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YOU ARE INVITED TO JOIN US

We are Working to Protect the Rights and Social Welfare of the Elderly

Indian Gerontological Association (Registration No 212/1968) is an independent grassroot non-profit organization based in Jaipur (Rajasthan). Our efforts aim at empowering and supporting the underprivileged elderly in rural and urban communities.

We strive to ensure social justice and welfare for people over 60, focusing on those elders who are the most disadvantaged such as elderly women. We protect the civil liberties of elderly citizens as a part of the struggle for individual rights and social progress in India. Currently, the elderly community comprises approximately 10 per cent of the total population of India. This number will increase to nearly 25 per cent within the next twenty years. Neglected and abandoned by society and sometimes by their own families, elders are increasingly subject to conditions of disease and poverty. They lack access to health care, and often face serious discrimination as well as physical and emotional abuse.

As a public interest group, we work for and with the elderly to protect their rights and access to a better quality of life. We seek to both empower and serve by working directly with rural communities. By facilitating the growth of citizen's groups, raising public awareness on ageing, promoting public action and participation, and advocating public policy changes, Indian Gerontological Association hopes to alter the current trends in *elder relations* for the better in the society.

Our Work Includes

- Community Centers for the Elderly that Offer Communal Support and Interaction
- Training on Legal Rights by Offering the Elderly Practical Knowledge on Their Rights
- Public Hotline for the Elderly that offers Legal Referrals and Assistance
- Public Accessibility for the Elderly Advocating More Available Access to the Public Sphere
- Use of various Forms of Media to Raise Public Awareness on Elder Rights
- Counselling and Helping Elderly to Relieve Psychological Stress and Depression
- Elder Women's Cooperatives that Provide Grants and Assistance to Elderly Women
- Public Awareness Raising to Promote Public Action for Helping Disadvantaged Elderly
- Field Study of Rural Areas to Analyze Challenges Faced by Ageing Rural Population

Our Plan of Action Includes

- Campaign for Elder Rights
- Campaign Against Elder Abuse especially toward Elderly Women
- Training of Social Workers and Caregivers
- Capacity Building of Civil Servants or organizations Working on Ageing
- Research & Publication

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FOR OUR READERS

ATTENTION PLEASE

Those who are interested in becoming a member of ***Indian Gerontological Association*** (IGA) are requested to send their Life Membership fee, Rs. 2000/- (Rupees Two thousand) or Annual Membership Rs. 500/- (Rupees Five hundred only). Membership fee is accepted only through D.D. in favour of Secretary, Indian Gerontological Association or Editor, Indian Journal of Gerontology. Only Life members have the right to vote for Association's executive committee. Members will get the journal free of cost. Life Membership is only for 10 years. The old members are requested to renew their membership by paying Rs. 2000.

REQUEST

Readers are invited to express their views about the content of the journal and other problems of senior citizens.Their views will be published in the Readers' Column. Senior citizens can send their problems to us through our web site: www.gerontologyindia.com Their identity will not be disclosed. We have well-qualified counsellors on our panel. Take the services of our counselling centre - **RAHAT.**

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New Life Member

L 612, Dr. Sanjay Kumar

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Announcement

Professor Yatindra Singh Sisodia has joined us as a member of Editorial Board (Social Sciences). He is Director at Madhya Pradesh Institute of Social Science Research, Ujjain. He is editor of *Madhya Pradesh Journal of Social Sciences* and *Madhya Pradesh Samajik Vigyan Anushandhan Journal.* He has authored/edited 14 books, wrote 5 monographs and published 70 research papers including many in referred journal. He has completed 25 research projects for various organizations including Planning Commission, E-mail: yatindra15@yahoo.com, yatindrasingh.sisodia@gmail.com

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Rural Ageing in India: Economy and Relationship in Post-retirement Life

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ABSTRACT

This paper examines determinants of contextual relationship and effects on ageing population in India. It also explores what are the hindrances of successful ageing in India. Data (qualitative and quantitative) collected purposively through random sampling regardless of their religion, caste and other demographic factors from 200 elderly population (male and female ration = 1:1) between the age of 60–70 years from a community development block of West Bengal, India. It reveals that 86 per cent elderly population lived with hunger if they did not involve in paid work (out of which 42 per cent of them were under Mahatma Gandhi National Rural Employment Guarantee Act) because they had no support from off springs/relative. They had no social security measures excluding 22per cent informants were under government social security measures, i.e. old age pension and widow pension. They did not getting assistance for health care when almost all of them suffered from dental and cataract problems. Elderly association and recreation were absent or insignificant. Some of them only visited temple rarely. Truncated family relation and economic insecurity are the prime factors of fractured contextual relationship and vulnerability among elderly.

Key words: Contextualized relationship, Economy, Hunger, Successful aging

Human life can be divided into two phases – the forenoon phase and the afternoon (Jung, 1933). If a person thought 80 years of longevity, up to 40 years would be the forenoon phase and thereafter the afternoon phase might start. The forenoon phase is important in human life because it is the basement of life for education and one individual searches for food, shelter, clothing and sensory pleasure. This is phase of earning for money making to satisfy oneself with above needs and demands. Individual human beings have to perform certain duties like marriage, rearing of family and social and citizenship responsibility. According to the rules of this phase of life, one individual lives altogether with peace and harmony in society with other fellow members. Comparing to the above, afternoon phase, i.e. middle age of life is the milestone for development of detachment. It indicates to restrict the limit of activities outside for earning and it warns to perform inside activity for personality development and spiritual development. There is need of adoption of inner culture of life beyond natural work of money-making, social existence and family and other duties (Ibid.). But practically we find that there are so many institutions at the forenoon stage while at the afternoon stage religious institution is the only to deal with this phase. Consequently, the successful aging is a burden and the absence of effective psychic hygiene leads unhappy death (Kubler-Ross, 2003).

The state of living of elderly in the Vedic age and at present Global age is distinctly making differences. In present context, elderly face various problems such as: (a) physical fitness and health problems, (b) financial problems, (c) psychological problems and (d) problems of interaction in a social or family setting (Czaja and Sharit, 2009).. Psychosocial and environmental problems include feeling of neglect, loss of importance in the family, loneliness and feeling of un-wantedness in family as well as society, feeling of inadequacy and obsolescence of skills, education, and expertise (Willing and Chadha, 1999). These aspects are somewhat interdependent in nature; each aspect may affect the quality and quantity of the problems in other categories (Irudaya, Mishra and Sarma, 1999).

Actually existing studies and literature are diverse and limited which deals with especially for the financial resources of elderly of rural poor. They are either depended on adult children or their own

accumulated wealth as old age security. To add to it, poverty and lack of personal wealth as well as absence of any extra-familial welfare institutions are prime factor of poor living. From population and development theorists it explored that the fertility motive tended for old age security from adult children of poor income groups. Thus, Raut (1996) in his study focused on role of parental wealth and Hoddinott (1992) explained how wealthy parents can induce greater assistance from children. Kochar (2000) showed intergenerational transfers of the financial support from adult children to elderly parents. This transfer included returns to parental investment in education of young children, payments for services (e.g., child care) by family members. The co-residency with children of elderly was linked to poor income groups (Da Vanzo and Chan, 1994; Cameron and Cobb-Clark, 2001).

The family is the primary institution which maintains basic safety and security of its members within the context of love and helping to shape a belief system from which goal and values are derived (Kakkar and Kakkar, 2007).But changing norms of the family structure, process and functions in Indian society, might be the cause of rapid urbanization, migration and so forth as a result of globalization, do not provide space to the elderly in their off-spring's family. The older population is to be considered as social capital because of their life long experience and contribution for today's progress (Bourdieu and Wacquant, 1992). Several studies analyses the importance of social relationship and support for health and well-being of seniors (Seeman, *et al.,* 1993; Bosworth and Schale, 1997; Krause, 1997; and Rowe and Kahn, 1998). The traditional Indian society and the age-old joint family system have been instrumental in safeguarding the social and economic security of the elderly people in the country.

Aims of this Study

This study examined the determinants of contextual relationship and effects on ageing population in rural India. It also explored what were the hindrances of successful ageing in India in connection with living condition of the rural poor elderly population.

Method

Sample

Nandakumar (area of this study), a community development block, out of 25 Community Development block of 99 villages consisting 12 Gram Panchayat of Purba (East) Medinipur district in the Indian states of West Bengal.

Among these 12 Gram Panchayats of this block, Borgodargoda Gram Panchayat which is located at extreme western side of this block bordered by Moyna Community Development block was selected for this study to know the contextual relationship and ageing in rural India because several studies on aging explored the health conditions (physical and mental), network of relationship and economy, etc. of the elderly population who had their personal support system after post retirement life and they were mainly from urban background. This study concentrated deliberately on the elderly population living hunger and they were marginal, small and landless agricultural labour of rural inhabitants. Therefore, following reasons were motivated to select this area – a) it was a rural and economy was based on agriculture, and the population had generational involvement in agriculture, b) rate of migration of younger population into urban area for jobs was high because of poor income from agriculture/surplus agriculture labors and unemployment in agriculture sector who were the main support of these elderly at their later life, c) there were a sizeable number of elderly population above 60 years of age who were agricultural labors and in deprived situation due to lack of primary (personal and family) and secondary (states, neighbor) support system, d) hunger was their prime thrust, beside their elderly health problems, and e) they were involved in earning process, even they were the job card holders under Mahatma Gandhi Rural Employment Guarantee Act to meet their basic needs.

Two hundred elderly within the age bracket of 60–75 years of age who represented the criteria of the study was selected through simple purposive random sampling from 9 villages of Bargodargoda Gram Panchayat (West Bengal). The sex ratio of these informants (sample) was 1:1.

Tooles Used

(A) Questionnaire/interview schedules and (B) Group interaction

The researcher met these informants directly with a set of questionnaire/interview schedules to know their social and religious background, education, economy and occupation of their off-springs, their past working life, their living condition at later life and their support/care-giving system, etc. Through individual and group interaction researcher collected qualitative information about their social, economical and mental health as well as how was their ageing stood in which contexts.

Finally, quantitative and qualitative data transcribed and analysed with tables, figures and case studies.

Findings

Rural elderly populations of this study were of different social and religious backgrounds.. The Table 1 described social and religious background of the elderly informants in respect of their educational attainment.

Table 1

Social, Religious and Educational Background of the Informants

Educational Background	*Social and Religious Background*								*Total*
	Hindu				*Muslim*				
	Gen		*SCs and OBCs*		*Gen*		*OBCs*		
	M (n, %)	*F (n, %)*	*M (n, %)*	*F (n, %)*	*M (n, %)*	*F (n, %)*	*M (n, %)*	*F (n, %)*	
Illiterate	12(6)	18(9)	18(9)	22(11)	6(3)	6(3)	4(2)	4(2)	90(45)
Lettered	18(9)	20(10)	12(6)	18(9)	2(1)	3(1.5)	2(1)	1(0.5)	76(38)
Primary level education (Class-I to IV)	8(4)	6(3)	4(2)	2(1)	1(0.5)	-	1(0.5)	-	22(11)
High school education (Class-V to VIII)	10(5)	-	2(1)	-	-	-	-	-	12(6)
Total	48(24)	44(22)	36(18)	42(21)	9(4.5)	9(4.5)	7(3.5)	5(2.5)	200(100)

Source: Field work (Gen: General category, SCs: Scheduled Castes, OBCs: Other Backward Classes)

It gravitated that the informants were dominated Hindus (85%) and only 15 per cent of them belonged to Muslims. Among the Hindus, 46 per cent of them belonged to general categories who were considered as social upper/forward groups in the society and 39 per cent of them were from social backwards community considered as Scheduled Castes (SCs) and Other Backward Classes (OBCs). Among the Muslims, 9 per cent of them were from general categories and 6 per cent of them belonged to Other Backward Classes (OBCs). Educational status/attainment of these informants showed that majority of them (45%) was illiterate. Among Hindus, 6 per cent males belonged to general categories and 9 per cent of same categories were female. It was high among SCs and OBCs, i.e. 9 per cent male and 11 per cent female. Among Muslims, 3 per cent each of male and female of general categories were illiterate and it was 2 per cent each of male and female for OBCs. Thirty eight per cent all together was lettered and it was due to mass literacy programme of government during late 80's and early phase of 90's.

Current marital status of the informants had been analysed in the Table 2. From this table, it revealed that 56 per cent of them were within the age bracket of 65–70 years, out of which, 8 per cent of them were from Muslims where half of them was also female. Rest of them was of 71–75 years old and 7 per cent of these informants were Muslims, out of which 3 per cent of them were female. Among Hindus within age bracket of 65–70 years, 5 per cent (including 1% female) of them were single/unmarried/never married due to several personal and familial causes. Secondly, out of 25 per cent of married elderly whose both spouses were alive and in conjugal/spousal relation, 14 per cent of them were male. It was altogether 5 per cent (including 2% female) in case of Muslims' informants. One per cent each of the females of Hindus and Muslims under this age group were divorced or separated from their marital partners through mutual settlement and all of them used to live in their parental home. Of the Hindus informants of age of 65–70 years, 17 per cent informants were widow(er) and female widowers were 11 per cent. In case of Muslims, it was 1 per cent each of male and female respectively.

Table 2
Marital Status of the Informants According to their Age and Religion

Age Group	*Marital Status*																*Total (n,%)*
	Hindu								*Muslim*								
	Single/ Unmarried/ Never Married		*Married (Both Spouses Alive and in Spousal Relation)*		*Divorce/ Separated*		*Widow(er)*		*Single/ Unmarried/ Never Married*		*Married (Both Spouses Alive and in Spousal Relation)*		*Divorce/ Separated*		*Widow(er)*		
	M (n,%)	*F (n,%)*	*M (n,%)*	*F (n,%)*	*M (n,%)*	*F (n,%)*	*M (n,%)*	*F (n,%)*	*M (n,%)*	*F (n,%)*	*M (n,%)*	*F (n,%)*	*M (n,%)*	*F (n,%)*	*M (n,%)*	*F (n,%)*	
65–70 years	8(4)	2(1)	28 (14)	22 (11)	-	2 (1)	12 (6)	22 (11)	-	-	6 (3)	4 (2)	-	2 (1)	2 (1)	2 (1)	112 (56)
71–75 years	6 (3)	2 (1)	18 (9)	12 (6)	-	-	12 (6)	24 (12)	-	-	4 (2)	2 (1)	-	-	4 (2)	4 (2)	88 (44)
Total (n,%)	14 (7)	4 (2)	46 (23)	34 (17)	-	2 (1)	24 (12)	46 (23)	-	-	10 (5)	6 (3)	-	2 (1)	6 (3)	6 (3)	200 (100)

Source: Field work

Economy and occupation of the informants (before and after their retirement age):

The informants of this study were from poor economic background and a significant portion of them was small and marginal farmers who firmed their own small piece of land or they firmed leased land which was considered as 'barga land' in local Bengali dialect and the firmer of this land were considered as 'bargadar' or 'bhag chasi' in local dialect. Secondly, major portion of them was daily wages agriculture or firming labour, rural artisans of weaving, bamboo crafts, pottery and so forth which had local market and demand. Others were mason, barber or priest. The females elderly were basically in non paid household work as their traditional duty of protect and nurture their family. These occupations might be considered as generational occupation. Therefore, the informants had no such official declaration of retirement from their work. But due to their age factor, they did not perform same work before their retirement. So. There was a variation in the pre and post retirement occupation. Table 3 described their pre-retirement (before 65 years) occupation. From this, it revealed that 14 per cent male and 3 per cent female were firming on their own or leased land and so far as their educational level was concerned, male illiterate was 6 per cent, male lettered was 4 per cent, male who attended primary level of education was 2 per cent and male who attended high school level was 2 per cent respectively. By that time their primary or high school standard education did not offer any other occupational opportunity rather than their generational occupation. Among these female, 2 per cent was illiterate and 1 per cent was lettered respectively.

Altogether 18 per cent of them were daily wages agricultural labour where only 1 per cent of them were female. By that time, females were not permitted as daily wages labour. So, a little portion was involved due to their on other alternative because their male counterpart was invalid to perform any work for earning and they had no wealth to manage their family. Among these male daily wages agricultural labour, 8 per cent was illiterate, 6 per cent was lettered, 2 per cent had primary level education and only 1 per cent of them had high school level of education respectively. From this Table 4, we

find that a significant portion of them (23%) was rural artisan/family business. Among them, 24 per cent informants were male and 11 per cent informants were female. Of these male informants, 2 per cent had high school level of education and 1 per cent of them had primary level of education. The female informants were mainly household workers (32%). Of them, 10 per cent informants were in others work, i.e. priest, barber, and so forth and 7 per cent of them was male and 3 per cent informants were female. Among these males, 2 per cent had primary level education and 1 per cent male attended high school respectively. On the other hand, only 1 per cent female had primary level of education.

Table 3

Occupation of the Informants before Retirement Age

Educational Level	*Occupation*										*Total (n,%)*
	Firming of Own Land /Leased Land		*Daily Agricultural Labour*		*Rural Artisan/ Family Business*		*House Hold Work*		*Others*		
	M (n,%)	*F (n,%)*	*M (n,%)*	*F (n,%)*	*M (n,%)*	*F (n,%)*	*M (n,%)*	*F (n,%)*	*M (n,%)*	*F (n,%)*	
Illiterate	12 (6)	4 (2)	16 (8)	2 (1)	8 (4)	10 (5)	-	32 (16)	4 (2)	2 (1)	90 (45)
Lettered	8 (4)	2 (1)	12 (6)	-	10 (5)	12 (6)	-	26 (13)	4 (2)	2 (1)	76 (38)
Primary level of education (Class=I-IV)	4 (2)	-	4 (2)	-	2 (1)	-	-	6 (3)	4 (2)	2 (1)	22 (11)
High school education (Class-V-VIII)	4 (2)	-	2 (1)	-	4 (2)	-	-	-	2 (1)	-	12 (6)
Total (n,%)	28 (14)	6 (3)	34 (17)	2 (1)	24 (12)	22 (11)	-	64 (32)	14 (7)	6 (3)	200 (100)

Source: Field work

From the Table 4, it was found that 3 per cent male of 65–70 years old were dependent on their sons/relatives and 1 per cent each of male and female of 71–75 years old were dependent of their off-spring/relatives. Sixteen per cent of them had to survive through their domestic help and they were domestic help of either in their

Table 4
Income and Occupation at Post Retirement Life

Age of the Informants	*Occupation*														*Total (n,%)*
	No Work as Dependent on Off-Spring/Relative		*Domestic Help*		*Paid Work (As Daily Labour or Under MGNEGRA)*		*Covered Under Social Security or Pension of Government*		*Small Business at Local Market/Hat (Weekly Market)*		*Artisan*		*Others (begging)*		
	M (n,%)	*F (n,%)*	*M (n,%)*	*F (n,%)*	*M (n,%)*	*F (n,%)*	*M (n,%)*	*F (n,%)*	*M (n,%)*	*F (n,%)*	*M (n,%)*	*F (n,%)*	*M (n,%)*	*F (n,%)*	
65–70 years	6 (3)	-	2 (1)	12 (6)	22 (11)	20 (10)	10 (5)	6 (3)	2 (1)	2 (1)	8 (4)	6 (3)	6 (3)	10 (5)	112 (56)
71–75 years	2 (1)	2 (1)	2 (1)	16 (8)	18 (9)	8 (4)	18 (9)	10 (5)	-	-	2 (1)	4 (2)	2 (1)	4 (2)	88 (44)
Total (n,%)	8 (4)	2 (1)	4 (2)	28 (14)	40 (20)	28 (14)	28 (14)	16 (8)	2 (1)	2 (1)	10 (5)	10 (5)	8 (4)	14 (7)	200 (100)

Source: Field work

family or in neighborhood family. For their work they enjoyed food and other basic needs. Among them, 14 per cent informants were female and further, 6 per cent of them were within the age bracket of 65–70 years and 8 per cent females were of 71–75 years old..

In this study, it revealed that 2 per cent male elderly were domestic help and 1 per cent each of them were of 65–70 years and 71–75 years of old respectively. Majority of them (34%) of these elderly informants were paid daily wages labour and they were the beneficiaries of Mahatma Gandhi National Rural Employment Guarantee Act. Out of 20 per cent males, 11 per cent informants were of 65–70 years and 9 per cent of them were of 71–75 years old. Of them, 14 per cent informants were female and out of which, 10 per cent females were of 65–70 years and 4 per cent of them were of 71–75 years old. Twenty two per cent of these informants were covered under the pension scheme for poor and unorganized labour of the government of India. It included 14 per cent male and 8 per cent female beneficiaries. Among these males, 5 per cent male were of 65–70 years old, while it was 3 per cent for female of same age. And 9 per cent of them were within the age of 71–75 years and in case of female, it was 5 per cent only. Altogether 2 per cent of them had to manage their survival needs through small business of vegetables and so forth in their local market which was known as 'hat' in Bengali dialect (Hat is local market for weekly once on a fix day of the week). One per cent each of them was male and female respectively of 65–70 years old. Altogether 20 per cent of these elderly engaged as rural artisan (i.e. bamboo craft, weaver, fishing net and so forth) to manage their livelihood at their later life. Among them, 10 per cent informants were male of 65–70 years old (4%) and 71–75 years old (1%). Three per cent female of 65–70 years and 2 per cent female of 71–75 years worked as rural artisan. Eleven per cent of them begged to arrange their survival needs. Among them, 3 per cent informants were male of 65–70 years old and another 1 per cent male were of 71–75 years old. Comparing to the male informants, females were 3 per cent more who had to beg for their survival. Among them, 5 per cent of female were of 65–70 years old and 2 per cent of them were within the age group of 71–75 years. They generally begged far away from their resident villages and local market.

Living condition of elderly informants:

Food, shelter and other daily needs:

The elderly populations in this study were in their generational cycle of poor and backwardness because global changing scenario did not have any impact in their economy. They were traditional small and marginal or landless daily labour or rural artisan. Their joint family (grandparents, parents....) set up was in broken condition and it turned to nuclear family from their younger age. Their old straw thatched mud house was turned to small plot lands and it was partitioned among their brothers. From this study, it was found that 24 per cent of them (older) were core sided in a corner of this house with their sons and rest of them was separated from their sons. Their shelter was damped and damaged waiting for repairing for a long time. The houses were dark and it suffered from the absence of light and air. They were not allowed to use toilets and latrines. They used to do it in any left places. Sometimes, they arranged it separately. They used to bath at pond or tube well.

> *Case 1:* Sushil (71 years) was a widower. He had as old mud house covering about 1440 sq. ft with a pond and it was his only property/wealth inherited from his parents. He was a daily wages agriculture labour. He lived with his 3 sons and 2 daughters. When his sons grew older, they were also in same type of earning process. But after their marriage, they were separated and they partitioned the land after demolishing their old house. They built their separate house and they made a small cottage for Sushil separately at corner place behind their houses. Sushil had to stay there. He cooked there and used to rest alone in his cottage. His sons, daughter-in-laws and grandchildren hardly met him and offered any support. He managed his survival from paid work under MGNEGRA.

These elderly populations were self-managed their daily house duties like fetching water, cleaning housing, cooking, washing clothes and dishes, etc. In case of cooking when their spousal partners were alive, they used to prepare it. Only 14 per cent of them were getting cooked food from their off-spring/relatives. About 54 per cent of them cooked their own food. While electricity was available in their area, they did not enjoy it because they had no financial capacity to

consume it. Even their family members opined that it was an extra financial burden to them and they had not need it. So, they used traditional kerosene lights.

Dynamics of Relationship of the Elderly

Relational pattern of elderly was within their family members, homogenous nieghbourhood and relatives. Their social network and relationship at work place were within their limited periphery that was confined within their co-workers and employers, i.e. farmers, daily labour-daily labour, landlord – farmers/daily labour). This bipartite or tripartite relationship existed when they were in their occupation. Gradually it was truncated and it was not enough to revitalize it as an association in later life because their residents were scattered and they had rare contact.

Spousal relations of the elderly informants when both of the spouses were alive were broken significantly because of non-financial/wealth support.

Neighbour and relatives were very much pessimistic to look after/to provide support these elderly when their off-spring rejected them.

Dynamics of Relationship between Elderly Citizen and States

These rural poor, backward and deprived elderly are valuable assets at the time of election because their voters rights/electoral rights to be ensured with false sense of promises of different reliefs, i.e. old age pension, widow pension, food grains at cheap rate, job guarantee under Mahatma Gandhi National Rural Employment Guarantee Act passed and implemented by government of India which ensures 100 days job guarantee for population below poverty line, etc. But in many cases, it was limited with only a packet of lunch or a new cloth, etc. on that day of election festival. After election, the political parties and their leaders left them and even, they did not recognize them or they never met them before the days of next such election festival.

> *Case 2:* Chruni (68 years) was a widow and she managed her daily needs through domestic to her neighbor because her 3 sons were unable to support her. She was placed in small single room at the corner of their house. The political parties assured to recommend

her for widow pension. But ultimately after election she used to search these persons who promised her. She said 'they are not correct person; they only promise to get our vote; next time I did not vote to any party.'

Government introduces various schemes for elderly. The old age pension or widow pension is very important measure for poor elderly citizen which assures 500 INR per month fixed. But it involves with various complexity in application and selection of beneficiaries because overall process is highly politicalized. It is important to note that the elderly who fortunately are registered under this scheme do not get this monetary support regularly. Either it might be reimbursed annual basis or more than that. Reimbursement is always in due for one year or more. Harassment is more panic when the beneficiaries use to submit his/her living certificate issued by local gram Panchayat members (representatives of the lower house of 3tier local self government) every year. It is not easy to get this certificate because they have to move day after day to their representative's home or office. Other direct schemes or measures for these populations are many times only a declaration because one could hardly find in practice or field application of such schemes.

Apart from this, NGOs cater elderly care for these poor living below poverty line with the sponsorship of government of India under 'Integrated Programme for Older Persons'. It includes both residential and non-residential cares for these populations. It sets up old age home for residential care. Day care centre and mobile medical unit fall under the non-residential care. There are some administrative procedural defects in selection of NGOs as implementers of these programmes. Further, these NGOs selected for grant-in-aid under these programmes are non-effectively providing the services entitled under these schemes. The fund flow system of these schemes is jeopardized (irregular and corruption involved with sanction of grant and release of grant). Selection of NGOs and sanction of grants suffer from uniformity. Service delivery system and quality of services are poor so far as old people are concerned.

In this study, it was estimated that only 14 per cent male and 8 per cent female elderly were covered under old age/widow pension. They did not get their pension regularly. They used to get it once in a year or

it reached to them after 2–3 years later. Sometimes, it reached after their expiry because government administration was non-effective and service delivery pattern was very poor and unsystematic. About 34 per cent (including 14% females) of these elderly informants were covered as beneficiaries of the scheme and 100 days work guarantee in year was secured to them through a statutory job cards. They earned 130–150 INR per day for their assigned jobs under this scheme. But they had to share 30 INR per day their wages with their supervisor/Panchayat member for this job guarantee.

Health and Nutritional care and support system for the elderly

From this study, it was revealed that the elderly informants had to suffer from age related diseases, i.e. physical aliment problem, dental and cataract problem, stomach and digestion and UTI, etc. mainly. They had no such record of suffering from life style diseases. For their chronic illness health care services were absent or inaccessible in their door step and nearby. The observation recorded that there was no governmental health care support system (day clinic or hospital) within a radius of 5 km from their resident. But in this area, health check camp used to organize by the Panchayat infrequently. Further it was distanced for these populations who were again not informed properly by the organizers in due course. So, they had to depend on community quack doctors (who had no medical qualification and training. During their period of illness, they hardly avail care and support from their family member expect their spouses if alive. It was reported that they got support from their family members after prolonged suffering because initially they denied it. They also had to face pathetic situation when their family member harassed them for their illness and they felt that it was due to the negligence of elderly. They also concerned about the expense to be born for their seniors' treatment. It was a burden to them.

> *Case 3:* Sital (72 years) was widow(er). His sons were separated from him. All of them built their separate houses after partitioned of a plot of land measuring about 5,000 sq.ft. They broke their old house. But a part of this house was intact and old Sital had to live without proper living facility. He used to manage himself through begging. But he was in prolonged illness and on one was there to look after

him. Finally local community club admitted him into BHMC. He was diagnosed as tuberculosis patient. After treatment by that time he was cured.

So far as nutrition of the elders were concerned they were malnourish and they were in hunger. About 67 per cent of them were not able to arrange two squares of meals daily.

Psychological health (nature and determinants)

Hunger and absence of minimum standard of basic needs are main determinants of their mental ill-health. Their own earning from different sources was not enough to meet their desired needs and demand. They were mentally shocked due to their non-supportive family relation or poor supportive relational representation for whom once they devoted or sacrificed their all. They were in pain after reminiscing their past days. It was the social context that once they set up and nurtured their family tree/plant, at their later life they were rooted out and separated from their family. They used to suffer psychologically due to poor family relation and detachment from their children and grand children.

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Frailty Pattern among the Elderly Rural Women of India

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ABSTRACT

Frailty is one of the challenging expressions which have been continuously studied to find out the associated risk factors for the poor health in the geriatric group. The aim of the present study was to examine the pattern of frailty in elderly women of India. 206 elderly Jat women aged 60+ years in rural population of Palwal district of Haryana, (North India) were selected randomly. Frailty was assessed using modified version of Women's Health and Aging Studies (WHAS) criteria, where we measure this attribute as a complex variable based on five indicators: weakness, slowness, weight loss, exhaustion and low physical activity. It was found out that the overall prevalence of preSfrail (40.8%) among the participants was maximum followed by the frail category (31.1%). The relationship of frailty shows positive correlation with age, major occupation, socioeconomic status, body mass index, self-reported health status, number of falls and chronic diseases. Weakness was the most observed indicators for frailty as 53.4 per cent of the participants have low hand grip strength. On the basis of present findings it may be concluded that frail is significantly associated with ageing process. So, for healthy ageing as well as preventing or delaying more severe clinical consequences, we need to identify all the aspects of frailty.

Keywords: Elderly, Frailty, India, Rural, Women

The world population perceives a profound transformation in the age distribution. As mortality and fertility have slowed down, the elderly population have steadily increased. The worldwide share of elderly individuals increased from 9.2 per cent in 1990 to 11.7 per cent in 2013 (United Nation, 2013). Over the last century, these increase was mostly in the high-income countries where the life expectancy has risen sharply, but it is now low and middle-income countries that are going to see the greatest change in the numbers of the aged (WHO, 2015), and India follows similar patterns. This nation has around 104 million elderlies at present and the number is expected to increase to 324 million, constituting 20 per cent of the total population, by 2050. In comparison to rural and urban areas in India, more than 71 per cent of the total elderly individuals presently live in rural areas. On the other hand, the Census of India 2011 pointed out the fact of the feminization. Women, in general, and especially in rural areas are much neglected (MOSPI, 2016). The aging scenario in India is therefore is a rising challenge to which this diverse and heterogeneous country must need to adapt rapidly. It brings concern about elderly health and to overcome such backdrop there is an urgent need to carry out studies that can explore healthy aging in women.

To find out the diverse nature of human aging and health, researchers have been described the concept of frailty. The frailty is a distinguishing form from a usual aging process and generally, it refers to a specific state of increasing vulnerability to external and internal stressors resulting from a significant reduction in physiological reserves. As per the empirical definition of Fried *et al*. (2001), the frailty was independently associated with incident falls, worsened mobility, activities of daily living disability, incident hospitalization and death, etc. (Fried *et al*., 2001; Lang, *et al*., 2009; Zaslavsky *et al*., 2013). Though there is an emerging worldwide evidence of frailty among elderly adults; in India, there have only a few studies to explore it further. More recently (2016), a study was conducted by WHO's SAGE (Study on Global Ageing and Adult Health) implemented six countries including India to examine the pattern of frailty and they found that India has the lowest percentage (44.5%) of people without frailty. They also mention the fact that women commonly had higher frailty prevalence compared to men in all the countries and the gap

between the sex-specific prevalence of frailty was wider for India (Biritwum *et al*., 2016).

The aim of the present study is to find out the pattern of frailty in elderly women of Palwal district, Haryana, North India. The present study will create a database for the policy makers and facilitate planning and intervention policies among the aged elderly women.

Methodology

Study Design and Participants

Cross-sectional data were collected from 206 willing participants using random sampling method. Participants in this study were women aged 60 years and more from Jat Hindu community. Data were obtained from the village Aurangaabad, Gopalgarh and Mitrol of Palwal district, Haryana, North India. Written informed consent was obtained from all. The study was approved by the institutional ethical committee, Department of Anthropology, University of Delhi, Delhi, India.

Variables and their Measurements

Sociodemographic and baseline characteristics: Data was collected by using standardised interview schedule ascertained age, religion, caste, educational level, family type, major occupation, number of falls, number of chronic diseases and selfSreported health status. SocioSeconomic status was categorized by scoring method of Aggarwal's socio-economic scale (Sharma, *et al.*, 2005).

Defining Frailty; Application of 'Women's Health and Aging Studies' (WHAS) Frailty Criteria

In the present study, Frailty was assessed with the modified version (Table 1) of WHAS criteria, where we measure frailty as a complex variable based on five indicators: weakness, slowness, weight loss, exhaustion and low physical activity (Blaum *et al*., 2005). Frailty is considered present if three or more of the indicators are present; the presence of one or two indicates a preSfrail state.

Grip strength was measured in this study according to the WHAS protocol. Speed was measured on a 4 meter walk at normal step and the subject can use their own walking aid. Those elderly women who are unable to walk, they were excluded from this study. To measure

low physical activity WHAS used a subset of the Minnesota Leisure Time Activities but in the current study we used Global Physical Activity Questionnaire (WHO, 2012) to keep in mind the lifestyle of rural people of India. Exhaustion was defined in WHAS as positive response to at least one out of three relevant questions: felt unusually tired in the previous month, felt unusually weak in the previous month, or had an unusually low energy level. Frailty eligible weight loss criteria were measured if women's baseline measured BMI was less than 18.5 kg/m², the lowest WHO BMI risk category (WHO, 2015).

Table 1

The Five Criteria Used as an Indicators of Frailty

Week grip strength	Cut off points for grip strength of the dominant hand is as following, =17 kg for BMI =23 =17.3 kg for BMI 23 < BMI 26 =18 kg for BMI 26 < BMI 29 =21 kg for BMI >29
Slow gait speed	The subject could use a walking aid, but not the aid of another person. Walking 4m (speed) in: =0.65 m/s for height =159cm =0.76 m/s for height >159 cm
Low physical activity level	Global Physical Activity Questionnaire (GPAQ) according to WHO (2012) recommendation was used to determine the physical activity level.
Self-reported exhaustion	Indicative positive response of any one out of three questions. a. Felt unusually tired in the previous month? (low energy level <3 {on of scale of 0–10}) b. Felt unusually weak in the previous month? c. Had an unusually low energy level? (For b. and c., most or all the time {where, rarely [<1day], some or little of the time [1–2 days], most of the time [3–4 days] and all the time})
Low weight	BMI <18.5 kg/m², which is the lowest category WHO BMI classification.

Statistical Analysis

All the data were analyzed by using the SPSS Version 22. The parameters taken were analysed statistically to find out the frequency,

mean and standard deviation for all the sociodemographic and health characteristics. Correlation was used to determine the relationship of various measurements and the strength of their relationships. Only 25 women in the sample have a BMI less than 18.5 kg/m^2; these women have one frailty criteria according to definition of WHAS. So, because of the confounding by definition in this group, these 25 women were dropped from further statistical analysis.

Results

Sociodemographic and baseline characteristics: Out of all the studied participants (Table 2), the mean age of the elderly women was 69.1 years. Educational status of elderly women was very low, as it was evident that 89.3 per cent of them do not have basic primary education. 91.3 per cent live in joint families, 58 per cent in nuclear families, while only 2.9 per cent lived alone. It is interesting to note that maximum elderly females of the studied area worked (ex-worker) as a cultivator (54.9%) or still working as a cultivator (32.5%) along with their family members, while very few were homemakers (12.6%). Socioeconomic status explains that among the participants, 69.9 per cent belonged to lower middle income category. Table 3 depicts that maximum participants belonged to normal BMI (47.1%) category. Health status shows that number of fall within last twelve months was 35 per cent and most of the participants assessed themselves as fair health (60.7%) condition. But morbidity was quite high as the 48.1 per cent elderly women have at least 3S4 chronic diseases.

Table 2

Sociodemographic Characteristics of the Study Participants

Characteristics	*All (N=206)*
Age, years, %	69.01 ± 9.2
60-64	40.3
65-69	21.8
70-74	14.1
75-79	6.8
80+	17.0
Educational level, %	
< Primary	89.3
Primary	10.2

Cont'd...

...Cont'd

Secondary	0.5
Family Type, %	
Joint family	91.3
Nuclear family	5.8
Living alone	2.9
Major occupation, %	
House wife	12.6
Ex-worker	54.9
Worker	32.5
Socioeconomic status□, %	
Upper middle	14.1
Lower middle	69.9
Poor	16

Data in this table shows percentages for categorical variables and means±SD for continuous variables. SD = Standard Deviation
□According to Aggarwal's socioeconomic scale (2005)

Table 3
Baseline Characteristics of the Study Participants

Characteristics	*All (N=206)*
Body Mass Index(kg/m²),%	
<18.5	12.1
18.5 - < 25	47.1
25 - < 30	23.8
=30	17
Number of fall, %	
0	65.0
=1	35.0
Number of Chronic Diseases	
0	1.5
1	11.2
2	15.5
3-4	48.1
=5	23.8
Self-Reported Health Status	
Very good	11.2
Fair	60.7
Poor	28.2

Data in this table shows percentages for categorical variables and means ±SD for continuous variables. SD = Standard Deviation.

Frailty indicators: Figure 1 explains that weakness was the most observed indicators for frailty as 53.4 per cent of the participants have low grip strength. Exhaustion was also high (39.3%), followed by slow walking speed (35.9%) and low physical activity (19.9%). Weight loss was reported less (12.1%) often than the other four components.

Prevalence of frailty: In this cross-sectional study, 40.8 per cent were preSfrail, 31.1 per cent frail and 28.2 per cent not frail (Table 4). Occupation and socioeconomic status both depict a significant correlation with frailty. In the health category body mass index, number of fall, number chronic diseases and self-reported health status all were associated with frailty. The percentage of obese (=30 kg/m^2) BMI at baseline was higher in frail category than those among preSfrail and not frail participants, while overweight BMI were more in pre frail participants and normal BMI category were more common among not frail participants. Number of fall and diseases also increased in frail category followed by the pre frail category. Those were assessed themselves as poor health condition, majority of them belonged to frail category (51%).

Table 4
Pattern of Frailty in the Study Participants

Characteristics	*All (N=206)*	*Not Frail (n=58)*	*Pre-Frail (n=84)*	*Frail (n=64)*	*p value*
Sociodemographic factors					
Sex, Female, %		28.2	40.8	31.1	
Age*, years, mean ± SD	69.01 ± 9.2	65.7 ± 5.8	66.6 ± 7.8	75.2 ± 10.4	<0.001
Educational level, % –					
< Primary	89.3	87.9	86.9	93.8	
Primary	10.2	12.1	11.9	6.2	
Secondary	0.5	0	1.2	0	
Family Type, % –					
Joint family	91.3	87.9	90.5	95.3	
Nuclear family	5.8	6.9	6	4.7	
Living alone	2.9	5.2	3.6	0	
Major occupation*, % 0.002					
House wife	12.6	6.9	15.5	14.1	
Ex-worker	54.9	48.3	47.6	70.3	
Worker	32.5	44.8	36.9	15.6	
Socioeconomic status* □, % <0.001					

Cont'd...

...Cont'd

Upper middle	14.1	32.8	6	7.8
Lower middle	69.9	56.9	83.3	64.1
Poor	16	10.3	10.7	28.1
Body Mass Index (kg/m²),% 0.016**				
18.5 – < 25	47.1	84.5	34.5	29.7
25 – < 30	23.8	12.1	29.8	26.6
=30	17	3.4	20.2	25
Number of fall*, % <0.001				
0	65.0	75.9	72.6	45.3
=1	35.0	24.1	27.4	54.7
Number of Chronic Diseases* 0.001				
0	1.5	5.2	0.0	0.0
1	11.2	12.1	13.1	7.8
2	15.5	15.5	17.9	12.5
3–4	48.1	48.2	46.4	50.0
=5	23.8	18.9	22.7	29.7
Self-Reported Health Status* <0.001				
Very good	11.2	17.2	11.9	4.7
Fair	60.7	69.0	67.9	43.8
Poor	28.2	13.8	20.2	51.6

Data in this table shows percentages for categorical variables and means ±SD for continuous variables.

SD = Standard Deviation; r = correlation coefficient; BMI = Body Mass Index; WHR = Waist-Hip Ratio; WC = Waist Circumference

* Correlation is significant at the 0.01 level (2-tailed).

 According to Aggarwal's socioeconomic scale (2005)

** Correlation is significant at the 0.05 level (2-tailed)

Discussion

The cross sectional community based study among the elderly women of Palwal district of Haryana shows a high occurrence of preSfrail and frail category. The frail category was reported more in aged population and it provides insight to the fact that it is greatly associated with the process of aging. Fried *et al*., have also demonstrated frailty as a geriatric syndrome and that is again supported by several other studies with the view that this process is unique to older individuals and is not observed in younger people (Fried *et al*., 2001; Rockwood and Mitnitski, 2007, Xue Q.L., 2011; Clegg *et al*., 2013; Mitnitski *et al*., 2015). So, the identification of the frail elderly people in a community would prove useful in preventing or delaying its more severe clinical consequences.

The present study indicates the weak hand grip strength is the fundamental feature of the frailty as it shows that maximum participants have lower grip strength than the other four indicators. Generally, among the elderly people, we can notice the uncoupling of muscle crossSsectional area and decrease of muscle fibre strength. On the other hand, with the aging process they accumulate fat in the muscle (myosteatosis). This myosteatosis causes the decline in the muscle strength which leads to the functional impairment and physical disability in their gait and balance. These process lead to the Sarcopenia (Forrest, Zmuda and Cauley, 2005). So, our findings indicate a potential link between frailty and sarcopenia. Several researchers in Europe and Asia regard sarcopenia as a potentially useful primary step toward interventional studies in frailty (Liu *et al*., 2013; Rockwood and Bergman, 2012).

This study has a number of strengths. This is an original study conducted on focusing the particular community and population. It shows significant association of frailty with sociodemographic and health characteristics, which offers a research perspective, in order to determine whether these variables could be a good predictor of frailty. The result depicts the need of this study in the elderly health point of view, as the early detection of those deficits at the different physiological levels could be the key to prevent or delay its development. Limitation of this is that using allS female sample does not allow to generalise to this current finding to men.

To establish better strategies for preventing frailty, it is also essential to improve our understanding of the causes and pathways of frailty in the context of the demography and epidemiology of elderly population. To keep in mind all the facts and to overcome such backdrop there is an urgent need to carry out studies that can explore healthy aging in women in India. The significance of the present study lies in the fact that it will help create a database for the policy makers and facilitate planning and intervention policies for the aged elderly women in general and rural India in particular.

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Contribution of Vision and Audition on Balance During Dual Tasking in Older Individuals

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ABSTRACT

The present study was planned to identify the contribution of vision and auditory inputs on balance during dual tasks in healthy older individuals. A total of 43 older adults were selected in this observational study. Assessment form was filled by each participant. Functional vision test and functional hearing test were conducted on all participants Timed up and go test, with vision distraction and timed up and go test with auditory distraction were performed. Time taken to complete the entire three tasks was noted. It was found out that the time taken to complete timed up and go test, with vision distraction and timed up and go test with auditory distraction was 10.06±1.157 minutes, 11.85±1.290 minutes and 12.84±1.226 minutes respectedly. On the bassis of the present findings it may be concluded that an Auditory distraction with timed up and go test on balance control is more challenging than timed up and go test with vision distraction.

Key words: Balance and elderly, Dual task, Falls and older adults, Timed up and go test

Falls are caused by two factors namely intrinsic and extrinsic. Intrinsic factors are balance impairment, neurological dysfunction,

sensory loss, musculoskeletal disorders, postural hypotension and usage of medication. Extrinsic factors are too bright or not enough light, too much shadow, uneven or slippery floor, clutter on the floor, pets and strange patterns on floor tiles (Doi T, *et al.,* 2014).

Motor control is the ability of the central nervous system to control or direct the neuro motor system in purposeful movement of postural adjustment by selection of appropriate muscle tension across appropriate joint segments (Anderson G, *et al.*, 1998 and Doi T, *et al.*, 2014). Cognitive system plays an important role in maintaining functional balance. It interprets sensory input to select and coordinate motor output in terms of Posture and Movement (Rankin J K, 2000).

Attention is important for balance because it is needed for the individual to collect information about the immediate environment. The risk of falling can be reduced by understanding the role of attention in balance control and postural stability (Anderson G, *et al.,* 1998).

Falls are caused by two factors namely intrinsic and extrinsic. Intrinsic factors are balance impairment, neurological dysfunction, sensory loss, musculoskeletal disorders, postural hypotension and usage of medication. Extrinsic factors are too bright or not enough light, too much shadow, uneven or slippery floor, clutter on the floor, pets and strange patterns on floor tiles (Doi T, *et al.,* 2014).

Balance is the ability to maintain a position in space; co-ordination is the capacity to move through a complex set of movement in space. Postural control is defined as the ability to move effectively and efficiently in different environment and situations without falling (Hall C D, and Heusel-Gillig, 2010). Postural control or balance is controlled by many systems in the body, which provides the information about the environment and accordingly it produces appropriate movement and responses in the body (Rankin J K, *et al.*, 2000).

Balance and coordination are mainly dependent on the interaction of many body organs and systems including the eyes, ears, central nervous system, cardio vascular system and muscles. The system includes:

- Vestibular system: Sense organs that regulate the equilibrium [equilibrioception], it provides directional information as it relates to position of head in space. [linear and angular acceleration]
- Somatosensory system: Senses of proprioception and kinaesthesia of joints, information from skin and joints [pressure and vibratory senses]
- Visual system: It maintains verticality of body and head motion, spatial location relative to objects (Kannus P. *et al.*, 2005).

Falls occur commonly when the body is dynamic and when the centre of gravity cannot be maintained within the lateral borders of base of support. Risk of fall can be identified by interpreting balance and gait impairments. Balance impairment is the major contributor to fall in elderly (Van Iersel M B, *et al*., 2007).

Rate of falls are reported more during dual task than single task. Fear of fall can reduce physical activity and cause disequilibrium. To avoid fall older adults reduce their physical activity in their daily living which further leads to falls in future (Hall C D, and Heusel-Gillig 2010).

- Loss of balance control during divided attention situation in older adults can result from:
- Lack of ability to replace the attention between different tasks [cognitive impairment]
- Reduction in the attention capacity [cognitive impairment]
- Increased demand for limited attention resources associated with impairment in the postural control system [motor impairment]

Includes all factors (Ibid.).

A person with lack of balance in sideways and backward direction has more chances of fall and getting seriously injured. Balance during walking is control through foot placements and trunk motion. The risk of falling is greater while performing dual tasks in daily living for example talking while walking; crossing the road while observing the signals, as all these activities increases the attention demands (Hofheinz, M., and Mibs, M. 2016).

Dual task performance may contribute to postural instability and falls in balance-impaired elderly individuals. People with balance impairments either stop or take a longer time to complete the activity when performed with secondary task. Competition for attention may play a role in instability and falls in balanced impaired elderly person (Doi T, *et al.,* 2014).

Objectives of the Study

- To identify the contribution of vision acuity on balance during dual tasking in older individuals.
- To identify the level of auditory distractions contributing to affect the balance during dual task in older individuals.
- To evaluate association between vision acuity and auditory acuity on timed up and go test.

Materials and Methods

Study Design

This was an observational study conducted in a geriatric clinic at JSS Hospital, Mysuru. This study was approved by the JSS medical institution ethical committee.

Sampling Strategy

All older adults visiting geriatric clinic were examined using functional visual test and functional hearing test. 43 older adults (age varying from 65 to 75 years) with normal gait pattern were selected using Convenience sampling strategy.

After the consideration of above criteria a written consent form from all the participants was obtained. In case, the participant had difficulty in reading, the consent was readout and the participants thumb impression with the signature was obtained. Thereafter, timed up and go test in three different situations was carried out.

All the participants who visited geriatric clinic at JSS Hospital were examined using assessment form, functional visual test and functional hearing test. Participants were included based on inclusion and exclusion criteria. Inclusion criteria were both male and female healthy older individuals aged 65 – 75 years, able to understand and follow verbal instructions, Presbyopia and Presbyacusis. Exclusion

criteria were any musculoskeletal disorders leading to functional limitation and pain-OA, RA, hip and spinal fractures with recent surgeries, any cognitive impairment, any eye and ear disorders and recent surgeries, any serious neurological conditions i e., head injury, Parkinson disease, multiple sclerosis and motor neuron disease, stroke, spinal cord injuries, dementia, Alzheimer's disease, Guillain-Barre syndrome, Peripheral neuropathy, etc.

Materials used were arm chair, inch tape, stop watch, marker, camera, gait belt, visual pictures and distracting sound.

Procedure

The study was done in two phases.

Phase 1: Pilot study

Phase 2: Identifying geriatric population

Phase 1: Permission was obtained from JSS Medical Institution Ethical Committee and JSS College of the Physiotherapy, Mysuru. A pilot study was conducted on 10 [5 males and 5 females] young healthy participants aged 22 to 25 years. Three tasks were conducted in the study. Timed up and go test was conducted on all participants. Timed up and go test with vision distraction using vision flash cards and timed up and go test with auditory distraction using familiar animal sounds was conducted on same participants. Rest period was provided between each task. Time taken to complete all the three tasks was noted.

Phase 2: Participants selected on the basis of inclusion and exclusion criteria were administered functional vision test and functional hearing test and the procedure was explained to all the participants. The participants were instructed to wear non slippery shoes or self-selected footwear without heel. The examiner walked beside the participants through the line to prevent falling. One minute rest period was given after each test. Walking time in seconds was recorded at the end of each task.

All participants were requested to perform timed up and go test in the following procedure: Participants were requested to sit comfortably on chair. They were asked to get up from the chair and walk for 3 meters to complete the task. The participants were asked to perform same task provided with visual distractions using visual flash

cards with primary colors (red, blue, green, yellow, white and black) then with auditory disturbance by known familiar animal sounds (dog, cat, elephant and horse). Time taken for walking was calculated in all the tasks. Data analysis was done.

Timed up and go test

1. Participants were requested to sit comfortably (hips all of the way to the back of the seat) in arm chair.
2. The chair was stable when participants were asked to move from sit-stand positions.
3. A tape or mark on the floor 3 meters away from the chair was done.
4. Instructions were given using words get up, go, turn and come back.
5. Participants were requested to get up and walk 3 meters and take a turn and come to the same position.

Data Analysis

Descriptive statistics was used to show the mean age, height, weight and BMI of all participants. The time taken to complete all the three tasks was noted. Pearson's product moment correlation coefficient was used to correlate TUG, TUG with vision distraction and TUG with auditory distraction. A p-value of less than 0.01 was considered statistically significant. Microsoft Excel 2010 and SPSS version 22.0 was used for data analysis.

Results

Table 1
Demographic Characteristics of Participants [N=43]

N = 43	*MALE (N=20) Mean ± SD*	*Female (N= 23) Mean ± SD*
Age	67.75±3.092	69±3.04
Occupation	House bound	House wife
Height (mt)	1.66±0.54	1.59±0.62
Weig3ht (kg)	60.35±5.76	54.65±6.49
BMI	22.51±4.14	21.57±2.37

Note: SD=Standard Deviation, mt= meters, kg=kilogram

Table 1 summarizes that total number of participants N = 43(male N = 20 and female N = 23). This table also shows mean age for male was 67.75 ± 3.092 and mean age for female was 69 ± 3.04, mean height for male population was 1.66 ± 0.54 and mean height for female population was 1.59 ± 0.62, mean weight for male population was 60.35 ± 5.76 and mean weight for female population was 54.65 ± 6.49, mean BMI for male shows 22.51 ± 4.14 and mean BMI for female shows 21.57 ± 2.37.

Table 2

Correlation of TUG with TUG with Vision Distraction and TUG with Auditory Distraction

N = 43	*Tugvision*	*Tugaudition*
TUG	0.73	0.62

P = 0.01

Table 2 summarizes correlation between timed up and go test, timed up and go test with vision distraction and timed up and go test with auditory distraction. It signifies TUG and TUG with vision distraction was statistically significant at 0.73 and TUG and TUG with auditory distraction was statistically significant at 0.62 at p value 0.01 levels.

Table 3

Time Duration for TUG, TUG with Vision Distraction and TUG with Auditory Distraction

Task	*Time in Seconds Mean ± SD*
Tug	10.06 ± 1.157
Tugvision	11.85 ± 1.290
Tugaudition	12.84 ± 1.226

Note: SD = standard deviation

Table 3 summarizes the mean duration for TUG is 10.06 seconds with standard deviation 1.157, mean duration for TUG with vision distraction is 11.85 seconds with standard deviation 1.290 and mean duration for TUG with auditory distraction is 12.84 seconds with standard deviation 1.226.

Table 4
Correlation between TUG, TUG with Vision Distraction and TUG with Auditory Distraction in Male and Female Participants.

N=43	*Male (N=20) Mean ± SD*	*Female (N=23) Mean ± SD*
Tug	9.57±0.98	10.48±1.14
Tugvision	11.23±1.31	12.39±1.01
Tugaudition	12.31±1.12	13.30±1.14

Table 4 summarizes that mean duration for completing timed up and go test for male adults was 9.57±0.98 seconds and female adults was 10.48±1.14 seconds, timed up and go test with vision distraction in male adults was 11.23±1.31 seconds and in female adults was 12.39±1.01 seconds and timed up and go test with auditory distraction in male adults was 12.31±1.12 seconds and in female adults was 13.30±1.14 seconds.

Figure 3
Relationship of TUG, TUG with Vision Distraction and TUG with Auditory Distraction.

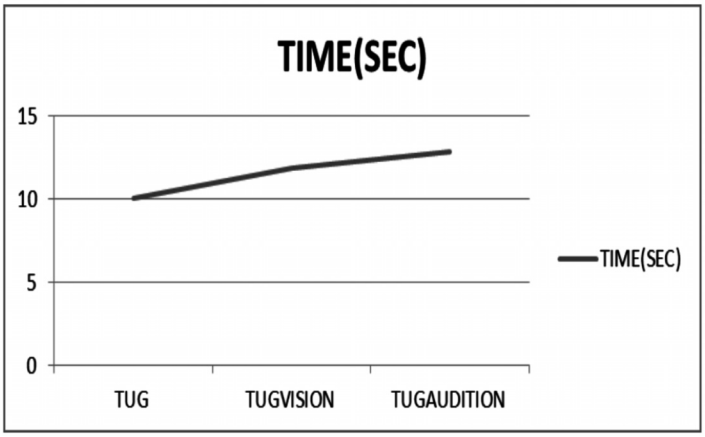

Figure no 3 describes an upward peak with TUG alone at 10.06 seconds to 11.85 seconds with TUG with vision distraction whereas the graph further indicates a peak of 12.84 seconds with TUG with auditory distraction. This distinctively indicating TUG with audition

has definite correlation and can be a main deviation in performing dual tasks.

Discussion

A pilot study was conducted on 10 young participants of age group 22–25 years. All three tasks were conducted on participants. Timed up and go test, timed up and go test with vision distraction and timed up and go test with auditory distraction were performed by the participants. Time taken to complete each task was noted.

The study was continued by recruiting elderly population in geriatric clinic, JSS Hospital Mysuru. Eighty seven participants were identified from geriatric clinic where forty three participants met inclusion and exclusion criteria and included in the study. Functional vision test and functional hearing test was conducted in quite environment. Assessment form was filled and the procedure of the tasks was explained by the therapist to the participants. All three tasks were conducted on the forty three participants in the quite environment.

The timed up and go test is used in the research and clinical setting to screen individuals at high risk of falls. Studies have showed that distractions given during dual task influences the speed of gait and alterations in functional activities during gait. Timed up and go test was used in the study.

A total of 43 [20 male and 23 female] participants were included in study based on inclusion and exclusion criteria. Mean age of male participants was 67.75 ± 3.092 and female was 69 ± 3.04 years. Walking speed and multiple task decreases as the age increases.

Time taken to complete second and third task was increased compared to first task in this study. Second task was given as vision distraction using vision flash cards. The participants took more time to complete the task as it created more challenging than first task.

The control of equilibrium is mainly regulated by the integration of three different systems in the human body namely the somatosensory, vestibular and visual systems. The role of visual information contributes to control the balance during dual task in elderly population. Studies that use strength platforms to measure postural

oscillations in individuals with poor vision showed that the lessening of visual information reduces the postural stability in 50 per cent. They concluded that instability will be increased, mainly when associated with alterations of somatosensory and vestibular systems (Anderson G, *et al*., 1998).

Timed up and go test with auditory distraction was the most difficult task out of all three tasks. Participants took more time to complete third task compared to first and second task. There was increased attention during balance activity while performing all dual and multi task activities in older individuals.

Normally aging affects vision and hearing abilities during all activities of daily living. Difficulty of task is depended on how strong the distraction being given and attention taken by the participants during tasks (Orimo H., *et al*., 2006). The important finding of this study is the observation that auditory distraction influenced functional activities with respect to balance and gait in all older adults.

The results of the study demonstrated that there is a statistically significant difference between the timed up and go test with visual distraction ($p=0.01$) and timed up and go test with auditory distraction ($p=0.01$) when compared with timed up and go test alone. The correlation coefficient between TUG and TUG with vision distraction indicated a significant correlation of 0.736 at $p=0.01$ and TUG with auditory distraction was 0.62 at $p=0.01$.

The current study showed that the duration to complete the entire three tasks was increased in older individuals. Mean duration for completing first task was 10.06 ± 3.096 seconds where only timed up and go test was performed. Mean duration for completing timed up and go test with vision distraction was 11.85 ± 1.157 seconds and timed up and go test with auditory distraction was 12.84 ± 1.226 seconds.

Comparison between performing single task (TUG) and dual tasks (TUG with vision distraction and TUG with auditory distraction) suggested that dual tasks take long duration to complete than single task. The present data compared auditory and vision distraction with dual task specifically in the performance of the participants seems to be better with TUG with vision distraction than TUG with auditory distraction.

Majority of male participants were house bound and female participants were house wife who walk for very little distance in almost all situations. Mean height in meters was 1.66 ± 0.54 in male and 1.59 ± 0.62 in female adults. BMI was calculated for both male [22.51 ± 4.14] and female [21.57 ± 2.37] adults. BMI was normal in all participants with respect to age and sex.

Limitations of the Study

Participants were more from age group of 65 to 70 years.

No blinding was done on outcome measure.

Conclusion

Normative values for dual task on timed up and go test not established. Hence there is a need for conducting studies in future (*Research implications).* Timed up and go test should be used in initial evaluation and at the discharge of all older adults (*Clinical implications).* Balance control with dual task is more difficult in healthy older adult. Auditory distraction with timed up and go test on balance control is more challenging than timed up and go test with vision distraction.

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Prevalence of Osteoporosis or Osteopenia in Males and Females of Different Age Groups

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ABSTRACT

Osteoporosis, also known as the silent disease, occurs in women and men, and is associated with a loss of bone mass and increased risk of fracture. With ageing there is a loss of bone mass and bone strength. But does that mean that osteoporosis is a disease characteristic of ageing, or that its incidence increases in old age? All 138 subjects between 20 – 70 years, (57 females and 91 males) of north Delhi region, in the study were examined by use of quantitative ultrasonography (QUS) method to evaluate their bone mineral density (BMD) at right calcaneus. Prevalence of osteoporosis or osteopenia in all males and females were calculated. It was found out that the females of north Delhi region depicts a high prevalence of 64.91 per cent in 57 females and 62.63 per cent in 91 male studied. Hence it was concluded that prevalence rate as compared with previous studies has increased alarmingly to average 63 per cent approximately in the studied population.

Key words: Osteoporosis, BMD, Quantitative Ultrasound, Geriatric.

Bone is a composite structure, consisting of inorganic mineral crystals, an extracellular organic matrix, cells, lipids, and water. The mineral crystals are analogous to the geologic mineral, hydroxylapatite. Since bone mineral is made of OH-deficient

nano-particles, we will refer to it here as hydroxyapatite (HA) (Boskey A.2007). Most of the mineral crystals contain impurities, mainly carbonate, magnesium, citrate, and other trace elements whose content depends on what the animal has ingested (Grynpas *et al*., 1993). The organic matrix is mainly type I collagen, but other types of collagen and several non-collagenous proteins, reviewed elsewhere, are also present (Zhu, W. *et al*., 2008). The cells, which produce, nurture, and remodel the mineralized extracellular matrix, also respond to mechanical and other signals, which determine the properties (morphology and function) of the bone. The relative composition of bone varies with health and disease, tissue site, and animal and tissue age. Bone serves mechanical and homeostatic functions, protecting the internal organs, allowing for locomotion and load-bearing, and serving as a home for marrow, and as a reservoir for calcium homeostasis. With ageing, these functions become impaired, bone becomes more fragile and less able to perform its mechanical functions, and the calcium stores are often depleted which may predispose to fracture risk (Chan G.K., and Duque G. 2002). There is scarcity of evidence related to comparative analysis of the rate of fracture and its healing in different age groups of humans. It is also important to realize that, although bone mineral density (BMD) decreases in some fragility diseases such as osteoporosis (Manolagas 2010) however it can increase in other such conditions like osteopetrosis (Kaste *et al*., 2007). Thus, it is the tissue-level properties in combination with the bone geometry that determine fracture risk. There are reports that older individuals may have a 10-fold-increased 10-year fracture risk compared with younger individuals with the same BMD (Kanis 2002). Since many investigators and clinicians believe that BMD is a marker of fracture susceptibility, because it declines with age in both women and men, it is important to examine why there is an age dependent increase in bone fragility or in brittleness of bone.

Osteoporosis, also known as the silent disease, occurs in women and men, and is associated with a loss of bone mass and increased risk of fracture. As has been pointed out throughout many review, with aging there is a loss of bone mass and bone strength. But does that mean that osteoporosis is a disease characteristic of aging, or that its

incidence increases in old age? It is our contention that these are not the same, and for reasons discussed below, osteoporosis is not necessarily a disease of ageing (Carrington, J.L. 2005). Osteoporotic bone, by definition, is bone that fractures easily. Both trabeculae and cortices are often thinner, the mineral content per area of tissue is often increased, and the mean crystal size, collagen maturity, and carbonate contents are increased relative to those of age-matched controls (Gourion-Arsiquaud *et al*., 2010). The incidence of fragility fractures and decreased bone strength (Banks, E. *et al*., 2009) increases exponentially with age in males and females there are several reasons for the conclusion that aging is not causative factor for bone fragility. First, and most obvious, is that not all the elderly, here referring to people over age of 60 yrs, show signs of skeletal fragility or have fractures (Mellibovsky *et al*., 2007). Second, while there are specific genes associated with bone loss in rodents and humans (Richards *et al*., 2009), their presence or absence does not offer specific protection to any age group, and finally, because osteoporosis does occur in the very young example, in idiopathic juvenile osteoporosis, a disease of skeletal fragility found in teenagers (Rauch *et al*., 2002). To argue against osteoporosis being a disease of aging, as opposed to a disease which has a greater prevalence in older individuals, we point to the case of two centenarians and their relatives (one being 113 years old) who had no fractures and no genetic abnormalities that could be linked to their younger-appearing bone properties (Mellibovsky *et al*., 2007 and Richards *et al*., 2009. Thus, because there is only an association, rather than causality, we maintain that while oral bone loss may be accelerated in aging, in both animals and humans, the loss of bone is not directly attributable to aging. Thus considering ageing and bone strength to be related a cumulative data depicting the prevalence of Osteopenia or Osteoporosis and changes in measurement parameters s.a. BMD is predictive and should be studied globally to identify its actual prevalence in the community. According to a three-year long pan-India data mining survey (2012–2014) on vitamin D released by SRL Diagnostics 80.63 per cent of some 73 lakh samples of men screened showed abnormal levels of vitamin D, vital for bone health. (Rauch *et al*., 2002).

According to Anuradha and Rubinas' study (2015) with increasing longevity and a greater proportion of the Indian population over the age of 50 years are likely to result in an increased number of people affected by osteoporosis and in 2012, Mithal and Kaur, estimates suggested that approximately 50 million people in India had T-scores of < –1. Therefore a high prevalence of osteoporosis or osteopenia is expected among Indian population.

The strength of bone as a tissue is determined by the amount of mineral that is there (usually provided clinically as a two dimensional BMD and a T- or Z-score comparing the value with that of healthy sex-matched 25-year-olds or with healthy age matched control individuals, respectively), and the way that mineral is distributed relative to the forces applied to the bone (Amman and Rizzoli 2003). With aging, sex-related differences (not discussed here) in the distribution (geometry and morphology) become more pronounced, and these differences are believed to contribute to increased fracture incidence in the extremely elderly population (Yates L.B. *et al*., 2007).

The DEXA scan and Qualitative ultrasound (QUS) methods are widely used for BMD analysis. Bone has a mechanically anisotropic structure, which ultrasound parameters are thought to reflect which is principle mechanism of QUS method. The velocity (SOS) and attenuation of transmitted ultrasonic waves (BUA) can be measured (Antich *et al*., 1991). QUS measurements are applied to peripheral bone, mostly the Tibia and heel and the WHO has defined Osteoporosis as a T-score at or below –2.5 and osteopenia below –1.0 up to –2.5 (Kroger *et al*., 1995 and Kanis and Gluer 2000).

Kim Beerhorst, *et al*., (2013) studied the feasibility of calcaneal quantitative ultrasonography (QUS) as a screening method for increased risk of osteoporosis in a unique population of people with chronic epilepsy, intellectual disability (ID), and chronic use of antiepileptic drugs. A total of 205 patients underwent dual-energy X-ray absorptiometry (DXA) and QUS of the calcaneus. T-scores for both DXA and QUS were calculated and correlated. Results of 195 patients (95.1%) were successfully measured with DXA and 204 (99.5%) with QUS. High correlations were found between DXA and QUS T-scores: r = 0.666 (QUS versus T-score total femur), r = 0.631

(QUS versus T-score femur neck) and r = 0.485 (QUS versus T-score lumbar spine). All correlations were statistically significant (p = 0.01). Therefore it was concluded that QUS showed a strong correlation with DXA and proved to be a feasible measuring method in a population (S.L. Bonnick and L.A. Lewis 2012). In a study from Njeh *et al.* (quted from S.L. Bonnick and L.A. Lewis 2012), in which the precision of six different calcaneal QUS devices was determined, the short-term precision for SOS, expressed as the root-mean square per cent coefficient of variation (RMS-%CV), ranged from 0.11 to 0.42. For BUA, the RMS-%CV ranged from 1.39 to 6.30. Typically, better precision values are seen for SOS than for BUA. In theory, the speed with which sound passes through bone is related not only to the density of the bone but to the quality of the bone as well. Both bone density and bone quality determine a bone's resistance to fracture. Therefore, the speed of sound through bone can be related to the risk of fracture. When ultrasound passes through a material, the velocity of the sound wave is also related to the elastic modulus and density of the material and it becomes clear that the velocity of ultrasound through bone is directly related to the square root of the product of bone density and bone quality. The velocity with which ultrasound passes through normal bone is quite fast and varies depending upon whether the bone is cortical or trabecular. Speeds of 3,000–3,600 m/s are typical in cortical bone with speeds of 1,650–2,300 m/s typical of trabecular bone. Therefore in present study Tibial QUS method was selected for purpose of studying bone health in Caucasian males and females of Indian origin from Pitampura, Delhi.

Material and Methods

In the present study 160 subjects were encountered out of which 141 subjects consented for study with the age group ranging from 20 – 80 years. Prior to testing subjects were enquired about their medical history and present condition by a MD physician and 138 subjects with stable clinical conditions were selected for the purpose of study. In the moths of June and July 2017, 148 subjects with no pain in spine or lower limbs were studied. 12 subjects were excluded of which 3 males were found clinically unstable for having a history of acute

trauma and current arthroscopic replacement treatment 9 subjects refused to provide their medical data. None of the patients who were included in the study was undergoing corticosteroid injections, oral corticosteroid medication, or alcohol abuse rehabilitation. All 138 subjects were examined by use of quantitative ultrasonography (QUS) method to evaluate their bone mineral density (BMD) at right calcaneus. In order to calculate velocity, ultrasound densitometers. Higher values of SOS indicate greater values of bone density. A second ultrasound parameter is broadband ultrasound attenuation (BUA). This parameter is reported in decibels per megahertz (dB/MHz). Like SOS, higher BUA values indicate greater bone density. Most devices report both SOS and BUA. SOS method was used in present study and BMD at the calcaneus is assessed with QUS, but devices exist that can be applied to the radius, finger, and tibia. As coupling medium between the transducers and the bone ultrasound gel was used for measurements at the calcaneal site (Ibid.).

Results

Table 1

Demographic Data of 148 Subjects with 57 Female and 91 Males with Mean Age and Standard Deviation

Data parameters		*Mean*	*S.D. (±)*
Age	Females (57)	50.75	11.97
	Males (91)	51.81	14.61
BMD	Females (57)	–1.22	0.27
	Males (91)	–1.22	0.41
Systolic Blood Pressure (SBP)	Females (57)	129.89	13.30
	Males (91)	126.75	21.80
Diastolic Blood Pressure (DBP)	Females (57)	79.75	7.57
	Males (91)	77.60	13.02

The statistical analysis was performed using spss 14 and prevalence was calculated by following formula.

$$\text{Prevalence of Osteopenia} = \frac{\text{Number of Osteopenic subject}}{\text{Total number of subject}} \times 100$$

$$\text{Prevalence of Osteoporosis} = \frac{\text{Number of Osteoporosis subject}}{\text{Total number of subject}} \times 100$$

Table 1.2
Prevalence of Osteopenia or Osteoporosis in 148 Subjects with 57 Female and 91 Males

Subjects	*N*	*BMD < –1.0*	*Prevalence (%)*
Total Females	57	37	64.91
Females Age group (70–80)	2	2	100
Females Age group (60–70)	13	6	46.15
Females Age group (50–60)	22	13	59.09
Females Age group (40–50)	9	9	100
Females Age group (30–40)	7	7	100
Females Age group (20–30)	4	0	0
Total Males	91	57	62.63
Males Age group (70–80)	11	6	54.54
Males Age group (60–70)	22	10	45.45
Males Age group (50–60)	29	21	72.41
Males Age group (40–50)	13	12	92.32
Males Age group (30–40)	12	8	66.67
Males Age group (20–30)	4	0	0
Grand Total	148	94	63.51

Z-test was used to identify whether the scores BMD of subjects were significantly different and male and female subjects were compared on the basis of unpaired t-test with unequal variance.

Subjects	*Z-score*	*T-score*	*N*	*Significance*
Females	0.5701	0.5602	N1=57	T value observed at 136 df = 0.845 at $p < 0.05$
Males	0.5181		N2=91	
Df (N1+N2–2)			136	

The statistical analysis found significant variation in values of BMD score of 57 females and 91 males (Z – score Females =0.5701, $p < 0.05$ and Z – score Males = 0.9466, $p < 0.05$). Hence the data reveled significant variation in the BMD scores of population of 148 subjects including male and female subjects.

Comparison between male and females for BMD values were also obtained and no significant difference was obtained (t=0.5602

calculated for two tailed unequal variance, t value observed = 0.845 at df = 136 for p value = 0.05). Hence all male and female subjects were found to have similar BMD scores with no significant difference in male and female scores. However from this data it can be interpreted that both males and females in general have high incidence of bone strength loss with average BMD value = –1.22 being osteopenic. Also in both males and females high prevalence of 60 – 90 per cent between 30 to 60 years age group for decreased bone density < 1.0 was found which indicates towards immediate need of large scale detail evaluation of causative factors for loss of bone strength in adults and middle aged subjects to facilitate its prevention.

Discussion

Osteoporosis is characterized by reduced bone mass and the disruption of bone architecture that results in increased risks of fragility fractures, which are the main consequences of the disease (Anuradha and Rubina 2015).

While data on prevalence of osteoporosis among women in India come from studies conducted in small groups spread across the country, estimates suggest that of the 230 million Indians expected to be over the age of 50 years in 2015, 20 per cent are osteoporotic women. In Indian women, increasing longevity and risk factors, such as low calcium intakes, vitamin D deficiency, sex inequality, early menopause, genetic predisposition, lack of diagnostic facilities, and poor knowledge of bone health, have contributed toward the high prevalence of osteoporosis and fractures (Malhotra and Mithal 2008 and Anuradha and Rubina 2015). The results of present study corroborates with the findings of the previous epidemiological studies however the rate of osteoporosis seems to be increasing in Indian females of north Delhi region Pitampura as the present study data depicts a high prevalence of 64.91 per cent in 57 females studied. This indicates towards the need of immediate steps that should be taken to conduct studies on Indian population with larger sample sizes are needed to identify and treat the probable risk factors associated with it.

A high prevalence of bone strength decrease has been studied in survey conducted by SRL diagnostics in 2015 on Indian men while moderate decrease is found in study by Agrawal and Sharma (2013)

with osteoporosis affecting 8.5 per cent of otherwise healthy males aged 50 years and above with Vitamin D deficiency common in such group and maybe responsible for osteoporosis. In the present study also 62.63 per cent male subjects were found to have decreased bone strength. Therefore high risk of osteoporosis exists in Indian males also which needs more awareness against the common perception that bone weakness is more associated with post-menopausal or household females with less exposure to sunlight (Kadam *et al.*, 2010).

Conclusion

Hence it can be concluded for the studied population in the present study that high prevalence of 55.91per cent in males and 44.44 per cent in females of Indian origin has been found with total prevalence of 52.17 per cent indicating that there is immediate need of larger sample size studies to re-evaluate the status of Osteoporosis disease in India.

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Factors that Influence Choice of Ideal Age in the Quest for Physical Immortality

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ABSTRACT

From ancient time till the present modern time in both advanced and traditional societies many have engaged in the quest for physical immortality or eternal youthfulness. The objective of this study was to determine the ideal age older adults would choose to be if they had the power to make themselves older or younger, and to identify their reasons for the choice of that ideal age. The design for the study was cross-sectional survey. The sample size was 1105 older adults of both male and females aged between 60 and 96 years. Multi-stage cluster, systematic random and accidental sampling techniques were used in getting the samples. The instruments used for data collection were questionnaires and focus group discussions. SPSS and content analysis were used in the analysis. Results show that many of the respondents chose between 20 and 39 years as their ideal age. The major reasons included health and physical strength, to correct past mistakes and achieve unfulfilled dreams. The elders recommended exercise, good dietary practices, observing natural laws, appropriate medication.

Key words: Normal, 20 – 29 years, Health, Physical strength

Staying young or maintaining youthfulness has been the concern of people in the ageing process. This effort to maintain youthfulness is common in the developing communities as it is in the developed world. Over 1,700 years ago Ko Hung, the famous Chinese alchemist preached the idea that physical immortality was within human grasp. He believed that mortal humans could achieve physical immortality by adopting dietary practices not far from today's ever-popular life-extending practice of caloric restriction. Likewise, the 13th century English philosopher and scientist, Roger Bacon believed that declines in the human lifespan occurred since the time of the ancient patriarchs because of the acquisition of increasingly more decadent and unhealthy lifestyles. All that was needed to reacquire physical immortality or at least much longer lives was to, according to Bacon, adopt a lifestyle based on moderation and the ingestion of substances such as gold, pearl, and coral – all thought to replenish the innate moisture or vital substances alleged to be associated with ageing and death (Moody, 2009).

The quest for physical immortality or youthfulness has led to historical adventures. Juan Ponce de Leon discovered Florida in his quest for the fountain of youth which was reputed to restore the youth of anyone who drank from its water. Alexander the Great roamed the world searching for youth unending. The ancient Hindus sought it, the Greek physician, Galen (2nd century AD) and the Arabic Philosopher/Physician (11 Century AD) believed in it.

The search for immortality or eternal youthfulness continues presently. However, the above named ancient purveyors of physical immortality have two things in common: they all grew old, and they all are dead. In spite of this the search continues. Biotechnology now enables heart transplant, tissue transplants, skin growing in the laboratory, cartilage growing in laboratories, bone substitute, breast tissue regeneration, artificial vision, heart valves fixing and other areas in managing diabetes. All these are aimed at immortalizing human body parts and maintaining youthfulness.

Rural communities in Africa lack the complex technologies used in the developed world in fighting ageing. However, men and women apply simple techniques in their quest to combat ageing and maintain youthfulness. In the communities of Edda of Ebonyi State, Nigeria,

women extract solutions from the red wood which they mix with other substances and use in their effort to contain ageing, reduce the growth of wrinkles, achieve smooth skin and maintain youthfulness. Some herbs and roots are used in daily meals as they are reputed to combat ageing. There are local myths of legends that went to the underworld in search of means of conquering death, achieving immortality and eternal youthfulness.

Having read about and observed all the efforts towards immortality and youthfulness, the first objective of this research is to find out ideal age people would want to be if they had the power to make themselves older or younger. The second objective is to know their reason for choosing their ideal age. This research was necessitated by the fact that in Ebonyi state many have observed all the effort towards achieving youthfulness, but none has inquired into why they want to remain young, or the ideal age they would choose to be if eventually physical immortality is achieved.

The objectives of this research, therefore, were:

1. To know how older adults feel about their current age,
2. To ascertain the choice of ideal age of older adults if they had the ability to make themselves younger or older,
3. To find out the folks major reasons for their choice of the ideal age
4. To ascertain what the older adults do to maintain good health or physical immortality.

Literature Review

Much work has been done on human immortality or staying young or maintaining youthfulness. Aubrey de Grey, a Cambridge University genetist believes that life will soon extend dramatically to 1,000 years. According to him, ageing is a physical phenomenon happening to our bodies, so at some point in the future, as medicine becomes more and more powerful, people will inevitably be able to address ageing just as effectively as they address many diseases today. He claims that people are close to that point because of the Strategies for Engineered Negligible Senescence (SENS) project to prevent and cure ageing. De Grey (2009) claims that when these therapies come,

people will no longer all get frail and decrepit and dependent and eventually succumb to the innumerable ghastly progressive diseases of old age. He admits that people will still die, but from crossing the road carelessly, being bitten by snakes, catching a new flu variant, etcetera.

Olshansky (2009) records that the famous 13th Century English Philosopher and scientist, Roger Bacon, also believed that physical immortality could be achieved by adopting 'the secret Arts of the past.' All that was needed to reacquire physical immortality or at least much longer lives was to adopt the Secret Arts of the Past which involved moderation and the ingestion of substances such as gold, pearl, and coral – all thought to replenish the innate moisture or vital substance alleged to be associated with ageing and death.

Much literature abounds on the quest for physical immortality. The Hindus sought it, the Greek physician, Galen from the 2nd century AD and the Arabic philosopher/physician Avicenna from the 11th century AD believed in it (Olshansky, 2009). According to the Economist (2001) Cleopatra is said to have bathed in asses' milk to stay young and beautiful, Juan Ponce de Leon was more famous for his search for the fountain of Youth than for discovering Florida in 1513.

In a critical examination of all these quests and claims, Olshansky (2009) contends that there is no need to exaggerate or over state the case by promising that we are all about to live hundreds or even thousands of years. The fact, according to him, is that nothing in gerontology even comes close to fulfilling the promise of dramatically extending lifespan in spite of bold claims to the contrary that by now should sound familiar. What is needed now is not exaggeration or false promises but rather a scientific pathway to improved physical health and mental functioning. If humans happen to live longer as a result, then people should consider it a bonus (Olshansky, 2009).

Theoretical Orientation

The first theory that is here used as framework for understating this paper is the social exchange theory. In the view of the proponents of this theory, George Casper Homans (1961) and Peter Blau (1964) and Dowd (1975) social interaction is guided by what each person stand to gain or lose from the interaction. Moody (2009) sees social exchange as the idea that interaction in social group is based on the

reciprocal balancing of rewards depending on actions performed. The quest to maintain eternal youthfulness or physical immortality cost resources. In the ritual of ageing, the social exchange theory maintains that individuals continue to expend resources in spite of the cost because of the rewards of physical attractiveness, physical strength, opportunity to correct past mistakes, and achieve unfulfilled dreams.

The next theory is the ageing-clock theory. The ageing-clock theory is a biological theory positing that ageing is programmed into our bodies like a clock ticking away from the moment of conception. The ageing-clock theory is part of programmed ageing, which ageing is seen as a normal part of a sequence leading from conception through development to senescence and finally to death. (Moody, 2009). This theory is important in understanding the quest for eternal youthfulness or physical immortality because the thrust of the purveyors of immortality is to stop the hands of this ageing-clock thereby enabling one to remain eternally youthful.

Methodology

In this study, survey (cross-sectional survey) was the design used. The scope covered older adults, both males and females aged 60 years and above. These research participants were made up of 601 male older adults and 504 female older adults aged between 60 and 96 years old. Of this number of participants 35 were single, 771 were married, 21 were separated, 17 were divorced and had not remarried by the time of the research, while 261 were widowed and also had not remarried by the time of the research. The study covered older adults of varied occupations. As for the sampling techniques, each of the 13 local government areas that formed the state was a naturally occurring cluster. Two autonomous communities were selected from each of the local government areas through simple random sampling that involved balloting techniques. However, due to the fewness of urban areas in Ebonyi State, purposive sampling technique was used to select autonomous communities in urban areas. Compounds in the selected villages from the autonomous communities were counted and numbered and systematic sampling technique was used to select older adult respondents. However, availability sampling technique was

adopted in getting oldest old respondents because of the fewness of older adults in this category.

The instruments used in collecting data were questionnaire and focus group discussions. The questionnaire contained opened and close-ended questions the questionnaire were meant to enable the older adults to voice out their own positions before being presented with alternatives to choose from Analysis.

Study Area

This research was carried out in Ebonyi State of Nigeria. Ebonyi State, created on October 1, 1996, from Abia and Enugu States is in the northern part of the South-East geopolitical zone of Nigeria. Ebonyi State lies between 73CN longitude and 5 4 cE with a land mass of 5,932 square kilometers. Ebonyi State has boundaries in the east with Cross River State, in the West with Enugu State, in the North with Benue State and in the South with Abia State. Ebonyi State has a population of about 2.176, 947. The people live in thirteen local government areas of the state. The people of Ebonyi are Igbo and Speak Igbo with varied dialects. However, there are also non-Igbo speaking indigenous people – the oring who live in Okpoto and Ntezi of Ishielu local government area. English is also widely spoken as the second language.

With its Savannah, tropical and semi-tropical and rich arable lands, the people of Ebonyi are mainly agrarian and grow such crops as yam, cassava, rice, vegetables oil palm and variety of other grains. However, due to the presence of industries, corporations, businesses like banks, factories, national agencies, government ministries, authorities, academic institutions, and international organizations, Abakaliki and Afikpo, urban cities, are known for commercial and white collar jobs. Yet Ebonyi is mainly rural with the paraphernalia of traditionality. For example,, in Edda and Afikpo the Egbela Jew, a variant of African Traditional Religion places men in different social strata and women and uninitiated males are viewed as minors. So males strive to meet many traditional rites or passage in order to quality as 'men'.

Results

Respondents were first asked "how would you describe your health?' Findings show that 46.2 per cent of the respondents described their current health as normal. These respondents were made up of 47.6 per cent young old, 42.2 per cent middle old, and 47.5 per cent old old. 32.1 per cent made up of 231 (35.2%) young old, 35.9 per cent middle old and 15.1 per cent old old described their current health as good. The other 11.1 per cent young old, 5.2 per cent middle old, and 17.9 per cent old old totaling 119 respondents described their current health as excellent. The results also shows that 5.3 per cent of the respondents made up of 2.6 per cent young old, 10.4 per cent middle old, and 7.8 per cent old old described their health as deplorable; while 5.0 per cent of the respondents made up of 2.7 per cent young old, 6.3 per cent middle old, and 11.2 per cent old old respondents described their current health as bad. The remaining 0.5 per cent respondents did not know how to describe their current health. This number was made up of 0.8 per cent young and 0.5 old old respondents. This description of their health wellness by majority of respondents was supported by data from focus group discussions in the study area:

> I feel very good about my current age. I am in charge of my family. I have trained my children, some up to university level. In this community no important decision is made in my absence. I have influence. The people know it and I feel good about it. At my age, I still perform many functions by myself.

The second question was 'How do you feel about your current age?' The result shows that majority of the respondents 57.8 per cent said they felt normal at their present age. Of this number 61.3 per cent, 50.4 per cent and 56.4 per cent were young old, middle old, and old old respondents respectively. Still, 20.2 per cent made up of 20.4 per cent, 26.7 per cent, and 9.5 per cent young old and old old respondents respectively, said they felt good at their current age. The remaining 16.7 per cent of the respondents made up of 14.5 per cent young old, 13.3 per cent middle old and 29.6 per cent old old respondents said they felt excellent at their current age. nevertheless, 41 (3.7%) of the respondents made up of 2.7 per cent young old, 5.6 per cent middle old, and 4.5 per cent old old described their current age as deplorable,

while the remaining respondents consisting of 1.1 per cent young and 4.0 per cent middle old respondents described their current age as bad.

The third question was, 'if you had the ability to make yourself older or younger, what would be your ideal age?' Responses from the participants show that 14.7 per cent of the respondent chose between I and 19 years as their ideal age. Majority of the respondents 65.3 per cent chose between 20 and 39 as their ideal age.

Those who chose between 40 and 59 years were 13.9 per cent of the respondents, while only 2.2 per cent chose between 60 and 79 as their ideal age. The remaining 4.1 per cent of the respondents mentioned 80 years or above as their choice of ideal age, if they had the power to make themselves older or younger.

The next question was 'what is the major reason for your choice of ideal age?' results show that the most reoccurring reason for their choice of ideal age was health/physical strength 45.3 per cent. This reason was given by 46.5 per cent young old, 47.7 per cent middle old, and 43.6 per cent old old. Supporting this reason for choice of ideal age, female participants in focus group discussion posited:

> I know very well that at age 20, I was very healthy and physically strong. I value health and physical strength. So, if I have the ability to make myself older or younger, 20 years is my ideal age.

This was also supported by male participants in focus group discussion who said:

> I have no other major reason for this idea age than that at 28 one is very healthy and physically mature. At that age I was a wrestler in the village. We were feared for our physical strength and exploits. So if I had the power to make myself younger or older I would choose between 25 and 30 years.

The next reason given by the respondents was "to achieve unfulfilled dreams. This reason was given by 16.6 per cent young old, 18.9 per cent middle old, and 12.3 per cent old old, totaling 182 older adult respondents. In a focus group discussion participants agreed with a discussant who posited:

> The reason for my choice of 20 years is that at that age, I will be able to reposition myself to achieve dreams I could not achieve. I wanted to be educated but I had no sponsor and I did not know I could train myself. Many other things I dreamed I could have but could not, if I become younger I will make concerted efforts to achieve many of them. 20 years of age would be an ideal age to start from.

'To correct past mistakes' was the next reason given by 10.2 per cent of the respondents. This was made up of 8.8 per cent, 14.8 per cent, and 8.4 per cent young old, middle old, and old old respondents respectively.

> I think I made some mistake in my life. My late marriage was a mistake. My father was able to train me but I could not complete even a diploma programme I enrolled in. I made money in the civil service as Head of personnel management (HPM) but I have nothing to show for it. If I have the power to make myself younger or older I will be younger (20 years) to enable me correct past mistakes.

'Good physical appearance' was the fourth reason given by respondents for their choice of ideal age. 8.9 per cent per cent made up of 8.7 per cent young old, 5.6 per cent middle old, and 14.5 per cent old old respondents gave this reason for their choice of ideal age. 8.3 per cent of the respondents made up of 7.8 per cent young old, 9.2 per cent middle old, and 8.9 per cent old old participants identified "to enjoy life" as their reason for choice of ideal age. Other reasons given include "to be cared for" (5.9), 'for spiritual reasons' (0.9), 'cherish old age' (3.0), 'that is when life begins' (0.5), and 'to quicken death' (0.5). To quicken was an interesting reason also supported in a focus group discussion among males and females. A female participant posited:

> I chose to be much older so that I die and go. There is nothing to live for. I have no child. I am not very healthy. I have not enjoyed any good thing on earth. What do I live for? My reason is that I may die.

The last question was 'what do you do to maintain good health or physical immortality?' On what the older adults do maintain physical immortality or at least remain healthy, 37 per cent of the respondents reported that their children by drugs for them. An examination of some the drugs showed that they were mainly drugs for treating or

managing certain ailments, pain killers, vitamins or food supplements. Some 23 per cent of the respondents said that they keep fit by continuing in activities like farm work, community work and other businesses. This position was supported by participants in focus group discussion who posited:

> Going to farm is a way of keeping healthy. I perform many tasks by myself. I still go to the stream to bath. I trek to the house of friends and relations to see how they are fairing. I participate actively in community activities. My children have asked me to come and live with them in the city but I refused. If I go there I will become inactive and may soon die.

Those who said that they combat ageing by observing those things their educated children and doctors asked them to observe – restricted calorie intake, sticking to certain types of food and avoiding other types – were 19 per cent. Other 11 per cent of the respondents said they lived their lives normally without any conscious effort to remain healthy while 9 per cent reported that they used local herbs, back of trees, and roots to maintain wellness.

On how older adults can live and experience physical immortality or eternal youthfulness, the respondents said they never thought of the possibility of physical immortality or eternal youthfulness as they have never seen or heard of any immortal or eternally youthful man or woman. They however, added that people could be made to experience wellness in old age and long life which all said they were aiming for. The respondents unanimously suggested that exercising the body, good diets, avoiding acrimonious lifestyle, avoiding diseases, appropriate medication whether traditional or modern, financial well-being, and observing natural laws, as ways of maintaining wellness and indeed long life in old age.

Discussion

We start the discussion by examining the objectives of the study. The first objective was to know how older adults described their health. This knowledge was necessary as their description of their current health status influences what ideal age they would like to be. A great many 57.8 per cent of the respondents described their health as

normal while over 32 per cent of the respondents described their health as good, 10.8 described it as excellent. Information from focus group discussion shows that many older adults felt better health wise than they ever imagined they would feel in their old age. Observation also showed that many with some noticeable disability also describe their health as good, normal or excellent. Note the high percentage of the old old (17.9) who described their health as excellent as opposed to 11.1 per cent of the young old and 14 per cent of the middle old. Note also the high per cent of the old old (11.2) who described their health as bad as against 2.7 young old and 6.3 per cent middle old.

The second objective was to describe how the older adults felt about their current health. Only 5.3 per cent of the older adult respondents reported not feeling well about their current age (3.7 = deplorable; 1.6 = bad). It is worthy of note that no old old respondent reported feeling bad but 4.5 per cent of them said they felt deplorable. 57.8 per cent of the older adults said they felt normal about their current age, 20.2 per cent said they felt good while 16.7 said they felt excellent. Those in the old old category had the highest per cent of those who reported feeling excellent about their current age (29.6) as against 14.5 per cent young old and 13.3 per cent middle old respondents. This finding is in harmony with report of older adults in the United States of America in which over 90 per cent report feeling normal or good in old age (Lindsey and Beach 2004).

The third objective of the study was to ascertain respondents' choice of ideal age. Respondents in both completing questionnaires and focus group discussions were inclined to choosing young adulthood that is, between 20 and 39 years. A whopping 722 (65.3%) chose this age bracket. The focus group participants also reported having this age category in mind if they had the power to make themselves older or younger. 162 chose between 1 and 19 years as their ideal age while 151 chose middle age, that is, between 40 and 59 years. Only 70 (6.3%) said they would choose between 60 years and above.

The fourth objective of the study was to find out respondents' major reason for their choice of ideal age. There were no options for the respondents to choose from. They were allowed to voice out their feelings. Respondents gave series of reasons for their choice of ideal age. majority of the respondents,, 501 (45.3%), made up of 305 (46.5%)

young old, 118 (47.7%) middle old, and 78 (43.6%) old old respondents, gave health and physical strength as the major reason for their choice of ideal age. This reason is in harmony with much literature which emphasizes objective aspects of ageing well (De Grey, 2009; Erber, 2004; Moody, 2009). Note the near consistency in per cent of the different age categories.

The reason given by 182 (16.5%) of the respondents for their choice of ideal age was 'to achieve unfulfilled dreams.'

'To correct past mistakes' was the reason given by 10.2 per cent of the respondents for the choice of their ideal age. The past mistakes were sources of regret to the older adult respondents:

About 8.9 per cent of the respondents said that the reason for the choice of ideal age was for 'good physical appearance: that is to look good and be admired." An insignificant 0.5 per cent gave an interesting reason for their choice of ideal age – to quicken death. In a focus group discussion, a woman who gave this reason lamented "I have no child, no husband and nothing good in this life, including my chronic ill health. I chose 98 years in order to draw close to death and be no more, and bring life problems to an end." A further 8.3 per cent of the respondents said the reason for their choice of ideal age was to enjoy life. The category of elders who gave this reason chose between 16 and 21 years.

Other reasons given by the respondents for their choice of ideal age include 'to be cared for' (5.9), for spiritual reasons' (0.9), 'cherish old age' (3.0) and simply 'because that is when life begins' (0.5).

Most of the approaches adopted by the elders in the study are peculiar to their sociocultural milieu. Owing to their limited knowledge of modern medicine, they depend on the drugs provided by their children. In harmony with the activity theory of ageing elders here also appreciate the importance exercise in maintaining will-being (DuBois and Miley, 2010; Erber, 2005; Moody, 2009). Not having enough knowledge of modern ways of fighting ageing, many elders here also depend on education or instructions from their children to keep fit.

Some of the recommendations made by the older adults on how to age well or live long are in agreement with literature on this theme.

Exercise, good dietary practice, financial well-being and medication are in harmony with extant literature (Rowe and Kahn, 1998; Erber, 2005; Moody 2009). The other recommendations are peculiar to their sociocultural environment.

Conclusion

This study was aimed at finding out the factors that influence choice of ideal age in the quest for eternal youthfulness or physical immortality, and to know the ideal age respondents would choose to be if they had the power to make themselves older or younger. The findings show that the ideal age most people would like to be, if they had the power to make themselves younger or older would be between 20 and 39 years. The most recurring reason for choice of ideal age was health/physical strength which is in harmony with the activity theory of ageing (Erber, 2005; Moody, 2009; Marcionis, 2010). Other reasons for choice of ideal age included to achieve unfulfilled dreams, to correct past mistakes, good physical appearance, to enjoy life, to be cared for, to quicken death, and because they cherish old age for those who chose to be 80 years or above. The findings are also related to the theories of social exchange and the ageing-clock. People spend much to maintain youthfulness. However Olshansky (2009) cautions against falling for the cult of immortality. According to him, physical immortality is seductive but nothing in gerontology even comes close to fulfilling the promise of dramatically extending lifespan.

These are minority responses but cannot be ignored. 'To be care for' was a reason given by some of those who were being adequately taken care of by children. They enjoy and so cherish old age. Spiritually is a strong phenomenon in old age. Hence some just responded 'for spiritual reasons'. The methods adopted by elders in this study area are also worthy of note. They should be scientifically verified to ascertain their efficacy or otherwise.

The two *theories* used as framework for understanding this work proved to be very important. Social exchange theory of Homans (1961). Blau (1964) and Dowd (1975) proved helpful in understanding why people spend so much in exchange for physical attractiveness and to maintain physical youthfulness and dread old age. On the other

hand, the ageing-clock theory enables us understand that the ageing process is programmed, in-built in the body system, and keep ticking from conception to death. This theory enables us understand that the efforts of the purveyors of physical immortality is to stop this clock from ticking away their youthfulness, so that people will live without getting old. However, no matter the degree of exchange and the efforts at stopping the hand of the clock, people age and die. The purveyors of eternal youthfulness or physical immortality have some relevant things in common: they grow old; they all died.

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Hospice Care in USA

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ABSTRACT

Hospice in the United States is an alternative to traditional methods of caring for the terminally ill. In addition to providing skilled medical services to the patient in the home or nursing facility, hospice also seeks to holistically meet the social, emotional, and spiritual needs of the patient, caregiver and family.

Key words: Hospice, Holistic approach, Respite Care, Continuous Nursing Care

Hospice care can be traced back to pre Christian era Greece. During the 8th century, known as the Homeric times, a wanderer would be treated as a guest and offered food, clothing, shelter and a gift. The host providing these offerings was considered to be performing duties of hospitality (Edelstein, 1967). The hospice care concept has been recorded in fourth century Rome. A wealthy Roman lady named Fabiola, used her personal finances to care for the sick and terminally ill.

During the Crusades in 1095 to the end of the seventeenth century, weary travelers also found places of refuge in monasteries and nunneries. Often they were in ill health and many spent their last days cared for by monks, nuns and wealthy lay women.

The name hospice was first applied to the care of dying patients by Mme Jeanne Garnier who founded the Dames de Claire in Lyon, France, in 1842. In Ireland, Sister Mary Aliknhead of the Irish sisters of charity established Our Lady's Hospice in 1846 to assist people transverse the last stage of their life. In 1905, the sisters of charity expanded the concept of community based hospice care, opening St Joseph's Hospice in London, England.

In 1967, Dame Cicely Saunders started St Christopher's Hospice after being inspired by a patient named, David Tasma. Dame Saunders' ideas have spread around the world, which gave her the reputation of being the founder of the modern hospice movement (Hayslip and Leon, 1992). St. Christopher's Hospice has served as a model for service, research, and teaching in South London and the global community.

The hospice concept spread to the United States in 1974. Using Dr Cicely Saunders as an inspiration, The Hospice of Connecticut was established in New Haven, Connecticut. The latest information according to the Centers for Medicare and Medicaid services (CMS) is that there are 3,071 Medicare certified hospice providers in the United States (CMS, 2008).

Understanding Hospice Care

The term "hospice" is a derivative of the word hospitality which comes from the Latin word *hospes* which means to host a guest or stranger (Barker, 1995). Hospice is a type of care for patients who are close to dying from an illness. Hospice is not a place but a concept of care that is recognized as the model of quality, compassionate health care delivery for people facing life-limiting illness.

Americans want to be sure that their wishes are enforced. Americans want to choose the types of services they can receive; pain control to be tailored to their wishes, and emotional support for their family. Americans are willing to have an outside organization come into their homes and assist with care for a family member in the last stage of life. Hospice care addresses these major concerns of most Americans.

There are four levels of care provided by hospices in the United States (Florida Hospices, 2008). Every patient receiving hospice services will be on one of these four levels. A hospice patient can move from one level to another and back, depending on the services required, fulfilling his or her needs. The need of the patient will determine their individual level of care. The four levels of care provided by hospices in the United States are:

1. *Routine Home Care:* A patient will be placed at this level of care if he or she resides at home (or a long-term care facility) and does not have symptoms which are out of control. These symptoms could include – but aren't limited to – severe pain, continuous nausea and vomiting, bleeding, acute respiratory distress, and unbearable restlessness or agitation. The needs of the patient determine the number of visits from hospice staff members. These needs are established and outlined in a plan of care formed by the hospice team and the patient's physician. The care plan serves as a guideline to assist all those serving the patient with care. At this level of care the patient also has access to an on-call hospice nurse twenty-four hours a day.
2. *Inpatient Care:* A hospice patient may require inpatient care when his or her symptoms have gotten out of hand and can no longer be managed at home. When these symptoms cannot be controlled by routine home care, then the patient requires extra attention until these symptoms subside. Hospices take aggressive actions to control the symptoms and make the patient comfortable. In order to do this, the patient may be temporarily placed in a hospice home or an acute care hospital. At this level of care, a moment-to-moment assessment of what's happening and what needs to be done takes place. The hospice team and the patient's physician work together to ensure the patient obtains and maintains a tolerable comfort level. Once this has been achieved, the patient will return home and back to routine home care.
3. *Respite Care:* A patient may be moved to respite care when the caregiver needs a break. Many hospice patients live at home, with their family providing most of the care, sometimes around the clock. Caring for their loved one can be exhausting and very

stressful. The family members and/or caregivers need time to themselves and it's important that they take that time. Respite care allows a patient to be temporarily placed in a facility with 24-hour care so the family can rest. If the patient is willing and the family requests it, hospice must provide placement in a facility or a hospice home for the patient. The patient will be transferred to the facility, and according to Medicare regulations, can stay for up to five days before being transferred back home.

4. *Continuous Nursing Care:* A patient would receive continuous nursing care if he or she has symptoms that are out of control and chooses to stay at home. This is similar to inpatient care, except that the patient remains in his or her home instead of being placed in a facility. A hospice nurse is required to provide continuous around-the-clock nursing care if the symptoms cannot be controlled while on routine home care.

The Holistic Approach

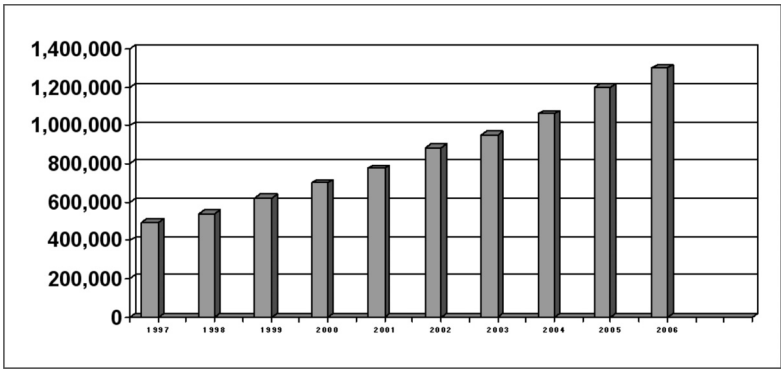
Most hospices in the United States use an interdisciplinary approach to hospice care. The interdisciplinary approach is a team of professionals who contribute or bring their individual knowledge and skills to the hospice interdisciplinary team. The interdisciplinary team is composed of the patient's attending physician, the hospice medical director, registered nurses, social workers, home health aides, clergy or spiritual counselors, bereavement counselors, and trained volunteers. Other team members who play important roles in the patent's care are physical therapists, art therapists, dietitians, music therapists, and pharmacists (NHPCO, 2006). Although certain of these professionals may perform specific tasks or responsibilities, there is overlap in the services because, using a holistic approach in hospice care, the patient's and family's welfare is the main concern of the interdisciplinary team.

Number of Patients Served by Hospice in 2006

The National Hospice and Palliative Care Organization (NHPCO) estimates that 1.3 million patients received services from hospice in 2006, a 162 per cent increase in 10 years. This estimate includes approximately 8,70,000 patients who died under hospice care,

Figure

Number of Patients Served by Year



NHPCO, 2006

another 2,10,000 who were admitted to hospice in 2006, and approximately 2,20,000 patients who were discharged alive. NHPCO estimates that approximately 36 per cent of all deaths in the United States in 2006 were under the care of a hospice program.

Percentage of Hospice patients by Race in 2006

Caucasian	80.9%
Multiracial or Other Race	8.8%
Black/African American	8.2%
Asian, Hawaiian, or other pacific Islander	1.8%
American Indian or Alaskan native	0.3%

NHPCO, 2006

Cancer patients made up the largest percentage of hospice admissions when the US hospice community was established in the 1970's. In 2006, cancer diagnoses account for fewer than half of all hospice admissions. The top five chronic conditions served by hospice include heart disease, debility unspecified, dementia, and lung disease.

Hospice Admissions by Primary Diagnosis in 2006

Cancer	44.1%
Non-Cancer Diagnoses	55.9%
Heart Disease	12.2%

Cont'd...

... Cont'd

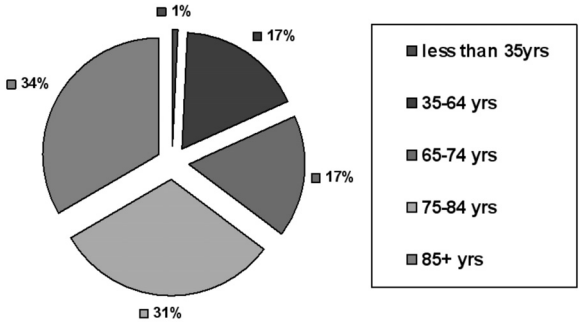
Debility Unspecified	11.8%
Dementia, including Alzheimer's Disease	10.0%
Lung Disease	7.7%
Stroke or Coma	3.4%
Kidney Disease	2.9%
Motor Neuron Diseases	2.0%
Liver Disease	1.8%
HIV/AIDS	0.5%
Other Diagnoses	3.7%

NHPCO, 2006

The majority of hospice patients in the United States are 65 years or older. This is expected to increase as the U. S. population ages. There are more than 40 million Americans over the age of 65; in the next thirty years that number is expected to double. People over the age of 85 are the fastest growing segment of our population. It is estimated that there are more than 72,000 people who have reached 100 years of age. In the next fifty years that number is expected to reach 8,34,000 (NHPCO, 2006).

Figure

Percentage of Patients Served by Age Group in 2006 (NHPCO, 2006)



Reimbursement for Hospice Care

The Medicare Hospice Benefit, enacted by Congress in 1982, is the dominant source of payment to hospice providers. Medicare will pay for hospice services if the patient has Medicare Part A or has been disabled for more than two years. Most private insurance companies

will also pay for hospice care. There also exist charity care programs that do not seek federal reimbursement for patient care, but instead rely on grant funding and community donations for support.

Per cent of Patients Served by Payer in 2006

Medicare	83.7%
Medicaid	5.3%
Private Insurance	8.0%
Charity Care	0.7%
Other Payment Source	0.7%

NHPCO, 2006

Conclusion

Hospice is an integral component of care for patients with advanced illness. The system of hospice care provided in the United States has been successful by virtually any measure. One of the most dramatic measures of success has been the growth in beneficiaries. Most hospice patients are dying in the place they call home. In 2006, three out of every four hospice patients died in a private residence, nursing home or other residential facility versus acute care hospital settings.

Over 90 per cent of hospice care is delivered in patients' homes, although the hospice program that directs the care may be based in medical facilities. Home health agency programs care for patients at home, while hospital-based programs may devote a special wing, unit or floor to hospice patients. Most hospices offer a combination of services, inpatient and home-care programs, allowing patients and families to make use of either or both as needed. The goal of hospice is the creation and maintenance of warm, comfortable, home-like environments.

Although hospices in the United States accept patients from all religious backgrounds and faith traditions, outreach and increased access for diverse populations is also necessary. Greater understanding of service delivery as well as its impact on patient and family outcomes and satisfaction with hospice care is a critical subject for future research. Changes in Medicare's reimbursement policies may help

hospices increase the range of services provided to patients and families.

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Mobile Apps for Active Ageing

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ABSTRACT

The first part of the paper provides a body of literature on ageing, active ageing and clear definitions of key terms. The second part explores and discusses mobile apps to help the seniors to integrate them into daily environments in a practical way, making it easy for application in their own particular needs and enhancing the quality of life. The technology discussed in the paper ranges from the very basic apps to the very advanced apps having accessible features which can be simply turned on. Overall, this paper introduces mobile apps for elderly in a user-friendly way. It throws light on how to reach a vast number of elderly people and ensure the access or the use of these mobile apps. With appropriate policies, programmes and practices, seniors can remain active, independent and healthy.

Key words: Mobile, Apps, Ageing, Senior citizens, Empower

'You can't teach people everything they need to know. The best you can do is position them where they can find what they need to know when they need to know it.' – Seymour Papers

This paper provides an opportunity to foster a shift in our thinking about what it means to be ageing, stimulates active ageing and involves innovative thinking. It involves some sort of 'competence thinking': the historical focus on what older adults can no longer do (i.e. their deficits), is replaced by an emphasis on their competence and

knowledge (Jacobs, 2004). This will transcend outdated ways of thinking and inspire the development of transformative approaches. The driving mantra of the digital age is that ageing do not necessarily result in disability; with appropriate support, seniors can continue to carry out their desired activities. The evolution of smartphone apps and their growing relevance in the day-to-day life seem to have given a rise to the new niche segment of mobile data users in India. As per a study released by Telenor, 6 per cent of the total mobile phone users in India are over 50 years and only 1 per cent among them use mobile internet (telecomtalk.info). Latest findings reveal that the proportion of people from higher age-group using mobile data has witnessed sharp surge between 2013 and 2015 (India appendix of Ericsson Mobility Report). It also reveals that the rise in the proportion of older users in the overall mobile data users is seen as an outcome of the rapid growth of smartphone-based apps that includes social media apps, knowledge/information apps, and health and entertainment/leisure apps. The use of these mobile apps can contribute to the new active ageing paradigm (Joshi *et al.*,, 2015) In a changing and technologically advanced world, lifelong learning is fundamental to avoid exclusion and to guarantee adaptation to the norm (Jiménez, 2011). But the question is when will they become truly useful and usable for those with the most at stake: seniors with multiple problems and needs?

Objectives

The objectives are outlined to provide momentum to a stimulating conversation on ways mobile apps can help promote active ageing:

- Understand the needs and difficulties of the seniors
- Explore the innovations, i.e. easy-to-use mobile apps
- Facilitate holistic development by creating m-enabling environment
- Appreciate the ability beyond disability

Age and Ageing

> 'Ask people about ageing in our society, and everyone has a view. Most would think it widely known that older age is a time of declining mental and physical function, worse health, and economic

> and social dependency. The elderly are a 'problem'. Indeed, a small number of people over the age of 65 fit this stereotype. Most do not. What is striking about the health and social circumstances of older people in society is how variable the picture is, ranging from this rather depressing stereotype to that of vigorous octogenarians, economically and socially independent, with little disability, wide social and cultural interests and much to contribute to society.' (Marmot M. and Richard Wilkinson, 2005)

Recent statistics reveal that 8.6 per cent of India's 121 crore population belongs to the seniors. As shown in Table 1, the number of seniors over the age of 60 jumped 35.5 per cent from 7.6 crore in 2001 to 10.3 crore in 2011.

Table 1
India Ageing

Population	*121 Crore*	*Women*	*58.76 Crore*
Over 60	10.39 Crore	Over 60	5.28 Crore
% Share	8.6%	% Share	9%
Men	62.3 Crore	Over 60 in 201	7.6 Crore
Over 60	5.11 Crore	Over 60 in 2011	10.3 Crore
% Share	8.2%	% increase	35.5%

Source: Ministry of Statistics, The Indian Express, 2016

Today's young people will be part of the 2 billion-strong population of older persons in 2050. A better world for younger people today will mean a better world for older persons in 2050. With one in nine persons in the world aged 60 years or over, projected to increase to one in five by 2050, population ageing is a phenomenon that can no longer be ignored. In the next 10 years, the number of people over age 60 will surpass one billion (UNFPA and Helpage International 2012). As per a recent study (Govt. of India, 2016). nearly 100 million people in India belong to senior citizens sector which remains untouched and uncovered. India had 90 million elderly persons in 2011, with the expected number to grow to 173 million by 2026. State of elderly in India the Report says that although India will be the youngest country in the world by 2020 with a median age of 29 years, the number of elderly people is likely to increase significantly after that.

The definitions of "old" go beyond chronological age. Old age as a social construct is often tagged with a change of social roles and activities. Older persons often define old age as a stage at which functional, mental and physical capacity is on the decline and people are more prone to disease or disabilities. They experience a decline in a wide variety of abilities such as vision, hearing, mobility and cognition that impact on various aspects of their everyday lives. As a result, they often need a greater degree of support in carrying out tasks and activities. Studies indicate that in most cases this leads to a feeling of complete isolation, neglect and loss of confidence and self-worth leading to depression and health problems.

The rise of smaller families and the increase in migration for work often mean that fewer children are at home to share physical, emotional and financial responsibilities for ageing parents and grandparents. This has the potential to lead to social exclusion, isolation and even abuse of older people, as well as to an increasing mismatch in intergenerational expectations. The deteriorating physical strength and other geriatric illness add to the difficulties of the elderly. With declining support from families, society will need better information and tools to ensure the well-being of the growing number older citizens.

There is a felt need to understand their needs, and the obstacles they face when it comes to living a normal/healthy life. But how can we create solutions that can help older people become more active in their everyday life? Being disconnected leads to isolation and depression. So there's a significant incentive to getting people connected (Colin Milner, the Chief Executive of the International Council on Active Aging). A World Health Organisation study reveals that by 2020, the second-leading cause of death globally would be depression, behind heart disease.

'Active Ageing' Paradigm

It is an opportune time to consider the definitions of new ageing. Active ageing is viewed as the process of optimising opportunities for health, participation and security in order to enhance quality of life as people age (World Health Organisation, 2002). The Madrid International Plan on Ageing (2002) focusses on its three pillars, namely:

Older persons and development, Advancing health and well-being into old age and Ensuring enabling and supportive environments. The concept of active aging is summed up in the phrase "engaged in life." Individuals can participate in life as fully as possible, regardless of socio-economic status or health conditions, within the wellness dimensions. The concept of wellness moves the definition of health and well-being away from a mindset based in the management of disease and into the areas of prevention and proactive strategies. We can change the way we age by staying active, to the fullest extent possible, within all areas of life: physical, social, spiritual, vocational, emotional, environmental and intellectual. Ageing within these dimensions of wellness keeps us involved, alert and enjoying a productive life.

Figure 1

Dimensions of Wellness (International Council on Active Ageing)

Ageing takes place within the context of friends, work associates, neighbours and family members. This is why interdependence and intergenerational solidarity are also important tenets of active ageing.

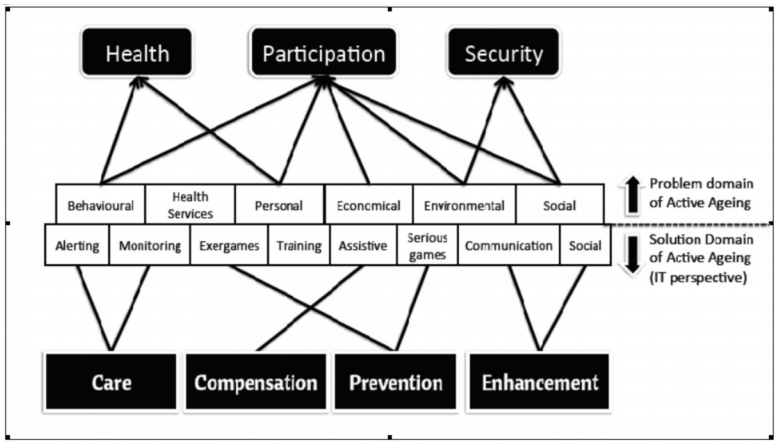
> The beauty of this strategy is that it is good for everyone: from citizens of all ages as ageing individuals in terms of maximizing their potential and quality of life, through to society as a whole, by getting the best from human capital, avoiding intergenerational conflicts and creating a fairer, more inclusive society (Walker, 2002).

Autonomy, self-determination and choices are stated to be the core dimensions in one's life. The determinants of active ageing

discussed in the Wisdom Years, Ageing into the 21st Century are: Health and Social Services, Behavioural Determinants, Personal Determinants, Physical Environment, Social Determinants and Economic Determinants. Active Ageing policies also enable people, as they grow older, to lead independent lives, making their own choices about how to shape their lives in all its spheres.

IT enables an active ageing originated from the literature of Gerontechnology, an interdisciplinary field devoted to "the study and design of technology and environments for independent living and quality of life of older adults". An IT perspective of the problem and solution domains of active ageing (Parra, C. 2014) is shown in Figure 2:

Figure 2
Problem and Solution Domains of Active Ageing



Mobile Apps for Active Ageing

Technology is to get a job done. That synergy – bringing the people together with the technology that empowers them to do so – will be the true sign of useful innovation for active ageing. The literature search was informed by the following research questions:

- Can we use the mobile apps to create solutions that can help older adults to become more active in their everyday life?
- What are some of the relevant mobile apps for the seniors?
- What is the level of evidence for the effectiveness of mobile apps?

Figure 3
Examples of Mobile Apps (Source: Google Play)

The paper tries to understand how mobile apps can aid seniors in achieving the goals of an active ageing. The apps offer opportunities, they are likely to have fundamental impact on the way seniors live, their lives, the things they aspire to and the ways they relate to others. The ideas in Table 2 are about some carefully chosen mobile apps and their ability in matching senior citizen's specific needs (Charness and Boot, 2009).

Table 2
Mobile Apps and its Effectiveness

Needs	Mobile Apps	Effectiveness
☞ Personalization	☞ HelpAge SOS	☞ Easy-to-Use
☞ Social	☞ iCare Blood Pressure Monitor	☞ Visible
☞ Health and Care	☞ Magnifier + Flashlight	☞ Usable
☞ Safety	☞ Fever Check Thermometer	☞ Acceptable
☞ Leisure	☞ Medication Reminder (Medica)	☞ Connecting
☞ Entertainment	☞ Voice Reading, Meditation	☞ Engaging
☞ Cashless Transaction	☞ BHIM APP, Old Hindi Songs Call Ambulance	☞ Sustainable Solution

The apps can be used to transform cutting-edge technologies into easily accessible tools for everyday chores, social experiences, and entertainment. However, many apps-even those designed for any age group – aid the lives of older adults and give them helpful tools for making everyday life easier. The apps are mainly evaluated by the following inclusion criteria: usefulness, easy to use and acceptability. According to the Gerontologists, learning new technology skills lessens isolation, keeps one active. The paper looks at possibilities of enabling and supportive environments. The exploratory ideas about

the mobile apps for active ageing: new trends from wellbeing to cashless transaction are discussed to gain insight on m-enabling strategies to enhance the quality of life (Cortés *et al.*, 2003).

Seniors will find the Voice Reading app very helpful when they have trouble viewing small text on phone screens or want to check messages. This reads text aloud from the internet, emails, messages, and even text files. One can choose from a variety of language and accent settings to better understand the app's voice.

Medica is a medication reminder that helps one organise one's medication list and get reminded to take the right medication at the right time. Seniors can enjoy flexible medication schedule options, pill and refill reminder, and easy medication log tracker. The app allows one to save the medication name and dosage, capture photo of the medicine, and set schedules of when to take them. This app alerts one when it's time to take the pill or medicine.

The paper looks at m-enabling, especially for the elimination of inconvenience, abuse and violence. Senior Citizen HelpAge SOS App provides emergency service to senior citizens in need such as abuse, accident and rescue. It consists information on rights and entitlements, health, financial planning, will and legacies, active ageing and how to tackle elder abuse. It serves as an aid to the elderly in times of distress or in case of medical emergencies.

Figure 4
Screenshots of HelpAge India App

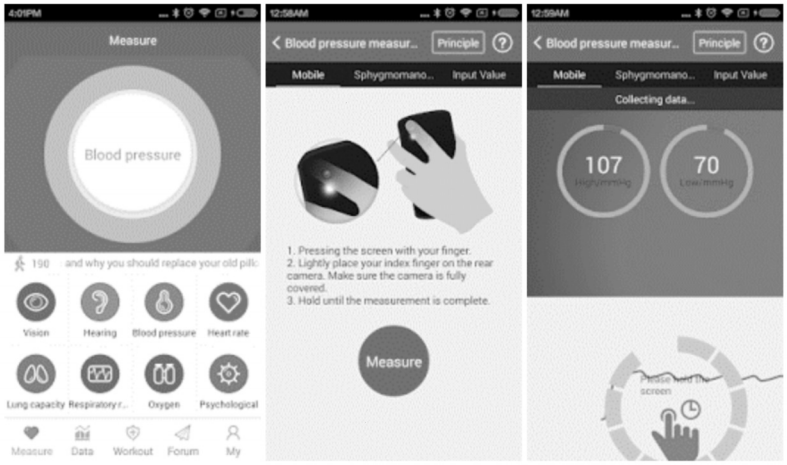
Fever Check Thermometer app allows to measure the fever, or at least have a rough indication, by means of the camera, it calculates the body temperature and the level of fever by analysing the number of heartbeats, because the heart rate is influenced by fever.

Call Ambulance is another platform where emergency providers have to be on a network. The application can be used to get the family informed, build one's own blood donor friends network.

iCare Blood Pressure App measures blood pressure. Other functions include blood pressure data management and analysis.

Figure 5

Screenshots of iCare Blood Pressure App



Magnifier + Flashlight is another app used to magnify text or anything else.

With the Meditation App the seniors can take a deep breath, relax and meditate with the best selection of meditation music and find inner peace and calmness.

There's an app 'The Bharat Interface for Money (BHIM) App' for cashless transactions. It is easy to operate. The BHIM gives an easy method of payment and fund transfer. One can transfer fund to any bank account without registering the payee beforehand. BHIM transfers money immediately anytime, even on holidays or night.

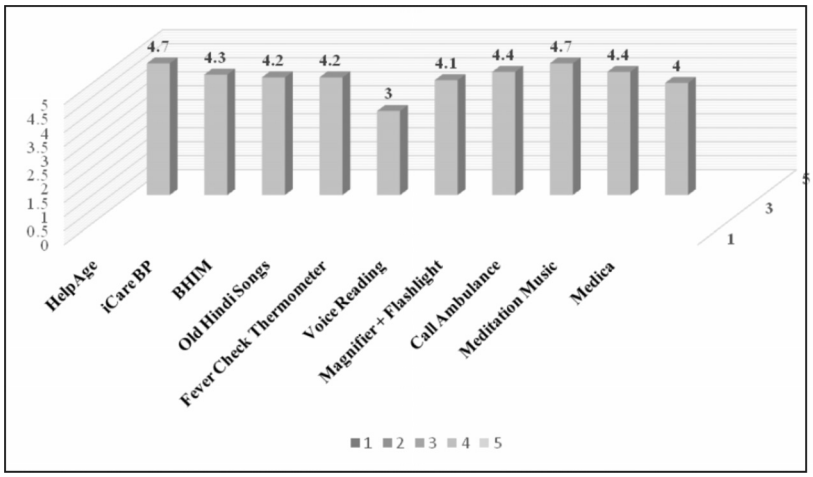
There is no need of internet banking activated to use this app. It provides a link to directly call the respective bank if there is an issue.

Old Hindi Songs is a music App that has been especially created for music fans who love listening to Old Hindi Music. Senior citizens can enjoy these evergreen old Hindi songs and watch these videos anywhere, anytime on the mobile.

Social participation and social support are strongly associated with good health and well-being throughout life. Participating in leisure, social, cultural and spiritual activities in the community, as well as with the family, allows older people to continue to exercise their competence, to enjoy respect and esteem, and to maintain or establish supportive and caring relationships. The new elderly define the potential for entertainment and leisure offered by the internet, mobile and apps as a playmate that contributes to their physical and psychosocial well-being. Social networking and care coordination technologies such as special Facebook apps, WhatsApp allow communities of older adults to connect, share knowledge, and provide support to other older adults and their care providers.

The online app reviews are presented in Figure 6 to motivate, coach or track the progress of the older adults or just to power their exercise with great music for active ageing.

Figure 6
Online Reviews



Conclusion

The mobile apps have profound implications for seniors. This paper has reviewed the literature and best apps that can address some of the needs of the seniors. People everywhere must age with dignity and security, enjoying life through the full realisation of all human rights and fundamental freedoms. In order to face the challenges of life, in particular, technology use, and also take advantages of the opportunities, this paper calls for new approaches to the way that we structure our societies, our workforces, and our social and intergenerational relations. It is hoped that the key recommendations will contribute to a framework for strengthening active ageing:

- Understanding the perceptions of the older individuals regarding technology/mobile app use.
- Implementation and evaluation to promote mobile apps for active ageing
- Create an m-enabling inclusive opportunities for seniors
- Provide handhold support in using the mobile apps to amplify the abilities and strengths committed to making life better for seniors.
- Introduce free courses on technology/mobile app use for senior citizens
- Conduct case studies with senior users by trying carefully chosen mobile apps to ensure whether or not the apps fulfil their needs.
- Create a trained workforce of ageing – facing people who implicitly understand that technology is how to get a job done.

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Socio-Economic and Health Status of Elderly in Rural and Urban Areas of Mysore District: A Case Study

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ABSTRACT

The elders in the society used to receive lot of prominence in their families in the older days because of strong bondage among family. But due to changes in the family values, leading to loosening of the bondage the elders are not getting as much importance as they used to get earlier. This situation is responsible for drastic changes in the socio-economic and health status of the elders. It is in this context the present study was planned to analyse the socio-economic and health status of the elders in rural and urban areas of Mysore district. The present study is based on the field survey carried out by the researchers. Out of 1,242 villages in Mysore district, 12 villages (1% samples) were selected. On the other hand, out of 193 wards in eight urban centres, 10 wards (5% samples) were selected by random sampling technique. Total 570 elderly 60 years and above (357 from rural areas and 213 from urban areas) of both the sexes were selected for thus study. These subject were interviewed individually. The study revealed that the elders especially elderly women, have relatively poor socio-economic and health status especially in urban areas. Therefore, it is concluded that, elders especially women need better care, more facilities from the government and the family.

Key words: Elders, Socio-Economic, Health status, Rural-Urban, Family

Changes in the socio-economic aspects of the society lead to changes in the bondage of family values which in turn lead to changes in the attitude of the people towards the elders in the society. The elders in the society used to receive lot of prominence in the family in the older days because of strong bondage. But due to changes in the family values, resulting in loosening of the bondage the elders are not getting as much importance as they used to during earlier times which is responsible for drastic changes in the socio, economic and health status of the elders.

In the earlier days the elders used to receive significant importance and were considered as imparter of wisdom, knowledge and advice. They received high social recognition and they were involved in making most of the family decisions, but this scenario is undergoing a tremendous change in recent years. Our society is experiencing a decline in bondage in the family system. Therefore, the elder people will have to face a number of problems like loneliness, disappointment, insufficient income, social insecurity, etc. which lead to changes in their social, economic and health status.

It is in this context the present paper aims to analyse the socio-economic and health status of elders in both rural and urban areas of Mysore district.

METHOD

Sampling

The study covers Mysore district as a whole. The taluks and wards (rural – urban parts) form the units of analysis. The present study was entirely based on the primary data collected by random sampling method.

Selection of Sample Villages and Cities

Out of 1,242 villages in Mysuru district, 12 villages (1% samples) were selected. On the other hand, out of 193 wards in eight urban centres, 10 wards (5% samples) were selected by random sampling technique.

Total 570 elderly (from rural areas N=357, male=165 and female=192 and from urban areas N=213, male=99 and female-114), age varying from 60 years and above of both the sexes (male=264 and female=306) were selected randomly for this study. For area wise detailed information about the respondents see Table 1.

Table 1.
Percentage of Distribution of Elders by Age and Sex Groups and Place of Residence

Taluks		*Proportion of Young Old Age Population (60–69)*			*Proportion of Adult Old Age Population (70–79)*			*Proportion of Oldest Old Age Population (80 +)*		
		Total	*Male*	*Female*	*Total*	*Male*	*Female*	*Total*	*Male*	*Female*
Periyapatna	R	9(43)	5 (50)	4 (36.3)	6(28.5)	3(30)	3 (27.2)	6(28.5)	2 (20)	4 (36.3)
	U	3(50)	1(50)	2(50)	2(33.3)	1(50)	1(25)	1(16.6)	0(0)	1(25)
Hunsur	R	34(53.1)	18(60)	16(47)	19(29.6)	8(26.6)	11(32.3)	11(17.1)	4(13.3)	7(20.5)
	U	7(50)	4(67)	3(37.5)	5(36)	2(33)	3(37.5)	2(14)	0(0)	2(25)
K.R. Nagara	R	26(53)	13(56.5)	13(50)	18(36.7)	08(34.7)	10(38.4)	5(10.2)	2(8.6)	3(11.5)
	U	11(69)	4(57)	7(78)	4(25)	3(43)	1(11)	1(6)	0(0)	1(11)
Mysore	R	41(50.6)	20(52.6)	21(48.8)	27(33.3)	13(34.2)	14(32.5)	13(16)	5(13.1)	8(18.6)
	U	96(63)	47(64)	49(61.2)	37(24)	18(25)	19(24)	20(13)	8(11)	12(15)
H.D. Kote	R	15 (62.5)	7 (70)	8(57.1)	8(33.3)	3(30)	5 (35.7)	1 (4.1)	0(0)	1(7.1)
	U	4(80)	2(100)	2(67)	01(20)	0(0)	01(33)	0(0)	0(0)	0(0)
Nanjangud	R	42(45.1)	20(46.5)	22(44)	31(33.3)	14(32.5)	17(34)	20(21.5)	9(20.9)	11(22)
	U	7(70)	4(80)	3(60)	3(30)	1(20)	2(40)	0(0)	0(0)	0(0)
T. Narsipura	R	13(52)	6 (54.5)	7(50)	9(36)	4(36.3)	5(35.7)	3 (12)	1(9.0)	2(14.2)
	U	7(78)	4(100)	3(60)	1(11)	0(0)	1(20)	1(11)	0(0)	1(20)
Total	R	180(50.5)	89(53.9)	91(47.3)	118(33)	53(32.1)	65(33.8)	59(16.5)	23(13.9)	36(18.7)
	U	135(63)	66(67)	69(60.5)	53(25)	25(25)	28(24.5)	25(12)	8(8)	17(15)

Source: Survey data

Figures in parenthesis indicate per cent.

It is interesting to note that in the respondents of age group of 80+ years, both rural and urban areas, were found to have higher share of female aged population when compared to male elders. It shows that the intensity of the process of population ageing is more among female elders than male elders, more so in rural areas.

It was also noticed that, there is a sharp decline in the proportion of elders with the rise in the age. The largest shares of the elderly constituting around 50 per cent were in the age group of 60–70 years.

Data Collection

These respondents (N=570) were contacted individually by the researcher. The data were categorized and analyzed on the basis of following variables:

Social Status of Elders

To determine the social status of the elders, four parameters were used:

a. Marital status
b. Educational status
c. Living arrangements
d. Headship

Economic Status

Two variables were included to examine the economic status:

a. Working status
b. Dependency rate

Health Status

Health status is very important during the old age as good health condition leads to increase the longevity.

a. Health Condition (Good health/bad)
b. Types of diseases

Others

a. Types of hospital utilization
b. Awareness about welfare schemes

FINDINGS AND DISCUSSION

Social Status of Elders

As age increases, the social condition of elders will decrease correspondingly, especially among female elders, though it will vary from rural to urban areas.

Marital Status of Elders

Marital status is an important indicator of social status among the elders; it has a great influence on the life of a man, no matter what he is, rich or poor, especially in his last days. The absence or presence of a partner really influences his life and leads either to happiness or unhappiness. It is the natural instinct for a human being to have a family which is the most important social institution. Table 2 reveals the spatial distribution pattern of marital status of the elderly by age and gender in rural and urban areas.

Table 2

Marital Status among Elders by Gender and Place of Residence

Taluks		*Currently Married*			*Widow/Widower*		
		Total	*Male*	*Female*	*Total*	*Male*	*Female*
Periyapatna	R	17(81)	10(100)	7 (64)	4(19)	0(0)	4(36.4)
	U	4(67)	2(100)	2(50)	2(33)	0(0)	2(50)
Hunsur	R	55(86)	28(93.3)	27(79.4)	9(14)	2(6.7)	7(20.6)
	U	11(79)	6(100)	5(63)	3(21)	0(0)	3(38)
K.R. Nagara	R	45(91.8)	23(100)	22(84.6)	4(12.2)	0(0)	4(15.4)
	U	8(50)	5(71)	3(33.3)	8(50)	2(29)	6(66.7)
Mysore	R	72(88.9)	37(97.4)	35(81.4)	9(8.2)	1(2.6)	8(18.6)
	U	130(85)	70(96)	60(75)	23(15)	3(4)	20(25)
H.D. Kote	R	20(83.3)	10(100)	10(71.4)	4(16.7)	0(0)	4(28.6)
	U	4(80)	2(100)	2(69)	1(20)	0(0)	1(33)
Nanjangud	R	81(87.1)	42(97.7)	39(78)	12(12.9)	1(2.3)	11(22)
	U	8(80)	5(100)	3(60)	2(20)	0(0)	2(40)
T. Narasipura	R	21(84)	11(100)	10(71.4)	4(16)	0(0)	4(28.6)
	U	7(78)	4(100)	3(60)	2(22)	0(0)	2(40)
Total	R	311(87.1)	161(97.6)	150(78.1)	46(12.9)	4(2.4)	42(21.9)
	U	172(81)	94(95)	78(68)	41(19)	9(9)	32(28)

Source: Field Survey

Figures in parenthesis indicate per cent.

There are a number of distinct characteristics revealed in the marital status of the aged male and females. Table 2 shows that, the proportion of currently married males is higher than the females both in rural and urban areas, especially in rural areas. In the rural areas, the currently married male elders are at 97 per cent and females at 78 per cent as against 95 per cent males and 68 per cent females in urban areas.

Widowhood at older ages is another significant point. The number of elderly female widows were higher than their male counter-parts, because the females in our society are generally younger than their husbands. Other reasons are higher life expectancy for women and also lesser number of remarrying widows. The elder widows of urban areas at 28 per cent are higher than widowers who are at 9 per cent. Similarly the share of widows in rural areas is 22 per cent, which is lesser than urban aged widows, perhaps due to their migration from rural to urban areas along with their children after their spouse's death.

The survey reveals that a majority of elderly women at older age groups were without spouses, which led to feminization at older ages in the population studied.

Educational Status of Elders

Education is an important factor affecting the development of every individual. The level of education shows the status of an individual in a society. As man is a social being, he has to mingle with others and education really helps to develop his personality and it widens his mentality and outlook regarding himself and others in the family or in the society. In general an educated man is in a good position to know the realities of life and he will be abler than an uneducated man to handle his problems in his social life. Hence, it is necessary to be aware of the educational status of people.

An analysis of Table 3 shows that out of 570 respondents, 241 were literate and the remaining 329 were illiterate (246 from rural areas and only 83 persons in urban areas). A further analysis reveals that of the 570 subjects, 76.6 per cent illiterate females were in rural areas, and only 37 per cent were residing in urban areas. Among the illiterate males, 17 per cent belonged to urban areas and 64.8 per cent were in rural areas.

Table 3
Educational Status among Elders by Gender and Place of Residence

Taluks		*Literacy Rate*			*Illiteracy Rate*		
		Total	*Male*	*Female*	*Total*	*Male*	*Female*
Periyapatna	R	4(19)	3(30)	1(9)	17(80.9)	7(70)	10(90.9)
	U	2(33)	1(50)	1(25)	4(67)	1(50)	3(73)
Hunsur	R	32(50)	18(60)	14(41.2)	32(50)	12(40)	20(58.8)
	U	6(43)	3(50)	3(38)	8(57)	3(50)	5(62)
K.R. Nagara	R	19(39)	11(48)	8(30.7)	30(61)	12(52)	18(69.3)
	U	6(38)	5(71)	1(11)	10(62)	2(29)	8(89)
Mysore	R	17(20.9)	11(28.9)	6(13.9)	64(79)	27(71)	37(86)
	U	103(67)	65(89)	62(78)	50(33)	8(11)	18(22)
H.D. Kote	R	7(29.2)	4(40)	3(21.4)	17(70.8)	6(60)	11(78.6)
	U	3(60)	2(100)	1(33)	2(40)	0(0)	2(66)
Nanjangud	R	27(29)	16(37.2)	11(22)	66(70.9)	27(62.8)	39(78)
	U	5(50)	3(60)	2(40)	5(50)	2(40)	3(60)
T. Narasipura	R	5(20)	3(27.3)	2(14.3)	20(80)	8(72.7)	12(85.7)
	U	5(33)	3(75)	2(40)	4(44)	1(25)	3(60)
Total	R	111(32)	68(41.2)	45(23.4)	246(68)	107(64.8)	147(76.6)
	U	130(60)	82(83)	72(63)	83(40)	17(17)	42(37)

Source: Field Survey

Figures in parenthesis indicate per cent.

Table 3 reveals that out of 111 literates of rural areas, around 62 per cent elders had only primary education and, no one was having degree level education. On the contrary in urban areas, 24 per cent of elders were degree holders and 11 per cent of the elders were professionals. Thus, a greater percentage of educated people belonged to urban rather than rural areas. But a majority of the elders in the sample studied were illiterate; hence, their living condition depends very much on their children and grand children and their ability to work and earn an income beyond the officially designated age of retirement.

Table 4
Educational Level among Elders by Place of Residence

Taluks	*0–7*	*8–10*	*Puc*	*Degree*	*Professional*	*Total*
Rural	69(62)	31(28)	11(10)	0	0	111
Urban	31(24)	30(23)	24(18)	31(24)	14(11)	130
Total	101 (42)	60 (25)	35 (14)	31 (13)	14 (6)	241

Source: Field Survey

Figures in parenthesis indicate per cent.

Living Arrangements of Elders

Irudaya Rajan (1989) explains the term 'living arrangements' in terms of the type of family in which the elderly live, the headship they enjoy, the place they stay in, the people they stay with. The term also indicates the kind of relationship they maintain with their kith and kin, and the extent to which they adjust to the changing environment. There exist several living patterns for the elderly, which make for the most stable arrangements such as living with the spouse, living with children and grand children.

The living patterns reflect the physical, socio–economic and psychological well-being of the elders. Hence, a brief analysis of the pattern of living arrangements for elders in both rural and urban areas is presented below.

Table 5
Living Pattern among Elders by Gender and Place of Residence:

Parts	*Living Status*	*Total*	*Male*	*Female*
Rural	Alone	11 (3)	2 (1)	9 (4)
	With spouse only	26 (7)	14 (8.5)	12 (6)
	With spouse and children	279 (78)	145 (88)	134 (70)
	Without spouses but with children	42 (12)	4 (2.5)	38 (20)
		357	**165**	**192**
Urban	Alone	6 (3)	2 (2)	4 (3.5)
	With spouse only	31 (14.5)	19 (19)	12 (10.5)
	With spouse and children	131 (61.5)	70 (71)	61 (53.5)
	Without spouses but with children	45 (21)	8 (8)	37 (32.5)
		213	**99**	**114**

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Total	Alone	17 (3)	4 (2)	13 (4)
	With spouse only	57 (10)	33 (12.5)	24 (8)
	With spouse and children	409 (72)	215 (81)	194 (63)
	Without spouses but with children	87 (15)	12 (4.5)	75 (25)
Total Population		570	264	306

Source: Field Survey

Figures in parenthesis indicate per cent.

In Indian society, single-member families are rare. According to Table 5, 3 per cent of the elders were living alone, with which females (4%) out numbering their counterparts. The proportion of senior citizens who live with their spouses and children was around 72 per cent and it was more in male elders (81%). Those who live with children but without spouse was 15 per cent, it was more so among females (25%). The Table 5 reveals that, the share of older women without their spouses is higher compared that of male. It may be important to identify that the share of elders without surviving children or living only with spouses in the district is 7 per cent and 14.5 per cent in rural and urban areas respectively.

Joint family structure, migration of young people due to jobs, increase of nuclear family pattern and change of bondage and values have resulted in forcing the elders to lead lonely lives. Around 3 per cent of the elders both in the rural and urban parts were living alone, without spouses and children. In terms of gender the percentage of those living alone was little high among elderly females especially in rural areas (4%) as compared to urban (3.5%) areas. Hence, it creates a psychological depression among female elders.

The percentage of elders living with their spouse and children was more among males, especially in rural areas at 88 per cent than in urban areas at 71 per cent, which is a better living arrangement among elders. If more number of people are living together, the direct beneficiaries would be the elders are likely to get better attention and support, including care during sickness, etc. from the family.

On the other hand, in rural areas around 20 per cent of female elders live with their children and grandchildren (without spouse) and it is only 2.5 per cent in males and it is 8 per cent and 32.5 per cent in

urban areas respectively. This pattern reflects that the elderly who live with children and grandchildren are likely to be widows or widowers. There was more number of widows especially in urban areas, who reside with their children and grand children.

Headship among Elders

Headship among the elders shows the social status in the in family. The marital condition also influences the headship among the elders, especially among females. Table 6 reveals this fact.

Table 6
Headship among Elders by their Sex and Place of Residence

Taluks	*Headship*			*No Headship*		
	Male	*Female*	*Total*	*Male*	*Female*	*Total*
Rural	30 (18)	9 (5)	39 (11)	135 (82)	183 (95)	318 (89)
Urban	23 (23)	6 (5)	29 (14)	76 (77)	108 (95)	184 (86)
Total	53 (20)	15 (5)	68 (12)	211 (80)	291 (95)	502 (88)

Source: Field Survey

Figures in parenthesis indicate per cent.

It is evident from Table 6 that, around 20 per cent of the elder males were heads of households as against only 5 per cent among female elders. The percentage is more among male elders in urban areas (23% male and only 5% female), while their rural counter parts display a slightly different pattern (18% male headship and 5% female headship).

A higher share of female-headed households was found among widowed and those female elders who were living alone. But the proportion of headship is considerably lesser among elder females, which reflects the socio-economic status of female elders in the family and the society.

Finally, the study found that the male elders enjoyed good social status in their both in rural and urban areas, but females social status in their families was considerably attenuated both in rural and urban areas.

Economic Status of Elders

Even during old age, many elders were driven to working both in rural and urban areas. But in rural areas, economic activities like agriculture, animal rearing, etc. were regular routine features in the lives of both men and women. Consequently; rural elders enjoyed good health conditions, whereas in urban areas, elders were not working physically after their retirement (60 years). In fact most of them were dependent on their children and also had more health problems. But a few elders were still working.

Working Status of Elders

Working status of people in older age groups gives a good idea about their economic and social well-being. As they grow older, the work participation rate declines, but many aged persons, especially in rural areas continue to be economically active even after 80+ years. The working status for the elderly population by age and place of residence is presented in Table 7. In this survey it was identified that, around 40 per cent of aged people were still working for their livelihood.

Table 7
Working Status among Elders by Gender and their Place of Residence

Taluks	*Working Elders*			*Non-Working Elders*		
	Total	*Male*	*Female*	*Total*	*Male*	*Female*
Periyapatna	9(43)	6(60)	3(27.3)	12(57.1)	4(40)	8(72.7)
	02(33)	1(50)	1(25)	4(67)	1(50)	3(75)
Hunsur	36(56.3)	22(73.3)	14(41.2)	28(43.7)	8(26.7)	20(58.8)
	06(43)	4(67)	2(25)	8(57)	2(33)	6(75)
K.R. Nagara	19(39)	13(56.5)	6(23.1)	30(61)	10(43.5)	20(76.9)
	3(19)	3(43)	0(0)	13(81)	4(57)	9(100)
Mysore	26(32.1)	18(47.4)	8(18.6)	55(67.9)	20(52.6)	35(81.4)
	42(27)	30(41)	12(15)	111(73)	43(52)	68(85)
H.D. Kote	14(58.3)	8(80)	6(42.8)	10(41.7)	2(20)	8(57.1)
	01(20)	01(50)	0(0)	4(80)	1(50)	3(100)

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Nanjangud	51(54.8)	32(74.4)	19(38)	42(45.2)	11(25.6)	31(62)
	03(30)	02(40)	01(20)	7(70)	3(60)	4(80)
T. Narasipura	13(52)	7(63.3)	6(42.8)	12(48)	4(36.4)	8(57.1)
	01(11)	01(25)	0(0)	8(89)	3(75)	5(100)
Total	168(47)	106(70.3)	62(32.3)	189(53)	59(35.7)	130(67.7)
	58(27)	42(42)	16(14)	155(73)	57(58)	98(86)

Source: Field Survey

Figures in parenthesis indicate per cent.

The findings revealed that around 53 per cent of the elders were non-workers in rural areas and out of them 67.7 per cent were females and 35.7 per cent were males. On the contrary 73 per cent elders (58% male and 86% females) were non–workers in urban areas of this sample. Elders in rural areas are not taking retirement; they are engaged in one or other activities like visiting agriculture land, animal rearing, etc. But in urban areas only few aged persons continue to be economically active after retirement.

Table 8

Working Status among Elders by their Place of Residence

Taluks	*Cooly*	*Agriculture*	*Business*	*Others*	*Total*
Rural	61 (36)	95 (57)	4 (2)	8 (5)	168 (74)
Urban	30 (52)	3 (5)	17 (29)	8 (14)	58 (26)
Total	91 (40)	98 (43)	21 (9)	16 (8)	226 (40)

Source: Field Survey

Figures in parenthesis indicate per cent.

A greater number of elders (57%) were engaged in agricultural activities, 36 per cent of the elders were working as labourers (coolies) and only a few persons were engaged in business activities in rural areas. On the contrary, 52 per cent of elders from urban areas were working as a coolies, 29 per cent of elders were engaged in business.

Thus, the present data reveals the fact that only 40 per cent of the respondents were still working, (74 per cent were rural elders and only around 26 per cent were urban elders) thus they are able to lead their lives comfortably. But the fact is that, the majority of the aged (60%)

are not working or they had no definite jobs and their earning power is less. As a result, their economic status is low especially among urban female elders.

Dependency Status of Elders

Elders are economically weaker as they are aged. They are support seekers for their living from the family and government. Economically they are more dependent on their children during their old age. The financial dependency of aged people, make their problems more complex and difficult. Some elders are not dependent on anybody as they are living with their own earnings or savings or pensions.

Table 9
Dependency Status of Aged People by Sex and Residence

Taluks	*Physical Dependency*			*Economic Dependency*		
	Total	*Male*	*Female*	*Total*	*Male*	*Female*
Rural	11 (3)	3 (2)	8 (4)	44 (12)	14 (8)	30 (16)
Urban	9 (4)	3 (3)	8 (7)	40 (19)	13 (13)	27 (24)
Total Dependent	20 (4)	06 (2.2)	16 (5)	84 (15)	27 (10)	57 (19)
Total Not Dependent	550 (96)	258 (97.8)	290 (95)	486 (85)	237 (90)	249 (81)
Total aged	570	264	306	570	264	306

Source: Field Survey

Figures in parenthesis indicate per cent.

Table 9 depicts that 4 per cent of elders were physically dependent and 15 per cent of the elders were economically fully dependent. The dependencies for their food, clothing and healthcare or general care, were more among elders especially in female elders.

In rural areas, 4 per cent of females and 2 per cent of males were physically dependent, whereas in urban areas, these percentages were 3 per cent and 7 per cent respectively. 24 per cent of elderly females in urban areas were economically fully dependent, 13 per cent of the elderly male rely on their children and others for food, clothing and medical care and 16 per cent of rural females were also economically fully dependent. This is one of the reasons for the elderly to continue

to work in old age in spite of poor health. As already stated, widowhood leads to major economic problems in old age. The economically fully dependent aged people are widows than widowers.

Hence, the study reveals that, 47 per cent of elders in rural areas were engaged in different working activities when compared to elders in urban areas (27%). Economic dependency is also more among urban elders, especially among female elders. In urban areas male dependency is 13 per cent and female dependency is 24 per cent. In rural areas, it is 8 per cent and 16 per cent respectively.

Health Status of Elders

Ageing is always related with decline in physical capacity, biological deterioration and psychological failure, which affect adversely the health status. Therefore the health status of the elders is supposed to be the major concern of a society. The style or the way of living, prevalence of diseases like blood pressure, heart disease and diabetes among elderly people in urban areas is more than rural areas of this sample.

The level and types of sickness among the elderly is found to be increasing with advancing age; the major physical health problems were blindness and deafness at older ages. In this survey, health status has been classified into good and bad health status. Good health status indicates no diseases and bad health status indicates elders having at least one disease such as blood pressure, diabetics, heart problem, etc.

The survey revealed that, the rural elders had the highest proportion of the elderly reporting good health, followed by the urban taluks of the district. Another interesting point is that, nearly 25 per cent of elderly females in rural areas were suffering from health problems in comparison with 30 per cent of their male counterpart. On the other hand, in urban areas around 70 per cent females and 76 per cent males are reported bad health status.

Table 10
Health Status among Elders and Gender

Taluks		*Good Health*			*Bad Health*		
		Total	*Male*	*Female*	*Total*	*Male*	*Female*
Periyapatna	R	17 (81)	9 (90)	8 (73)	4 (19)	1 (10)	3 (27)
	U	1 (17)	0 (0)	1 25)	5 (83)	2 (100)	3 (75)
Hunsur	R	52 (81)	25 (83)	27 (79)	12 (19)	5 (17)	7 (21)
	U	5 (36)	2 (33.3)	3 (38)	9 (64)	4 (67)	5 (63)
K.R. Nagara	R	41 (84)	20 (87)	21 (81)	8 (16)	3 (13)	5 (19)
	U	8 (50)	2 (29)	6 (67)	8 (50)	5 (71)	3 (33)
Mysore	R	52 (64)	25 (66)	27 (63)	29 (36)	13 (34)	16 (37)
	U	40 (26)	18 (25)	22 (28)	113 (74)	55 (75)	58 (73)
H.D. Kote	R	18 (75)	8 (80)	10 (71)	6 (25)	2 (20)	4 (29)
	U	0 (0)	0 (0)	0 (0)	5 (100)	2 (100)	3 (100)
Nanjangud	R	59 (64)	28 (65)	31 (62)	24 (26)	15 (35)	19 (38)
	U	2 (50)	1 (20)	1 (20)	8 (80)	4 (80)	4 (80)
T. Narasipura	R	18 (72)	8 (73)	10 (71)	7 (28)	3 (27)	4 (29)
	U	2 (22)	1 (25)	1 (80)	7 (78)	3 (75)	4 (80)
Total	R	257 (72)	123 (75)	134 (70)	100 (28)	42 (25)	58 (30)
	U	58 (27)	24 (24)	34 (30)	155 (73)	75 (76)	80 (70)

Source: Field Survey

Figures in parenthesis indicate per cent.

In urban areas 45 per cent elders reported a higher proportion (31 per cent) of diabetic compared to rural area. Between the sexes, 47 per cent of males were more diabetic when compared to the 44 per cent of females in urban areas. On the other hand, the problem of blood pressure is higher in females than in males in both in rural and urban areas, because most of the elders were widows enjoy reduced economic status and they were also more dependent on their children.

Table 11
Types of Diseases of Elders by Sex and Type of Residence

Taluks	*Diseases*	*Total*	*Male*	*Female*
Rural	Diabetic	31 (31)	13 (31)	18 (31)
	B.P.	20 (20)	08 (19)	12 (21)
	Heart problem	9 (9)	5 (12)	4 (7)
	Others	40 (40)	16 (38)	24 (41)
		100 (28)	**42 (25)**	**58 (30)**
Urban	Diabetic	70 (45)	35 (47)	35 (44)
	B.P.	55 (36)	25 (33)	30 (37.5)
	Heart problem	16 (10)	07 (9)	09 (11)
	Others	14 (9)	8 (11)	6 (7.5)
		155 (72)	**75 (75)**	**80 (70)**
Total	Diabetic	101 (40)	48 (41)	53 (38.4)
	B.P.	75 (29)	33 (28)	42 (30.2)
	Heart problem	25 (10)	12 (10)	13 (9.4)
	Others	54 (21)	24 (21)	30 (22)
District Total	Bad health	255 (45)	117 (44)	138 (45)
	Good health	315 (55)	147 (56)	168 (55)
		570	**264**	**306**

Source: Field Survey

Figures in parenthesis indicate per cent.

Table 11 also reveals that around 45 per cent of the elders suffer from bad health. Out of this, 79 per cent of elders suffer from de-generative diseases, which require life-long medication (29% of B.P. patient, 40% of diabetic and 10% with heart problems constitute the lot). About 21 per cent of elders have other diseases such as hearing impairment, poor eye sight, dental problem, etc. The important factor is that after 80 years disability increases for both the sexes. On the other hand half of the elders (55%) enjoy good health and do not suffer from any diseases. The highest proportion of those without any disability is reported in rural areas compared to that in urban areas.

The findings show that rural elders have other health problems like hearing, eyes problem, etc. but the urban elders are more suffering from diabetic and also blood pressure. During old age medical care is more important than other requirements for elders. Therefore, the medical expenditure of the elders is very significant.

Table 12
Medical expenditure during Hospitalization among elders

Taluks	*Own*	*Son/Daughter*	*Both*	*Total*
Rural	95(26)	160(45)	102(29)	357
Urban	53(25)	110(52)	50(23)	213
Total	148 (26)	270 (47)	152 (27)	570

Source: Field Survey

Figures in parenthesis indicate per cent.

From the analysis of Table 12 around 26 per cent of the elderly people incurred their medical expenditures on their own, which is almost similar for both rural and urban areas and around 47 per cent of the elderly people depend on their son/daughter, for their medical expenditure the remaining 27 per cent of elders partly depend on children and partly on own sources for medical treatment.

Table 13
Monthly Medical Expenditure of Elders by Sex and Place of Residence

Taluks	*Below 200*		*200–400*		*400–600*		*Above 600*	
	Male	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*
Rural	127(77)	139(72)	19(12)	23(12)	14(8.5)	18(9)	05(2.5)	12(6)
Urban	17 (17.2)	21(18.4)	34(34.2)	39(34.3)	2 (29.3)	3 (29.8)	19(19.2)	20(17.5)
Total	144(54.5)	160 (52)	53 (20)	62(20.2)	43(16.3)	52 (17.2)	24 (9.2)	32 (10.4)

Source: Field Survey

Figures in parenthesis indicate per cent.

Table 13 shows that around 10.4 per cent of female elders and 9.2 per cent of male elders paid more than 600 rupees for their treatment per month, which is more in urban areas (19.2% and 17.5%) than rural areas (2.5% and 6% respectively) because in urban areas more elders suffer from de-generative diseases, as a result more expenditure is incurred on their treatment and around 17.2 per cent of the female elders and 16.3 per cent of male elders spent between 400–600 rupees on healthcare.

Around 77 per cent of males and 72 per cent of female elders from rural areas spent only less than 200 rupees for their medical treatment as against to their urban counterparts (17.2% and 18.4% respectively).

Hospitalization among Elders

Hospitalization is another common phenomenon during old age. The Indian government has provided a greater number of facilities for old people in government hospitals for their health care, but even though old people are more likely to visit private hospitals, due to several problems in government hospitals. The survey revealed that out of 570 elders, 249 (43.5%) elders wanted to visit private hospitals (40.5%) rather than government hospitals.

Table 14
Types of Hospitalization among Elders

Taluks	*Govt. Hospital*	*Private Hospital*	*Both*	*Total Aged*
Rural	205(57)	92(26)	60(17)	357
Urban	26(12)	157(74)	30(14)	213
Total	231 (40.5)	249 (43.5)	90 (16)	570

Source: Field Survey

Figures in parenthesis indicate per cent.

The present survey (Table 12) revealed that 57 per cent elderly had gone to Government hospitals for their health check-up (and for hospitalization), whereas only 26 per cent of elders visited private hospitals. The remaining percentage of elders visit both private and government hospitals in rural areas but in urban areas the pattern is reversed to 12 per cent and 74 per cent respectively. Both in rural and urban areas, elders have reported that government hospitals lack of some basic amenities such as adequate drugs, doctors and also other factors (proper attention, respect, etc.).

Awareness about Elder Welfare Schemes

Indian government has provided many schemes for elder's welfare. The constitution of India, in its directive principle of state policy, under article principles of state policy, 41 states about the protection of senior citizens. According to 125th code of criminal

procedure 1973, there is an opportunity for aged parents to claim Rs 500 per month for their maintenance from their children.

Recently, in 2009, the government of Karnataka has introduced many schemes for aged people such as providing Rs 500 as Old Age Pension, subsidized transportation and medical cost for those who have senior citizen card and it also introduced the Sandhya Suraksha Scheme for elders. But most of the elders are not aware of these welfare schemes and consequently are not utilizing these schemes.

The survey also revealed that around 12 per cent of the elders were not aware of any welfare programmes also.

The findings revealed that 21 per cent of the elders are receiving their retirement pension, which is more in urban areas (45.4%) from the government. Around 19 per cent of elders are utilizing widow pensions and more than half of the elders (60%) are availing old age pension. The rural elderly are taking a higher share of old age pension (71%) as compared to those in urban (34.1%) areas.

Table 15
Awareness of Elder Welfare Scheme

Taluks	*Aware*	*No Awareness*	*Total Aged*
Rural	310 (87)	47(13)	357
Urban	194 (91)	19(9)	213
Total	504 (88)	66 (12)	570

Source: Field Survey

Figures in parenthesis indicate per cent.

Table 16
Utilization of the Elder Welfare Scheme

Taluks	*Not Receiving*	*Receiving*	*Old Age Pension*	*Retired*	*Widow Pension*
Rural	142 (40)	215 (60)	153 (71)	23 (11)	39 (18)
Urban	125 (59)	88 (41)	30 (34.1)	40 (45.4)	18 (20.5)
Total	267 (47)	303 (53)	183 (60)	63 (21)	57 (19)

Source: Field Survey Figures in parenthesis indicate per cent.

Table 17
Co-relation matrix of Socio-Economic Status among Elders in Rural Areas of the District

Variables	*Education Status*	*Working Status*	*Headship*	*Good Health*	*Awareness about Welfare Scheme*	*Economic-Dependency*
Education Status	0	0.87	0.78	0.91	0.31	–0.28
Working Status	0.87	0	0.87	0.88	0.61	–0.21
Headship	0.78	0.87	0	0.90	0.26	–0.11
Good Health	0.91	0.88	0.90	0	0.21	–0.20
Awareness about Welfare Scheme	0.31	0.61	0.26	0.39	0	–0.18
Economic–dependency	–0.28	–0.21	–0.11	–0.20	–0.18	0

Source: Compiled by the author

It is evident from Table 17, that there is a high positive co-relation between education and working status (0.87), education and headship (0.78) and very high positive relationship with good health status (0.91), but high negative relationship between education and economic dependency (–0.28). A high positive co-relation exhibits in relationship between working status and headship (0.87) and also working status and good health (0.88), whereas in the case of working status with economic dependency there a high negative relationship (–0.21), which means, that working elders are economically less dependent. Economic dependency is negatively co-related with all the variables in rural areas.

Table 18
Co-relation matrix of Socio-Economic Status among Elders in Urban Areas of the District

Variables	*Education Status*	*Working Status*	*Headship*	*Good Health*	*Awareness about Welfare Scheme*	*Economic-Dependency*
Education Status	0	0.7	0.34	0.12	0.34	–0.35
Working status	0.70	0	0.54	0.21	0.14	–0.45
Headship	0.34	0.54	0	0.41	0.2	–0.23

Cont'd...

...*Cont'd*

Good Health	0.12	0.21	0.41	0	0.21	–0.20
Awareness about welfare Scheme	0.34	0.14	0.2	0.21	0	0.15
Economi-Dependency	–0.35	–0.45	–0.23	–0.20	0.15	0

Source: Compiled by the authors

Table 18 shows almost a similar kind of co-relation exists between education and working status (0.7), education and headship (0.34) and with good health status (0.12). In this case, the education status is the influencing factor for good health and headship. There is a negative relationship between education and economic dependency (–0.35). The relationship between working status and headship (0.54) and also working status and good health (0.21), have moderate positive co-relation, whereas in the case of working status with economic dependency there is (–0.45) moderate negative relationship.

Finally, the above study clearly indicates that rural elders are having better socio-economic status when compared to urban elderly population.

Conclusion and Recommendations:

The survey has revealed that increase in the number and proportion of elderly is likely to have its direct impact on the demand for health, financial and social services from the government and the family both in rural and urban areas of the district.

- The study clearly indicates that rural elders are enjoying better socio-economic and health status when compared to urban elderly population.
- The survey reveals that a majority of elderly women at older age groups are without spouses, which leads to feminization at older ages in the district.
- Majority of the elders in the district are illiterate; hence, their living condition depends very much on their children and grand children and their ability to work and earn an income beyond the officially designated age of retirement.

- The study found that the male elders enjoy good social status both in rural and urban parts, but females social status is considerably attenuated both in rural and urban areas.
- Economic dependency is more among urban elders, especially among female elders, when compared to male elders.

Based on the above findings and conclusions, the following recommendations/suggestions can be made;

1. Government has to provide some more facilities like free rice and grains to those elders, who live alone and are economically poor.
2. At present some state governments are providing pensions for elders which is uniform for all age groups of above sixty years, but it is desirable to increase the amount of pension along with increase in age of the elders. It is necessary because more and more health problems will crop up with increase in the age.
3. The old age fund which is provided by the government should reach the needy people, when the present survey was conducted to collect primary data it was found out that many senior citizens do not know about the facilities of old age welfare schemes provided by the government. Therefore it is necessary to create awareness about such programmes or schemes.
4. In bus stand, hospitals, etc. separate doctors, nurses, waiting rooms, queue system, etc. should be provided for elder's treatment.
5. As old age advances de-generative diseases become common among elderly; therefore both government and private hospitals should provide free medical treatment for those suffering from these diseases.
6. Just as we have STHRI SHAKTI SANGHA for women in rural areas, so also the government has should open elder's associations (HIRIYARA ABYODAYA SANGH) both in rural and urban areas, where they can share their problems and their feelings with other elders. This would create friendly environment at older ages.

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