5%) knew about the scheme and the remaining 9 (4.5%) were ignorant. Almost one third of the elderly 59 (29.5%) had the familiarity of the procedure but 141 (70.5%) were unaware of the procedure to get their names enlisted for the pension scheme. Sources of information were relatives and friends (48%), media (42%) and sarpanch (10%). The payment schedule was considered irregular as payments were made 3 monthly, 4 monthly and 6 monthly.

Though, the government enhanced the amount of old age pension from Rs. 75 to Rs. 200 in 2003. But, in view of the rising cost of essential commodities, this amount is insufficient. As such, this meager amount is not sufficient especially for those elderly who do not have any other financial support. An approximate expenditure for an elderly to survive fulfilling simple basic needs in our rural setting is estimated to be Rs. 2000-3000. Hence, the amount of pension needs to be considered for the appropriate increase. It was observed that the beneficiaries did not receive the pension regularly. Hence, it is suggested that the funding agencies should address this issue so that the beneficiaries get timely payment of their pension. Feasibility of lumpsum payments needs to be explored. The old age people who were earlier cushioned in a joint family are now left alone. Due to the changing environment and social

structure, the demands and needs of the elderly start earlier than before. Age of 65+ for males and 60+ for females appears to be late for starting pension scheme. Thus, it is suggested to revise the ages for the eligibility of pensioners. There is a need to sensitize the panchayats about the role played by them in selecting deserving elderly for the scheme and about the eligibility criteria for inclusion under NOAPS. In addition, the elderly especially the older women need to be empowered and educated to avail the benefits of the schemes implemented for them. The elderly also need to be motivated to unite and provide regular feedback to higher authorities. Evidence shows that political influence, lack of supervision by such systems in place in rural context, and official's role are hampering the benefits of the scheme. Therefore, there is an urgent need to ensure a transparency in the system for enlistment and distribution of the pensions. A continuous monitoring and evaluation system need to be established. The pension scheme for elderly is a laudable effort by the government but by itself it is insufficient to comfort the aging population. There needs to be a multipronged approach to address myriad of geriatrics' needs. Health care is another vital area which needs to be modelled to suit the specific needs of this age-group.

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Assessment of Old Age Pension Scheme in Rural Uttar Pradesh: A Preliminary Analysis

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ABSTRACT

Old Age Pension (OAP) Scheme, a mile stone for the elderly in their later life suppose to provide economical as well as social support to the helpless and economically-socially weak destitute elderly people in India. The awareness among the elderly about OAP scheme differs from region to region. Prior to 2007, OAP scheme was known as national old age pension scheme and pension of Rs. 100/- (Rs. 75/- contributed from central government and Rs. 25/- from the respective state government) was given to the elderly above 65 years. On 19th November 2007, old age pension scheme was renamed as Indira Gandhi National Old Age Pension Scheme in which OAP beneficiaries are getting amount between Rs. 200/- to Rs. 1000/- per month depending on the state contribution. The objectives of the present study are to know about the awareness level of the elderly regarding OAP scheme and the elderly benefited from the scheme according to their different socio-economic and demographic characteristics. The study is based on a sample of 600 aged people (60+ age-groups) collected from the rural areas of northern and most populous state "Uttar Pradesh" of India in 2009. The sample is drawn by applying a multistage random sampling technique. Chi- square test and logistic regression analysis have been carried out. The result indicates that male, widow / widower, elderly aged 80 and above, SC / ST's elderly with low socio-economic status and having bad health were more availing the OAP scheme; and this scheme is supporting the elderly to live life with dignity and respect. It was found that in

later life, being a non-productive member of the family is the main reason behind the poor status of the elderly in India. Due to this reason, family member treat them as a liability and the elderly started losing the respect in the family. OAP scheme enabled the elderly to contribute in the family expenditure and leading their life with dignity.

Key words: Destitute elderly, Indira Gandhi National Old Age Pension Scheme, Social support, Helpless, Dignity.

India is undergoing the process of drastic demographic transition. This is a relative increase in the number of aged persons (60+) and also their proportion in the population. Population ageing has considerable implications for the social security system. According to census figures, the proportion of older people in the population of India was 5.3 per cent in 1961, and is expected to reach 9.9 per cent in 2021. Indian family structure is in its transition state; it is shifting from joint family to nuclear family. Traditionally, older people are viewed as an integral part of the family, having high esteem and prestige. The decrease in the number of children, and their dispersion owing to migration and urbanisation, has reduced the amount of care given to dependent aged parents. Desertion of old parents has shot up as a serious problem to the context that government enacted law in 2007. Though right of parents without any means to be supported by their children having sufficient means has been reorganised by section 125(1)(d) of the code of criminal procedure 1973, and section 20(3) of the Hindu Adaptation and Maintenance Act, 1956 was already there. The elderly needs certain amenities such as health care, nutrition, and a sense of belonging, but the type and amount of treatment they receive mainly depends on the culture of the family. In many cases, elderly people are neglected by their family members unless they are well-to-do or still earning members (Audinarayana, 2004; Audinarayana and Kavita, 2003; Kumar and Upadhyaya, 1999; Patel, 1997; Sureender, 1997; Vijayanunni, 1997; Yadava *et al.,* 2003). The quality of relationship with sons and daughters largely determines the economic factors, which, in turn, determines the health of elderly people. The elderly need a sympathetic, caring and sharing attitude and behaviour from their family members. But if they

are contributing either economically or physically, which is useful for the family, then they are continued to be respected and are treated as an 'asset' for the family; otherwise, they are viewed as a 'liability' (Kumar *et al.,* 2005; Joshi, 2006).

In India 90 per cent of the older persons are in the unorganised sector or informal sector with no social security cover; 30 per cent of them live below the poverty line and the other 33 per cent are just marginally over it. Therefore, to meet the monetary needs of the aged people who had no source of income to meet the basic needs, the Government of India in 1995 adopted the National Social Assistance Programme (NSAP), in which National Old Age Pension scheme (NOAPS), the National Family Benefit Scheme (NFBS), and the National Maternity Benefit Scheme (NMBS) were started. The amount of the old age pension in 1995 was Rs. 100/- (Rs. 75/- contributed from central government and Rs. 25/- from respective state / Union territory) per month per beneficiary. The NOAPS was modified in November 2007 and renamed as the "Indira Gandhi National Old Age Pension Scheme" (IGNOAPS). As per the eligibility criteria of old age pension under IGNOAPS, old age pension is now being granted to all persons who are 65 years or higher and belonging to a household below the poverty line according to the criteria prescribed by the Government of India and the pension amount was increased from Rs.75/- to Rs.200/-. At the time of enhancing the rate of pension from Rs.75/- to Rs.200/-, all the States have been requested to contribute up another Rs. 200/- per person per month so that a pensioner could get at least Rs. 400/- per month. Presently 16 States are contributing Rs. 200/- or more, 10 States are contributing less than Rs. 200/- whereas there is no contribution from the 9 remaining States. Several States including Uttar Pradesh are having their own widow pension and disability pension schemes and some of them are also granting old age pension for persons who are above the age of 60 years. In Uttar Pradesh the provision is that the destitute elderly people above 60 years of age are suppose to get Rs. 300/- as OAP (Rs. 200/- from centre and Rs. 100/- from the state government) and information about belonging to BPL family was

not mentioned. In a study (Rajan, 2001), it was found that only 10 per cent of the elderly population in India was served by NOAPS. However, this percentage varies across different states in India. In Kerala, about 20 per cent of the aged have access to old age pension while only 5 to 15 per cent of the elderly hold this privilege in other states of India (Dev, 1994).

Based on information collected primarily from 600 rural elderly people, this paper has tried to discuss some of the issues related to (i) the current awareness status about the old age pension scheme, and (ii) what extent the scheme has generated the needed benefits. Taking the above two factors as dependent variables, logistic regression analyses are also carried out on these study variables to examine the role of a number of socio-economic and demographic factors.

Methodology

This study is based on a sample of 600 elderly people from the different parts of rural Uttar Pradesh (UP), India, under a survey entitled "*Socio-Economic Status, Behavioural Problems and Health Hazards of the Elderly across Diverse Settings in India*". A sample of 600 people was drawn (on 95 C. I.) by applying a multistage random sampling technique. The sampling procedure was completed in different stages. At first stage, six districts have been selected. The selection of districts has been done on the basis of stratum provided by Planning Department Uttar Pradesh. The Planning Atlas Uttar Pradesh-2006 which was published by the Govt. of Uttar Pradesh segregated all districts of UP into five categories (less than 0.5 - very low, 0.5-0.54 - low, 0.54-0.6 - medium, 0.6-0.65 - high and 0.65 and above - very high) based on Human development Index (HDI). From each category (except lowest), one district is selected randomly and two districts were selected from the lowest category. A total of six districts namely Varanasi, Ghazipur, Shrawasti, Mahoba, Lucknow, and Moradabad have been selected. The selection of block, village and households from a district formed different stages of sampling technique. The data at both the household level and at the individual level (elderly person concerned) have been taken. The

basic instrument of data collection was a personal interview method. The data have been collected on household structure, household facilities and other details to have an idea about the occupational, social and economic status of the household. The individual schedule included data relating to age, gender, marital status, caste, religion, education and health status of elderly people.

Dependent and Independent Variables

(1) Dependent variables: In present study, the awareness regarding OAP scheme and availing OAP are dependent variables. Both the variables have dichotomous responses as '*yes'* and *'no'*.

(2) Independent variables: The possible predictors of the dependent variables were included the socio-economic and demographic information such as age, gender, marital status, caste, religion, educational level, health status of elderly people. Age was classified into three groups- 60-69, 70-79 and 80+. Marital status was categorised as- presently married and widow / widower. Caste was classified into three categories- '*General'* (those who are considered to be socially and economically forward and privileged castes), *'O. B. C.'* (other backward castes; those who are considered to be socially and economically backward casts) *and 'SC /ST.'* (schedule castes / schedule tribes; those who are very backward and underprivileged section of society and were earlier treated as untouchables, excluded from Indian Hindu Society and now scheduled in Indian constitution). Educational level was categorised as *'no schooling'* (those who didn't get education through formal schooling system), *'up to lower secondary'* (up to 8^{th}) and *'secondary and above'* (9^{th} and above). We tried to know about the respondents occupation before age 60 and was classified as, agriculture (both farmer and agricultural labourers), service (Both government and private job), business (large as well as small scale like tea stall), housework (unpaid work in household). In the present study, household information regarding the social and economic status of the household, type of house, family type,

availability of agriculture land and main source of household income were also considered. *'Social status'* was defined on the basis of different kinds of facilities available in a household. Facilities included in this study are – 1.total income in excess of Rs. 3,000 per month, 2.land possession in excess of 3.125 acre, 3.residential accommodation more than one 'pukka room', 4.regular use of milk and vegetables, 5.education at graduate level of at least one member of the household, 6.possession of at least two of the following facilities; (i) drinking water facilities- well / hand pump / pumping set, (ii) entertainment facilities- radio / tape-recorder / T.V./ V.C.R., (iii) travelling or transportation facilities- bicycle / scooter / motorcycle / car / jeep, (iv) kitchen facilities- gas chulha (stove) / bio-gas chulha, (vii) other facilities- electricity / toilet. In light of presence of facilities mentioned above, their social status has been classified into three different groups as low- if at most one facility was available in the household, middle-if two or three facilities were available in the household and high-if four or more facilities were available in the household. *'Economic status'* of the household was calculated after computing income index. The income index of a household was defined as the ratio of total earning from all sources of a household to effective size of the household. The effective size of a household is defined considering each person aged above 14 years as one unit, and aged 14 or less than 14 as half unit. After calculating the total earnings from all sources and effective size of the household, the income index (I.I.) = total earning of a household ÷ effective size of the household. Thus, the economic status of a household was classified into three groups as Low, Middle and High. If I.I. lies in the categories I.I. <Rs 301/-, Rs 500< I.I. > Rs 301 and I.I. > Rs 501 respectively. *'Health status'* of the respondents was accessed by the self-reporting answer about their health as 'good', 'moderate' or 'bad'. 'T*ype of house'* was classified into three categories – kachcha (mud), half pakka, and pakka. 'Type of family' the respondents belong to was recorded into three categories as alone, nuclear and joint. Main source of household income was categorised as salary/ wage daily, agrarian activities, and business.

Results & Discussion

In present study 50.5 per cent were male and 49.5 per cent were female among 600 respondents. In our sample 32.3 per cent respondents were found to be widow/widower while 67.7 per cent were presently married. Regarding the awareness of the elderly about OAP scheme provided by the government (State / Central), we asked some questions given in table 1 (below). It was found that only 33 per cent elderly people knew about the old age pension scheme and the percentage of the elderly availing this scheme was almost half among the aware elderly (16.7 per cent). In our sample 20.83 per cent (125 persons) among all the respondents found to be below 65 years of age and 6.4 per cent (8 persons) among the elderly below 65 years of age were availing OAP (not mentioned in table). Under IGNOAPS, it is suppose to disburse pension, wherever feasible, through bank / post office accounts of beneficiaries. In our study, all the beneficiaries were getting the pension amount through their bank account.

We asked the benefitted elderly about the sufficiency of the OAP amount they were getting. The amount mentioned above was not sufficient according to 89 per cent of the respondents out of total OAP beneficiaries. The expectation of OAP up to Rs. 400/- per month was expressed by 5.6 per cent of total benefitted respondents. 52.8 per cent expressed their expectation that the amount should be between Rs. 401/- to Rs. 600/-; and 33.7 per cent expected it between Rs. 601/- to Rs. 800/- while 7.9 per cent expected it above Rs. 801/- (not shown in table). Also it was found that the elderly were not getting OAP regularly (on monthly basis). At the interval of six months, they have been credited Rs. 1,800/- in their saving bank account. Most of the times the amount credited in their saving bank account was delayed and because of this some inconvenience reported by the respondents informally.

Table 1. Distribution of the respondents according to their awareness regarding OAP scheme and the way of expending OAP

	No	Yes	Total
Know about OAP scheme	402 (67.0)	198 (33.0)	600
Availing OAP	500 (83.3)	100 (16.7)	600
Is the pension amount sufficient?	89 (89.0)	11 (11.0)	100
Expend OAP by him/her self	13 (13.0)	87 (87.0)	100
Expend on Food/Cloths	4 (4.6)	83 (95.4)	87
Expend on Medicine	6 (6.9)	81 (93.1)	87
Expend on Travelling	36 (41.4)	51 (58.6)	87
Expend on Guest Hosting	44 (50.6)	43 (49.4)	87
Expend on intoxicants	34 (39.1)	53 (60.9)	87
Expend on grand-children	25 (28.7)	62 (71.3)	87

Some informations have also been collected regarding the way of expending OAP. It was found that 87 per cent of the elderly spending their OAP by themselves. Among the total respondents (who expend OAP by themselves), 95.4 per cent respondents expends on food / cloths; 93.1 per cent expends on medicine; 58.6 per cent expends on travelling; 49.4 per cent expends on guest hosting; surprisingly 60.9 per cent expends on intoxicants like smoking (Bidi, Cigarette, Hukka), chewing tobacco etc; and 71.3 per cent of respondents give a little part of OAP amount to their grand children as pocket money by their own desire.

The distribution of OAP beneficiaries and awareness among elderly people regarding OAP scheme according to their socio-economic and demographic characteristics are discussed and results are given in table 2. The male elderly people were found to be more aware and benefitted rather than females. Awareness among elderly **people about OAP scheme was found to be significantly associated with sex (÷^{2}=** 5.1; d.f.= 1). So far as the OAP beneficiaries according to marital status is concerned, the percentage of widows / widowers was higher compared to presently married elderly and this association was found statistically significant. It was found that the elderly of those of advanced age were more benefitted of OAP scheme compared to their counterparts i.e., more beneficiaries were reported with increased age of the elderly person. We tried to gain some insight about caste wise distribution of OAP. The elderly belonging to O.B.C. category were found more aware about OAP followed by S.C. / S.T. and General Categories but interestingly among the aware respondents, the elderly belonging to S.C / S.T. found to be more benefitted by this scheme.

Table 2. Awareness & Availing of OAP according to socio-economic & demographic characteristics of the elderly

Variables	N= 600	Aware of OAP scheme	X^2-value	N= 198	Availing OAP	X^2-value
Socio-economic & demographic characteristics						
Gender						
Male	303	113 (37.3)	5.1	113	62 (54.9)	2.0
Female	297	85 (28.6)	p<0.05	85	38 (44.7)	NS
Marital Status						
Presently Married	406	132 (32.5)	0.1	132	51 (38.6)	22.3
Widows/Widowers	194	66 (34.0)	NS	66	49 (74.2)	p<0.001
Age						
60 -69	314	94 (29.9)	2.8	94	35 (37.2)	14.7
70-79	186	68 (36.6)	NS	68	39 (57.4)	p<0.01
80 & above	100	36 (36.0)		36	26 (72.2)	
Caste						
General	170	39 (22.9)	11.1	39	17 (43.6)	13.4
OBC	177	96 (54.2)	p<0.01	96	22 (22.9)	p<0.01
S.C./ S.T.	253	63 (24.9)		63	61 (96.8)	
Religion						
Hindu	465	161 (34.6)	2.7	161	78 (48.4)	4.5
Muslim	125	35 (28.0)	NS	35	22 (62.9)	NS
Others	10	2 (20.0)		2	0 (0.0)	
Education						
No Schooling	461	148 (32.1)		148	82 (55.4)	15.7
Up to Lower Secondary	109	36 (33.0)	2.7	36	18 (50.0)	p<0.001
Secondary & above	30	14 (46.7)	NS	14	0 (0.0)	
Social Status						
Low	172	87 (50.6)		87	62 (71.3)	
Middle	243	72 (29.6)	37.2	72	35 (48.6)	p<0.001
High	185	39 (21.1)	p<0.001	39	3 (7.7)	
Economic Status						
Low	273	110 (40.3)		110	72 (65.5)	32.2
Middle	138	49 (35.5)	20.0	49	23 (46.9)	p<0.001
High	189	39 (20.6)	p<0.001	39	5 (12.8)	
Occupation before age 60						
Agriculture	215	67 (31.2)		67	41 (61.2)	6.3
Service	51	24 (47.1)	20.5	24	8 (33.3)	NS
Business	36	22 (61.1)	p<0.001	22	11 (50.0)	
House work	298	85 (28.5)		85	40 (47.1)	
Health status						
Good	109	36 (33.0)		36	11 (30.6)	15.1
Moderate	274	82 (29.9)	2.6	82	36 (43.9)	p<0.01
Bad	217	80 (36.9)	NS	80	53 (66.3)	
Household Information						
Type of Family						
Alone	75	36 (48.0)		36	24 (66.7)	4.6
Nuclear	40	22 (55.0)	20.1	22	10 (45.5)	NS
Joint	485	140 (28.9)	p<0.001	140	66 (47.1)	
Type of House						
Kachcha	139	59 (42.4)		59	39 (66.1)	21.5
Half-Pakka	252	88 (34.9)	13.0	88	49 (55.7)	p<0.001
Pakka	209	51 (24.4)	p=0.001	51	12 (23.5)	
Availability of land for Agriculture						
No	119	50 (42.0)	5.5	50	30 (60.0)	2.4
Yes	481	148 (30.8)	p<0.05	148	70 (47.3)	NS
Main Source of House hold Income						
Salary/Wage Daily	333	121 (36.3)		121	67 (55.4)	5.4
Agrarian Activities	200	44 (22.0)	21.4	44	16 (36.4)	NS
Business	15	6 (40.0)	p<0.001	6	4 (66.7)	
Bank Deposit	52	27 (51.9)		27	13 (48.1)	
Total	600	198		198	100	

In the present study, a high proportion of the elderly (76.8%) found to be illiterate and in spite of this they were found to be more benefitted by OAP scheme compared to highly educated elderly. Although due to lack of education, awareness regarding OAP scheme was very less among the illiterate elderly. The elderly belonging to low social, economic and bad health status were more aware of OAP scheme and among them more than half of the elderly people were getting OAP and was found associated with the social, economic and health status of the elderly. The type of house was also found to be associated with the awareness status regarding old age pension scheme of the elderly ($\div^2$ = 20.1; d.f. = 1). Usually it is seen that a 'Kuccha' house (a type of house made of mud) indicates a symbol of poorness and belongs to the lower strata of the society. This category of households generally belongs to the alone or nuclear kind of families. In this study the elderly living in 'Kuccha' house were found more aware and benefitted of OAP scheme. Since OAP scheme targets the weaker and poorer section of society. So, it is desirable to know the financial background of the elderly. Availability of land for agriculture, nature of work before age 60 and main source of household income supposed to be worthwhile here to know the financial background. All these variables were found to be associated with the awareness regarding old age pension scheme. The awareness about OAP scheme among the elderly having no agriculture land, whose main occupation was the business before age 60 and current source of household income was 'bank deposit', was found more in the present study. In some previous studies including one done by Rajan (2001) found that the weaker section of the society are more benefitted than others by old age pension scheme and the similar results were also found in the present study.

Table 3 & 4 show the results of logistic regression analysis to assess the impact of various socio-economic and demographic variables on the awareness status and recipients of OAP among the elderly.

Table 3. Final modal of logistic regression (backward elimination procedure) using awareness about OAP scheme as dependent variable

Variables	B	S.E.	d.f.	p-value	Odds ratio	95% CI for Exp (B)
Caste						
General			2	0.028	*Reference*	
OBC	0.725	0.272	1	0.008	2.065	1.211-3.518
S.C./S.T.	0.470	0.268	1	0.079	1.600	0.947-2.704
Education						
No Schooling			2	0.052	*Reference*	
Up to lowerSec.	0.393	0.278	1	0.008	2.065	1.211-3.519
Secondary & above	1.121	0.486	1	0.021	3.068	1.183-7.955
Social Status						
Low			2	0.000	*Reference*	
Middle	-0.825	0.228	1	0.000	0.438	0.280-0.686
High	-1.282	0.307	1	0.000	0.277	0.152-0.507
Type of Family						
Alone			2	0.007	*Reference*	
Nuclear	0.573	0.433	1	0.186	1.773	0.759-4.146
Joint	-0.505	0.303	1	0.095	0.604	0.334-1.092
Occupation before age 60						
Agriculture			3	0.018	*Reference*	
Service	0.448	0.359	1	0.212	1.565	0.774-3.163
Business	1.035	0.411	1	0.012	2.815	1.258-6.298
House work	-0.147	0.219	1	0.501	0.863	0.562-1.325
Main Source of House hold Income						
Salary/Wage Daily			3	0.064	*Reference*	
Agrarian Activities	-0.486	0.231	1	0.035	0.615	0.392-0.967
Business	0.493	0.585	1	0.400	1.638	0.520-5.158
Bank Deposit	0.256	0.341	1	0.453	1.292	0.662-2.521

The above table displays the results of logistic regression analysis taken all the variables together for predicting the likelihood of having aware or not regarding the old age pension scheme. The final model included caste, education, social status, type of family, occupation before age 60 and main source of household income as independent predictors of the awareness status. The elderly belonged OBC caste category was more likely to be aware about OAP scheme in the study. The above table also shows that almost 60% increase in odds of being more aware about OAP scheme amongst the elderly who belonged to SC / ST caste. It may be due to the poor economic status of the people belonging to these categories as compared to general caste category. Also, compared to uneducated, elderly people who have had done some formal schooling were more likely to be aware about the OAP scheme. Social status of the elderly was found to be associated with the awareness regarding old age pension scheme. In the present study, the aged of middle and high social status were less likely to know about the OAP scheme. Nature of work before the age of 60 years was also found to be associated with likelihood of awareness. The elderly engaged in business work before the age of 60 were more likely to know about the scheme. As far as concerned with the main source of household income, the elderly belonged to the households where agrarian activities were found to be the main source of income were less likely to have knowledge about the old age pension scheme.

For predicting the likelihood of availing the old age pension, the final modal of the logistic regression analysis included sex, marital status, age and social status as independents predictors and the results are shown in table 4. Elderly females were less likely to avail the old age pension in the study. Marital status was found to be one of the important contributory factors in explaining the likelihood of availing the OAP. In our study, the elderly who were found widow/widower and in the oldest old (80 & above) age segment were more likely to avail the OAP. Also the elderly belonged to the middle and high social status was less likely to avail the old age pension. The corresponding table shows that almost 66% and 98% decrease in odds of availing the old age pension amongst the elderly of middle and high social status respectively.

Table 4: Final modal of logistic regression (backward elimination procedure) using beneficiaries of OAP as dependent variable

Variables	B	S.E.	d.f.	p-value	Odds ratio	95% CI for Exp (B)
Sex						
Male					*Reference*	
Female	-1.399	0.417	1	0.001	0.247	0.109-0.559
Marital Status						
Presently Married					*Reference*	
Widow/Widower	1.786	0.431	1	0.000	5.965	2.563-13.886
Age						
60 -69			2	0.020	*Reference*	
70-79	0.815	0.418	1	0.051	2.259	0.996-5.126
80 & above	1.304	0.521	1	0.012	3.683	1.326-10.226
Social Status						
Low			2	0.000	*Reference*	
Middle	-1.091	0.390	1	0.005	0.336	0.156-0.721
High	-3.901	0.731	1	0.000	0.020	0.005-0.085

Conclusion

Using a community based data taken from different parts of a most populous northern state in India, it was attempted to search out some possible determinants about the knowledge and availing the old age pension in Uttar Pradesh. The strength of the study is that it is based on a large and diversified population sample of elderly people. Some important possible predictors have been identified that may explain the variance among aware and benefited elderly people regarding old age pension in a normal population. Very few previous investigations in India, especially in south India, assessed the government old age pension scheme but to the best of our knowledge no study evaluated the OAP scheme among rural elderly people in Uttar Pradesh.

At the time of survey, we got very less percentage of the elderly availing OAP in the study areas. It was found that most of the respondents had applied for OAP but their applications were under

processed till the time of interview. We found that some respondents, who were socially and economically strong, did not express desire to get OAP although they appreciated the OAP scheme. Interestingly, the elderly who were availing the pension, majority (89%) of them were not satisfied with the OAP amount. It has been seen that behaviour of household members depends on the economic activity / productivity of the elderly person concerned. An elderly pensioner usually gets better response regarding food, lodging, caring, etc. from his / her family members than others. On the other hand, an elderly person gets poor response from his / her family members if he / she totally dependent on others for his / her daily necessities and caring, particularly in the lower strata of the society. Also in this study, the elderly who expended their old age pension amount by themselves, maximum their expenditure departed on food / cloths followed by medicine and on their grandchildren.

Now about fifteen years since the inception of government old age pension scheme, majority of elderly people in the study area were lacking knowledge about OAP Scheme**.** Illiteracy was found one of the important significant factors for unawareness. The increased educational level tends towards better knowledge about the old age pension scheme. Also, the occupation of the elderly before the age of sixty years showed significant impact on the knowledge of OAP scheme. Service class or business activities were found to be highly linked to the knowledge of OAP scheme. It means the elderly who were engaged in activities outside the home and gathering with different kind of people had better knowledge compared to their counterparts. The variables such as age, sex, marital status and social status emerged as significant variables to explain the status of availing old age pension which implies that among oldest old age segment of the elderly, widow/widower, male elderly and of low social status, the higher proportion of the elderly were getting the old age pension.

The findings indicate that still majority of the needy elderly people are not aware about the old age pension scheme. Of course, those elderly who have the awareness are not lagging behind to take the advantage. So, we would like to draw some attention of our policy makers to some suggestions on the basis of our findings:

- Since the majority of the elderly were found not to be aware of OAP Scheme, so it is very necessary to make them familiar and aware to this scheme;
- In view of the rising cost of essential commodities, the amount Rs. 300 per month is very low. This amount is not sufficient especially for those elderly who do not have any other financial support. Hence, the amount of pension needs to be increased.
- It was found in our study that pension is disbursed biannually and sometimes it is more delayed. So, it is suggested that amount should be disbursed regularly i.e., on monthly basis.

In the light of the above suggestions, the government should take necessary initiatives so that each and every needy aged avail the old age pension scheme and meet the basic needs of their life.

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Old Age Exclusion: A Case Study of Kottaipatti Village of Tamil Nadu

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ABSTRACT

Social exclusion has been defined by the Department of International Development as "a process by which certain groups are systematically disadvantaged because they are discriminated against on the basis of their ethnicity, race, religion, sexual orientation, caste, descent, gender, age, disability, HIV status, migrant status or where they live" (Beall Jo and Laure-Helene Piron, 2005). The European Foundation, however, defined "Social exclusion as the process through which individuals or groups are wholly or partially excluded from full participation in the society in which they live". The present paper by substantiating the findings empirically, taking Kottaipatti village of Dindigul district of Tamil Nadu as a case, explores the plight of old age as well as their exclusion from the society. The article is divided into two broad parts: first one is conceptual while the other one is empirical. The first part addresses the approaches and paradigms of the social exclusion developed so far in different parts of the world while the second part of the article empirically applies the approaches to know the old age group based exclusion. The data being collected primarily through case study method, following institution based approach focused on the exclusion of old aged persons in the selected field area. The present paper, therefore analyzes that how the old aged persons are largely excluded from the society. On one hand, they become a burden for their children while on the other many of them are still capable enough to sustain their livelihood without depending on their offsprings or other members of their family.

Key Words : Cope- up strategy, Economic Institution, Old age, Social Exclusion, International Labour Organization (ILO).

The concept of 'social exclusion' is of relatively recent origin. It gained currency in the European context in response to rising unemployment and income inequalities which characterized the closing decades of the 20th century, while in India the concept is still not fully established. In other words we can say that it is still in its childhood and need another ten to twenty years to mature. As per its first step UGC has established the Centers for Study of Social Exclusion and Inclusive Policy in more than 34 universities under the 10th /11th Five Year Plan so far with the objective to study the group of people who are socially excluded from the mainstream in one way or the other. Therefore, the concept of social exclusion represents a key theme in current social policy debates in India. Policy initiatives on social exclusion in India mainly revolve round groups such as caste and ethnic minorities; women and children; whereas the ways in which social exclusion may affect older people have largely been neglected.

This article, therefore, seeks to generate a better understanding of the dimensions of social exclusion among the old aged group as well as how contemporary concerns about social exclusion may best be applied to the position of older people in Indian society. The paper is however, an outcome of primary data collection done by the author as a field supervisor for the VPP camp of Department of Sociology, Gandhigram Rural Institute, Gandhigram. The camp was held from August 09 to 16, 2010. In this respect, the article draws upon certain case studies of older people in a series of conversations held in Kottaipatti village which comes under Kalikampatti Panchayat of Athoor block of Dindigul district, TamilNadu.

Concept of Social Exclusion: Social exclusion has been defined by the Department for International Development (DFID) as "a process by which certain groups are systematically disadvantaged because they are discriminated against on the basis of their ethnicity, race, religion, sexual orientation, caste, descent, gender, age, disability, HIV status, migrant status or where they live" (DFID, 2005). 'Social exclusion' was seen, as the following definition offered by the European Foundation suggests, it as the process through which individuals or groups are wholly or partially excluded from full participation in the society in which they

live." There were concerns that the concept would be imported thoughtlessly to simply re-label long-standing, locally developed approaches to social problem. In particular, it captures the experience of the certain groups and categories in a society of being somehow 'set apart' from others, of being 'locked-out' or 'left behind' in a way that the existing frameworks for poverty analysis had failed to capture.

Major Approaches: Three methodological approaches have so far been adopted in the country case-studies, focusing on *rights*, *groups*, and *institutions* respectively [International Labour Organization - ILO 1996: 17]. ***Rights-focused*** studies have examined the factors or events which determine whether people are able to secure those rights which affect livelihoods. For instance, the study of social exclusion in India focuses explicitly on T.H. Marshall's concept of 'social' rights, specifying the dimensions of health, education, housing and social security [Appasamy *et al.,* 1996: 2-3]. ***Group-based*** investigations identify specific social categories and detail their relative deprivation [ILO, 1996: 17]. This involves, examining the links between the group's relative deprivation, the working of social institutions and personal attribute's/ social identity; as well as, examining the relationships of these links to national development trajectories. **The *institutional* approach,** seeks to draw links between: "the ability of certain categories of persons to participate in social life (and) the evolving nature of the economic organization; the political order, and culture – codes values and aspirations by means of which people communicate amongst themselves, and which are transmitted through primary relationships, education, religion and the various means of communication" [ILO, 1996: 19]. The present paper, however, focuses on institution based approach as because, in its path to identify social exclusion among old aged group, it attempts to examine the different institutions (economic, political and cultural), from which they are socially excluded.

Paradigms: Silver Hilary (1994) distinguished three paradigms of social exclusion, in the ***'solidarity paradigm'*** dominant in France; exclusion is the rupture of the social bond between the individual and society that is cultural and moral. A ***'specialization paradigm',*** dominant in the US, and contested in UK is determined by individual

liberalism. In this paradigm, exclusion reflects discrimination, the drawing of group distinctions that denies individuals full access to or participation in exchange or interaction. A ***'monopoly paradigm'*** is influential in Britain and many Northern European countries, and views the social order as coercive, imposed through hierarchical power relation. Bill Jordan [1996] argues that exclusion arises because particular social groups monopolize the use of public resources. To sum up therefore, social exclusion does not entail a binary model distinguishing between those who are 'in' and those who are 'out', but refers instead to the disadvantaged terms on which socially excluded groups and categories participate in the economic, social and political functioning of their society.

Methodology

Sample

The area of the present study was Kottaipatti village which comes under Kalikampatti panchayat of Athoor block of Dindigul, Tamil Nadu. This village needs special mention as the Kalikampatti Panchayat under which it is coming, got Nirmal Puruskar Award from Central Govt. worth 2 lakh rupees and State Govt. Award worth 5 lakh rupees for proper functioning and effective implementation of welfare programs. Even after that the old age population in this village is facing exclusion of extreme degree and forms. It is a micro level study; therefore it selected one village in order to explore the institutions responsible for old age exclusion. By following anthropological approach, on the one hand, it tries to know the ways by which old age people are excluded while on the other hand, how they try to cope up with the different societal attitude towards them. The study is more interpretative and descriptive in nature because it has used and relied chiefly on case study method for primary data collection.

Village Profile: It is surrounded by Adamanampatti in the north, Chinnalpatti in the south, Chettaipatti in the east and Kalikampatti in the west. It is a small hamlet of Kalikampatti panchayat consisting of 170 households, divided into six caste groups viz., Gaundar, Pariyar, Chettiyar, Nayakar, Konar and Ambatteir. Out of them Gaundar is the dominant

caste, holding most of the agricultural land (practicing Zamindari system during British Raj), having political influence and largest in number.

Table No. 1: Caste-wise distribution of Kottaipatti

Sr. No.	Caste	No. of Household	Percent to total
1.	Gaundar	87	51.20
2.	Pariyar	34	20.00
3.	Chettiyar	33	19.41
4.	Nayakar	04	2.35
5.	Konar	09	5.28
6.	Ambatteir	03	1.76
	Total	**170**	**100.00**

Findings and Analysis

Based on the primary interaction with the old aged people in Kottaipatti village, the first part of the findings focuses on insider's view; while the second part describes the institution- based approach in which the author attempts to discuss that how different institutions are responsible for the exclusion of old aged people in the selected study area. While it ends with the cope-up strategy of the old aged people in the Kottaipatti village.

Insider's view: In India though the concept of social exclusion is of very recent origin, moreover, the old aged based exclusion is still largely an untouched area, the present paper might hold some significance as in a very short time span it tries to realize the native's view point regarding their own exclusion from the society in general and from their family in particular. Out of 15 case studies which the author has collected during long conversations with the old aged persons she comes to the conclusion that exclusion might be a matter of intellectual discourse for us but for them it is a part and parcel of their daily life routine. Being excluded is a natural process for them and they accept it as an obvious outcome of their growing age. Some of the attributes by which they classified and accepted them as excluded are loneliness, monotonous life style, age restricted conversations, loss of their economic value, burden for their family and ultimately waiting for their death. Here all these attributes will be discussed one by one supported with the case studies.

1. Loneliness: Many of my respondents who crossed their eightieth birthday viz., K. Subramani (male, 82 years, Okliha Gaundar); Virumellamma (female, 83 years, Periyar); K. Ponnan (male, 86 years, Periyar); E. Amravati (female, 79 years, Chettiyar); and K. Subbamma (female, 83 years, Kapali Gaundar) express loneliness as one of the attributes which give them the feeling of being excluded. Majority of times when I went to them for conversation they were sitting all alone, their eyes was looking for someone who will come and talk to them, chat with them, share their views, thoughts and feelings as if they were sitting quiet since years. While asking about their last conversation it was difficult for them to memorize that moment because since long time no one came and communicate with them apart from their fellow age group men. It was one of the reasons that they never wanted me to leave and end the talks as now only they found someone from different age group talking to them after a long time.

One of them remarked:

"who has got time to come and talk to us, all are busy in their own works and why they will come as it is a sheer wastage of time for them".

2. Monotonous Life Style: Monotony is another attribute of exclusion for them. Though in one way or other all of us are living a monotonous, routine life but in that monotony also we face difficulties, challenges and learn something everyday out of it and do some creative work also. But their monotony is different from ours. They were mostly sitting idle, doing same kind of routine work, circumscribed in a particular area, sometime due to being older they cannot even walk properly which restrict their social movement and interactions. The situation was worst for those who were earlier working as a government servant because now suddenly they found emptiness in their life which is not going to be filled neither by their children nor by their grand children. Those who lost their life partners in this journey are worst sufferers because they (their life partners) were the only one with whom they can talk and felt some change in their routine life.

3. Age Restricted Conversation: We the human beings are social animals and cannot live without talking or conversations with our fellow human beings. But how many of us thought of our elders who

are sitting alone quiet in a corner of house even for hours. Same was the case of Kottaipatti village. Though they spent their evening by sitting in groups and chatting with their fellow group members but somewhere they missed their children and grand children's love affection and care. Thus excluding them from other age group's conversation area is in a way excluding them from main stream. One of the reasons their children assigned for avoiding conversation with their parents is their old age, their low hearing capacity, their weak eye site, their inability to walk as if they will never face these challenges in future.

4. Loose their Economic Value: The aged people who are in their nineties think of them as of no economic value. One of my respondents, named K. Subramani remarked:

"We are of no use, we are like waste material. That's why my son has given me this separate house of one room where I can live alone, spent rest of my life and will die one day".

Another lady in her eighties named Virumellamma, who lost her husband some seven years before remarked:

"I am fed up of my life, what is the use of this life…sitting idly, doing same kind of works everyday. No one is there to listen our voice, my children and grand children neglects me as if I am not living for them. They simply give food and never turned for any other things, does a human needs only food, does he/ she not have any feelings or emotions to share? I pray every morning to God to give me death".

5. Burden for their Family: After seventy years most of the aged persons think like they are nothing but a burden for their children, family and for the society also. That is only because of the negligence, avoidance and the rudeness which they received from their children. One of my respondents named Amravati, a lady in her late seventies, agriculture -coolie by occupation, belonging to Chettiyar caste is living with her husband in the village Kottaipatti. She is having two sons but both are living separately in Dindigul. She appeared very weak and could not able to hear properly. Both of her sons come very rarely to meet her because they do not have time to come and they are busy in their own family life. She was complaining that she is not eligible for the

old age pension scheme because only those who are having daughters instead of sons will get the benefits. She further remarked in an irritating way:

"But the government itself do not know that these sons only left me to live a miserable life of agriculture coolie, doing hard physical labor at this age of seventy nine, when a person want peace and rest in his/ her life".

Another lady named A. Bombattai in her late sixties, belonging to Chettiyar lost her husband some 15 years back. She is having three sons and one daughter. But the paradox is that none of her sons are taking her care, instead her only daughter was the one who is concern for her health and well being. She is living alone in a separate house, cooking food by her own. The reason for not getting old age pension is same here also (because she is having sons). She told me that one day her daughter-in-law quarreled with her, abused her and pushed her out of their paternal house since then she is living in the present house. She remarked her grievances:

"I cannot adjust with my daughter-in-law, we have a very bad tuning, she never listens to me and always argues with me unnecessarily. She even took away my grand children also from me and never allows them to come and play or chat with me. One day I ended up the whole issue and came here. Now we do not bother about each other. Even after living in the same village, neither they come to see me nor I had visited their place". After a sigh she again shares her feelings with a heavy heart, "Only thing which hearts me a lot is that my son has also got changed. How he can be so selfish? How he forgot all the love and care which I and my husband have given them through years…."

From the above case studies it is clear that the old aged persons in the village Kottaipatti are facing negligence, loneliness, avoidance and ill treatment from their own children, particularly sons. However, in this section the author wants to share some of her experiences noticed by her during her keen observation, participation and during the time of conversation with the old aged persons.

Policy based Approach: For the present study the author has applied the institution based approach in order to enquire the exclusion of old age persons from different institutions viz., economic, political, cultural and social.

1. **Exclusion from economic institution:** To assess economic exclusion the author has taken access to PDS, access to market, membership of SHG, employment opportunity under NREGA and their market value into account.

   Though they are having ration card and access to PDS due to their old age and their inability to walk the benefits are undertaken by their children. Not only has this, in some cases the children are not even giving any share of the products to their parents, which they are getting on those rationed cards. Regarding access to market those who crossed their eighties are mostly circumscribed in village itself while those below eighty visits market weekly. But in most of the cases they are so poor that they cannot afford three rupees bus ticket to the nearest Chinnalpatti market.

   One lady in her seventies named K. Subamma who was widow and working as agri- coolie replied that:

   "I am not going to market daily and whenever I will go I prefer walking because I do not have money for extravaganza (i.e. 3+ 3= 6 rupees are needed for up down journey by bus to the nearest market viz., Chinnalpatti)".

2. **Exclusion from political institution:** Regarding political participation the response from aged was mixed in Kottaipatti village. Majority of them even though they become very old, cast their vote during general elections. While as far as the question of attending Gram Sabha meeting is concerned most of them responded negatively. They remarked that their ideas and views are not at all considered in the meeting that is why they do not like to attend it. The members in Panchayat also exclude the aged people as none of them are holding any position in village Panchayat.

3. **Exclusion from Social institution:** Exclusion of old aged from social institution is quite evident in Kottaipatti village. They are

excluded not only from their families but the neighborhood, relatives and ultimately the society also neglects them. Even though the people are passing from the same route they never think of the old age persons sitting nearby. The family relatives also do not want to come and interact with their elders because they thought that meeting old aged persons is wastage of time as they use to talk about their older days and also very suggestively which they generally ignore to listen. Inside the village even at other social interaction places also such as temple, stone bench, tea shops, the place where Panchayat meetings are held, common grounds etc one can notice that the old aged persons, if at all they are interacting, interact with their fellow age members otherwise they are sitting quietly. Therefore, in spite of living in a society the aged are not getting full participation in it and as such facing exclusion in each and every sphere of their life.

4. **Exclusion from Cultural Institutions:** During festival time or during any religious functions the old aged groups are not personally invited. Instead of that their own children feel a kind of hesitation or shyness in taking them or including them in those festivals. Though they accepted that they all celebrate festivals together but in practice they generally ignore the presence of old age parents. Regarding the source of recreation either they lack the facilities such as TV, radio etc or if it is their then also they do not have freedom to see their favorite channels or programs.

In this way, it can be concluded that in village Kottaipatti the old aged persons are more or less facing exclusion from different institutions whether it is economic, political, social or cultural. Even after facing exclusion in different forms the author noted that many of them are still coping-up with such circumstances and try to live a peaceful life. In the succeeding paragraph their cope-up strategy will be highlighted.

Cope- Up Strategy: Even after facing exclusion from different institutions and from different sections of the society, the old age people are not getting defeated or distress of the circumstances, instead of that some of them try to find the way out of it and adopt positive way of life among them.

1. **Health Problems and remedy:** Out of the cases reported, many of them are facing health problems such as cataract, arthritis, asthma, skin allergy, cancer etc. But instead of depending on their children for their treatment they go by their own. Mostly they went to PHC except one person who is having mouth cancer, named K. Subramani. He got affected with the disease in 2003. Then he come to know about Adiyar Hospital in Chennai Egmore and operated his cancer. Now also every month he has to go for checkup.

   On asking that why he is going alone for checkups, he remark that,

   "I am having two sons. I brought them up. That is our duty, now their mother also left me. But when I suffered with this disease and need their care and affection they did something I never expected. They separated me from my own house and kept me here alone in this one room plot. They never bothered about my health. Then I too decided to come out of this disease by my own. Through my friend I come to know about the cancer hospital in Chennai. I went there and operated my cancer and now I am fine. Every month on 14th I have to go for checkup. Anyways, they are my son that is why I forgive them, but God forbidden if some day their sons will do same thing then only they realize their fault and they will remember me. But at that time I would not be here….."

2. **Sustaining their livelihood:** While having long conversations with the old aged people in Kottaipatti village the author concludes that even after their old age exclusion some of them are setting examples for others to maintain their livelihood. They are working as daily wage labor, mostly as agricultural coolie or they are getting 100 days employment under NREGA. While some of them are sustaining not only themselves but their family members also by maintaining traditional occupation such as Devarattam, making of fiber rope from banana stem etc.

   One of the old man named G. Shakarrai in his seventies performing Devarattam in Kottaipatti village commented that:

"As far as the question of livelihood is concerned I am able enough to sustain not only my family but my children and grand children also. Though one of my sons left me but still in this age of 72 I am having the strength of giving bread to another 10 members. The way I rear and brought my children now I can rear my own self also. I do not want any help from them and I do not have any expectations also".

Another lady in her late seventies who was not able to walk properly and though physically looking very weak, lean and thin with wrinkled skin but was having a very strong will power. She is still working as agricultural coolie. Asking about her old age problems and poverty she replied very frankly,

"I am having two legs, two arms and one small hut along with my husband, who is sufficient enough to sustain our livelihood".

3. **Economic Benefits:** As mentioned earlier out of 15 case studies documented, five have joined SHG, which means that they are not only sustaining their livelihood but able to save also. Some of them are also getting old age pension as economic security from government.

4. **Positive attitude:** One thing which needs appreciation among the old aged persons in Kottaipatti village is their positive way of thinking. Even after facing negligence, avoidance, disrespect and disagreements from their children, a general thought which comes out voluntarily from them is, *"What to do after all they are our children and we are the parents. Children do commit mistakes and parent's duty is to forgive them. If they do something good for us then it is accepted and we will be happy but if they will not do anything then also we cannot force them. We never mind and we never expect because when expectations are broken then it will hurt a lot. We do not have any complains... even if we are having, who is there to listen. So accepting this negligence as law of nature and as one of the side effects of the old age we are trying to live peacefully and amicably because one day they will also become old and they will also face the same situation what we are facing now".*

5. **Providing helping hands:** the old men and women who are not able to contribute much in the economy of the family they are assisting their sons and daughter in laws in rearing their grand children and also in household works. The old ladies who are widow and living separately from their children are also cooking by their own.

   One of the ladies remarks,

   "When I was young everyday I used to cook and prepare variety of foods for my husband and children. Now I am old but still I am having strength at least to prepare food for my own. Until and unless my hands and legs are working I will continue to do the same. The day when I will become incompetent to cook for my self, I will pray to God to give me death".

Conclusion

Age is something which one can not hold or control over it. One day or another every one of us have to face it. But it is a human nature that we like shining and fresh looks and leave the dull and old ones. Same is the case of Kottaipatti village. But one thing that our elders are not any non- living material, they are having senses (though it is diminishing), they are having feelings (though it is unexpressed), they are having ideas and view points (though it is unheard), they too want love, affection and care (though they are not getting it), and ultimately they also want to be included in the society (though they are excluded). Therefore, through visualizing the plight of old aged persons in Kottaipatti village of TamilNadu, the foremost aim of the present paper is to sensitize the adult as well as the young generation about the fact that ageing is a natural process and no one can escape from it. Therefore, instead of neglecting the old aged people we should embrace them. We should give the love, respect, affection and care to our elders of which they deserve rightly. In the end it may be said that though the government is trying to include the old aged persons in the main stream through different plans and programs, through economic and social security schemes but until and unless we as a mass would come forward and make an earnest attempt to resume the basic human rights of these old aged people and would include them in our society, the situations will remain the same and the cycle of exclusion will continue to be….

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Longevity – A Study of the Elderly Women in Kerala

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ABSTRACT

Half of world's aged women 60 years and over are living in developing regions. Kerala, the southern tip of India is often looked upon as a model of development by other states and countries. The state also houses the highest number of elderly in the country. So also the number of elderly women in the state is higher when compared to the men. There are also significant differences in the life expectancy of women and men. Older women are more likely to be widowed when compared with older men. Loss of husband and reduce income also add to the suffering. Longer lives are not necessarily healthier lives. There are powerful economic, social, political and cultural determinants which influence the health and quality of life. But women live an average of six to eight years longer than men. Hence, it is worthwhile to know the reason for the longer lives of elderly women of Kerala where there is high literacy and greater health consciousness among the people.

Keywords : Longevity, Elderly women, Health.

A deeper understanding of ageing in the present day society needs the review of ageing as a process at the individual level and at the societal level. Ageing is a universal phenomena and every object in the earth undergoes the process of ageing. In the human society, ageing was considered as a social phenomenon rather than physiological, as ageing is always understood in the background of social milieu. Like other social institutions, ageing is also a socially constructed concept and considered as social reality. In the traditional society, ageing was

considered as a natural process whereas today ageing is a shared feeling of the organized groups namely family, peer group and society (Morgan and Kunkel, 2001). Ageing is one of the few concepts that have a time frame due to the differential development perspectives of the respective countries. Demographic transitions, social conditions and political environment of the last few years are the important reasons for the changing views of the concept of ageing.

When India got independence, life expectancy of Indians was 50 years on the whole which suddenly improved over a period of time and now, the life expectancy of an average Indian has gone up to 70 years (Bose and Mala Kapur, 2004). Therefore the concept of old age has undergone a change as today, a person of 60 years is not considered normally as old. In order to know the reasons of longevity, one has to look at the old, i.e. those who have crossed 90 years. In developed countries especially in Germany, the number of people who have crossed 90 years is fast increasing.In India the average years of remaining life for those in ages 60+, in 1901 was 9.3 years for women and nine years for men. By 1951 these figures had increased to 11.4 years and 10.9 years, respectively. In 1991 women in ages 60+ were expected to live for another 18 years and men for 17.3 years. By 2001 the remaining life span for women aged 60+ became 20 years and for men it was 18.3 years.

At all ages males have higher rate of mortality than females (Verbugge,1992).Biological factors may partially account for the higher rates of males. There is evidence that female life expectancy is also higher among many other animal species (Bagchi, 2000).This biological advantage may come from hormonal difference supported by social factors.

While men are likely to be cared for by their spouses the same cannot be said for women. As such gain in life expectancy may not be an unqualified benefit. Kerala which has the highest proportion of the aged is reporting that the elderly are demanding that laws on euthanasia be liberalised (Rajan and Zachariah, 1998). For this they are seeking help from the medical men and the legal professionals. The plight of the elderly women in Kerala looks bleak (Gulati and Rajan, 1997). But it will be interesting to note how the life course of the elderly women nearing the centenarian status in Kerala be the same as their younger

counterparts who dies at an early stage? Or is there anything special that made them live longer? Whether their health profile is sound through out the life or impeded with medication and hospitalization. Can we evolve a life course model for healthy ageing? These questions need to be answered. It is worthwhile studying the 90+ people of Kerala to understand the reason for their long living and the problems they face due to the long life. This study is an attempt in this regard. The analysis can start with the socio-demographic profile of the 90+ year's women

Methodology

Studies in India on these lines are almost nil except the centenarian study done by the S.V University, Tirupati (Ramamurthy *et al*., 1996). In order to analyze the longevity of the elderly women of Kerala this study is taken as the basis and the standardization of qualitative data is done with the help of the characteristics used in the Tirupati study.

The characteristics studied

1. Demographic details-Age, Family, Income, religion
2. Family History-Longevity of family lineage, Age of kith and kin, History of disease in the family
3. Disability-Sensory and physical health, present diseases and physical structure.
4. Nutrition-Present and past
5. Major life events, stresses and strain
6. Coping styles
7. Cognition, Comprehension, Memory
8. Communication
9. Lifestyle
10. Habits, addictions and preferences
11. Spirituality
12. Social support and family interaction

Sample

Multistage random sample of the cities were made and the centenarians were located. Their age as per the electoral rolls were noted and supplemented by information from their families. In all, 50 centenarians were picked from the three districts. Detailed studies were recorded with the help of questions and probes.

Findings and Analysis

Socio – demographic profile

Socio – demographic profile of individuals can influence the health condition as well as health seeking behaviour and in turn relate to longevity. The present study focused only on the demographic category of 90+ years elderly women, so as to analyse the social correlates of longevity in Kerala cultural context. Even though overall mortality rates for men are higher, women have higher mortality rates than men in younger age and in specific than men in younger age and in specific diseases. The demographic profile of the studied elderly respondents showed little variations. The following section analyses the socio-demographic variables such as age, number of children, nature of residence, religion, economic status, etc. in detail. The studied population itself is a specific demographic category of the 'oldest old' and therefore variations within the group in terms of perception is not expected at all. Still there are possibilities that the perceptions and experiences of the differing demographic entities within a specific category can vary to a reliable statistical significance.

In the present study, all respondents belonged to the age group of 90 and above. Among themselves, it is further divided into two groups of 90-95 years and above 95 years. 70 percent of the total sample belonged to the former category and rest in the latter category. As age increases the demographic representation naturally decreases.

In Indian context marital status plays an important role in deciding the social status of an individual especially women. The widowed or divorced women are always attached with certain religious and social taboos that increase the level of status loss at an elderly life stage. Elderly itself is a marginalised social category and widowhood adds further marginalisation. In the sample of present study, 92 per cent subjects were widowed. Most of the respondents lost their husbands since an average of 9 to 12 years. Thus, it can be briefed that the sample of this study mostly comprises the widowed elderly women category.

Children are the most immediate (both physically and mentally) social network that an elderly person can have. Having 'a number of' children does not make any difference to the solitary experiences of elderly, but it's the qualitative 'social space' that makes the difference

of healthy ageing. Among the total sample 60 per cent had an average of 3-6 children and 36 percent had an average of 1-2 children, while 4 percent of them had no children at all. Most of these respondents conceived their children before the family planning measures came in India and thus it's quite natural to have more people with more number of children. 90% of them were living with their children and 6 per cent of them, who had their children alive, were living alone due to migration or due to some other familial reasons. The respondents who had no children, were found living with their relatives.

Apart from demographic construction, the socio- cultural differences also play a crucial role in the rural social fabric. Power structures and social relations are spatial relations which are influenced by caste, class and kinship (Das, 2001). Majority of Keralites are Hindus, followed by Christians and the biggest religious minority is Muslims. In the present study 62 per cent of respondents were drawn from the Hindu religion and 24 per cent from the Christian religion. There was only 60 per cent of respondents who belonged to forward caste categories from both of these religions. A majority of 34 per cent was from backward communities and among them about half of the respondents were Muslims (14% of them were Muslims). The scheduled caste and scheduled tribe group was only 6 per cent among the total population. The primary data indicate that most of the respondents were from the forward segments of the society.

While the classifications through 'jati' (or caste) is established through birth and more dependent on religion, occupation, cultural tradition and ethnicity, class is rather defined through economic assets like ownership of land and income. Economic status also plays a vital role for healthy ageing. The respondents in the study were from the middle class status. 48 per cent of them had an income ranging from Rs. 3000/- to Rs. 8000/- per month for the whole family. The subjects having lower income in this sample were having the monthly income of less than Rs. 3000/- per month. 30 per cent of the respondents were from this income group and most of them represented the working class category. The respondents who had an income of above Rs. 8000/- per month were very few; i.e., only 12 per cent of the total respondents. Their families had regular income source and fall in the higher income category. The data indicate that except few government or private

employees, the economic conditions of the respondents in the present study belonged to middle or low lower class.

Health Profile and Morbidity Pattern of the Respondents

Even though Kerala has attained better health care indicators but the people are still facing the problem of high morbidity both from the re-emerging / new communicable and non- communicable disease (Government of Kerala, 2008). The mortality rate in Kerala is relatively low compared to other Indian states and hence the Kerala's situation is described as 'Low Mortality High Morbidity Syndrome'. An analysis of the morbidity conditions during 2006 and 2007 shows that even if there is increase in the absolute numbers of individuals affected by various diseases (in 2006- 30.83 Lakh and in 2007-322.43 Lakh), the incidence of Enteric Fever, Diarrheal diseases, Viral Hepatitis –A, Viral Hepatitis – B, Menningitis, Pulmonary Tuberculosis, Acute Respiratory Infection, Dengue Fever etc are coming down and that of, chickenpox, communicable and non communicable disease etc are on the rise (Ibid). The studied sample also reported apart from the general weaknesses the high incidence of new age viral diseases. For 38 per cent of the respondents the viral diseases were the major health problem and among them, few were suffering from the after effects of these diseases.

It is estimated that 50 per cent of the population over age 50 could be affected by osteoporosis. The general weaknesses is associated with this osteoporosis. Rashmi Shah, at Institute for Research in Reproduction, reports that mean age at menopause is 44.3 years. Undernourished women get their menopause as much as four years earlier. Women undergo hormonal changes caused by menopause. Post-menopausal women are more susceptible to osteoporosis, a degenerative disease of bones as well as cardiovascular diseases. Poor nutrition, especially calcium intake, during child- hood and growing years leads to low bone mass. Dowagar's hump which develops in the lumber region of the spine is a severe form of osteoporosis (Bavadam, 1999). The other minor diseases found in the studied sample were : respiratory infection (22%), diarrhoeal diseases (14%) and other diseases (36%).

There is indeed considerable evidence to suggest that, women are more likely to experience non-life-threatening illnesses and health

problems than are men and that this holds at most life stages including at older ages. Most studies from developed countries refer to a number of indicators, including overall self-rated health, functional impairments, and disabilities (Verbrugge 1984a, 1984b). Similar, but more limited evidence is available for developing countries (WHO, 2001; Palloni *et al.,* 2002; Sobieszczyk *et al.,* 2002; Zimmer *et al.,* 2002; Ibrahim *et al.,* 2009). Almost all the studies rely on self-reported data and thus may be affected by gender-based perceptions of health. One common concern is that, at least in some social and cultural settings, women may be more aware of their health problems or more willing to report them than men (Nathanson, 1975; Verbrugge, 1984a, 1984b; MacIntyre *et al.,* 1996; Doyal, 2001). If so, the apparent gender gap may be overestimated. Nevertheless, the preponderance of evidence points to a higher prevalence of non-lethal illness and disabilities among older women than older men and justifies inclusion of this recognition in a gender-sensitive approach to issues related to ageing. Moreover, gender is but one of several dimensions that differentiate health at older ages and not necessarily the most important one. Low socioeconomic status is typically a powerful and robust predictor of poor health.

In the sample of present study, health and disease history showed that 80 per cent of them had no serious ailments that hospitalized them in the past. They did not suffer from chronic degenerative diseases like hypertension, diabetes, arthritis, heart diseases etc. Vitamin deficiencies were observed in some of them. Urinary problems and constipation were commonly observed. 60 per cent of them had defective vision and loss of memory. General weakness was also seen in 80 per cent of them.

Through out their life they had led an active and busy routine, managing house and kitchen. The ADL and IADL status of the respondents was measured with the help of scale. Data were collected from the family members also. Upto the age of 85, 97 per cent of the respondents were able to perform all the functions without any difficulty. Even now 60 per cent of them are seen helping in kitchen and doing their duties by themselves. 82 per cent of them rarely took medicine from doctors. Throughout their lives home remedies have been part of their medical treatment. Only for chronic diseases they consult the physician.

The morbidity pattern of centenarian women in Kerala cultural context shows a relatively better picture that most of them live healthy in their 90+ age. Those who crossed over the demographic barrier of 90 years seems to be active in their daily chores. The life course perspective explicitly recognizes changes in statuses and roles as persons age and when the elderly women are active in their later years the perceived difference of experience is dismal. The assumed relative disadvantage of elderly women is related to differences in men's and women's earlier life experiences, including the different economic and care giving roles they have filled and the different rewards they have received. Here the contention of "lifelong oppression and discrimination reduce access to essential resources and result in higher rates of illness and poverty in late life" is proved to be wrong in the cultural context of Kerala society.

Nutrition

Healthy life depends on the type and quality of food and nutrition to a great extent. There are several components in food such as carbohydrates, protein, fatty acids, vitamins, minerals etc. All these contents are essential at varying degrees for the proper growth of an individual. Traditionally the rural population has a food culture that included the necessary impetus. But with the advent of modern food habits, the traditional routine has changed considerably. The dependence on nature for the nutrient supply was reduced and it was overtaken by the multinational market. Thus, it is imperative on the part of the public health care system to make the general population aware about the importance of taking nutritious food.

Food habits showed that 20 per cent of them are vegetarians and the rest are non-vegetarians choosing from a variety of food. Thus predominantly they were non-vegetarians and this might confuse that they were hard core eaters of meat and other non-veg. items. A deeper look in to their food habits showed that they had very little amount of meat in their daily meals. Their family reported that fish and leafy vegetable were part of their diet through out their lives. The fish is one of the nutritious and staple foods in the Kerala culture. Irrespective of the regional, religious and other demographic differences non-vegetarian people eat fish regularly. The easier and cheaper availability of the fish also made it as a habit of having it.

Some of them avoided excess fried, sugar and fatty preparation. This practice can be correlated to the traditional beliefs in the dietary practices related to the Ayurvedic practices in which excess oil and fats has to be avoided as it can cause 'pitham' a variant of obesity especially at the older age. Timing of food and the number of courses are also very important. 82 per cent of them said that they ate only when they felt hungry and did no over eating. The demands of calorie at the old age depreciate significantly as time passes on. Thus restrictions in the timing and number of meals are a positive indicator of good dietary practice.

The purification of soul and heart through religious practices also relate to the dietary habits. In older age, spirituality receives prime importance and fasting becomes a routine. Fasting once in a while helped to restrict their diet. The nature and duration of fasting varied considerably across different religious groups. Still there is a general trend that most of the studied women practiced fasting at least once in a week on an average.

Elderly dietary habits are different from the younger or middle aged groups. The digestive capacity at the older age depreciates considerably and that forces them to shift from more solid food to more liquid food which are easily digestible. Nutritious drinks are the alternative to the solid foods such as rice, or grams. Nutritious drinks, milk and buttermilk formed part of 73 per cent of their diet after the age of 70. Most of the subjects had the habit of having nutritious drinks in their menu and mostly it forms the substantial part of the diet. Nowadays the habit of having easily digestible food available in the market is in vogue among the elderly women. Earlier they were having the natural varieties of 'rice water.

According to the family members of the respondents 72 per cent of elderly women of this study had strict diet. Having a strict diet help them to live longer and this can be correlted to their longevity phenomena. Trough out their lives they used to take food 3 times a day which most of them continue till the age of 70 –75. Now due to old age some are found skipping their dinner but take nutritious drinks. 80 per cent of them agreed that they were always interested in keeping good health and following good practice of health and hygiene.

The above analysis clearly shows that the balanced food habits of these centenarian women helped them to live longer. Thus dietary practices are one of the significant variables for a healthy ageing. Longevity in Kerala cultural context signifies the traditional practices associated with diet is positively contributing towards a strong physical and mental well being.

Stress and Strain

Today's family is becoming a self centered nuclear family where the old people's services are used whenever it is required. It is a common scene in the Indian families that the old people are used to look after the children when both the husband and wife go for work. This service usually comes to an end when the children go to school. Once the children are becoming independent the old become an unwanted or extra figure in the family. The new family culture accepts only the immediate members as members of the family and all the others are considered as members outside the family. The main reason for this is that economic recession and the economic orientation of the families which force them to keep the needs of the elderly at peripheral. It is calculated that average expenditure for middle class elderly will be around Rs.5000 a month excluding the rent and clothing. Of this amount major expenses are for food and medicine. The dependent category of the elderly are denied the appropriate food and medicine. From the point of elderly this trend is an alien one as they have grown up in a different environment. They find it shocking and are unable to adjust to the present environment.

This social alienation within the four walls of their own home put the elderly women in a unique situation of psychological stress and strain. How they respond to these changing life course need to be understood so as to model out a successful ageing concept. Contrary to the general notion the studied population narrated the different dynamics in their life. About 2/3 of them said that they underwent minute stress and strain in their lives. They hastened to add that life was never with out stresses, but it did not affect them seriously. Some said that housework kept them so busy that they never had enough time to brood over the life stresses. So the stress and strain emanated from the change in familial role affected this population only little. They explained it as the

natural growth of their life cycle. Indeed they admitted that the roles of grandmother as care taker to the grandchildren were changed in most cases and they were not ready to consider themselves as ornamental to their own household. Instead they engaged in routine domestic chores and contributed as per their physical capabilities for the overall welfare of the family.

Coping Styles

The lack of a spouse can often make life more difficult for an elderly person. Whether losing a spouse leads to more adverse consequences for men or for women, varies with the social, economic, and cultural setting. However, the fact that older women are far more likely to be widowed than men virtually everywhere predisposes them disproportionately to any associated disadvantages. Commonly mentioned in this connection is the increased chance of living alone as a result of widowhood, with the implication that this in turn leads to greater social and economic vulnerability. For example, one UNFPA report states that "large numbers of older women live alone either because they are unmarried or widowed," and the next paragraph mentions that older "women without a partner are perceived to be economically and socially vulnerable" (UNFPA, 2002b). Widowed older women are also seen to be socially isolated.

One UNFPA report goes so far as to state that "Gender issues result from women increasingly being alone at older ages..." (UNFPA, 2002a). Census data generally confirm that older women are more likely to live alone than older men, although substantial regional variation is evident in both the overall tendency to live alone and the size of the gender gap.

Even granted that older women in the developing world are more likely to live in solitary households than older men, the assumption that this is a clear marker of disadvantage is not as well established as much of the discourse would suggest. While some elderly women and men who live alone are isolated or even deserted, many others are not. Still, having a spouse present has advantages for most elderly persons compared to being widowed, whether or not others also live in the household. This can be of particular importance in times of illness or frailty when care giving is required. That widowhood rates are far higher

among women than men thus correctly implies that "older men can rely on their wives for care more than vice versa" (UNFPA, 2000).

The widowhood creates void in their familial life, even if they were in the midst of all other kith and kin. This situation created lots of inner frustration during the early years of widowhood. Now most of the widowed respondents came out from this psychological trauma and were able to accommodate the changing life courses. Thus positive conception of one's own life course will help the humans to live longer. The way they construct their new identity as widow is interesting to note. When they talked about the old 'golden ages' where they lived together, one can understand the pain in its gist. But they were quick enough to reconstruct their own new roles as widowed grandmother or mother. They were hesitant to look down on themselves and they hold their head straight and faced the stress confidently. Thus one can conjecture the strong emotional intelligence of these centenarian women in Kerala.

Loss of other close kin (son or daughter) has been another source of the greatest depression. This has left them to the hands of daughter-in law or other relatives. The problem of ageing women in a sense brings together many gender issues. Geriatric care is compounded with many things: the economic condition of the aged, among whom women are the majority; the insufficiency of the elderly women's own resources to supplement their expenses; the conditions that are attached to social security entitlements for women and the bases on which those entitlements rest; family changes that have reduced family care systems. The changes in the family structure affect the elderly women's self from inside and outside and better reorientation or re-construction of their identity help them to face the trifles of the changing life course.

Sudden reverse of fortune has also affected some of them. One of our respondents who is 96 said that even though her husband pledged all her gold ornaments, she did not take it to her heart. She took it very lightly. One of the respondents advises the young generation to avoid worries and anxieties if they want to live longer. Timely food habits and strict routine lives might add to longevity. Some had problems in family either with their children or with their in-laws. Till their death of their spouse, he used to take care of all such problems. Even then and after, our respondents used to take life as it comes.

Spirituality

Most studies that look at the lives of centenarians have found that the way they deal with stress has almost as much to do with their longevity, as does healthy eating and exercise. Religion and spirituality have long been known to be a great mechanism to deal with stress. A recently published scientific study of centenarians determined that high levels of religiosity among centenarians helped in their overall coping abilities and positive outlook on life. This high level of life satisfaction bolstered by spirituality may in turn have contributed to their long lives.

Almost all centenarians believe it is "God's will" that they have lived so long. In a lifetime of a century or more that often has a centenarian outliving relatives and close friends, a connection to God gives them something to hang on to, and a way to stay connected. Furthermore being born 100 years ago or more, almost all centenaries were raised in very religious homes, in a time when religion played a greater part in their everyday lives then it does today.

The Difference between Religion and Spirituality

Many people think that spirituality and religion are the same. Religion and spirituality may exist together, but as Twycross (2008), wrote: "Everyone has a spiritual component, but not everyone is religious." Religion is generally recognized to be the practical expression of spirituality; the organization, rituals and practice of one's beliefs. (Cummins and Henry, 1961). Religion includes specific beliefs and practices, while spirituality is far broader.

Spirituality, "It speaks to people of many denominations and beliefs" (Harry, 2002). Spirituality is thought to include a system of beliefs that encompasses love, compassion and respect for life. Individuals may experience both spirituality and religion very privately within themselves (internally), and/or through social interaction with persons and organizations in an external way. Spirituality is about our existence, relationships with ourselves, others and the universe. It is something we experience and requires abstract thinking and will. Spiritual development provides us with insight and understanding of ourselves and others. "The spiritual component of a personality is the dimension or function that integrates all other aspects of personhood… and is often seen as a search for meaning in life" (Twycross, 2008). Spirituality

extends beyond the physical, material and self to a state called transcendence.

Older adults may turn to spirituality and religion when they meet difficult life changing events and experience personal losses. Their reaction to these events and losses may cause distress, temporary or chronic psychological conditions. Mental health interventions may include or add to one's faith or practice of spirituality in times of difficulty. Coping patterns and skills develop over a lifetime.

Majority of the sample said that they enjoyed the good will of God, who guided them through their difficulties successfully. 98 per cent of them are strongly religious. They said that faith in God provide solace, happiness and relaxation during the time of difficulties. 63 per cent of the respondents say that God is their best friend, with whom one can share his woes, joys and seek succor. According to some of our respondents, what we experience today is the effect of our past actions, mostly of our previous life. Here, it was found that for many of the elderly, trust and belief in God was positively related to happiness in old age. Similar findings were brought out by Ramamoorthy (1995) in his study of 'Happy ageing, a reality or Utopia'. Visit to holy places and the daily prayers were part of their life. Now eventhough they could not actively participate in religious rituals, they do pray at home.

Family Interactions and Social Support

Population ageing and change in the family structure are serious problems in the developing countries. The nations are not ready to give up the traditions nor are they fully modernized in the approach. The decrease in the fertility rate and the changing roles of women made the society to look elderly in a different dimension. It is observed that in India, Tamil Nadu and Kerala will be having largest number of old population because the fertility rate has declined drastically and they have already reached to a replacement of 2.1 children per women (Bhawsar, 2001).

Social change witnessed by India in the last decade show that many social categories has transformed into economic and political categories. Elderly cannot change themselves into a political category or an economic category as they are not an organized group. There are two points to be noted here, in the first instance the materialistic

world in which they live today is alienating them and in the second place, those who are having an independent income are forced to spend their money in a manner in which they do not like. As a result there is a constant conflict between caretakers and elderly.

98 per cent of them reported good family relations throughout their past years. For 95 per cent of them, spouse was their strongest support. He always gave them enough love and respect. After his death, the other family members also treated them very well. Family members and friends used to help each other and they enthusiastically participated in social and religious events in the village.

The Social exchanges are slowly shifting towards economic exchanges. When it is changing to economic exchange the elderly are exploited by the family and society. This economic shift has to be viewed in two ways from the elderly point of view and from the society' point of view. The income generated by the elderly is used in the family but due share is not given to them. In this context those elderly who has the knowledge about homes feel a deprivation and try to experiment by staying in the homes. There are old people who want to be independent and therefore they like to stay in homes. Today there are many other public caretakers like paid servants exclusively for old, day care centers etc. But the studied population wanted to remain in the existing system of home based care.

Relatives, friends and also children helped to prevent loneliness, isolation, depression and anxiety. 94 per cent of them said that they enjoyed the good will of most of their kith and kin. Some of them said that their grown up grandchildren were not giving them enough attention but even then they did not complain. In order to change the situation a model has to be derived where by elderly has to be considered as social unit. Empowerment of elderly is the need of the day where they can be used by the family and society in effective way. The significance of being elderly is to be understood properly by the society so that the elderly may be considered as a social unit and not as economic burden.

In the traditional Indian society the income was not a parameter for any person to be in the family unit as all kins were considered as social unit. There was no correlation between the earning capacity and looking after a person. The older the person the greater the respect he

derives from the other members of the family. Respectful relationships existed in the family on a hierarchical base. Even when a family is composed of four or five generations the system functions in such a way that no body is neglected. Joint family system of India was a unique institution where economics and politics were overruled by social relations.

When asked about intergenerational conflict, they said that it is the effect of time and not the action of individuals. The family members said that they had a smooth interaction with the older people. The interactions had goodwill and concern for each other. The old people did not interfere much in the affairs of the younger people. According to them, criticism results in dislike and hatred while love begets love. According to them we should help others if we can but do not hinder.

Memory, Cognition and Comprehension

Memory is a very complex mechanism and is not completely understood even today. It's pretty hard to imagine that you can fit all you need to know and more inside what is really a fairly small computer. But our brains are specially tuned to store, retain, and retrieve large amounts of information. Our brain knows what information to keep on hand and what information to forget, at least for the most part. Without memory, we would not be able to go about our daily business. Our memories work in three stages: registration, retention, and recall.

Though our memories usually work pretty efficiently most of the time, every one experience lapses in what one can remember. Memory loss is a natural part of aging. But menopausal women often complain of "brain freeze" or the inability to retrieve certain information when they need it. Slight memory loss is a normal sign of menopause, but there is no clear consensus as to what causes short term memory loss. It was once thought that fluctuating levels of estrogen were to blame for fuzzy brains during menopause. Estrogen does play an active role in memory. Estrogen stimulates neurotransmitters, which allow parts of your brain to communicate with one another. Estrogen also helps dilate blood vessels in the brain, increasing the flow of red blood cells that help the brain to function. During female menopause, your estrogen levels decrease. In the past, efforts to stave off menopause memory loss called for estrogen replacement therapy (ERT). However, it appears that estrogen actually does little to improve memory.

Because estrogen doesn't play a major part in memory loss or gain, researchers have been looking for other reasons for your brain's fuzziness during menopause. It seems that **symptoms of menopause** may contribute to your forgetfulness. A Montreal study reveals that declining levels of estrogen in women can lead to memory problems, supporting popular belief that hormonal changes during menopause could affect brain function (Beals, 2000).

Among the respondents 80 percent opined that they had a very poor memory. Even though they could recall clearly most of the things that took place early in the life, they added that they are forgetting names etc of late. That is they only have long term memory and lacks short term memory. As discussed earlier, memory loss at an early life is considered to be a natural biological feature. There is no gender differentiation in its experience. Still few studies argued that it's high among the elderly women than that of elderly men and vice versa.

But for their sensory impairment, the comprehension was generally good. 76 percent of them said that they could comprehend the happenings around them. But they were not able to remember the comprehension. Comparing cognitively-intact centenarians with younger cohorts, centenarians showed poorer performances in most cognitive functions except for everyday problem-solving tasks. The magnitudes of age differences were smaller in crystallized intelligence than in fluid intelligence. Education was shown to have a profound positive effect that mitigated the level of performance differences between subjects, especially centenarians. It is interesting to note that the performances of centenarians who used their everyday experiences in problem-solving were found to be similar to the younger cohorts. Cognition accounted for about 20% of the variance in IADL for all subjects. Due to loss of denture, there were some difficulty in understanding what they said but they were able to communicate what they felt. These findings show that cognition, health, and resources are all important predictors of everyday functions.

Conclusion

The socio-demographic analysis showed that 70 per cent of the sample belongs to the age group of 90-95 years. Most of the women (92%) were widows and had lost their husbands since an average of 9

to 12 years. 60 per cent of the samples had an average of 3-6 children while 4% had no children. 90 per cent of them were living with their children, even though 6 of them, who had their children alive were living alone due to migration or due to some other familiar reasons. 48 per cent of the sample belong to the middle income group, 12 per cent to the lower income group and the remaining 40 per cent belong to the upper income group.

Women are having a longer life span than men, both at national and at state level. The reason in this study is the pattern of life style. The gender discrimination in longevity can be attributed to the factors discussed above. In general women do not have much disengagement problem and this is the main reason why women feel satisfied which in turn increase longevity. The study proves that there is no relationship between economy and longevity. Women of all social and economic categories are satisfied if their expectations of children are fulfilled at least partially. The adjustment problems is also less among women which is another reason for their longevity. They find a good support system either within or outside family. Religion is also one of the reason for longevity through there is no co-relation between religious background and longevity. Less stress and strain is conducive for women's longevity. The studies supports the social constructionist view of health which view health as a product of interaction among a persons social characteristics and social and economic structure of the society.

Elderly women of Kerala who keeps good nutrition and health status due to the good social exchange of the past is a good model for the rest of the society. In this study, most of the elderly women switched over to social re-construction after retirement and hence the best theory applicable is the social reconstruction model of the social exchange theory. The women of Kerala try the reconstruction to the maximum possible. The social reconstruction of widows of Kerala depend on the past social exchange and social interaction. Social breakdown gives way to social reconstruction for these women in many ways. Retirement from the active life of the husbands, death of husbands and migration of sons and daughters are the major breakdown and from these points there is a social breakdown.

This social reconstruction depends upon the social environment and most of the elderly women are successful in it. It takes place by interaction with the family members. The study shows that the main social re-constructions are change in the roles such as care-givers and caretakers of small children or other service activity. One thing to be noted here is that the women who were caretakers and caregivers continues this job even during the older days not for the adult member but for the growing children. This care-giver, care- taker role are engaging the elderly women in a meaningful manner. Social engagements fulfills the mind and the body of the women which is a good reason for the better family and health status of elderly women of Kerala.

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Being Old and Widow : Understanding Their Social Realities

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ABSTRACT

Women in India are pushed into socially disadvantaged position in terms of economic, social and political status, and empowerment and entitlements. Such being the case, women with no husbands encounter additional problems and sufferings which are added to her already crippled life after the death of husband making it difficult for many widowed women to bear the burden of looking after themselves for longer periods, especially during their old age. Hence, widowhood remains a vulnerable risk factor for poor socio-economic insecurities among women. Moreover, economic insecurities enable women either to depend on others for survival or to work themselves till their physical capacity allows them in order to live for themselves and to support family with young or non-working adult members without her husband. Being productive also implies women's social status in the family as it is linked to their role or contribution to the family in various ways. However, most of the issues that a widowed woman confronts in her later years of life, has its mark in the deprived years of early stages of life, that allowed her to distance from the politico-socio-economic spheres, thereby affecting the conditions in which she lives.

Key words : Widowhood, Old age, Role Status, Family.

Throughout this century, changes in health and social spheres and technological advances have been causing an unprecedented demographic and epidemiological transition whose consequences are becoming ever more apparent. In many countries people are living longer and enjoying better living conditions than ever before leading to the

corresponding increase in the number of ageing people around the world but with differences emerging between various groups of old, presenting a sharp gendered difference. The most visible is that women far outnumber men among the living old population. This implies two aspects, first women living for longer years than men and second, it is resulting for women greater chances of an old age life of widowhood than it is for men as widowers. The reason behind this dichotomy is that according to convention, the elders look for a bride with a substantial age difference between herself and the bridegroom. As a result, women tend to be younger in age than their husbands by number of years (at least from two to ten years). Thus, with substantial age differences between the couple and differing proportion of old men and women who marry, increased life expectancy in their case gives rise to a large proportion of widows in a social group. This renders the situation of widows and their problems more complex among the rest of the problems of the old - both men and women, who live with spouses.

In any society, being an old is culturally determined, according to the prevailing cultural norms of the society. The relation between ageing and women is such that in Indian society, a woman is considered old when her eldest son marries and brings the daughter-in-law home. As marriage of one's children, particularly of one's son, marks the beginning of old age for women in society far more clearly than does a specified number of years makes her old. As women's cultural roles with in the family are more clearly defined than those of men, it is at this juncture that significant changes take place in the role and status of the women (Gangrade, 1989).

Not only cultural roles but even gender bias also affects the health, education and socio-economic status of women in various degrees. The outcomes of this, along with neglect by one's family are additional burden in women's life during her old age. The deteriorating family situation has made caring for the old in the family very difficult. Care of the old also adds the stress dimension. Often, the social and economic conditions in the family may also lead to marginalization of the old women giving rise to multiple problems extending even to abuse and harassment, in some cases (Bawa, 1999). It is also important to note that the problems that old women in any country face are more of less the same – health,

economic, emotional, abuse and crime. But the order of importance in which they occur may vary according to the group to which the old women belong.

Widows (particularly in India), with its stringent rules defining women in various stages of their lives, encounter fundamental changes in their socio-ritual status, that are far different from what it was when their husbands were living. Besides emotional loss, experiencing consequent neglect by family members is a major issue here. Other than low and neglected social status, another important aspect of widows' lives is their poor economic condition. Considering that many of them are from poor and middle class homes that are numerically in large numbers than affluent houses and many engaged in non-productive or menial jobs, widowhood thrusts dependency on others for them. Lacking in economic resources compels most of them to lead a life of a destitute. The situation is more aggravated in rural areas, where, widows generally, constitute the most deprived, downtrodden, illiterate and neglected group of people. They also lead a disadvantaged position as far as their economic, social and political lives are concerned as compared to that of their counterparts in the urban areas. This makes it difficult for many women to bear the burden of looking after themselves and their families for longer periods of time, with a seriously disadvantaged experience of old age. It is believed that the most deplorable plight falls on those who live under poor conditions of life. They face the threat of economic insecurity as most compelling because of their non-working status and diminishing economic resources in the family, caused by the death of husband taken here as an earning member. Hence, widowhood remains a vulnerable risk factor pushing poor women into extremes of socio-economic insecurity.

Such insecurities result in two types of situations for women: one is to depend on others for survival and the second is to toil till their physical capacity allows them to, in order to survive as well as support their dependent family. The latter may often include young and non-working adult members who depend on the widow to survive. As far as such widows' social status in the household is concerned, it is linked to their ascribed roles and contributions to the household's economy and participation in decision-making.

Being an old woman is no doubt a physiological phenomenon, but the problems that ageing phenomenon brings in are sociological to some extent. Hence, in the current scenario, considering the changes in the larger society as such, and among the old, the problems of the old women especially widows have to be treated as being important and deserving serious attention, as the overlap between the incidence of widowhood and ageing is rather striking among women with serious implications in various terms.

Current study tries to explore the gender dimensions of ageing and the challenges and problems that old widows face in the changing rural society today in particular. The study is based in the rural parts of the state of Haryana. It is no doubt that state has made the rapid strides in economic and agricultural development, but at the societal level, a patriarchal structure still governs the society and its family structure. Social structure is still biased towards the female sex (861 females per 1000 male) and preference for son is quite rampant with them giving secondary position and being discriminated in various spheres, implying that women in such a social surroundings are confronted with several disadvantages, pertaining to their socio-economic status since early years of life. Therefore in such scenario the study attempts to look at whether such structural disadvantages in long run have any saying or shows its impact in the life of older widows under varied contexts, as it is assumed that socialization and opportunities available to women as girl affects her whole life and so old life. Moreover it would also be interesting to see to what extent the children, especially son (seeing high preference for male child) be still seen as security provider to the parents in old age especially for the widows in rural areas. Other than this, selection of the state is also done considering the fact that it is the second state in northern India (after Punjab) to have a high proportion of the old population (1,584,000 old) and among them a high proportion of old women.

Methodology

The study is mainly qualitative in its methodology and depended upon primary field data. As a research tool interview-schedules (covering various dimensions and issues) were used to gather relevant information

from the old widows along with group discussions. Three villages* were randomly selected and forty five widows from each village accounting total of 135 old widows were interviewed to understand their living status. The respondents in the study constituted half of the old widows of fifty years and above present in each of the selected village (official records).

The present paper focus on the social profile and situation of old widows in the family, with a focus on social and economic lives of the widows and their linkage in the rural area.

Results and Discussion

(a) Social Characteristics

A large proportion (60%) of the widows belonged to the age group of fifty to sixty years and around 38.52 per cent were in between sixty to seventy years age group. Only two widows were above seventy years of age. In terms of caste composition majority of them were from the Other Backward Classes category with 43 per cent which constituted the dominant, agricultural (land-owning) and politically represented castes as well as the village functionaries and service castes. The next major category is that of the Scheduled Castes from which 45 widows (33.33 %) hailed. 23.70 per cent of widows were from the general category or from the upper castes like, Rajputs, Brahmins and Jats. Education is considered as a useful strategy for social mobility and a powerful survival tool in today's world, whether rural or urban. However, it is also known that education was not allowed for girls in the traditional Indian society and was a taboo. As in the current study widows are in the age group of 50-70 years of age, so were unfortunate victims of the gendered discrimination regarding access to education and therefore to better economic empowerment. It is observed that illiteracy was pronounced among the widows as 78.52 per cent were illiterate. Even among those who were educated, most of them have studied only till the secondary level with 14.81 per cent studied till primary, and 6.67 per cent till middle level of educational schooling. Their low level of education is of concern in the sense that it has succeeded in hampering their access to better services, resources and opportunities, coupled with lack of awareness and skills useful to them.

(b) Age at Marriage

In India, a woman's identity or acceptance in society is associated with her marital status. A woman is recognized by her husband. Remaining single is a mitigation of the social norm. Therefore it is supposed to result in obscurity to the woman (Panda, 2005). Thus, one can assume that marital status plays a crucial role in the life of a woman. Earlier, it used to be seen that the age at marriage for women was very low as compared to that of men. Girls were married off much before they attained puberty or before they attained the age of eighteen years. In the context of the current study, this phenomenon is quite relevant with as many as 46.67 of the widows had been married of before they attained the age group of fifteen years. Among them 9.63 per cent were married at less than or equal to ten years of age. It was around 51 per cent of them who married at the age in between sixteen to twenty years, only 1.48 per cent of them were married after they attained twenty years of age. It shows that in general women were married off at very early age, an occurrence mainly seen in rural areas. However, early marriage of the women implies deprived chance of them being completing their proper education, and burden of handling family responsibility at young age affecting her health as a result of multiple pregnancies for longer period, that may lead to various health problems (especially reproductive related) as she grows old with serious implications.

(c) Family Structure and Living Arrangement

Living arrangement influences the amount and type of care, social support and help a person receives during emergency and in long term care. It is seen that 2.96 per cent of the widows are living alone without any children to fall back upon and fourteen percent of widows are living with their single married son. Compared to those who are living alone at least they have someone that can provide them care when needed. Only one widow has support of her natal family where she was staying with her daughter. It was also seen that, many widows were residing with their unmarried children (both sons and daughters) who constituted 10.37 per cent of the studied widows. In case of widows having more number of sons it was seen that 18.52 per cent of them are sharing their household with the youngest son; 6.67 per cent living

with second elder son, 2.96 per cent with the third son and 5.19 per cent were living with the eldest son. This suggests that in the case of those having more number of sons, in general widow's care and responsibility is taken by the youngest son. This living arrangement also highlights the division of household composition, where children have separate kitchens and rooms though staying under the same roof, as it was reported by the widows that though they speak and visit other sons they sleep and eat with whom they lived. This also shows the new dimension of joint family system, where though all family members are considered to be related jointly but have separate kitchen and independent life.

Table 1: Living Arrangement of Widows

Living Arrangement	No. of Widows	
	T	%
Living with only married son	19	14.07
Living alone	4	2.96
Incase of more married son:		
a) Living with youngest	25	18.52
b) Living with 2nd child	9	6.67
c) Living with 3rd child	4	2.96
d) Living with eldest child	7	5.19
Living with daughter/parents family	1	0.74
All living together	52	38.52
Living with unmarried son/daughter	14	10.37
Total	135	100

A high number of 38.52 per cent widows stated to be living together and all children sharing same kitchen depicting close knit family with good family relations. However, such kind of arrangement has several underlying factors observed among the widows' family. One underlying aspect is that of the economic status of such families. It means that, in cases, where the widow has land or economic property as a major livelihood source of the family against their name then widows and her children (irrespective of marital status) are staying together. Other than this it is also seen that those widows having more number of sons and where one son is married and others are unmarried then also all of them are found to be living together and sharing the household responsibilities. Thus, one can argue that, togetherness or jointness of the widow's family depends on the economic position of the family and marital status of their children. It was found that there are widows where among all her sons only elder son is married and all of them are living together, where as on the other hand there were also widows where all of her son are married but rather than living together there exist division of household and living arrangement of widows staying with any one of them. Other than marital status, property is also viewed as an important factor in keeping the family together as it was observed that where widows have certain ownership right over some property/ land the family was seen to be staying jointly. However such joint arrangement along with giving economic security to widow, it is very useful as it provide social and personal care by children and influence her importance in the family due to her economic right and ensuring care at the time of need from the family members.

(d) Sources of Income to Widows' Households

Wage labour is seen as a dominant source of income among the majority of widows' households and it constituted 54.07 per cent of the total households. Old age and widow pensions, on the one hand, and jobs in the private sector, on the other, by their children were the other options of source of income. Such jobs included work in hotels or bank both combining to 14.07 per cent. Only around 12.59 per cent of widows' income source was reported to be from agriculture but were not from the large land holdings. As there located few factories on the outskirts of block headquarters and near the villages hence enabled some employment generation to the villagers. Households of widows from where young men have joined factory based wage labour constituted 8.15 per cent. A very small percent of 2.96 each have a combination of earning sources of private jobs, agriculture, wage labour and government jobs (as more number of working members in different jobs present in the households) and 5.19 per cent of the households are having other income sources like widows themselves working as peon, as angan wadi worker, son being driver or self/son running a petty shop. It is to be kept in mind that the source of income to the household included income by the widows and their children.

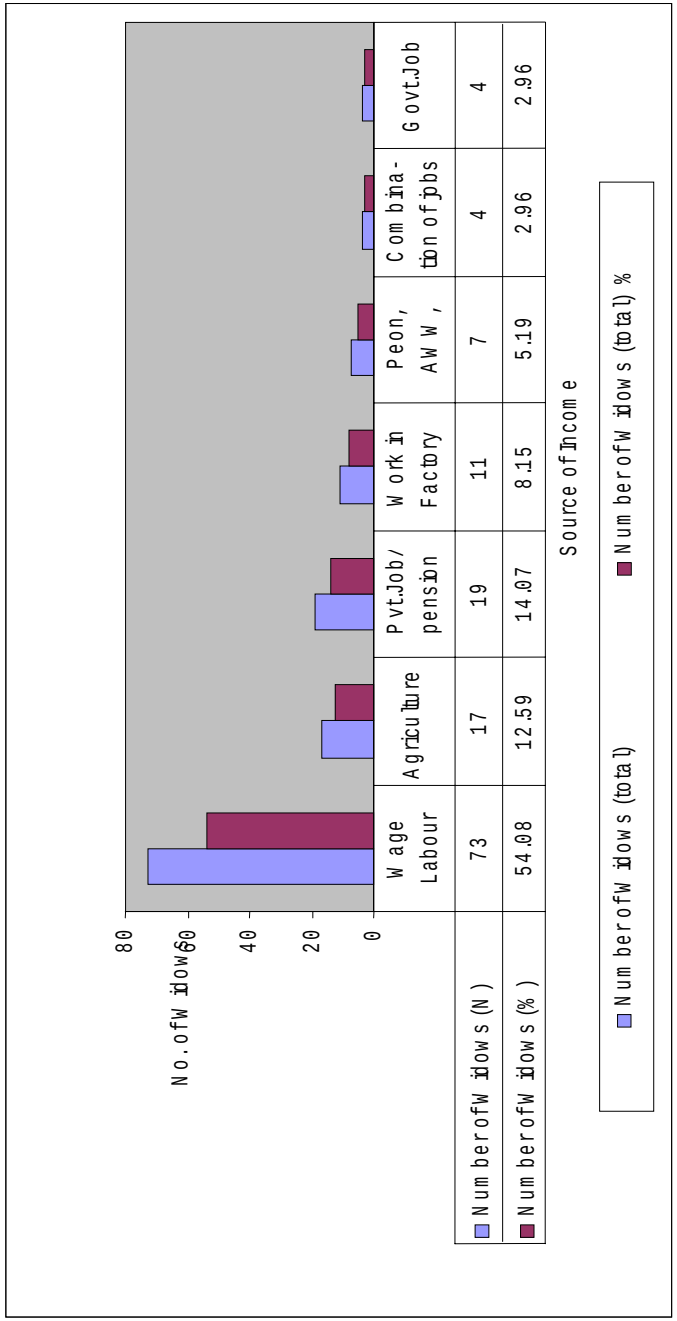

Fig.1: Source of Income of the Widows Households

(e) Monthly Income of the Widows Households

The data on monthly income to the household presents a gloomy picture of the everyday life of widows. It shows that most of them live in poverty or poor economic conditions. Notable also is that most of the households (68.89%) earned as low a monthly income ranging from Rs.1000-5000, with many having income (from the entire income source) anywhere between Rs. 1500 to 3500 which is quite low to sustain a normal life in today's high cost of living. Related to this is also the fact that some of the widow's belonging to this income group had only one son. Among ninety three widows households belonging to this income group, twenty-two widows have single son with family income ranging in between one thousand to five thousand and nine widows in this income group are also engaged in work themselves. So widows with only son determines her economic position of family which generally lay at the poor economic position as working members is very less and generally working in low paid jobs. 21.48 per cent of the households had a monthly income in the range of Rs.5001 to Rs. 10000. Belonging to this income group were widows where two or three members in the household are working and are staying together and 5.93 per cent percent of widows households reported to have a income more than Rs.10,000 where children of these widows are in a better paid jobs or herself getting higher amount of husbands pension. However a small percentage of them i.e. 3.70 per cent said to have no fixed income as their income source is seasonal or business-based. So compared to others, widows with no or single working members were more economically deprived.

Caste wise analysis of family income highlights that it is generally widows of scheduled castes that has the income lower than Rupees five to ten thousands or more. But there is exception in the sense that to such low income group also fall few widows from the upper castes having a monthly income anywhere between less than 5000 rupees. For instance, as in one of the village which was dominated by Rajput caste there were twenty four scheduled caste widows with the family income of one thousand to five thousand rupees and five widows of same caste having an income of more than five thousand. Similarly in another village there were few scheduled caste widows having a higher household income (between Rs. 7000 to above 10,000) than those from upper caste and OBC categories. However, among all the widows, women from scheduled castes are largely found to be hailing from low-

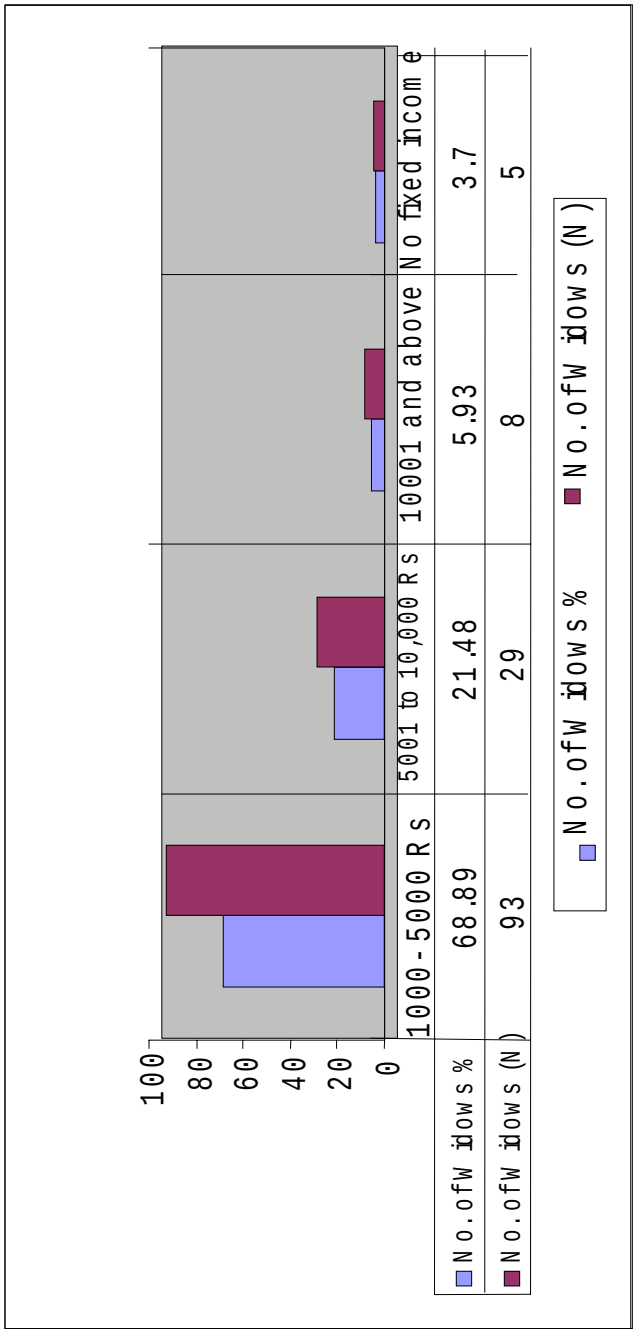

Fig.2: Monthly Income of the Widows Households

income households. The exceptions are those from upper and OBC categories who fall into the higher income brackets. Thus, the analysis also fall in line with those of other studies where, we observe the households sort of headed by widows are not only from the low-income category but they also incline more towards lower castes who are prone to economic vulnerabilities. However, with this one should also keep in mind, the fact that being a widow and hailing from a lower or upper caste does not determine her poverty situation, since this (poverty) status is determined more by the household composition and number of working members in one's household.

(f) Working Status of Widows

For women economic security during old age becomes much more significant, considering the fact that they have little chance of being economically independent due to uneven chance of her getting educated and working and right to property hence limited chance of living a better life as a result of total economic independency as a mechanism of old age security.

In the current study it was observed that majority of widows are not doing any economically paid jobs. It is only 30.37 per cent of the widows who were working and the rest.69.63 per cent were not gainfully engaged in outside paid activities. Those who said of not working gave health and age factor as the main reason for not working. Some even reported that they don't like to do work as they have never worked earlier. Among those who are currently working, it is seen that half of them were not working earlier and only started working after their husband's death. This suggests that they faced financial constraint after the sudden death of earning member compelling them to seek job to sustain themselves and their small kids after husband is no more. As mentioned before, widows who are working generally belonged to the low income group (family income in the range of 1000 to 4000 Rs.) and are either from low caste or from the OBC group. But in some cases widows are working outside despite belonging to higher income group. As far as the kind of job that they are engaged is concerned then as highlighted in various other studies most of them are working as wage laborer getting anywhere between eighty to hundred rupees per day which is less than the one hundred twenty rupees per day that men usually get for the same job. Other than that some widows were working

as agricultural laborer (4), anganwadi worker (3), sweeper (3), one is working as cook in the school and three widows are working in their own field.

Though many widows were not doing paid/outside job due to various reasons but one cannot ignore the fact of willingness to work by the widows, especially because majority of the widows are facing financial constraint and are willing to work if provided some work, which they can carry out from their home. They stated that if they get a job of such kind, it will help them in two ways, one by making them free from economic dependency and second by allowing them to engage themselves in some activity helping them in passing their time which they find very difficult as it result in certain psychological feelings such as loneliness or isolation.

(g) Widows Rights/Ownership of Property

Twenty five per cent of the widows did not have any property on their name and remaining widows (74.07%) reported to have some property to call of their own. As far as the type of property owned by these widows is concerned, then the 'house where they stay' was the preferred type of property which widow's call as their own even if it is not legally transferred on their name. Four widows had land but did not consider the home where they stay as own property as it was in the name of son/s who inherited it. But there were fourteen women who are owner of both house and land. So it was seen that 'house' of the husband is very crucial for women, as it gives them a sense of security and property, which they call their own. In the study many of the women are living in the low economic group with wage labour as the major source of household income and so are not in a position to build their own house. Hence, the home of her husband is pivotal in giving her and family shelter on the one hand and securing her old age care in the long run, as children are residing with her under the same roof supporting her in situation of emergency. Though in the study, property was not transferred to her, but if it happens legally then it will assure her security and give her confidence and importance in the family as it was found among those widows who happened to have it on their name legally.

While observing the property of widows across different castes interesting feature that comes into forefront is that, among the selected sample unlike upper caste widows it is the widows of Scheduled Caste

and OBC group who said to be having property to call of their own. In one of the village among widows said to be having property, twenty two hailed from OBC group and two from upper caste reported the same. Moreover among them, five widows having both land and home are from the OBC category only. Similar feature was also found in other villages too where more widows from OBC and SC respectively are said to have property. Only thirteen widows belonged to upper caste mentioned to have property of own. This highlights the stringent rules of caste hierarchy, where compared to other caste, women from upper caste has to follow more restrictions in order to maintain the rules and purity of particular caste, whereas such restrictions is not so rigid among lower caste groups as they have to focus more on things other than it to live and sustain in the society.

Those having no property, it was observed that their son has inherited the property and is in their name hence, widows have nothing to say of their own. Caste wise description shows that out of thirty five widows with no property nineteen belonged to OBC and eight each from upper caste and scheduled caste.

(h) Caretaker of Financial Transactions in Widows House

Son was seen as the main person having responsibility of a caretaker in terms of financial matters in the majority of widow's households accounting to 56.3 per cent. In general it is the eldest son who handles most of the financial transactions and is found to be true among those where all sons are staying together and are earning along with the small family size, where son is a working member or in case where widows only son is working. However there are 29 per cent widows who are controlling the financial matters of the households on their own. Among them are the widows who are either the sole earning member of the family or have unmarried kids. In another section there were widows households where both son and she herself (10 %) takes care of handling finances. In their case both widows and their sons are working and are providing combined share to the household expenditure. It was also seen that there were six widows where sons are separated from them and are living separately, hence all the members take individual decision over financial matters and one widow who is staying in her natal home hence is away from any kind of saying on financial issues of her natal family. However, it is important to note here that widows who are getting pension spend it on their own will and as they like.

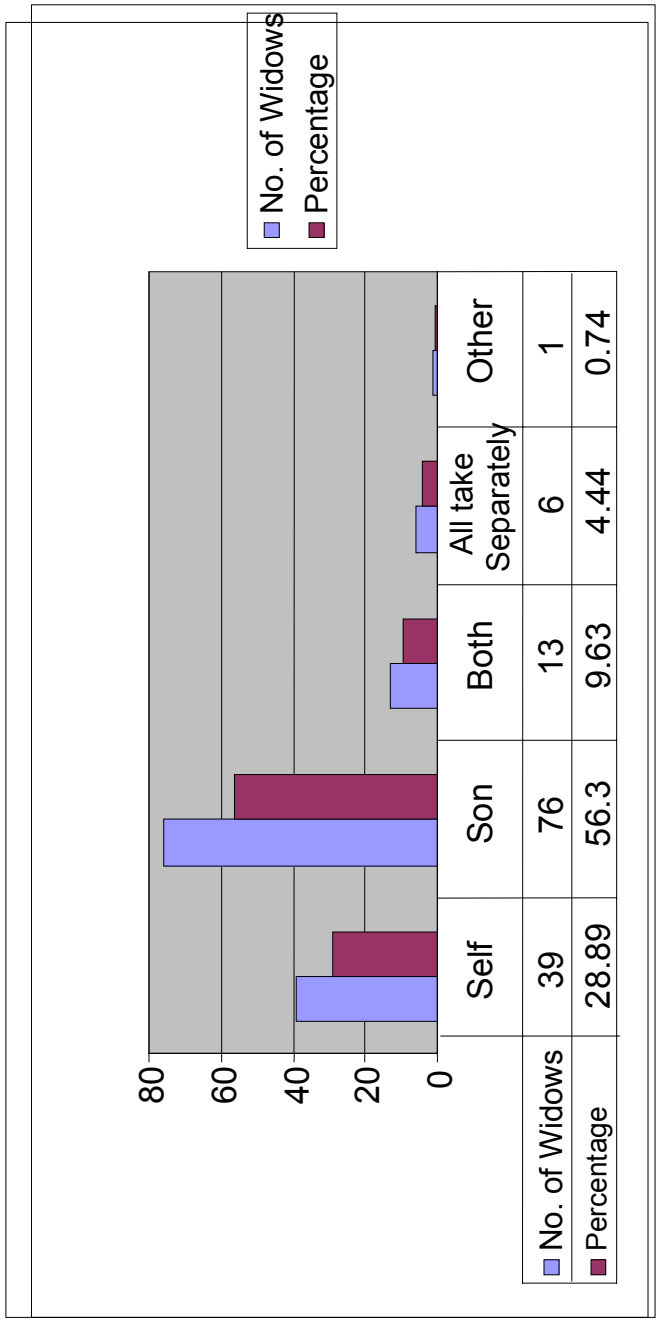

Fig.3: Caretaker of Financial Matters in Widows Households

Thus, in financial matters of the household, it is observed that it is the earning eldest son (more than one son) who dominates the area of handling financial transaction of the household. This is truer in cases where she herself is not working and has married sons. Thus, preference for male member to handle economic resources of the household is still not totally altered and they as son and as male member after husband are still holding it barring women to take control over it. It can therefore be stated that even if she is economically secure with moveable or immovable property (as it is in the study) in terms of financial matters many a times it gets operated with the help of the male member/s.

(i) Participation of Widows in Household Affairs

Elders in Indian patriarchal family have a unique position of authority more so among men. It is the men as head of the household who govern and decide most of the important issues. Thus, since beginning women has very less to say and hardly consulted on family matters. Their views or participation was mainly limited to the religious and domestic issues even then the importance of their suggestion depends as what they say is not always obeyed. This situation is more or less common to women both in rural and urban areas but more so in rural areas due to the more disadvantaged position they have compared to their urban partners. In the present study too one finds the similar position of widows in terms of their participation in family issues after husband's death which is limited to domestic and social matters of the household. When asked to them whether their children consults them to give their views as an elder person in the family then one third of the widows response was that they are not consulted for any kind of family issues or decisions. It is reported that they are generally asked to give their suggestions on issues related to domestic matters such as regarding marriage and festivals. Very few widows stated that their children allow them to participate and give their views/suggestions on matters related to property, which in general is considered as a concern of a male member. However, where widows do participate and give suggestions reported to have good relationship with their children that enabled them to present their views. However, just asking their views or participation of the widows in family matters does not mean that such act determine their authority in the family as it is noticed that it is not always that their views are accepted and obeyed. As many of them stated that although

they participate and discuss on various issues but it was not always considered as the final saying by the children. As one widow points, '*..hamare bacche ab humse har baat par rai nahin lete hain….unko jo sahi lagta hain wo vahi karte hain….aur hum bhi beech mein kuch nahin bolte…..ab toh aadat ho gayi hain….bura nahin lagta'.* (….now children don't ask our views on everything….they do what they think is right…..and we also don't interfere and say anything…..we don't feel bad if they don't ask us…..it has become a habit).

Thus, one can state that among widows her participation in household issues is still mostly restricted to the social realm of domestic, cultural and other such activities and issues debarring their participation from anything related to economic matters. Moreover, even if they are consulted by their children then it has to be kept in mind that the final decision for the family is not always the result of including her alone but is mostly governed by the male authority in the form of elder son (sometimes the daughter- in-law too), thus reinforcing and continuing her secondary position.

(j) Role of Widows in Decision Making

Highlighting the secondary position of women is the fact of her role in decision making as it was observed that even in this sphere it is the sons who are the main person from the households who takes most of the decisions. Thus, after the death of husband it is the son who takes over his position when he grows up and takes decision in most of the cases in the household. 36 percent widows said that it is their son, who takes all the decisions in the family. A little less of 33.33 percent of widows however, stated to play a major role in taking decisions as they themselves take decisions. Important reason of them making all decisions in the family is because of the fact of either they themselves are working or they are living with unmarried children. It is mostly the widows having single son who reported this. Other than individual roles in decision making, in some of the households both the widow herself and her son took important decisions on family matters, accounting 21.48 per cent of the total. Among them are the cases where both of them are working and had good relationship. There were four cases where all the family members sit and discuss and then come to some final and common decisions. Besides them there were seven cases (5.19 %) where all individuals took independent decisions of own without asking each other as all live separately.

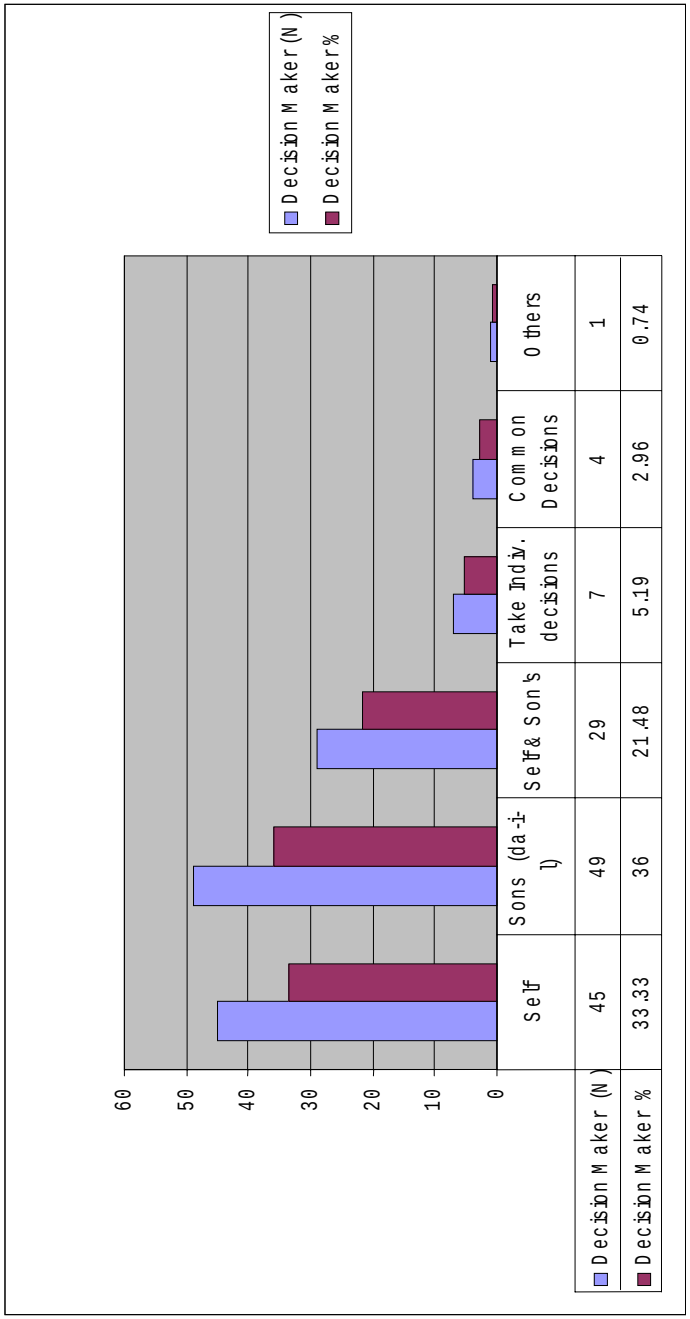

Fig. 4: Decision-Maker in the Widows Households

Above description thus shows that although sons are seen as the main decision-makers in the family but when a widow is working and found to be economically secured then she too took decisions about the family. Also, togetherness of family where all members were living together and had good relationship, even there also the responsibility for decision was not solely resting in the hands of the son but all had role to play. Thus, the economic status of women determined and enhanced her chances of participating in family's decision making processes, though they may not always be final.

(k) Changes Encountered by Widows in the Family post Widowhood

Widowhood for women brings a change in her status both at the societal level and at family level creating various socio-psychological intricacies. At family level there exist feeling of loneliness and emptiness in their life so when asked whether they feel or see some change in their life with and without husband, then it was observed that they experienced some kind of changes in their life prior and after the husband's death. 60.74 percent widows felt that they had some status and importance in the family when husband was alive, where as 39.26 percent said that they have not experienced any differences in the behaviour of family towards them and see their life as normal as it used to be when husband was alive.

In terms of changes that widows encounter presently then those who felt so, out of eighty-two widows 26.83 per cent of them felt the decline of respect and importance in the eyes of own children and see it as a major change. According to them when husband was alive, at least children used to give respect and did not reply back to them but now the situation is altered and they don't listen and ignore her presence. Around twenty-two per cent felt that when husband was alive she was present for all decisions related to family issues but now this does not happen as children don't involve them when important decisions are undertaken. In some cases they were not even informed about the final decisions. It is seen that role of daughter-in-law becomes prominent in this regard if son is working or is in a good job, as both of them take important decisions for the family neglecting the views of widows. So as most of the decisions were made by the son and his wife, so role and status of a widow in the family gets reduced and alters as daughter-in

law's presence becomes more significant, with the exception if widow is economically well off whether holding property, doing job or having pension. Similarly 15.85 per cent widows stated that their children do not listen to them anywhere and do what ever they want to do. Those who reported this have the feeling that after getting married sons are more concern for their wife than thinking about their mothers and generally do what their wife say to them. Though, they felt bad about this but they also mention that they do not say anything and interfere to avoid any kind of altercation as it could create problem among all. Besides certain changes in the family sphere, certain widows felt that widowhood has resulted in the increasing responsibility on their shoulders (13.41 %) to handle the family after the death of husband. This is stated by those widows where widow herself is economically active and children are dependent on her and some of their children still unmarried. In such situation widow finds it a double burden to live with as they are force to work outside to keep the kitchen running. Among other reasons loneliness and sympathetic treatment by others was felt by 21.95 per cent of the widows.

Responses on changes encountered by widows reveal that women's position in a family undergoes change when she becomes a widow. She would feel lonely, as there is no one like her husband with whom she can share certain things. Besides this there is also the decline of importance and respect in the family as she was hitherto, neither the head of the household etc. Most importantly, the behaviour of children towards her gets altered as they become busier in their own family, spending less time with them and limited participation of her in various issues.

Early life experience of a person also influences their later stages of life. In this regard compared to men women's later life is more complicated, as a result of her upbringing in the family which in more cases is loaded with disadvantages in various spheres of social life. The widows, interviewed in the study have also been part of such discrimination/disadvantages as they have born fifty years back at the time, when such discrimination between men and women was more prevalent. Thus, most of widows in the study were left away from being educated as majority of them were illiterate though some studied till primary. They were also married at early age that affected their

opportunities of being educated and mentally preparedness to take up the role of marital responsibilities. Getting married early and considering the longer life expectancy also enabled them to lead a longer life of being widowed.

Other than personal loss, death of husband also means the loss of an earning member in the family. Traditionally as women are not allowed to go outside and work hence the first effect of husband's death is the economic difficulty that the family will be going to face as it is also evident in the current study where many widows are facing financial constraints. This was also the reason for many attending to some kind of jobs in order to sustain themselves which they were not doing it when husband was alive. As they are not highly skilled and exposed to work hence are mainly absorbed into wage-labour and is the major occupation and source of household income, with monthly income of household being anywhere between thousand to four thousand rupees, which seems to quite low for a family to sustain in today's time. Thus, one can state that widows generally constitute the low-income household and belonging mainly to the lower caste with few exceptions of widows from upper or peasant communities (OBC) falling into the poor category. Hence, without any economic resources of own results in their poor economic condition forcing her and family to live in poverty and with other difficulties.

Though form of care is changing in current context, but for rural people especially for widows children are still the primary source of care and support with which they share their living arrangements. However living arrangement suggests that in case of them having more number of sons, despite having interaction with other children's it is their youngest son, with whom the widowed mothers share their living and food. This was more common when all of her sons are married and where only elder son is married; all of them still stay together. So, one can argue that as children get married, it gives higher scope for a widow to end up living with her youngest male child. This also meant the breakdown and separation of households with a separate kitchen for each son and his family.

Discrimination and bias against the female child has always pushed her away from holding any property. Even if she has one, it is generally mediated by the hands of men, though widows in the study held some

kind of property against their names mainly the house where she came and stayed after the marriage. Only few women were holding land or both on their name who generally belonged to higher caste/income group but holding of property is seen to be revealing some positive relationships as having property determines a better relationship with their children, common living arrangements and allowing her to participate in household matters and say in the decision-making process. As it is observed that, in case woman being not economically strong, it is the elder son who is head of the household and a governing person, especially if he is the only working member or earning higher income. Though widows were consulted for some homely issues but it was not necessary that were always followed and obeyed. So, as mentioned before economic status gives her sense of being important to the family as if she is contributing economically to the family she participates and discusses issues relating to family matters thereby diminishing her isolation and enhancing importance in the family.

After husband's death, women's life is surrounded around children as she has to take care and support them alone if they are small and expect same for themselves when they grow up. Though in rural society family still represents important source of support and care for the old but with changing times, it is also altering with changing values and due to financial constraints of the family to retain its role of providing expected care and support to the old. Due to constraints there is occurring changes in relationship between children and the widows as they become busy in handling their own family, sometimes neglecting the wishes of widows and relegating them to secondary position. As widows consider them as the only source of security for the old age it is difficult to state if the extension of children's love, care and their staying with them is going to continue as they are busy with their own family to take care of.

Conclusion

To conclude, it can be said that many widows in rural areas face challenge to live with. Foremost challenge is of their living in poverty as many widows had poor economic status with low monthly income. Financial constraint therefore compels them to look outside for the work to increase the household income if they are physically fit and are able to do so. Considering that for widows after husband it is the children to

look for support but in changing times where children are concerned more with themselves and their life, so rather than expecting anything they have adjusted with their own situation and are not interfering in their life. It means that they do not depend on their children totally rather they too contribute to household in different ways so as to show their utility to the household which is very important for maintaining the old age care required at the right time.

Lastly women since beginning enjoyed secondary status and life course discrimination/biasness put her in a disadvantaged position all their lives, which increases their difficulties during older years in terms of her vulnerability in different spheres. But as it is revealed by the study, if women are economically secure (in terms of owning property, doing job or getting pension) then they are in a position to handle their lives in much better way during later years. Other than giving them sense of security and dignity controlling over economic resources will also ensure the social support of children (due to property/they would like to live with and care her) as they are the only support to rely upon at the time of need in terms of personal care. Thus, if widow or a woman is economically secure, then it will ensure a better quality of life for her in the long run as better economic status complements her better socio-psychological status. So, in order to mitigate the problems of old women/widows it should be kept in mind that as problems for women starts quite early in the earlier stages of her life in the family, any solution to reduce them must also be viewed in the realm of family itself as positive opportunities available to women at younger stage undoubtedly mean improved economic and social status (as they are interrelated) for future generations of women who will become old and widow or vice versa in due course of time.

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A Reality Not Myth : Crimes by the Elderly

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ABSTRACT

Every country developed, developing or underdeveloped is facing and confronted with problems of crime. This problem of crime is generated by juvenile delinquents, young offenders and aged criminals too. Rise in the number of crimes by the elderly is a negative aspect of ageing society. This paper investigates a largely unexplored area in criminology. In this study the criminal news items related to the aged both males and females 60 years and above were collected and the content of these news was analyzed. 85.23 per cent cases of crimes against elderly and 14.76 per cent cases of crimes by the elderly were found. Majority of the cases manifest that the heinous crimes were more in number (68.16%) then other crimes.

Keywords: Elderly, Victims, Crimes, Murder.

Crime is the most exciting and exasperating problem of the society which pollutes the salubrious climate of the world. Crime leaves darker indelible marks on the sands of time of the human civilization. Sometimes crime reflects barbarity of the human vultures.

Crimes differ in societies as finger prints differ from every human being. Crime and society are inseparable since time memorial. They are interrelated. Dating back the history, it is an undaunted fact that ever since human beings started living together commission of crime erupted. A few types of crimes have become obsolete and many new forms of crimes have taken different dimensions in the present society. Every country developed, developing or underdeveloped is facing and confronting with problems of crimes. There is a tremendous increase in crime rate in certain countries. By and large, the mercurial shoot-up in crime rate has become a global phenomenon (Ponnaian, 1995).

Crime by the elderly is not a new concept but this area was largely unexplored by the researchers. Keeping this in mind, the present study was undertaken, with the following objectives;

Objectives

1. To know about the nature of crime committed by elderly
2. To know about the victim and offender relationship
3. What is the real ratio between crimes against the elderly and crimes by the elderly.

Methodology

For the present purpose newspaper reports from Jan. 2006 to Dec. 2010, Hindustan Times, Bhopal edition (M.P.) and The Times of India, Kanpur edition (U.P.) have been the source of data. The news items relating to the aged, both male and female 60 years and above were systematically collected and their content was analyzed and presented in tabular form.

Result and Discussion

Table 1 : Total reported cases against elderly (2006-2010)

Cases against elderly	Number	Percentage
Crimes against elderly	127	68.64
Crimes by the elderly	22	11.89
Others	36	19.45
Total	185	100.00

Table 2: crimes related cases

Cases	Number	Percentage
Crimes against elderly	127	85.23
Crimes by the elderly	22	14.76
Total	149	100.00

Table 3 : Residence

Residence	Number	Percentage
Urban	21	95.45
Rural	01	04.54
Total	22	100.00

Table 4: Crime Scene

Crime Scene	Number	Percentage
Indoor	14	63.63
Outdoor	02	09.09
N.A.	06	27.27
Total	22	100.00

Table 5: Number of Aged Criminal in each case

Criminal number	Number	Percentage
01	21	95.45
02	01	04.54
Total	22	100.00

Table 6: Number of Victim in each case

Victim number	Number	Percentage
01	18	81.81
02	02	09.09
03	00	00.00
04	01	04.54
Many	01	04.54
Total	22	100.00

Table 7: Offender's sex in each case

Sex	Number	Percentage
Male	14	63.63
Female	08	36.36
Total	22	100.00

Table 8: Victim's sex in each case

Victim's sex	Number	Percentage
Male	09	40.90
Female	12	54.54
Not Mentioned	01	4.54
Total	22	100

Table 9: Age group of offender

Age group	Number	Percentage
60-64	07	30.43
65-69	01	04.34
70-74	03	13.04
75-79	05	21.73
80-84	01	04.34
85-89	00	00.00
90-94	03	13.04
95-99	01	04.34
Not Mentioned	02	08.69
Total	23	100.00

Table10 : Offender Victim relationship

Relation	Number	Percentage
Known	19	86.36
Unknown	03	13.63
Total	22	100.00

Table 11: Nature of Crime

Crime	Number	Percentage
Rape	07	31.81
Murder	05	22.72
Attempt to Murder	03	13.63
Physical & Mental torture	02	09.09
Adulteration	01	04.54
Bribery	01	04.54
Cheating	01	04.54
Assault	01	04.54
Selling of minor girl	01	04.54
Total	22	100.00

Table 1shows that within five years total 186 cases were reported related to the elderly. The analysis of the crimes by the elderly in comparison to crimes against elderly presents an exotic picture wherein the percentage of crimes against elderly was 85.23 per cent and 14.76 per cent cases of crimes by the elderly were found. It shows that ratio between both of them is 6:1 (Table2). Table 3 reveals that 95.45 per cent cases were committed in urban area only 04.54 per cent cases were found in rural area. 63.63 percent cases were committed inside the door whereas only 09.09 per cent cases were found at outdoor scene of crime (Table 4). In the majority of the cases single perpetrator was found for the commission of crime (95.54%) whereas single victim was victimized by the perpetrator in 81.81 per cent cases (Table 5 & 6). When we compare between male and female victim it shows that females are more in number. The age of the offenders varied from 60 to 99 year which shows that there is no age limit for any crime. Data also reveals that 30.34 per cent offenders were in the age group of 60-64 year and only one offender found in the age group of 95-99 year (Table 9). It was strange picture that 86.36 offenders were known to the victims and they easily became target of them (Table 10).

In the case of crimes by the elderly highest number of heinous crimes were reported against the female children wherein cases of rape (31.81%) were found more in number (Table 11). Case-1, the police have booked a 75 year old retired teacher for impregnating a

minor girl. Police action came after the victim's mother lodged a complaint, alleging her 13 year old daughter was 34 weeks pregnant, and the old man- one of the relatives- living nearby was responsible for it (Hindustan Times, 27 July 2006). Case-2, A 12 year old girl, living with her aunt's family in Mumbai after her parents divorced and married other person in Gujarat, was raped repeatedly for about one-and-a-half years by one of her cousins and his friends and neighbors. The cycle of abuse soon included a 71- year old man (The Times of India, 24 March, 2010). Case-3, 67-year-old man was arrested for allegedly raping a minor girl. Juze Cardoso, the neighbor of the 11-year-old victim, raped her several times by luring her with chocolates. For almost two months the girl was raped till the school teacher found that she was mostly being late or absent for her classes. The teacher then informed the victim's mother, who, while questioning her daughter found that she was being lured by the accused on way to school and was raped. Police has registered the case under section-376 IPC and section 8 of Goa children's Act, 2003 (The Times of India, 8 October, 2007). Case-4, A 60-year-old man, who raped a minor girl, has been sentenced to 10 years in prison by a Delhi court which relied on the statement of the 7-year old victim. The court also imposed a fine of Rs 5000 on the convict (Hindustan Times, 2 May, 2009). Case-5, A 60 year-old man convicted of raping a minor girl attempted to elicit sympathy of the court and get away with a light punishment citing his advanced age. The Bombay high court, however, refused to show any leniency and upheld a trial court's order, sentencing accused to ten years rigorous imprisonment (The Times of India, 14 January, 2010).

In 36.35 per cent cases elderly were found guilty for murder and attempt to murder. Case-6, A little girl was strangled in an apparent sacrifice by a couple at Yeyyady. Police arrested Kamalakasha Purusha (75) and Chandrakala (35). They allegedly resorted to this macabre ritual to appease a deity, Kalabhairava. The incident, the first of its kind in the coastal city, came to light on Friday. The victim was Priyanka, just three and a half. She was the daughter of Anjali and Kiran Kumar Jha from Bihar. A shocked mob gathered outside the police station demanding that the accused be handed over to them (The Times of India, 19 December, 2010). Case-7, They have been married for 26 years and have six children. But an argument over the sale of a property

led 62-year-old man to stab his wife seven times with a sickle. As woman lies at hospital battling for life, the police have arrested her husband and have registered a case of attempt to murder (The Times of India, 13 June 2009). Case-8, A 96-year-old man was among three persons sentenced to life imprisonment by a local court in connection with the murder of a former MLA's son over a decade ago(Hindustan Times, 30 August, 2009). Case-9, 70-year-old man, who was allegedly burnt to death by his 73-year-old acquaintance, over an old dispute. The accused had brought kerosene oil in a bottle and sprinkled it on the victim when he entered the house of his adopted daughter before anyone could fully comprehend anything, accused locked the room and set the man ablaze. After setting him ablaze, accused simply left the house and tried to flee from the spot. On getting suspicious over his activities, a group of locals apprehended the man and brought him straight to the police station (The Times of India, 17January, 2008).

04.54 per cent cases were found related to the selling of minor girl. Case-9, A minor girl, who was allegedly sold by her paternal grandmother into flesh trade in Mumbai, was rescued by her mother and other relatives with the help of police from Morena railway station. The girl is now safe with her maternal relatives in a Sagar village (Hindustan Times, 9June, 2006).

Conclusion

Rise in the number of crimes by the elderly is a negative aspect of ageing society. The typical elderly offender lives alone, is estranged from his or her relatives and is financially unstable. The main crimes in which the aged are involving themselves are related to theft, mental and physical torture, rape, murder etc.

In the later years of life, when mental and physical health is beginning to fail, physical changes in the brain weaken the critical faculties, destroy memory, impair judgment and diminish self control. Sexual and aggressive drives, may find expression in obscene behavior, sexual assault on children, or homicide.

Restlessness at night is common in the aged and the dementing senile, nocturnal prowling, may set fire to the house or leave the gas taps on, while fatal out come for the other members of the household. Although arteriosclerotic changes in the arteries of the brain and senile

degeneration of the brain cells are primarily responsible for the onset of progressive dementia, psychological factors also contribute to the clinical picture. Elderly persons who lead lonely, insecure and dependent lives are likely to develop depressive or paranoid symptoms. Depressive preoccupations lead to self murder, while paranoid ideas or delusions frequently underlie homicidal assaults (Macdonald, 1961).

To prevent elderly persons from offending or reoffending, it is vital that they are not isolated from society.

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