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Effect of Behavioural Interventions and Functional Competence in Older Adults

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ABSTRACT

The role of behavioural interventions in promoting active ageing through functional competence in a sample of 64 elderly was examined in the age group of 50–59 and 60–69 years living in semi urban and rural areas of Rayalaseema region of Andhra Pradesh. Functional competence was measured through the performance of different ADLs and PBADLs. Appropriate psychological interventions along with physical exercises were planned to improve functional competence. Some Policy implications on promoting active ageing have been discussed.

Keywords: Functional competence, Disability, Old age-Activities of Daily living, Behavioural interventions

Ageing is often perceived as decline in physical vigour to perform certain activities of daily living. The objective of science of gerontology is to minimize disability related dependency and to maximize functional competence in the older years. The longevity revolution spurred by the phenomenon of health transition from communicable to non-communicable diseases has increased the possibility of more

elderly coming under the experience of low functional competence (Buskirk, 1985; Carlson *et. al.,* 1999). Most people enter old age with inadequate knowledge and resources for health promotion and poor access to health services (Akitomo & Mikio 2001; Ramamurti & Jamuna, 2007). Increased longevity, though largely determined by genetic predisposition, is influenced by life style and environment. Thus, healthy longevity can be enhanced by interventions.

Background

Functional autonomy is a core condition of active or successful ageing. Maximizing functional autonomy is not only the aim of social policy but also primarily an individual need (Duffy & McDonald, 1990; Dunlop et. al., 1997, Kumar, 1998). Research towards improving functional competence or at least towards successful management of functional competence is identified as one of the gray areas of research in Gerontology in India. The outcome of such interventional research would make life worthwhile and livable. The agenda for ageing research by the United Nations recognized the need for formulating research action strategies in imparting healthy and active ageing. The World Health Organization (WHO) came out with a huge plan for encouraging their member countries to propagate healthy life styles that promote good functional competence (WHO, 2002). This only suggests that the world focus is on encouraging self efficacy (functional independence) in the day-to day living of the elderly.

Our knowledge on the determinants of functional status vis-à-vis health status of Indian elderly is limited. It is essential to determine the diseases that affect the functional ability so that interventions can be targeted specifically to maintain independence, prevent disability, promote active and healthy ageing. Though increased human longevity has been one of the greatest scientific achievements of this century, yet, similar achievements in quality of life in this lengthened period have not been achieved (Ramamurti & Jamuna 2007). In view of the above, the following objectives were framed.

Objectives

1. To plan and execute a set of behavioural interventions to promote functional competence.

2. To test the efficacy of behavioural interventions in a select sample of elderly with low to moderate functional competence.

Methodology

Participants of the Study

As a first step, 70 elderly subjects with low to moderate functional competence were drawn from the main data set of 300 subjects (Subramanyam, 2009). They were individually contacted to get their consent to participate in the training programme (intervention) and were explained the details of intervention and its significance. Only 64 men and women (from 50–59 and 60–69 years) who have expressed interest to participate in the intervention study were included in the intervention phase.

These sixty four subjects were further divided into two groups of 32 each i.e., one group was treated as experimental (N=32) and the other was treated as control group (N=32). The sample of persons for experimental group was drawn from the cluster of four villages. There were about four (4) men and four (4) women in each village. The clusters were so formed to minimize possible interaction between the participants of control group and experimental group, and these subjects were part of the main study sample in each village (Subramanyam, 2009). Both the groups were matched to a fair degree with regard to age, gender, self reported health, educational levels, economic status, degree of comprehension and functional competence levels. In view of the objective (1) of the present study, an intervention module to train the subjects to improve functional competence was prepared.

The experimental group was subjected to intervention programme for five weeks, while the control group was not exposed to the intervention package. The subjects in the control group merely participated in the pre and post intervention sessions. The pre and post interventional status in the performance of activities of daily living (ADLs) and performance based functional competence (PBFC) of subjects in these two groups were recorded.

Measures Used

For the present study, the subscales viz., Activities of Daily Living (ADL) and Performance Based Functional Competence (PBADL) of disability scale for the elderly (Ramamurti et al., 1998) were used to assess functional competence in pre and post intervention phases. Test-retest reliability for these ADL and PBADL scales were 0.86, and 0.76, respectively. To seek information on relevant socio-demographic characteristics (age, gender, locality etc.) of the participant, a Personal Data Form (PDF) was used.

The Behavioural Intervention Package

The behavioural intervention package consisted of four aspects viz., (A) group counselling and auto suggestion; (B) meditation (C) dietary counselling and (D) a regimen of simple physical exercises. These aspects were selected in order to make the intervention holistic, comprehensive and would take care of the requirements of mind and body. The intervention package was prepared by involving a team of experts viz., a nutritionist, a physiotherapist, an orthopaedician and a physician. These members along with the investigator, who also acted as counsellor constituted the intervention team. The intervention package which was tested for its suitability found relevant.

Statistical Analysis

A pre and post intervention design was used to examine the efficacy of interventions in improving functional competence of elderly. The effect of intervention was tested by using a paired sample "t" test.

Results

The sample characteristics show that the mean age of elderly subjects was 62.65 years (SD=6.73), 35.3 per cent of the sample had come from nuclear families and 64.7 per cent were staying in extended/joint families. The data on living arrangements show that, most elderly lived at home with their families (96.0%), few were living with their relations (1%) and 3 per cent were living alone. Only subjects in middle income group were included in the intervention phase and none from upper middle or high income groups.

The baseline performances in the sub scales viz., measure of physical competence in ADLs, and Performance based functional competence (PBFC) in some motor tasks were taken as the measures of functional competence to identify the elderly with mild to moderate functional limitations and they were considered as the pre-test scores. The performance on the above measures after exposing them to intervention session was considered as post test scores. The evaluation of efficacy of intervention was tested by comparing the pre and post performances on functional competence (ADLs and PBFC) and these results are in Table 1.

Table 1

Effect of Interventions and Functional Competence of Elderly in Experimental and Control Groups in Pre and Post Test Sessions

S.No.	*Sub-Groups*	*Part-A (ADL)*		*Part-B (PBFC)*	
		Mean (S.D)	*'t' Value*	*Mean (S.D)*	*'t' Value*
1.	Control (n=32)				
	Pre Test	33.50(6.4)	0.26@	16.21 (4.03)	0.57@
	Post Test	33.40(6.89)		16.15(3.86)	
2.	Experimental (n=32)	33.90(6.32)	3.88**	15.10(3.48)	4.22**
	Pre Test	30.01(6.46)		13.60(3.78)	

@ Not Significant; ** $p < 0.01$

Discussion

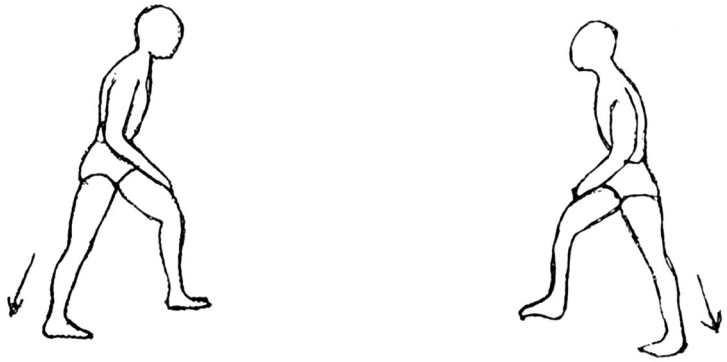
It is evident that significant differences were found between pre and post test sessions in the experience of functional competence as manifest in ADLs and PBFC (Table I). There were no pre and post test differences in control group in the performance of tasks in ADLs and PBFC. Examination of mean trends in pre and post intervention sessions in experimental group indicate that (Table - I), that the quantum of improvement in functional competence due to interventions was higher in performance based functional competence (PBFC) than in activities of daily living (ADLs). It should be noted that the higher score on these measures are an indication of low functional competence.

Observation of protocols recorded during intervention phase, suggest that older men and women starting at various levels of fitness benefited from prescribed physical training programme. Majority of studies concluded that psychological interventions viz., meditation, counselling and auto-suggestion including the dietary counselling with supervision found that elderly benefited significantly through fitness activities. The results of the present study is contrary to some studies which often concluded that the poor functional competence is associated with disuse and inactivity. It could not be reversed with therapy (or) intervention (eg., Harber 1989; Ory *et al.,* 1993). As the elderly in the Indian context were mostly home bound and generally, exhibit several inhibitions to initiate the fitness exercises, it is difficult to get the maximum effects of interventions as reported in the western sample. One of the reasons as quoted by Ory et al., (1993) was also observed in the present study that with increasing age elderly possess poor self-efficacy beliefs, which makes them to remain inactive rather than risk further injury or impairment. Keeping this observation in view, in the present study a sample in the age group of 50–59 years (late middle age) were also included along with the 60–69 years age group to examine the efficacy of intervention in these two age groups. At the beginning of fitness exercise programme many older adults in the intervention sample were apprehensive of the outcome of fitness exercises. However, the results pertaining to intervention phase in the present study clearly demonstrates that the quantum of improvement after interventions was significantly high in experimental group. This explains the effectiveness of behavioural interventions in maximizing functional independence in daily self help skills (ADLs) and performance based functional capability (PBFC).

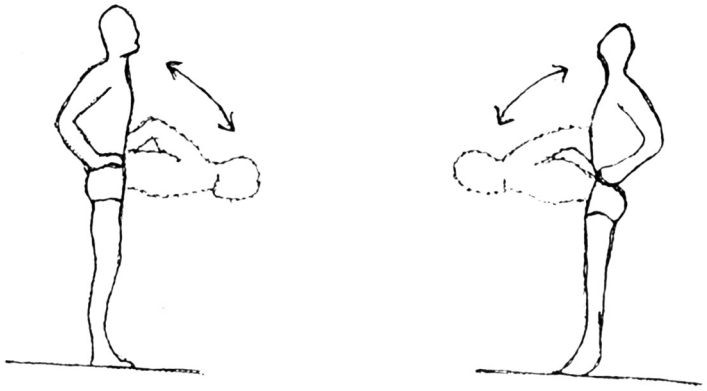
Further, it is clear that physical exercise and psychological interventions viz., meditation, autosuggestion and dietary counselling are important strategies to promote functional competence and wellbeing in older individuals. Benefits include improved health status, reduction in symptoms for an array of health conditions (e.g., mobility difficulties, blood pressure etc.,) and enhancement of quality of life. An example of some physical exercises are provided (figure –Ex-3; Ex-4; Ex-5)

Illustration

Ex- 3. Calf Stretcher



Ex- 4. Forward Bend



Ex- 5. Hamstring Strtch

Implications of the findings are that interventions to improve functional competence is one of the priority areas of gerontology. Therefore, there is a need to develop simple sustainable economically viable health care delivery system for the elderly at community level. The results of this study clearly suggest that it is necessary to plan the application of appropriate technologies in designing the age-friendly environment for the functionally incapable elderly. The State should come up with a comprehensive life span health policy considering the special health needs during old age. In view of the absence of health care services for the elderly especially with poor functional competence, an action plan that is viable, time bound may be implemented to promote better quality of life. Provisions for appropriate health insurance schemes and special care needs may be created to take care of disablement in the later years.

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Health Status and Care Seeking Behaviour of Rural Elderly of Palus in Sangli (Maharashtra)

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ABSTRACT

Health status of elderly people of Palus Tahsil, Sangli district, (Maharashtra) was studied from June 2011 to June 2012. A total of 580 elderly people (above 60 years) living in the rural areas of Palus Tahsil was interviewed and information recorded in the standard structured questionnaire. Mean age of the studied population was 83 years. Present result reveals that 82 per cent of elderly were illiterate and 18 per cent were literate. About 86 per cent of elderly get care from their sons and daughters-in-law during illness, 2 per cent from their daughter, 7.24 per cent people got the help from neighbours and relatives and 4 per cent of elderly were living alone. Major health problems reported in elderly people were: joint pains (39.14%) followed by Blindness, Blood pressure, Diabetes, Loss of hearing, Asthma, Cardiac problems, Paralysis, Skin disease, Accident, Stomach problems, Cancer, Kidney problems, Alzheimer, Tuberculosis, Hernia and others. Maximum health problems were reported by women as compared to men.

Keywords: Elderly, Health status, Palus Tahsil, Maharashtra

Ageing can be defined as a progressive functional decline, or a gradual deterioration of physiological function with age, including a decrease in fecundity (Lopez-Otin *et al.*, 2013). As per Comfort (1964)

ageing means the intrinsic, inevitable, and irreversible age-related process of loss of viability and increase in vulnerability. This is universal phenomenon yet a single definition of old age cannot be found. It varies across and within cultures as well as across the time and space. Ageing is chronological dimension in which chronology is less important than meaning attached to the process. In general with declining health, individuals can lose their independence, social roles, become isolated, experience economic hardship, be labeled or stigmatized, change their self perception and some of them may even be institutionalized. Similarly, condition of aged people depends on their physical health, employment and socio economic situation, family care and national policies. In the present scenario, a rapid increase in the number of elderly as well as their proportion in our population, has led us to being more conscious of the many social, economical, psychological and health problems of the elderly in our country. Of these problems, health and medical problems are generally considered to be important as they affect a large majority of the elderly. It is very important to understand the health needs of the elderly and so solicit their opinion in improving the existing health care system in the country.

A lot of information has been accumulated in the field of health status of rural elderly people of India. Rao (2003) in Andhra Pradesh found that the health problems tend to increase with advancing age and very often the problems aggravate due to neglect, economic status, poor nutrition, and inappropriate dietary intake. Early health problem in rural areas elderly people might be due to lack of medical facilities and poor economic conditions (Dzuvichu, 2005). Vasantha & Premakumar (1998) found that the rural aged suffered from nutritional and psychological problems when compared to urban aged. Nair (1989) has proven the incident and prevalence of chronic as well as non-chronic disease are more in rural elderly, i.e., respiratory problems, loco-motor illness and blood pressure, etc.

Sangli district is a biggest district in Western Maharashtra with 10 Tashils including Palus. Palus is a smallest Tahsil consists of 35 villages with 6, 49,668 population (male 3, 35,844 & female 3, 13,824) as per the 2011 census. However, there are no studies on health and literacy status of elderly people in Sangli district, Western Maharashtra.

Therefore, the present study was undertaken to investigate the health and literacy status and care taker of elderly people of Palus Tahsil.

Materials and Methods

The extensive survey was conducted in the eleven villages (Palus, Kundal, Kirloskar wadi, Tupari, Hajarwadi, Ghogaon, Nagrale, Dahyari, Dudondi, Bhilawadi station and Mukund nagar) of Palus Tahsil, Sangli District covering 580 elderly people during 2011–2012. All respondents age were more than 60 years and mean age of the elderly was 83 years with age range from 60 to 105 years. Current health conditions, literacy status, care taker and major health problems faced by elderly people of Palus Tahsil were recorded in the questionnaires. Chronic health problems like, Joint pains, Blindness, Blood pressure, Diabetes, Loss of hearing, Asthma, Cardiac problems, Paralysis, Cancer, Skin disease, Kidney problems, Alzheimer, Tuberculosis, Hernia and others minor diseases of elderly people of Palus Tahsil were recorded using random sampling method. Data was classified on the basis of sex and analyzed statistically.

Results and Discussion

All 11 villages of Palus Tahsil selected for the present study are situated on the Bank of Krishna River. Due to the Krishna River basin these rural areas are flourishing in agriculture, industries, education and socio-economics. Agriculture lands are very fertile and cultivating highly commercial crops like grapes, sugar cane, turmeric, banana, wheat, etc. There are 05 sugar factories, more than 15 milk dairies, and several small scale industries including Laxmanrao Kirloskar multinational company around the River basin. Present result indicates that there was a gender wise difference in the health problems of the elderly. For example that 60–69 age category men health status was very excellent without any health problems compared to 70–79 and above 80 years. However, 69–79 year age category people had reported minor health problems and above 80 years older people have one or more chronic health problems. Most of the people are land lords, wealthy, economically and socially very sound. Maximum study area people are non vegetarian, use milk and milk products in their daily meals. These factors might be responsible for keeping an excellent health conditions in elderly people up to 70 years. While, 60–69 years

old women have showed minor health problems in their early age group categories and above 70–75 years women were suffering from many serious health problems. Compared to men, the health status of women was found to be very poor. This might be due to under nourishment associated with cultural practices in India especially in rural areas. Women in rural areas, generally take meals only after their husbands and children have had their food. They contend with whatever that was left, which most of the time would not be sufficient diet for them. Moreover, the diseases specific to women and other natural biological processes, which the women may undergo, could be some of the reason for the overall low health status of women. This result is in support with the view of Strauss (1992). According to him, as women live longer than men, the most common belief is that they are healthier. In reality, women are more likely to experience poor health. Even though, women live longer, they are more sicky and disabled than men throughout their life period.

Table 1
Health Care Taker of Elderly During Illness

Care Taker	*Son*	*Daughter*	*Living with Spouse*	*Alone*	*Others*
Men & Women	501	11	3	23	42
Percentage	86.38	1.89	0.52	3.96	7.24

The traditional norms and values of Indian society stress respect and provision of care for the elderly, however, the ongoing processes of urbanization, industrialization, modernization, globalization and their concomitant processes have led to changes in the traditional support base of the elderly. This has resulted in declining possibilities of family care is on the decline, co-residence has become difficult and a separate existence is challenging due to issues of access to basic facilities and physical security. Taking care during old age is an important factor in determining the health status as well as the quality of life of the elderly. Although, It has been the long tradition in the Indian culture that the elderly people are well cared by their family members and relatives, particularly by their sons, daughters and daughters in law this is the reason why the older persons transfers their property to their children who assume the responsibility for household task and

care for their relatives. Our result was exactly coincides with above mentioned statement. The data regarding the person who cares the elderly during illness is elucidated on Table 2. However, about 86.38 per cent of elderly gets care from their sons & daughters-in-law during illness, 42 (7.24%) old age people got the help from neighbors and relatives, 3.96 per cent of elderly people were living alone and 1.89 per cent elderly were take care by their daughter. The elderly, who are not able to attend to their personal tasks such as ablution, dressing, toileting etc, were usually helped mostly by their family members such as grandchildren, sons, daughters, daughters-in-law and spouse.

Table 2
Literacy Status in Male and Female Elderly People

Literacy status in Elderly People of Palus Tashil			
Sex	*Male*	*Female*	*Percentage*
Literate	73 (12.48%)	27 (4.62%)	17.24
Illiterate	238 (40.68%)	242 (41.38%)	82.76

In general, the male members were found to be literate, economically independent and had less physiological and nutritional problem when compare to the female counter parts, when literacy level, income level and employment status improve, they seem to have better health. Literacy status of elderly people of Palus shows that 82.76 per cent of elderly were illiterate and 17.24 per cent were literate. It was exactly opposite to present literacy status of Sangli district (82.63%). However, 238 (40.68%) men were illiterate and 73 (12.48%) were literate while, 242 (41.38%) of women were illiterate and 27 (4.62%) were literate (Table 2). Maximum elderly people (82.05%) of Palus were illiterate this might be due to not availability of schools and colleges in the rural areas in the earlier decades. Old age is accompanied with a number of health problems. It is varies from person to person depending upon their life style, heredity, food habits, socio economic standards, etc. Health problem pattern in elderly people of Palus Tashil was given in Table 3. Although, 39.14 per cent elderly were suffering from joint pains, and followed by Blindness (15.34%), Blood pressure (14.14%), Diabetes (11.90%), Loss of hearing (5.52%), Asthma (4.83%), Cardiac problems (3.27%), others (2.41), Paralysis

(1.89%), Skin disease (1.89%), Accident (1.55%), stomach problems (1.37%), Cancer (1.2%), Kidney problems (0.69%), Alzheimer (0.69%), Tuberculosis (0.52), and Hernia (0.34) respectively (Table 3).

Table 3
Health Problem Pattern in Elderly People of Palus Tahsil

S. No.	*Health Problems*	*Men*	*Women*	*Total*	*Percentage*
1.	Joint pains	94	133	227	39.14
2.	Blindness	45	44	89	15.34
3.	Blood Pressure	43	39	82	14.14
4.	Diabetes	42	27	69	11.90
5.	Loss of hearing	14	18	32	5.52
6.	Asthma	14	14	28	4.83
7.	Others	14	09	23	3.96
8.	Cardiac	13	06	19	3.27
9.	Paralysis	07	04	11	1.89
10.	Skin Disease	06	05	11	1.89
11.	Accident	08	01	09	1.55
12.	Stomach problems	02	06	08	1.37
13.	Cancer	04	03	07	1.2
14.	Alzheimer	02	02	04	0.69
15.	Kidney problem	02	02	04	0.69
16.	Tuberculosis	03	00	03	0.52
17.	Hernia	01	01	02	0.34

The present result reveal that maximum (39.14%) elderly people were suffering from joint pains among them 22.93 per cent women and 16.21 per cent men. Especially knee joint pain in women was more common problem even though it was reported in young (below 50 years) women in the study area. Various treatments like, allopathic, ayurvedic, herbal and homeopathic treatments, and also different oils, ointments were using for controlling joint pains. Still they were suffering from chronic and non tolerable joint pain. This might be due to lack of nutrition, exercise, and loss of calcium content in women. Second most health problem in both men and women was blindness. These elderly people were unable to performance of day-to-day activities relating to personal care such as bathing, going to toilet, dressing,

walking etc, it was reported that more women compared to men were not able to perform these tasks without help from others. Most of them are dependents on spouse, son, daughter, grand children, and neighbors. Followed by high blood pressure, diabetes, asthma and loss of hearing were major health problems in both men and women elderly. The chronic diseases of elderly were compared based on gender. It was found that certain illness like joint pains, loss of hearing, stomach problems and hypertension were found to be high among elderly women than men, where as blood pressure, diabetes, cardiac problems and accident cases were found to be higher among elderly men (Table 3). This may be due to the life style adopted by the elderly throughout their life. Balan and Devi (2010) and Balamurugan and Ramathirtham (2012) has reported similar results regarding the chronic diseases among the elderly. According to them joint pains, poor vision, diabetes, hypertension, asthma, etc were the most common problems associated with old age. It is not unusual that aged people are more susceptible to multiple diseases as evident from the data given above.

Conclusion

Elderly people of Palus Tahsil have an excellent health profile compared to other rural areas elderly. If they want to be extending their longevity with disease free life they must incorporate the some rules in their daily life. Elderly should take nutritional and control diet, they must undergo regular health checkup in rural health center. They can take well in advance percussions about hereditary diseases and change their life style as per the need. The elderly suffer from chronic diseases like, joint pains, diabetes, blood pressure, cardiac problems, asthma, etc., these diseases can be controlled and prevented through regular exercise. Further, the aged should be associated with creative and developmental programmes. In fact, the aged can be active only if they maintain good health. School syllabus should include the education on the health aspects of ageing and create awareness about the basic principles of nutrition and health care. The older people also need education on health and nutrition. Government should extend its health care services to the elderly, especially poor elderly, through primary health centers.

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A Study on Morbidity Pattern and Care Seeking behaviour of Elderly in a Rural Area of West Bengal (India)

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ABSTRACT

Throughout the globe the elderly population is increasing, both in proportion and absolute number. Elderly people suffer from increasing morbidity, majority of which are chronic in nature. Present study aims to study the morbidity pattern among elderly in rural Bengal and also to ascertain their care seeking behaviour. This cross sectional study was conducted in Singur block of West Bengal. Data were collected by interviewing the elderly with the help of a pre designed and pre tested schedule by house to house visit and Clinical examination of the elderly. Almost all (96.95% male and 98.15% female) were suffering from one or more diseases. Average morbidities were more than three. Majority (86.9%) were having chronic diseases. Common health problems were periodontal disease, dental caries, cataract, osteoarthritis, hypertension, constipation, anemia, refractive error, upper respiratory infection and glossits/stomatitis. Out of the elderly who perceived them as sick, only 71.78 per cent sought treatment. Majority (53.37%) availed modern method of treatment and more than one fourth (28.22%) sought no treatment. Only 13.88 per cent sought

treatment from government health facility due to fixed outdoor timing and indifferent attitude of staff.

Keywords: Elderly. Morbidity, Care seeking behaviour

Ageing is an inevitable phenomenon in life of all living beings. With the increase of life expectancy the numbers of people who are attaining old age are increasing throughout the globe. The world population of over 60 years of age, which was 370 million in 1890 is expected to increase to 1,100 million in 2025. (WHO, 1989) Life expectancy is steadily increasing in India also (National Health Profile of India–2008). In 2001 census the percentage of 60 plus population was 7.5 per cent and in absolute number it was more than seven crores (Seventy millions).

Old age is associated with deterioration of health and increase in morbidity. More than half of the elderly suffer from one or more disease at any point of time. (Soldo, 1986) Their increasing number demand for comprehensive geriatric care at community level. To organize service we need to develop information base about different aspect of elderly population. Most important information that we need is their morbidity pattern in different areas of India, both in Rural and Urban areas. In this background the present study was undertaken with the following objectives:

- To study the Morbidity pattern of elderly in a rural area of west Bengal.
- To find out their Health care seeking behaviour during illness.

Methodology

This cross sectional observational study was conducted in the Singur block of Hooghly district of West Bengal. It is situated about 35 km away from Kolkata. Three villages of this block were randomly selected. Population of these three villages was 4,513. A list of all the people aged 60 years and above in these three villages was prepared. From that list the required sample (N=204) was selected following simple random technique. A pre designed pre tested schedule was used for the data collection. Information was collected by interview of the individual by house to house visit and clinical examination of the elderly by the investigators.

Age was enquired from the individual. In case where exact age was not known age assessment was done with the help of elderly's family member or neighbour. The age information was correlated with events like age at marriage, age at first child birth or important national event like Independence of India or great famine of Bengal, etc. Care seeking behaviour was ascertained from the elderly who were considering themselves sick at the time of data collection.

Information collected was compiled and appropriate statistical analysis was done.

Results

In this study 204 elderly were included. Females (N=107, 52%) were slightly more than the males (N=97, 48%). Sex ratio was 1,103 females for 1,000 males. Majority (60.35%) were in 60–69 years age group and 28.5 per cent were in 70–79 years age group and rest 11.2 per cent were 80 years and above. All the elderly were Hindus. Illiteracy was a predominant feature in female (91.59%) as well as among male (32.99%). Addiction was noted in 76 per cent males and 55 per cent females. Tobacco smoking and chewing, alcohol and betel leaf chewing are the predominant type of addiction. Majority are living in joint or extended nuclear family. A sizeable portion (32%) is living below poverty line.

Elderly person considered many conditions to be the manifestations of old age and accepting it as part of their life. Analysis of the perception of the elderly about their health at the time of interview revealed that 80.4 per cent of males and 79.4 per cent females considered themselves sick (Table 2). Among males , self perceived sickness gradually decreased with ageing (85.5% to 50.0%). The probable explanation was that the more aged male elderly (=80 Years) did not like to disturb their care giver for condition that they considered to be the manifestation of ageing. The younger elderly (<80 years) usually took care of their health themselves and they freely communicate about their discomfort to get relieve. On the other hand female by practice were always dependent on other family member for their heath and diseases from early years of life. So they were not hesitant to express their discomfort to others. There was an

increased perception of sickness among female with increase in age (from 76.5% to 90.9%).

Medical examination revealed that almost all the elderly (96.95% male and 98.15% female) were suffering from one or more diseases at the time of study. The difference was small and statistically not significant ($z = 0.54$, $P > 0.05$). All elderly aged 70 years and above were found to be diseased. Only five elderly (2.45%) were well at the time of study in the age group of 60–69 years. All elderly in more than 80 years age group were suffering from some diseases. Similar high level of morbidities was reported by other studies. A community based study from Chandigarh reported 88.9 per cent prevalence of morbidity in elderly (Swami *et al.*, 2002). Another study from Udupi, Karnataka have reported health problem in 100 per cent elderly (Leena *et al.*, 2009). Another community based study from Kashmir reported at least one medical problem in 89 per cent (Parry *et al.*, 2008).

Of all the elderly suffering from any disease 13.1 per cent are suffering from acute diseases, 76.9 per cent were suffering from chronic diseases and 10 per cent were suffering from both acute and chronic diseases. Similar observation was made by Khokhar and Mehra (2001) from Delhi. More than 90 per cent elderly were suffering from more than one disease. In the present study prevalence of diseases was 3.46 diseases per elderly person. It was 3.34 diseases per male and 3.57 per female. This difference was small and was not statistically significant ($p > 0.05$). About one fifth are suffering from five or more diseases (21.7% in male and 24.3% in female). Disease load increases with age. Putty *et al.*, (2001) reported that in rural Tamilnadu 72.2 per cent was suffering from two or more illnesses at the time of study.

In 67.2 per cent elderly there is involvement of gastrointestinal system, followed by involvement of eye, cardiovascular and musculoskeletal system in 49.5 per cent, 46.1 per cent and 29.9 per cent elderly respectively. Respiratory system was also involved in 29.2 per cent study population. In 15.7 per cent elderly there was Skin and subcutaneous tissue disease. Genito-urinary system, nervous system and ENT problem was seen in 9.8 per cent, 5.4 per cent and 4.9 per

cent study population. In 24 per cent elderly there was other diseases (Table 1).

Table 1
Distribution of Elderly Male and Female Population According to System of Involvement

Systems	*Male (n=97)*	*Female (n=107)*	*Total (n=204)*
Gastrointestinal	60(61.1)	77(71.9)	137(67.2)
Eye disorder	48(49.5)	53(49.5)	101(49.5)
Cardio vascular	45(46.4)	49(45.8)	94(46.1)
Musculoskeletal	23(23.7)	38(35.5)	61(29.9)
Respiratory	23(23.7)	38(35.5)	61(29.9)
Skin and subcutaneous tissue	18(18.6)	14(13.1)	32(15.7)
Genito-urinary	9(9.3)	11(10.3)	20(9.8)
Nervous	4(4.1)	7(6.5)	11(5.4)
ENT	4(4.1)	6(5.6)	10(4.9)
Miscellaneous	16(16.5)	33(30.8)	49(24.0)

Figures in the parentheses indicates percentages

Table 2
Self Perceived Health Status of Elderly Study Population at the Time of Study

Age (Yrs)	*Total*		*Sick*		*Well*	
	Male	*Female*	*Male*	*Female*	*Male*	*Female*
60–69	55	68	47(85.5)	52(76.5)	8(14.5)	16(23.5)
70–79	30	28	25(83.3)	23(82.1)	5(16.7)	5(17.9)
= 80	12	11	6(50.0)	10(90.9)	6(50)	1(9.1)
All age	97	107	78(80.4)	85(79.4)	19(19.6)	22(20.6)

Figures in the parentheses indicates percentages.

Many elderly had multiple system involvement and many had more than one disease in a particular system. There was difference in percentage of male and female elderly affected by diseases of particular system but in no system difference was statistically significant.

Under gastrointestinal system, periodontal disease contributed to the highest proportion (38.72%) followed by Dental caries (34.31%). Peptic ulcer and cholecystitis featured out only among female (Table 3).

Table 3
Distribution of Diseases of Gastrointestinal System

Diseases	*Male*	*Female*	*Total*
	n= 97	*n= 107*	*n=204*
Periodontal diseases	37(36.14)	42(39.25)	79(36.72)
Dental caries	30(30.92)	40(37.38)	70(34.31)
Glossitis	10(10.30)	6(5.60)	16(7.84)
Constipation	17(17.52)	199(17.55)	36(17.65)
Bacillary dysentery	2(2.06)	2(1.87)	4(1.96)
Amoebiasis	1(1.03)	2(1.87)	3(1.77)
Non ulcer dyspepsia	1(1.03)	2(1.87)	3(1.47)
Peptic ulcer	–	2(1.87)	2(0.98)
Cholecystitis	–	2(1.87)	2(0.98)
Gastritis	2(2.06)	5(4.67)	7(3.43)
Inguinal hernia	1(1.03)	–	1(0.49)

Figures in the parentheses indicates percentages.

Disease of musculoskeletal system was found in 23.7 per cent male and 35.5 per cent female elderly. Osteoarthritis was the most common manifestation (22.54%) in both sexes together (Table 4). Of all the manifestation under cardiovascular system 24.74 per cent male and 18.69 per cent female elderly were hypertensive (Table 5), but the difference between sexes was not statistically significant ($z=1.04$, $p>0.05$)

Table 4
Distribution of Diseases of Musculoskeletal System

Diseases	*Male*	*Female*	*Total*
Osteoarthritis	17(17.35)	29(27.10)	46(22.54)
Rheumatoid arthritis	1(1.03)	3(2.80)	4(1.960
Kyphosis	1(1.03)	2(1.87)	3(1.47)
Frozen shoulder	2(2.06)	–	2(0.96)
Fracture	–	2(1.87)	2(0.96)
Spondylitis	1(1.03)	1(0.93)	2(0.96)
Bursitis	1(1.03)	1(0.93)	2(0.96)
Hallux vulgus	1(1.03)	2(1.087)	3(1.47)

Figures in the parentheses indicates percentages.

Table 5
Distribution of Diseases of Cardiovascular System

Diseases	*Male n= 97*	*Female n= 107*	*Total n=204*
Borderline hypertension	21(21.65)	28(26.17	49(24.02)
Isolated systolic hypertension	9(9.28)	7(6.54)	16(7.84)
Isolated diastolic hypertension	5(5.15)	4(3.74)	9(4.41)
Both syst. and diast. hypertension	10(10.30)	9(8.41)	19(9.31)
Angina pectoris	1(1.03)	–	1(0.49)
Congestive heart failure	–	1(0.93)	1(0.49)
Internal haemarrhoid	2(2.06)	–	2(0.96)
Cardiac dysrhthmias	1(1.03)	3(2.80)	4(1.96)

Figures in the parentheses indicates percentages.

In respiratory system, upper respiratory infection was the commonest, almost equal proportion in male and female. Chronic bronchitis was more common in males. Bronchial asthma was present in 4.41 per cent of elderly persons (Table 6).

Table 6
Distribution of Diseases of Respiratory System in the Elderly

Diseases	*Male n=97*	*Female n=107*	*Total n=204*
Upper respiratory tract infection	10(10.30)	9(8.41)	19(9.31)
Chronic bronchitis	8(8.24)	2(1.87)	10(4.90)
Bronchial asthma	5(5.15)	4(3.74)	9(4.41)
Pneumonia	1(1.03)	–	1(0.49)
Pulmonary tuberculosis	1(1.03)	–	1(0.49)

Figures in the parentheses indicates percentages.

Equal proportion of male and female elderly had various manifestation of eye (49.5%). Cataract was the commonest eye condition affecting 30.88 per cent elderly study population, followed by refractive error (15.19%). Prevalence of cataract increased with age. Blindness was found in four persons (Table 7). In two cases blindness was due to complication after cataract surgery and two cases due to keratomalacia in childhood.

Table 7
Eye Condition in Elderly Study Population

Diseases	*Male*	*Female*	*Total*
Cataract	29(29.87)	34(31.78)	63(30.88)
Refractive error	15(15.46)	16(14.96)	31(15.19)
Pterigium	8(8.25)	5(4.67)	13(6.37)
Aphakic eye	6(6.19)	3(2.80)	9(4.41)
Destroyed eyes	2(2.06)	2(1.87)	4(1.96)
Epiphora	1(1.03)	3(2.80)	4(1.96)
Glaucoma	1(1.03)	1(0.93)	2(0.98)

Figures in the parentheses indicates percentages.

Ten most common diseases among elderly were periodontal disease, dental caries, cataract, osteoarthritis, hypertension, constipation, anemia, refractive error, upper respiratory infection and glossits/stomatitis. Common diseases reported from Tamilnadu study by Purty *et al.,* (2006) were dental and periodontal diseases, joint pain, cataract, hypertension, refractive error, etc. Hypertension and arthritis was reported to be common health problem in studies from Karnataka (Leena *et al.,* 2009) and Vadodara (Chandwani *et al.,* 2009). A study from Udaipur, Rajasthan (Prakash *et al.,* 2004) reported eye diseases (70%), hypertension (48%), psycho social problem (42.6%), respiratory diseases (36%), and musculoskeletal problem (14.6%) to be the common condition in the elderly.

Table 8
Health Care Seeking of the Elderly who Reported Themselves Sick (n=163)

Age Group	*No of Sick*	*Nature of Treatment*			
(yrs)	*No.*	*Treat*	*Allo*	*Homeo*	*Other*
60–69	99	23	62	9	5
		(23.23)	(62.62)	(9.09)	(5.05)
70–79	48	16	20	6	6
		(33.33)	(41.67)	(12.50)	(12.50)
80 and Above	16	7	5	4	0
		(43.75)	(31.25)	(25.00)	(0.00)
Total	163	46	87	19	11
		(28.22)	(53.37)	(11.66)	(6.75)

Figures in the parentheses indicates percentages.

Table 9
Distribution of Elderly According to Agency of Treatment (n=117)

Age Group (yrs)	*Tr. Received*	*Agency of Treatment*			
		Prv.	*Quack*	*Govt*	*Other*
60–69	76	31	30	10	5
		(40.79)	(39.47)	(13.16)	(6.58)
70–79	32	11	10	5	6
		(34.37)	(31.25)	(15.63)	(18.75)
80 and Above	9	6	2	1	0
		(66.67)	(22.22)	(11.11)	(0.00)
Total	117	48(41.02)	42(35.89)	16 (13.68)	11(9.41)

Figures in the parentheses indicates percentages.

Care Seeking Behaviour

This was ascertained in elderly who perceived themselves as sick at the time of study. Elderly persons considered many diseases to be the manifestation of old age. So, they did not seek treatment for these conditions. Even among persons who perceived sickness not all seek treatment. Health care seeking of the elderly depend on socio economic condition of the family, distance of health agency from living place, transport facility, etc. Out of 163 elderly who perceived them as sick 117 (71.78%) were taking any type of treatment, rest 46 (28.22%) did not receive any treatment. Modern allopathic treatment was most popular among them. Majority availed this system of therapy (53.37%). Homeopathy was also used by a substantial percentage of elderly (11.66%). Other type of therapy like ayurveda, magic therapy; home remedy was also used by 11 (6.75%) elderly. An important finding was that most of the individual is seeking therapy from Private registered practitioner (41.02%) followed by Unqualified practitioners (quack–35.89%). Similar observation was made by Dasgupta. (Dasgupta 1991). Only 13.68 per cent elderly were seeking therapy from government health institution and rest (9.41%) from other sources like temple, friends, etc. In a study from Vadodara India (Chandwani *et al.,* 2009) 85 per cent (38.1% private practioner, 25.2 hospital, 21.7% urban health centre) consulted practitioner of modern medicine. A remarkable observation of present study was the virtual

absence of Ayurveda system of medicine from the rural area under study. Though government health facility is within reasonable distance the low rate of consultation was due to indifferent attitude of the staff and fixed outdoor hour in the morning.

Conclusion

Almost all the elderly were suffering from different morbidities-most of which were chronic in nature. Not all sick elderly were not seeking treatment and many had unrecognized diseases. This calls for development of community based geriatric care in our country in line with maternal and child care. This will provide primary care to the elderly at their door step. This must be supported by secondary and tertiary level geriatric care provided by personnel specially trained in different aspect of geriatric care.

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Prevalence and Predictors of Dementia among Elderly Population in Rural Area of Varanasi District

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ABSTRACT

A community based cross sectional study was planned to assess the prevalence of dementia with its epidemiological correlates among the elderly belonging to Chiraigaon community development block of district Varanasi (U.P.). Mini-cog assessment tool was used to find out dementia among these elderly. The findings of the study revealed overall prevalence of dementia in 25.4 per cent elderly respondents of this study and a progressive trend was noticed with increasing age group, being highest (40.7%) in age group above 70 yrs (p=0.001). It was high among females (38.3%), marital status other than married (50.0%), illiterate (29.6%), and middle class (32.1%). Dementia was more in elderly suffered from various musculoskeletal problems. These factors showed a significant association with dementia. Mean mini-cog score was low among age group above 75 yrs (2.48 ± 1.79), females (3.39 ± 1.74), illiterate (3.64 ± 1.67) and middle class (4.55 ± 0.79). The prevalence of depression was also found to be positively associated with increasing age, the female sex, illiteracy, socio-economic status, and those who were suffering from musculoskeletal problems.

Keywords: Dementia, Elderly, Mini-cog tool

Dementia is not a specific disease. It is a descriptive term for a collection of symptoms that can be caused by a number of disorders that affect the brain. People with dementia have significantly impaired intellectual functioning that interferes with normal activities and relationships. Demented elderly also lose their ability to solve problems and maintain emotional control, and they may experience personality changes and behavioural problems such as agitation, delusions, and hallucinations. While memory loss is a common symptom of dementia. It is also true that memory loss by itself does not mean that a person has dementia.

According to the Dementia India Report 2010 prepared by the Alzheimer's and Related Disorders Society of India (ARDSI) by the year 2015, India is expected to overtake the US to become the country with the largest number of people with dementia, posing a major challenge to the economy.

Number of people with Alzheimer's disease and other dementias is increasing every year because of the steady growth in the older population and stable increment in life expectancy and it is expected to increase two-fold by 2,030 and three-fold by 2,050. (Ferri *et al.,* 2005)

Dementia is often associated with physical, mental and financial burden and evidence suggests that elderly people with dementia in developing countries do not often utilize health care services, and when they do, the health care system is often ill prepared to provide quality services for dementia. (Dias A Patel, 2009; Shaji, 2009) Around 10–37 per cent of the elderly populations with dementia in developing countries are classified as having potentially vulnerable living circumstances with requiring long-term and specialized care. (Martin, 2009)

As per authors knowledge very few studies had been carried out on this issue, particularly community based study. So the present study was conducted to find out the prevalence and predictors of dementia in elderly population in community setting.

Methodology

It was a community based cross sectional study. The present study was carried out from October 2012 to march 2013 at Chiraigaon block of district Varanasi. This block is the rural field practice area of

department of community medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi .

The study population comprised of the entire respondent whose age was 60 yrs and above. They were enumerated and sample was drawn from them. Study area had population of 10,327. A total of 736 peoples of aged 60 yrs and above were enumerated.

A pilot survey conducted on 30 study sample showed the prevalence of dementia to be 30 per cent. The total sample size estimated by using formula= $4pq/L^2$, Where, n = Sample size, P = Prevalence of characteristic studied, taken as 30 per cent, Q= (1-p), L= Permissible margin of error in the estimated value which was taken as a 5 per cent with 95 per cent confidence limit. The required sample size was calculated to be 318.10 per cent non response rate was assumed. So the total sample was fixed at 350.

Sampling Procedure

Samples were drawn from all the four villages of field area

Villages	*Total Population*	*Population Aged 60 Yrs and Above*	*% Population Aged 60 Yrs and Above*
Rustumpur	2,810	139	4.9
Narayanpur	3,100	230	7.4
Barai	2,536	196	7.7
Baryasanpur	1,881	171	9.1
Total	10,327	736	7.1

A total of 88 elderly subjects were planned to be taken from each village. Thus, the total sample comprised of 352 elderly respondents. 346 elderly persons 60 years and above of both the sexes could be interviewed out of 352 respondents initially selected for the study. These respondents were contacted individually for the data collection. In each household, the head of the family or another responsible adult was contacted and the nature and the purpose of the study were explained to him/her. When more than two persons of age 60 years and above were present in the same house, two persons of the opposite sex, i.e., one from either sex were selected as the study subjects and between the persons of the same sex group, the elder person was given

preference and was selected as the study subject. Thus, a maximum of two persons were taken from one house as the study subjects. If the particular elderly person was not present at the time of the survey, the house was revisited. The elderly persons who were not available in spite of repeated visits to their houses and those who did not gave their consents for participation in the study were not taken up for the study. The information regarding their ages was crosschecked by asking their children's age(s), with respect to some major events and by verifications by using records like the ration card, etc.

Tools Used

The identified 346 older subjects were interviewed in their local languages and they were examined by using a pre-tested, pre-structured, study questionnaire. The questionnaire was divided into two parts. The first part comprised of the socio-demographic information which covered a diverse set of parameters such as age, sex, marital status, education, socio-economic status, living conditions, economic dependency and the dependency for the activities of daily living. Socioeconomic status was determined by Udai pareek and G. Trivedi scale (1964).

Blood pressure was measured by Omron automatic blood pressure monitor (model-HEM–7112). Mini-cog assessment tool was used to find out dementia among respondents. The Mini-Cog is a simple screening tool that is well accepted and takes up to only 3 minutes to administer. This tool can be used to detect cognitive impairment quickly during both routine visits and hospitalizations. The Mini-Cog serves as an effective triage tool to identify patients in need of more thorough evaluation. The Clock Drawing Test (CDT) component of the Mini-Cog allows clinicians to quickly assess numerous cognitive domains including cognitive function, memory, language comprehension, visual-motor skills, and executive function and provides a visible record of both normal and impaired performance that can be tracked over time. The Mini-Cog is appropriate for use in all health care settings. It is appropriate to be used with older adults at various heterogeneous language, culture, and literacy levels.

The Mini-Cog was developed as a brief screening tool to differentiate patients with dementia from those without dementia. Depending on the prevalence of dementia in the target population, the Mini-Cog

has sensitivity ranging from 76–99 per cent, and specificity ranging from 89–93 per cent with 95 per cent confidence interval.

Administration

1. Respondent was instructed to listen carefully to and remember 3 unrelated words and then to repeat the words. The same 3 words may be repeated to the respondent up to 3 tries to register all 3 words.
2. Respondent was instructed to draw the face of a clock, either on a blank sheet of paper or on a sheet with the clock circle already drawn on the page. After the patient puts the numbers on the clock face, ask him or her to draw the hands of the clock to read a specific time. The time 11:10 has demonstrated increased sensitivity.
3. Respondent was asked to repeat the 3 previously stated words.

Scoring: (Out of total of 5 points)

Give 1 point for each recalled word after the CDT distractor. Recall is scored 0–3.

The CDT distractor is scored 2 if normal and 0 if abnormal.

(Note: The CDT is considered normal if all numbers are present in the correct sequence and position, and the hands readably display the requested time. Length of hands is not considered in the score.)

Interpretation

0–2: Positive screen for dementia

3–5: Negative screen for dementia

Statistical Analysis

Data entered and analyzed using SPSS 16 version. Logistic regression analysis was used to calculate odds ratio with 95 per cent confidence interval for dementia and different characteristic of study population. Mean mini-cog score was compared by using F-test.

Ethical Consideration

Department research committee (DRC) at Institute of Medical Sciences, Banaras Hindu University had approved the study.

Results

Table 1 – Mini-cog assessment tool analysis showed that 555 of respondents were able to recall all the three items. Clock drawing test was abnormal in 28 per cent of cases. Prevalence of dementia was 25.4 per cent (Fig–1).

Table 1
Status of Mini cog Assessment and Prevalence of Dementia

Variable	*Frequency*	*Percentage*
Item Recalled		
0	14	4.0
1	45	13.0
2	95	27.0
3	192	55.0
Clock Drawing Test		
Normal	249	72.0
Abnormal	97	28.0

As shown in the table maximum subjects (45.4%) belongs to 60–65 years age group. More than half of the subjects belong to OBC Category. Around 3/4th (78%) of subjects live with their spouses. According to this table subjects were involved in different type of occupation in almost equal proportion. Around Three-fourth (78%) subjects were illiterate (Table 2).

In an unadjusted analysis elderly females had seven times more risk of dementia (OR=7.1, 95 per cent CI: 2.2–23.1). Although married elderly had lesser odds for dementia (OR=0.3777, 95% CI: 0.17–0.82), the result was statistically not significant. Odds ratio of dementia among elderly suffering from musculoskeletal and hypertension was 3.54 (95% CI: 1.88–9.24) and 4.23 (95% CI: 2.26–8.33) respectively. These associations were statistically significant. Elderly who were financially dependent were more prone for dementia (OR=3.14, 95% CI: 1.18–8.33). Presence of substance abuse decreased the risk of dementia (OR=0.65) but this association was not statistically significant (Table 2).

Table 2
Characteristics of Study Population and Their Association with Dementia

Total (n=346)			*Dementia*		
Variables	*No.*	*%*	*Present,%*	*Odds Ratio*	*95% CI*
Age Group					
60–65 yrs	157	45.4	19.1	1	Referent
66–70 yrs	103	29.8	22.3	0.329	0.01,26.4
Above 70 yrs	86	24.9	40.7	0.421	0.04,4.7
Gender					
Male	192	55.5	15.1	1	Referent
Female	154	44.5	38.3	7.1	2.2,23.1
Caste					
General	89	25.7	16.9	0.742	0.23,2.4
OBC	203	58.7	30	0.888	0.32,2.42
SC/ST	54	15.6	22.2	1	Referent
Marital Status					
Married	270	78	18.5	0.377	0.17,0.82
Other*	76	22	50	1	Referent
Educational Status					
Illiterate	270	78	29.6	1.288	0.42,3.99
Primary	43	12.4	16.3	0.594	0.04,9.36
Middle and above	33	9.5	3	1	Referent
Socioeconomic Status**					
Upper	41	11.8	22.6	1	Referent
Middle	175	50.6	32.1	0.982	0.46,2.07
Lower	130	37.6	4.5	0.105	0.02,0.63
Musculoskeletal Problems					
Yes	224	64.8	29.9	3.54	1.88,9.24
No	122	35.2	17.2	1	Referent
Hypertension					
Yes	115	33.2	33.8	4.23	2.26,8.33
No	231	66.8	8.7	1	Referent
Addiction					
Yes	163	47.1	15.8	0.65	0.18,0.77

Cont'd...

Cont'd...

No	183	52.9	36.2	1	Referent
Financially independent					
Yes	79	22.8	26.6	1	Referent
No	267	77.2	25.1	3.14	1.18,8.33
Social participation					
Yes	268	77.5	24.3	1	Referent
No	78	22.5	29.5	0.687	0.3,1.57
Intrafamilial relation					
Cordial	316	91.3	24.4	1	Referent
Conflict	30	8.7	36.7	1.112	0.78,3.54

* Included widow/widower/divorced/separated.

** Socioeconomic class was merged into three for analysis.

Mean-mini cog score was calculated across various age groups. It progressively decreased with age (4.04 ± 1.44 in age group 60–65 yrs to 3.23 ± 1.79 in above 70 yrs group). This difference was statistically significant. Females had lesser score (3.39 ± 1.74, $p = 0.000$). The score was also less among elderly who were widow/divorced/unmarried, of middle socioeconomic status, and suffering from various musculoskeletal problems and hypertension.

Discussion

Despite mortality due to communicable diseases, poverty, and human conflicts, dementia incidence is destined to increase in the developing world in tandem with the ageing population. Current data from developing countries suggest that age-adjusted dementia prevalence estimates in 65 year olds are high (=5%) in certain Asian and Latin American countries, but consistently low (1–3%) in India and sub-Saharan Africa. Illiteracy remains a risk factor for dementia. (Raj *et al.*, 2008)

The study among elderly in rural area of Varanasi found a prevalence rate of 25 per cent for dementia. Dementia prevalence rate varies widely within developing countries. This variation could be due to difficulty in standardizing dementia assessment. In contrast to present study, studies in latin America had showed a prevalence of over 5 per cent. (Ibid.) A systemic analysis of six Indian studies suggested a low

prevalence of all dementia. (Chen 2004) Among arabs living in wadi area, a community south of Haifa in Israel, the crude prevalence was 21 per cent in the age group above 60 years (Bowirrat, 2001 and 2002).

Prevalence of dementia according to Diagnostic and Statistical manual disorder (4th ed) varied widely, from less than 1 per cent in the least developed countries, such as india to 6.4 per cent in Cuba. It was reported to 10/66 study that informants in the least developed countries were less likely to report cognitive decline suggestive possible underestimation (Rodriguez *et al.,* 2008). The much higher prevalence in present study was due to the fact that author used screening tool to find out the probable case. To establish the diagnosis, cases must be referred to higher centre.

Table 3

Results of Mean Mini-Cog Score for the Assessment of Dementia

Variables	*No.*	*Mean Mini-cog Score*	*Std. Dev*	*Test of Significance*
Age				
60–65 yrs	157	4.04	1.44	F = 10.458
66–70 yrs	103	3.85	1.47	p = 0.00
Above 70 yrs	86	3.23	1.79	
Gender				
Male	192	4.09	1.39	F = 17.215
Female	154	3.39	1.74	p = 0.000
Caste				
General	89	4.12	1.49	F = 3.806
OBC	203	3.59	1.66	p = 0.023
SC	54	3.91	1.39	
Marital Status				
Married	270	4.1	1.44	F = 6.67
Other	76	2.8	1.7	p = 0.001
Education				
Illiterate	270	3.64	1.67	F = 5.664
Primary	43	4.07	1.33	p = 0.004
Middle and above	33	4.55	0.79	
Socioeconomic Status				

Cont'd...

Cont'd...

Upper	41	3.94	1.56	F=14.663
Middle	175	3.45	1.65	p=0.000
Lower	130	4.8	0.67	
Musculoskeletal problems				
Yes	224	3.57	1.63	F=11.613
No	122	4.17	1.45	p=0.001
Hypertension				
Yes	115	3.5	1.69	F=23.095
No	231	4.35	1.19	p=0.000
Addiction				
Yes	163	4	1.45	F=5.804
No	183	3.59	1.68	p=0.017
Financially independent				
Yes	79	3.64	1.66	F=0.887
No	267	3.82	1.56	p=0.375
Social participation				
Yes	268	3.83	1.59	F=0.805
No	78	3.64	1.6	p=0.370
Intrafamilial relation				
Cordial	316	3.82	1.57	F=1.593
Conflict	30	3.43	1.83	p=0.208

Present study found that prevalence of dementia increased with age from 19 per cent in age group 60–65 years to almost 40 per cent in age above 70 years. Advance age remains the main risk factor for most form of dementia over the age of 65 in India (WAR, 2009). Illiteracy or low educational achievements has been shown to be a robust risk factor for dementia (Borenstein *et al.*, 2006; Ampil *et al.*, 2005). Odds of dementia among those who had hypertension was 4.23. There is evidence which established a causal role of cardiovascular risk factor in the etiology of dementia (Skoog *et al.*, 1996; Stampfer, 2006). Author reported that smoking reduced the odds of dementia. Similar finding was observed in a large population based prospective study in Rotterdam (Ott A. *et al.*, 1998). Study reported that participation in social gathering had no statistical association with odds of dementia. In

contrary to this, study by Fratiglioni L *et al.*, (2004) found that social engagement lowers the risk of dementia.

Conclusion

There is urgent need of more robust screening tool to find out the prevalence of dementia at community level. Lack of standardization of screening tools has to be recognized as a major issue in the estimation of the true burden. Standardization might not be readily achieved because of diversity of language and level of literacy.

First priority is to identify and support home based care of people with dementia. There is a need to integrate dementia care with general healthcare. Community based care of dementia cases is an utmost requirement.

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Risk Perception of HIV/AIDS Infection among Elderly in Ile-Ife of Southwest Nigeria

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ABSTRACT

Generally, HIV/AIDS is believed to be a 'younger person's disease' which does not affect older people. However, recent statistics have shown the rising cases of HIV infection among people aged 60 years or older. The paper investigates risk perception of HIV/AIDS infection among elderly men and women in Ile-Ife, Southwest Nigeria through of two focus group discussion sessions with male and female elderly persons. Their level of awareness and knowledge of HIV transmission, perceived vulnerability and prevention mechanisms were also explored through in-depth interviews. The findings revealed poor knowledge and awareness of HIV/AIDS infection and routes of transmission. The low awareness was associated with low socio-economic status such as low education, unskilled jobs and subsequently low income. Religious inclination also influences knowledge of HIV/AIDS. Majority of the participants do not perceive personal vulnerability to HIV/AIDS. Women in particular associated their non-vulnerability to their chaste behaviour and marital fidelity. Similarly, the males perceived HIV infection as younger people's disease particularly, among the promiscuous ones. The policy implication of the study is also discussed.

Keywords: HIV/AIDS, Elderly Vulnerability, Prevention, Knowledge, Awareness

Since the first case of HIV and AIDS was discovered in the early 1980s in sub-Saharan Africa, young people in the reproductive ages have been the major target in discourse and policy interventions. Elderly people have only featured in the role they play as caregivers for people living with AIDS and children orphaned by HIV/AIDS. Generally, in Nigeria as in many countries in sub Saharan Africa, it is believed that Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) is a young person's disease. It is therefore not surprising that despite the global attention on the epidemiology of infection with the human immunodeficiency virus (HIV), the burden of the disease among those aged = 60 years is almost always ignored and this represents a significant blind spot in the global response to the epidemic of HIV infection and acquired immunodeficiency syndrome (AIDS). Since 2006, UNAIDS have reported massively on increasing number of HIV positive (HIV+) cases among persons aged 15–49 years with limited data about those aged 60 and above. In Nigeria, the situation is worse where HIV infection rates among older adults have been a neglected area of study despite the fact that studies have shown that globally elderly people are also contracting HIV infection (CDC, 2008) and thus has become a global problem among older adults. Earlier studies on HIV/AIDS revealed that about 2.8 million adults aged 50 years and older were living with HIV globally in 2005(G*lobal AIDS epidemic, 2006*). This figure is expected to rise to 5.6 million by 2050. While individuals > 49 years of age account for approximately 10 per cent of the cumulative HIV infection case in the United States of America, (Ory & Mack, 1998) and the corresponding proportion for Africa is not known (WHO, 2010).

In many societies in sub Saharan Africa, the HIV/AIDS pandemic has generated a new focus on the changing role of elderly people in communities that have been affected. The elderly population in Africa (above 60 years) is currently estimated slightly over 68 million, and is projected to reach between 212 million by 2050. Over the last decade HIV/AIDS epidemic has had a devastating impact on older women and men in sub-Saharan Africa; with over two million annual deaths and over 14 million AIDS orphans,

i.e., children have lost one or both parents (Alpaslan & Mabutho 2005: 276). The rapid growth of population ageing in Africa and the impact of HIV and AIDS has therefore added another dimension to the role of elderly men and women. Studies have shown that HIV and AIDS affect elderly persons in two main ways: the elderly are themselves infected with HIV, making them vulnerable to many health and socio-economic challenges (Ramos, 2000; Waysdorf, 2002), and it places a burden on them as carers for their sick children and are often left to look after orphaned grandchildren who may also be infected (Van Dullemen 2006; Rajaraman, *et al.*, 2008; Lalthapersad 2008).

Hosegood and Timaeus (2005) also reported that the elderly persons are affected by the impact of HIV/AIDS in several ways within the families and households. These includes: care-giving, co-residence with ill adults, the need to give material and financial support, meeting the financial needs of AIDS orphans, fostering grand-children and dealing with negative community reactions. Despite the increasing prevalence of the epidemic in older adults, little is known about their sexual behaviour which has been labeled as the commonest route of HIV transmission, although studies have shown that older adults are sexually active (Dunn and Cutler 2000). This high sexual activity that is likely to be unprotected has the potential to increasing their vulnerability to HIV/AIDS infection. Furthermore, a national survey conducted in 2001 by the National Advisory Council on Ageing to examine sexual activity among persons over 60 years have indicated that more than 92 per cent of the respondents consider sex as an important part of life. Notably, responses were similar for men and women. In addition, 75 per cent of males between 65 and 74years considered themselves sexually active (National Bulletin of the National Advisory Council on Ageing 2002).

In spite of the increasing vulnerability of the elderly to HIV infection, there is no study in Nigeria that has focused on HIV/AIDS risk perception among the elderly. The few existing studies on older people and HIV/AIDS have concentrated on care and support provided by this segment of the population (Help Age International,

2003 & Fouad, 2004). Sadly, these studies particularly those in the developing countries emphasized the social and economic impact of HIV infection on grandparents in their role as caretakers of children orphaned as a result of parental HIV infection and have ignored the prevalence of HIV infection in older people and its impact on their lives (Schatz, and Ogunmefun, 2007; Kyobutungi, *et al.*, 2009). Thus, whilst the global community is preoccupied with combating the HIV and AIDS pandemic, particularly amongst the young and middle-age group, there appears to be an under-reporting of its impact on the lives of the elderly (Makiwane, *et al.,* 2004, Help Age International 2007).

The perception that elderly people are sexually inactive, could also mean that they are not targeted for screening or does not have access to HIV counselling and testing to determine their HIV zero status (Okumagba 2012). This makes it more difficult to get accurate data on elderly people living with HIV/AIDS. It is important to document the risk perception of HIV/AIDS among the elderly particularly within the Nigerian context where the risk of infection is high among caregivers. The fact that the HIV/AIDS epidemic is ageing, as evidenced by the growing number of older persons who are infected with the virus, implies there is an urgent need to carry out a study like this to better understand the prevalence and characteristics of HIV infection among the elderly. The overall objective of this paper therefore, was to contribute to literature on the ongoing discourse of risk perception of HIV/AIDS among the elderly in Nigeria, using Ile-Ife, Southwest Nigeria as a study site. The specific objectives are to

1. examine the socio-economic characteristics of elderly men and women in Ile-Ife;
2. investigate level of awareness and knowledge of routes of HIV transmission among the elderly men and women in Ile-Ife;
3. examine the perceived vulnerability to HIV infections by elderly men and women;
4. explore suggestions on how HIV infections can be reduced among elderly people.

Methodology

The paper examined risk perception of HIV/AIDS infection among elderly people in Ile-Ife, southwestern Nigeria by relying primarily on qualitative methods namely: focus group discussions (FGDs) and in-depth interviews (IDs) to collect data from men and women age 60 years or older. The FGDs were facilitated by a female moderator and assisted by a male note taker. The discussions were also tape recorded with the consent of the participants. These methods complemented each other as well as providing ethnographic details of the interviewees and the issues raised in the paper. Data collected provided some insight on the context in which older people perceived their vulnerability to HIV infection. The recorded interviews and discussions were transcribed for analysis.

A content analysis of the transcript was used to identify common trends in the responses and to identify variations where they are important. Data collected through IDIs and FGDs focused on the respondents' socio-demographic characteristics, level of awareness and knowledge of routes of HIV transmission; perceived vulnerability to HIV infections and suggestions on how HIV infections can be reduced among elderly people.

Research Design

Altogether, fifty IDIs (25 males and 25 females) and four (4) FGDs (2 homogenous males and females groups with an average of 9 members each) were conducted. In-depth Interview and FGD guides were developed to moderate the discussion and validated through a pre-test among similar participants in Ilesha community. Actual fieldwork was conducted in January, 2013. The FGDs required an average of 1 hour formal session to conclude. Each session involved between eight and ten participants whose consents were sought (*a priori)* before inviting them for the discussion. These were constituted on the basis of age cohort of the participants. The first group comprised of male aged 60–65 years old and the second group was conducted on those aged 66–70 years. The third group consisted of female group aged 60–65 years old while the fourth group consisted of female participants aged 65–70 years old. Because of their low literacy

level, all the interviews and focus group discussion were conducted in Pidgin English and Yoruba language for ease of understanding. Each FGD was facilitated by a trained indigenous moderator, assisted by a recorder who monitored the tapes and note-takers who jotted down the responses of participants.

Sampling Procedure

The sampling procedure adopted in this study was purposive through snow balling method.

Interviews were held based on the availability of participants and their willingness to participate in the study. However, respondents who were engaged were those that satisfied the criteria of age, educational background and ethnic group. Both the FGDs and IDIs were conducted in a very relaxed atmosphere and relevant notes were taken by the interviewers. The information provided by the interviewees and FGD participants were also tape-recorded and later translated and transcribed for further analysis. Analysis of the data followed two approaches, namely ethnographic summary and a systematic coding via content analysis to accommodate verbatim quotation.

Study Setting

The study was conducted in Ile-Ife and involved elderly men and women from different socio-cultural groups in Nigeria namely: Yoruba, Igbo, Edo and Delta. Interviews were conducted at the Obafemi Awolowo University, Ile-Ife where these groups generally work as casual labourers as gardeners and cleaners. Ile-Ife is a Yoruba city (an urban area) located in southwestern Nigeria. Overall, urban areas in Nigeria have consistently had a higher HIV prevalence rate (3.8%) compared to the rural areas (3.5%) (Nigeria HIV/AIDS report, 2006). In Nigeria, most urban areas are characterized by low income, migrant population and ethnic heterogeneity which presents a context where little adherence to cultural norms and values regarding sexuality and a more tolerant atmosphere to behaviours like pre-marital sex, prostitution, marital infidelity and short-term sexual partnering is common. This contrasts with the social structure in rural communities which epitomizes social control and regulated sexual behaviour.

Findings

Table 1
Socio-Demographic Characteristic of In-depth Interview Respondents

Variables	*Frequency*	*Percentage*
Sex		
Male	25	50.0
Female	25	50.0
Age		
60–65	30	60.0
66–70	15	30.0
71 years and above	5	10.0
Marital Status		
Married	29	58.0
Widowed	20	40.0
Separated	1	2.0
Religious Affiliation		
Christianity	35	70.0
Islam	13	26.0
African Traditional Religion	2	4.0
Level of Education		
No education	32	64.0
Primary school	15	30.0
Secondary school drop-out	3	6.0
Exposure to Media		
Yes	5	10.0
No	45	90.0
Occupation		
Cleaning	20	40.0
Gardening	30	60.0
Income per month		
N0–N5,000.00	15	30.0
N6,000–N10,000.00	12	24.0
N11,000–N15,000.00	10	20.0
N16,000–N20,000.00	8	16.0
N21,000–N25,000.00	4	8.0
Above N25,000.00	1	2.0

Source: Fieldwork 2013.

Gender sensitivity was an important consideration in the selection of respondents for the interview. Male and female respondents were exactly equal halves of 25 each (50%). The age distribution shows that the majority 30 (60.0%) of the respondents fell within age range of 60–.65 years age bracket, 15 (30.0%) were within the age range of 66–70 years while only 5 (10.0%) were above 70 years of age. More than half of the respondents (58%) were married, 40 per cent were widows while the remaining (2%) were separated. The respondents under the category 'separated' were extremely negligible.

The religion of respondents was quite representative of the sample with 70 per cent being Christians and 26 per cent Moslems. About 4 per cent of the respondents practice African Traditional religion. Religious affiliation was found to be one of the major sources of HIV/AIDS information among the elderly in the study area. For instance, the belief that Muslims and Traditional worshippers are allowed to marry more than one wife at a time increases vulnerability to HIV/AIDS infection particularly, when one partner within the marriage is infected.

Education is an important factor that might affect people's attitudes, outlook and understanding of social phenomena. Similarly, individual responses and ability to function well in a group is likely to be determined by the level of education and therefore it becomes imperative to find out the educational background of the respondents in this study. The respondents' level of education was well spread as presented in the Table 1 above. A significantly high proportion of respondents (64%) had no formal education. Less than half (30%) had primary and none of them holds a secondary school certificate while the 6 per cent who entered secondary school eventually dropped-out.

Mass media as a means of communication reaches a large audience with all forms of information on various issues about humanity. This includes television, radio, advertising, movies, the Internet, newspapers, magazines, and so forth. Media and education play a tremendous role in providing HIV/AIDS awareness and education for all categories of persons including the elderly in the society. It is evident from Table 1 that overwhelmingly (95%) of the respondents do not have access to HIV/AIDS information via the media. Only 5

(10%) had radios and televisions in their houses but none of them were exposed to newspapers, magazines, internets, advertising and movies.

Occupation is one of the major characteristics that do have a bearing on individual's personality and subsequently influences approaches to manage challenges. Occupational status of an individual modifies his/her behaviour patterns and responses to social issues. Respondents' occupational status therefore forms an important variable to be examined in this study. Table 1 indicates that 20 (40%) of the respondents were cleaners in the university while the majority 30 (60%) were gardeners. It was found that majority of the cleaners are women while men constituted higher number of gardeners. Gardening work was found to be a very tasking profession that demands a lot of physical energy hence, most of the elderly women particularly those who were above 66 years engaged in cleaning jobs.

The Income of an individual plays a vital role in shaping the economic conditions in which an individual operates and ability to afford some level of comfort. Many of the respondents have extremely low economic status traceable to their low education and occupational statuses. Income earnings per month were classified for ease of analysis as follows: Thirty (30%) of respondents earn (Naira) N5, 000 per month, twenty-four (24%) earn between N6, 000–N10, 000; twenty (20%) earn between N11, 000-N15, 000; sixteen (16%) earn between N16,000–N20, 000 and eight (8%) earn between N21, 000 and N25, 000. Only 2 per cent of the respondents earn above N25,000. Some of the respondents complained of spending their meager income on health care and their upkeep of dependants. This situation has greatly increased their level of poverty.

Awareness and Knowledge of HIV/AIDS Transmission

During the in-depth interviews and focus group discussions, the respondents were asked if they had heard about HIV/AIDs and its mode of transmission. Findings from both in-depth interviews and FGDs revealed that majority of the interviewees and participants had no knowledge about HIV/AIDS or its route of transmission. For instance, a female interviewee aged 61 years said:

I do not know anything about it because I did not go to school. – 61 year old female respondents. Another female interviewee remarked:

I have heard about it before but I do not know anything about it. They said someone who has it will grow thin, will be stooling until he or she dies. I do not have anybody in my family who is infected around me – 65 year old female respondent.

The few respondents who claimed to have heard about the HIV/AIDS were informed by friends, relatives and radios. Most of the information received was grossly incorrect and inadequate. In this cases the respondents were miss informed about HI/AIDS However, a number of behaviours or practices that increase vulnerability of elderly persons to the risk of HIV infection were revealed during the focus group discussions. These include engaging in unprotected sex, blood transfusion and sharing of sharp objects

What I hear on radio is that AIDS is incurable disease. They said it can kill fast. We are advised against casual sex like dogs. I am aware that some of the ways one can contract it is through unprotected sex, the use of unsterilized needle or any other object used for infected persons in the hospital. A Male respondent from Edo state aged 65.

During the focus group discussion participants were asked if they thought they could contract HIV. Overwhelmingly, almost all the participants in all the groups believed they could not contract the disease. For instance, one of the male participants from Oyo State, aged 67 years stated as follows:

I cannot contract the disease because I am abiding by what we are advised not to do like casual sex. I do not partake in all that can make someone contract HIV. I do not have any interaction with anybody be it young or old, because I have my own wife, why do I need another person. This is part of the problem we are talking about. 67 – years old male FGD participant.

Another male discussant added his voice thus:

This disease is not for older people like us. It is common with the younger generation that jumps from one bed to another. I have three wives and I am satisfied with what I have. Apart from that which girl will look at my direction? I am old and they call us "old school". Most of young ladies spreading HIV are younger than my last child. How do you expect me to be running after such children? – 69 year old male FGD participants

Furthermore, a female FGD participant aged 66 years strongly felt it would not be possible for older adult like her to contract HIV. She remarked as follows:

In my tribe we allow our husbands to have sex with us as they like. We do not leave our husbands to seek for sex outside. Apart from that, our generation is quite different from this present generation. We are faithful to our husbands. So, I cannot contract HIV/AIDS. 66 years old female FGD participants

Yet, another participant aged 67 years asserted:

We stay close to our husbands and have sex with them. We do not go around looking for another man outside. 67 years old FGD participant

However some of the interview respondents believed that in most Nigerian cities, some rich elderly men and women popularly called "sugar daddies" and "sugar mummies" run after young and old promiscuous women and young men respectively. A female participant aged 63 years argued that:

In most Nigerian cities like Ile-Ife there are situations where older adults run after young men and women which encourage high-risk behaviours like unsafe sex and multiple partnerships that would potentially put older people at risk of HIV infection. They use their wealth to entice younger adult to have sex with them. Some of them have no manners. 63 years old female respondents

During in-depth interviews, respondents were asked to identify other ways of contracting HIV apart from sexual relationship. It was found that only a few of them knew other routes of HIV transmission apart from unprotected sex. For example a female respondent aged 61 years stated:

There are many ways HIV can be transmitted. I know it can be transmitted from barber's shop by using the razor blade used by infected persons, other sharp objects, kissing infected person and through blood transfusion. 61 years old female interview respondent

One of the female FGD participants (female) also added other known routes of HIV transmission, but some of the information has been mis-conceived and incorrect:

Another way through which an older person can contract HIV is by providing care for People Living with HIV/AIDS. I was told it is very contagious. For instance, they said HIV can be contacted through sharing the same tooth paste. – 69 year old female FGD participant

Surprisingly, during FGD with male participants, one of them aged 63 years said:

They said, one can contract it by shaking hands, eating in the same plate with infected person, using the same plate and sleeping on the same bed with the infected person. 63 year old male FGD participant

Perceived Vulnerability to HIV Infection

During the FGDs and IDIs, participants were asked about their perception about the risk of HIV/AIDS infection and whether it was possible for elderly person to be infected. Majority of the respondents and participants believed they had 'no risk at all' of contracting HIV/AIDS while a few others felt anybody who engages in risky behaviours stand a chance of contracting the disease. For instance, a female in the in-depth interview aged 60 years had this to say:

Anybody whether young or old who do engage in unsafe sex is vulnerable. Since we live in the same environment and share most things like razor, needles, clippers and blood means that everybody is vulnerable. Also, as carers of People living with HIV/AIDS, the elderly people are likely to be infected if they do not take precaution in carrying out their duties. Most of us do not receive counseling on how one can contract HIV. This makes our lives more dangerous. 60 year old female interview respondent

Participants were further asked if they had ever done HIV test or would like to go for a test. Some of the respondents said they had done the test. The following were responses from the participants:

I have done it before many times, when I was sick and was taken to the hospital (male participant 4). When I went to the Health Centre, they did the test for our breast first and then the blood and they said there was nothing wrong with me. They said my blood is good (Female participant 7). I have the opportunity to do HIV test before because the church requested that we do the test before I got married. The doctor took me inside and took the test and told me that my blood is good and asked me to

return the following day. When I got there, he said I am "AS" and my wife also did it and she is also "AS" (male participant 6). I have also done the test before, but I do not participate in things that can make me contract HIV (male participant 2) – opinion of Male and Female FGD participants

However, others who have not done HIV screening stated:

No, because I do not believe in it (male participant 5). HIV test is not for people like us. It is for younger people (female participant 4). I have not taken the test before, but I heard that if someone is tested positive and wants to have sex the person should use condom. Does that mean that HIV cannot pass through the condom to the person? (Male participant 3). I don't believe that HIV exists because I have not seen anyone that has it before. For instance a friend of mine was sick sometimes ago and was taken to the hospital, they said, he has HIV and he was very sick. Later he went for prayers and he was well and another test says he does not have HIV again. So I do not belief there is HIV (male participant 7). All these people will not participate in the test because we are afraid to know the result. They said it is a death penalty when you know you have contracted it (male participant 9).

Opinion of Male and Female FGD Participants

The focus group participants were further asked: Will you be willing to do HIV test if we bring the materials needed to you here? In responding to the question, the participants said:

If you bring test material here, most of us here will run away. They will not take the test (participant 1) HIV is a disease that the bible has talked about (female participant 5). Before, we used to run from them. If an infected person opens his mouth and cough, others around will run away from the place. I have personal experience – Some years ago, I was fasting for one month and I grew thin and frail, and after the fast I added weight. Some of my friends were looking at me and started wondering what was happening to me. The same way people will be looking at those that have HIV somehow (male participant 7). Opinion of male and Female FGD participants

Means to Reduce the Spread of HIV/AIDS among Elderly Persons

Both in-depth respondents and FGD participants were asked to suggest ways they thought the spread of HIV/AIDS among the elderly could be reduced or curbed. The following suggestions were offered:

You should continue to provide education as you are already doing. You may bring test materials but I am not sure that people will do it (male participant 4). The government should make laws for everyone to have his or her own clipper. My responsibility is to buy clipper for my children because the barbers are transferring the HIV to people. We should be making our hair ourselves (male interviewee 7). We should always tell our children to caution themselves and our wives too should protect themselves we must always tell them. Wives should bear with their husbands when they are down financially. She should not be going around with other men to get money. Husbands too should be satisfied with the wives they have. We must endure with one another (male participant 9). Those who are promiscuous should stop doing it. We should always tell our children who are in school not to follow sugar daddy because of money. We should always tell them about HIV/AIDS all the time (female interviewee 3). Opinion of male and Female FGD participants

Discussion

The overall findings of study showed clearly that majority of the participants in the study had no knowledge about HIV/AIDS and its transmission. Poor knowledge of HIV transmission was linked to socio-economic characteristics of the respondents and participants. However, the female respondents showed some level of awareness about HIV transmission. Furthermore, about 64 per cent of the study population had no educational qualification which is a most important characteristic that might influence a person's behaviour, attitudes and an understanding of social phenomena. The study also revealed that poor access to the mass media; television, radio, movies, Internet, newspapers and magazines contributed to low level of HIV/AIDS awareness and route of transmission as the study showed that about 95 per cent of the respondents were not exposed to the media. It is evident from the study that only 10 per cent of the respondents had radios and televisions in their houses but none of them were exposed to newspapers, magazines, internets, advertisements and movies.

Other important socio-economic characteristics which contributed to low awareness of HIV/AIDS transmission are religious affiliation, occupation and income. There variables play vital role in shaping the economic conditions of individual and in turn defines the ability of the person to wild their influence on others such as taking more wives, or engaging in multiple sex at the same time. As indicated in this study, majority of the respondents were either gardeners or cleaners who earned less than N25, 000 per month. It is obvious that they are extremely poor and cannot afford a lot of comfort, particularly, access to HIV/AIDS information. This may contribute to their perceived no-vulnerability to HIV infection. Although, the female respondents showed a higher level of vulnerability to HIV/AIDs infection than the male respondents. Furthermore, none of the respondents identified religious affiliation as one of the major route to HIV transmission. However, the 26 per cent Muslims and 4 per cent adherents of African Traditional Religion do not think marrying more than one wife could increase their HIV/AIDS vulnerability. These two religions allow their members to marry more than one wife. It is a known fact that this practice can lead to HIV transmission if on partner is infected.

Majority of the respondents and participants did not believe they are at any risk of HIV infection. They perceived HIV/AIDS as young people's disease, the major reason why many of them do not feel obliged to take HIV test. However, a few of them believed that anybody whether young or old who engages in unsafe sex is vulnerable to HIV infection.

This study also revealed a lot of myths and mis-conception about HIV infection among the elderly, the situation that has adversely affected prevention efforts particularly in Africa. The growing population of the elderly who are involved in the care of sick persons from HIV infection and are refusing HIV counseling and testing is spelling doom for the efforts at reversing the spread of HIV in Africa as stated in the MDGs.

Conclusion and Recommendations

The study has shown that despite the increasing number of elderly men and women infected with HIV/AIDS in the world, there

is still low awareness and knowledge about routes of HIV transmission among older people in the study area. This can be attributed to the fact that though HIV/AIDS among elderly men and women is emerging as a social malaise, it is generally believed that HIV/AIDS is a disease of the younger generation; hence awareness campaigns are not designed to target the elderly population in Nigeria. This has the potential to halt all efforts at reducing new infections by 2015. The elderly population is gradually becoming and endangered population in terms of new surge of HIV/AIDS. It is therefore not surprising that only a few of the respondents were aware of how HIV is transmitted. HIV/AIDS infection among elderly men and women is a social problem and its understanding, explanation, and prediction require a thorough knowledge of the social forces that promote it. Any attempt to confront the problem by focusing only on young adults in reproductive age group may not likely to yield positive results of solving HIV/AIDS problem in Nigeria. The following recommendations are offered in lieu of the study findings:

- Programme planners and policy makers in HIV/AIDS related intervention and services need to develop a culturally acceptable, age and educational level appropriate HIV/AIDS information, education and behaviour change communication strategies to appropriately address HIV/AIDS issues among the elderly population in Nigeria.
- Community based organizations focusing on HIV/AIDS in country should include the elderly population in interventions to address HIV issues in the communities
- Government should increase access to HIV counselling and testing through massive kit supply to Primary health centers and capacity building for personnel, increased community led HIV education and HCT promotion for increased HCT acceptance and uptake.
- All forms of HIV prevention education should be provided through several media and in local languages to reach the elderly. Those with disabilities should be specially targeted

- Health advice on the use of contraceptive should be provided for sexually active elderly to prevent vulnerability to HIV infection to themselves and their sexual partners.
- Religious organizations appear to attract more elderly than young persons, therefore teaching on HIV/AIDS prevention and management should feature regularly as contribution to health promotion efforts in the society.

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Health and Social Problems of Elderly People in Selected Areas of Ondo State, Nigeria

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ABSTRACT

The percentage of Nigerians living up to the age of 52 and above has increased significantly and these elderly people had not been given the attention by the existing health care System. Thus they are faced with many health and social problems. They need to be helped to maintain their health. The study examined specific experiences, the feelings and the coping strategies of the Elderly. It also determines the role of the family members in their care. Eight hundred purposively selected Elderly people through Snow balling technique from 9 randomly selected local government areas in the state whose ages ranged from 60–98 years formed the study population. A semi structured interview schedule comprises of 4 sections of 46 questions and was tested for validity and reliability using test-retest method and coefficient of 0.82 was established. Data collections took 12 weeks and were analyzed. The result indicated that elderly people complained of fever, hypertension, gastro intestinal disorders and generalized pains as well as vision problems and social constraints such as limited opportunities, neglect, loneliness, frustration and harassment. It was also found that highly educated elderly people

reported better health. Elderly people in polygamous marriage had better psycho-social support than those in monogamous marriage. Furthermore, elderly people who earned higher income had improved health status. The health and social status of elderly people was mostly affected by income, age, familiar care coupled with social support and some of varying degrees common ailments being experienced by them, Hence, government, and private spirited individuals need to create suitable programmes for the elderly wellbeing.

Keywords: Elderly People, Health Status, Social Demographic Condition, Social Experience.

In recent times, the percentages of Nigerians living up to the age of 60 and above have increased significantly; and the continued increase in the number of the elderly in our population connotes that there is the need for support for the elderly in Nigeria (Okumagba, 2011). The current estimate of elderly 60 years and above is about 6 per cent of the population and it is expected to increase in subsequent years (Fajemilehin, 2009). Feminity of elderly population that is., the existence of larger number of females than males in 60+ populations is another important feature of population ageing all over the world, because, in natural course, age specific mortality rates remain high among men than women in old age (Sourajit, 2013).

Longevity is a product of several bio socio-cultural factors (Fajemilehin, 2000; 2009). As people get older, one of the greatest challenges in health policy is to strike balance among supports for self-care, informal support and formal care (Fajemilehin, 2009). Family support for the elderly has become a very important issue in examining the overall well-being of the elderly.

Supports received by the elderly are not regular and adequate (Okumagba, 2011). In times of needs close family members should be the first to help elderly ones. In a society where illiteracy, poor nutrition, low status of women and regular exposure to environmental hazards exist with political stability, feud and harsh economic conditions of the nation, it is interesting to still find elderly persons aged 60 years and above (Fajemilehin, *et al.,* 2007). The family has traditionally

been the major source of support and caregiver for the elderly. Contemporary changes in the structure of the family may not provide for old age support (Okumagba, 2011). In Nigeria, traditional functions of the family such as care and support for older family members have gradually decreased in recent years owing to economic problems, migration, and the influence of foreign culture (Idris, *et al.*, 2012).

Hitherto, these elderly people had not been given attention by the existing health care System. There had been no serious attempts to elucidate the nature and variety of needs of this important segment of the population, despite the fact that health care practitioners are aware of the problems of the elderly, they tend to give very low priorities to the care of the aged.

Therefore, this study was planned to fill some of the existing gaps in our knowledge relative to the types of health and social problems afflicting the elderly.

Objectives

The objectives of the study were to:

1. Assess the health status and social problems as well as coping strategies of the elderly people within the selected local government areas.
2. Examine the cultural influences and attitude of the society to elderly people.
3. Determine the roles of family members in the care of the elderly.

Method

The Setting

The study areas comprised nine randomly selected local government areas in all the nine dialectical groups in the state out of 18 local governments of Ondo State, Nigeria were selected for the study. The nine local governments selected were Akoko North West, Akoko South West, Qwo, Akure North, Ondo East, Idanre, Odigbo, Ilaje and lrele local government. Ondo state is located in the south Western Nigeria. The people of the state were selected for the study because of

its numerous cultural orientations and a very significant numbers of elderly people with outstanding wealth of experience.

Target Population

The target populations in this study were the elderly people in Ondo state, with age 60 years and above irrespective of their level of education.

Design and Participants

800 elderly were purposively selected through snow balling technique from nine randomly selected local governments whose ages averaged 72.67 years with a range of 60–98 years formed the study population. 435 (54.4%) of the respondents were in polygamous marriage. 365 (45.6%) were in monogamous marriage, 616 (77%) were Christians while 90 (1l.3%) of them were self-employed. 330 (41.3%) of the respondents had no formal education, 299 (37.4%) had primary education, 122 (15.3%) had secondary education and the rest 49 (6.1%) had higher education. Majority of the respondents 532 (66.5%) were farmers. There were 800 respondents of which 383 (47.9%) were male and 417 (52.1%) were females. 573 (71.6%) were married, 201 (25.1%) were widowed while 26 (3.3% were divorced.

Tool Used

A semi-structured interview schedule comprises of four (4) sections A to D consisted of forty six (46) questions all together was used to evaluate the questions raised in the statement of the problems, objectives and hypotheses. The interview schedule was tested for validity and reliability using test and retest method, and test-retest co-efficient of 0.82 was established.

Ethical Consideration

Permission was obtained from the chiefs and head of household and consent of the respondents and their significant others was obtained and confidentiality was assured, before embarking on data collection. The interview day and time was dictated by each respondent through the family head.

Procedure

These 800 subjects were approached through the Chief of each community. This was done to get confidence and cooperation of respondents. These elderly people were interviewed individually. Data collection took 13 weeks, the interview date and time was dictated by each respondent and the elderly people were interviewed separately. Each interview session lasted between 10 to 20 minutes with an average of 15 minutes.

Data Analysis

Data collected were analyzed using descriptive and inferential statistics.

Results

As shown in Table 1. The common health problems of the respondents include heart related problem/hypertension (9.7%), Backache and generalized pains (17.7%), Gastro – Intestinal problems (15.4%), fever (126%), Arthritis (115%), skin diseases (6.8%) and hearing impairment (6.5%). The skin diseases, diarrhea and indigestion might be as a result of the unhygienic feeding and living conditions of the elderly.

Table 1
Common Health Complaints of the Elderly

S.No.	*Ailments*	*Frequency*	*%*
1.	Fever	132	12.6
2.	Backache/Generalized pains	186	17.7
3.	Arthritis	121	11.5
4.	Hypertension/Heart related problems	201	19.7
5.	Diabetes	32	3.1
6.	Prostate/Urinary Tract Problem	47	4.5
7.	Hearing impairment	68	6.5
8.	Gastro intestinal problems indigestion	161	15.4
9.	Chewing problem/difficulty in swallowing	88	2.2
10.	Skin disease	72	6.8
	Total	1048	100

The heart related problems might have caused swellings on the legs among the elderly people. In addition; the prostate problem might have caused the urine incontinence in few of them.

Table 2
Frequency and Percentage Distribution of Blood Pressure of the Respondents in mm/Hg

S.No.	*Blood Pressure Value*	*Frequency*	*%*
1.	Below 100/60	26	3.2%
2.	100/60–110/60	249	31.1%
3.	110/70–120/70	262	32.8%
4.	120/80–130/80	114	14.2%
5.	130/90–140/90	81	10.1%
6.	Above 140/90	68	8.6%
	Total	800	100

Table 2 showed that about 8.6 per cent of the respondents had abnormal blood pressure assessments, while the rest had normal blood pressure within the normal rate.

Table 3
Frequency and Percentage Distribution of Visual Acuity of Respondents

S.No.	*Visual Acuity Value*	*Frequency*	*%*
1.	1 6/36	27	3.4
2.	6/24	163	20.4
3.	6/18	198	24.7
4.	Below 6/18	412	51.5
	Total	800	100

Table 3 revealed that about half (51.5%) of the respondents had an abnormal visual acuity assessment.

Table 4
Psycho — Social Complaints of Elderly People

S.No.	*Psycho – Social Complaints*	*Frequency*	*%*
1.	Poor social support	135	10.5
2.	Death of close partner	286	22.3
3.	Single parenthood	83	6.5
4.	Harassment from youth	135	10.7
5.	Boredom/loneliness	94	7.3
6.	Poverty/idleness	71	5.5
7.	Less social freedom	179	14.0
8.	Limited opportunity	106	8.3
9.	Neglect	83	6.5
10.	Frustration	110	8.4
	Total	1,282	100

The type and frequency of psycho-social complaints of the elderly were also assessed. Table 3 revealed that the elderly complained of psycho social problems such as death of close partners (22.3%), less social freedom (14.0%), poor social support (10.5%), limited opportunity (8.3%) and single parenthood (6.5%).

To test whether the psycho-social support received by the elderly people could be categorized in terms of types of marriage.

Hypothesis 1 was confirmed by this result because 374 (46.75%) of the elderly people in the polygamous family had good psycho-social support.

Table 5
Summary of Chi – Square Showing Type of Marriage and Psycho-social Support of Elderly People

Categories	*F*	*%*	*df*	*X2*	*P*
Monogamy poor psycho social support	192	24			
Monogamy/fair psycho-social support	103	12.9			
Monogamy/good psycho-social support	70	8.8	2	363.08	< 0.001
Polygamy/poor psycho-social support	28	3.5			
Polygamy/fair psycho-social support	33	4.1			
Polygamy/good psycho-social support	374	46.8			

Apart from accessibility to health care, conventional education could also determine the health status of the elderly people. A Pearson chi – square test was used to assess whether the health status of the elderly people could be categorized in terms of how educated they were. Table 6 revealed that more 362 (45.13%) of the elderly people who did not had more than primary school education also had poor health status.

Table 6
Summary of Chi-Square Showing Status

Categories	*F*	*%*	*df*	*X2*	*P*
At most primary education/poor health	362	45.3			
At most primary education/fair health	184	23			
At most primary health/good health	83	10.4	2	357.24	< 0.001
At least secondary education/poor health	12	1.5			
At least secondary education/fair health	10	1.2			
At least secondary education/good health	149	18.6			

The result in table 7 indicated that 410 (51.25%) of the elderly people who received good psycho-social support also experienced poor health. This result supports hypothesis 3.

Table 7
Summary of Chi Square Showing Health Status and Psycho-Social Support

Categories	*F*	*%*	*df*	*X2*	*P*
Poor health/poor psycho-social support	181	22.6			
Poor health/fair psycho-social support	52	6.5			
Poor health/good psycho-social support	34	4.2	2	342.15	< 0.001
Good health/poor psycho-social support	52	6.5			
Good health/fair psycho-social support	71	8.9			
Good health good psycho-social support	410	51.3			

Discussion

Respondents were divergent in their option and consistent to the extent that not less than 34 per cent gave nurses and medical practitioners a pass mark for their sufficient on the elderly. 177 (22.1%) of

the respondents criticized nurses and medical practitioners over their carefree disposition to the welfare of the elderly.

Elderly people complained of medical conditions such as fever, gastro-intestinal disorders, generalized pains, hypertension and other related heart diseases as well as series of psycho-social complaints such as limited opportunities, neglects, loneliness, isolations, labeling, harassment and frustration. Most elderly people had poor vision, poor health-seeking behaviour, and depended mainly on their children as caregivers. This was supported by Idris, *et al.*, (2012) that the most common major health problem was poor vision, followed by back pain, joint pains, loss of memory, insomnia, and dizziness. The major ocular problems of elderly patients in Nigeria were cataract, glaucoma,, refractive errors and conjunctival diseases and most of the causes of ocular morbidity and blindness are avoidable if they are well managed. This was supported by Nwosu and Onyekwe, (2002).

Many elderly people do not like going for medical care in government hospitals, the preferred unorthodox and religious health care due to their beliefs, culture and some past experiences in the hospitals.

Backache forms a leading symptom among elderly in Ondo state, this can be attributed to the elderly unwillingness to divulge from previous occupation that are strenuous and require bending down such as farming and fetching of firewood; as well as some elderly preferred working for so long, some refuse to retire from action service. This study also revealed that majority of the respondents had minimal or no difficulty with physical functioning as they perform activities without or with some assistance, the study findings showed a contradiction to the findings of Palmore (1997) that 20 per cent of those over 65 years in the United States are unable to engage in their major activities, this may be due to difference in the demographic and ecological setting.

Poor household condition among the respondent also indicated a need for housing programme for the elderly. If provision of walking aids and infrastructures and skilled personnel to train the elderly in the use of these aids. This corroborated Bhalla (1998) assertion that the

aged are more physically helpless, economically independent or less capable of adjusting to new roles hence their likelihood of enjoying high status is very remote.

The study further revealed that most of the respondents were suffering from social isolation despite the fact that they live within their husbands and wives or relations in the same household, many responded to feelings of boredom neglect and loneliness of either because of empty nest or because they are aged. Ageing group at the level of 60 years over be it working class or otherwise are faced with changing world globalization, post-modernization confusion amidst the collapse of early traditional farming system which kept elderly surrounded by many wives and children and close range marital relations.

This was supported by Fajemilehin, *et al.,* (2007) and UNESCO (1987) that most of the elderly present deplorable condition were secondary to youth unemployment and adult joblessness and that cultural traditions in Nigeria normally provided adequate and sympathetic support to the aged population but two types of old persons are particularly vulnerable, the first are those who have no children or close relation to care for them and secondly, those affected by migration, either because they have moved or because their children have migrated away. This was further supported by Okumagba (2011) that the extended family is partially useful in giving support to older people facing widowhood and bereavement. Studies have shown that the extended family does function effectively at such times by providing emotional, social and financial support.

It was also found that elderly people in polygamous marriage had better psycho-social support than those in monogamous marriage [X^2 (2) = 363.08, $P < 0.001$]. The null hypothesis is rejected. This was supported by Fajemilehin (2009) that elderly persons continuously living with spouse(s) or any other familiar support are more likely to display positive health behaviour and in addition live longer.

In addition it was found that highly educated elderly people reported better health than less educated elderly [X^2 (2) = 357.24, $P < 0.001$]. The hypothesis is accepted.

Similarly, elderly people who had psycho social support and better health status were more than those without psycho social support [X^2 (2) = 342.15, P < 0.001]. The hypothesis is accepted. This was supported by Fajemilehin and Ade-Ademola (2000) that meaningful social relationships that provide a sense of security and opportunities for companionship and intimacy are important for the well-being of old people.

Furthermore, elderly people who earned higher income had improved health status than those with lower income X^2 (2) = 310.27, P < 0,001]. The hypothesis is accepted. This was supported by Fajemilehin (2009) that income certainly, the basic and most central issue for the elderly in any society, that elderly have less money with which to purchase health care and prone to chronic illness. It is obviously complex, critical and intentioned with the large problems of poverty, welfare and discrimination. This will be a result and effect of economic obsoleteness secondary to decreased strength, activities of daily living and retirement. This was supported by Okumagba (2011) that inspite of the support which is received by the elderly in Nigeria, economic insecurity is a major source of worry among the Nigerian elderly. He stated further that the major cause of reduced support for the elderly is not "modernization" but inflation. There is urgent need for social welfare policy and programmes to be put in place to take care of the elderly in Nigeria.

It was reported that easy accessibility to nursing care strongly affected their health status [X^2 (3) = 1040, P < 00010. This was supported by Fajemilehin and Fabayo, (1991) that majority of people are frightened when they are sick or ill and have to go to hospital, hence patronage of modern health care institutions will be a later taught when all other approaches of care fail.

It was deduced that the income (finance) determined the percentage of elderly person with good health status because 500 (62.5%) of the elderly people that earned low income had poor health status.

Therefore, there is an indication for specially designed health services for the elderly; this would improve provision of health services and drugs to the elderly.

Implication for Nursing Practice

Aged are faced with many challenges, it is the responsibility of nurses especially community health nurses to make an assessment of the elderly people in later life by taking into account both the individual and the setting in which the elderly person lives.

Also rapid growth in the size of elderly people population has prompted concerns about the negative effects of old age and the psychological effects that these posed on the aged population. More attention should be given the health care practitioners especially the nurses to the problems of the elderly by given priority on health education the people (masses) and family members on the needs for maximum support for the elderly and how to make them live a fulfilled life.

Conclusion

The health and social status of elderly people was mostly affected by income, age, familiar care coupled with social support and some varying degrees of common ailments being experienced by them, Hence, government, multinationals and private spirited individuals need to create programmes for the elderly in order to improve better care of elderly.

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Is Economic Security of Elderly A Concern for India: A Systematic Review of Indian Plans and Policies

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ABSTRACT

The world is increasingly heading towards an ageing world. Population ageing till recently was considered as a challenge for the developed countries; however it is now extended to the developing countries as well. India is experiencing an increase in its elderly population and a change in its family structure that poses a serious threat to the wellbeing of elderly. This threat arises because traditionally, the needs of the elderly were taken care of by their immediate family members; however with the structural changes in the economy, the breakdown of the families became inevitable to a certain extent and this shifted the responsibility of elderly to the government. The present research work explores the preparedness of India for ensuring the economic security of its increasing elderly population. Being a developing nation, India has huge unmet development needs and at the same time elderly also need state support. There is an issue of priority setting for the resource allocation to meet various goals. The government has taken several initiatives which are few but commendable. It is also important to ensure that the efforts must reach to those who are in need of them. The introduction of Direct Benefit Scheme is an attempt to improve targeting and reduce corruption. Efforts are required at micro as well macro level; expecting everything from the

government would imply moving away from the reality. The present paper critically reviews the existing government plans and policies for elderly population and suggests some measures to ensure the well being of its population at later ages.

Keywords: Economic Security, Elderly Population, Old Age Plans and Policies

Population ageing, a triumph of civilization and medical science, raises critical issues related to economic growth, economic security and health care (National Research Council, 2010). It is increasingly becoming a worldwide phenomenon with the change in the demographic variables[1] (Kinsella & Phillips, 2005). The need of this subgroup is certainly different from the rest of the population which needs to be met differently. The productive capacity declines with a simultaneous increase in the expenditure, for instance medical expenditure, in old age which makes them dependant on others. There is a need of some sort of security mechanisms[2], whether it comes from family or state, which can cater to the economic as well as other needs of the elderly population.

Many older persons can afford to retire early in developed countries where ageing is not an issue from the resource perspective (Kinsella & Velkoff, 2001); however, the situation is grave in developing countries that have huge unmet development needs; thus priority setting for resource allocation becomes a major challenge. And the development of infrastructure conducive for health ageing is very essential for these countries as it is expected that one fifth of their total population would be in the age group of 60 years or above[3] by 2050 (United Nations, 2007). India has already earned the distinction of being 'graying nation'[4] as it is home to the second largest population of elderly (Prakash, 1999) and it is expected that this proportion will increase to 11 per cent by 2021 (CSO, 2011). Table 1 presents the percentage wise graying of population which is not rapid but its mammoth size with a larger share of women raises a question whether India is prepared to provide a life of dignity to its increasing number of elderly.

Traditionally, India has the system of multi-generational co-residence whereby more than one generation stay together under one roof and the family provided much needed care, health, emotional

Table 1

Proportion of Population Aged 60 Years and Above by Sex, India, 1981–2001

Year		*60–69*			*70–79*			*80 and above*		
		Male	*Female*	*Total*	*Male*	*Female*	*Total*	*Male*	*Female*	*Total*
1981	N	1,41,79,653	1,35,02,328	2,76,81,981	57,89,939	55,68,699	1,13,58,638	20,53,275	20,73,490	41,26,765
	%	4.12	4.20	4.16	1.68	1.73	1.71	0.60	0.65	0.62
1991	N	1,84,00,867	1,72,06,608	3,56,07,475	76,38,234	70,61,420	1,46,99,654	33,24,624	30,49,887	63,74,511
	%	4.23	4.27	4.25	1.76	1.75	1.75	0.76	0.76	0.76
2001	N	2,30,58,450	2,42,65,284	4,73,23,734	1,07,90,897	1,04,68,972	2,12,59,869	39,18,980	41,19,738	80,38,718
	%	4.33	4.89	4.60	2.03	2.11	2.07	0.74	0.83	0.78

Source: Author's calculations based on census of 1981, 1991 and 2001

support and security to its elderly members (Kumar, 2003); thereby reducing the role of government in making provisions for old age security nominal. Gradually, the process of industrialization, urbanization and migration changed the social scenario, giving rise to the concept of nuclear family set-ups which weakened the traditional customs and bonds (Bloom *et al.*, 2010). Along with this, the change in demographic parameters has brought changes in the old age dependency ratio. Table 2 reflects the increase in OADR from 11 per cent in 1961 to 13 per cent in 2001 and when analyzed by sex, the female OADR is increasing more rapidly than male OADR (from 11% to 14% and 11% to 12.5% respectively). This means there will be larger number of female elderly population. Also increasing OADR implies more responsibility of the state as higher the OADR smaller is the size of the population to support them; in other words, a larger group of older people will have to depend on relatively smaller younger adult working group.

Table 2
Old Age Dependency Ratio by Sex in India, 1961–2001

Year	*Males*	*Females*	*Total*
1961	10.91	10.94	10.93
1971	11.39	11.57	11.47
1981*	11.84	12.24	12.04
1991**	12.16	12.23	12.19
2001+	12.45	13.77	13.08

Source: Author's compilation from the statistics released by Ministry of Statistics and Programme Implementation, Government of India

Note: * Excludes figures for Assam in 1981 and Jammu & Kashmir in 1991 where the census was not conducted.
** Excludes Jammu & Kashmir
\+ Excludes 3 Sub-divisions of Senapati district of Manipur

State Support for Old Age Security

One of the major imperatives of Indian government is to construct and implement a modern social security system (National Policy on Senior Citizens, 2011) to ensure that its older population does not live unprotected, ignored and marginalized. The present social security mechanism works at three levels; for those employed in organized sector, in unorganized sector and for rural areas. There are

several government schemes, retirement and pension plans and policies for the retirees employed in the formal sector but a large bulk of ageing population is engulfed in the informal sector with absolutely negligible societal reliefs (Bloom *et al.*, 2010). In 2006, the estimated shares of the labour force covered by mandatory pension schemes were only 9 per cent (National Research Council, 2010). There are a few policies and programmes catering to the needs of this larger segment of population employed in unorganized sector such as National Old Age Pension Scheme (NOAPS), National Policy on Older Persons, Senior Citizens Savings Scheme (SCSS), Maintenance and Welfare of Parents and Senior Citizens Act, 2007, etc., however, it would not be feasible to explain each and every programme of Government of India for its senior citizens in detail so few of them are discussed below:

- ✓ *Integrated Programme for Older Persons (IPOP), 1992:* It is implemented with the objective of improving the quality of life of senior citizens by providing basic amenities like shelter, food, medical care and entertainment opportunities and by encouraging productive and active ageing through providing support for capacity building of Government/Non-Governmental Organizations (NGOs)/Panchayati Raj Institutions/local bodies and the Community at large. Under the Scheme, financial assistance up to 90 per cent of the project cost is provided to NGOs for establishing and maintaining old age homes, day care centers and mobile Medicare units. The Scheme has been revised w.e.f. 1.4.2008 which has increased the amount of financial assistance for existing projects and included various innovative projects that are eligible for assistance under the Scheme like Maintenance of Respite Care Homes and Continuous Care Homes; Physiotherapy Clinics for older persons; Help-lines and Counseling Centers for older persons; Sensitizing programmes for children particularly in Schools and Colleges; Formation of Senior Citizens Associations, etc.
- ✓ *National Old-age Pension Scheme (NOAPS), 1995:* The Ministry of Rural Development has implemented NOAPS under the National Assistance Programme to provide pension to poor or disabled elderly who are in the age group of 60 and above years. The elderly should be destitute in the sense that they have no

regular means of subsistence from own source of income or through financial support from family members or other sources. The Central assistance of Rs 200 per month is given as pension, which is supplemented by States government with differential contribution across the states. It has been now renamed as Indira Gandhi National Old Age Pension Scheme (IGNOAPS) and the rate of monthly pension would be raised to Rs 1,000 per month per person and revised at intervals to prevent its deflation. The age limit for the scheme has been revised to 60 years and above or those who are disabled. The oldest old would be provided additional pension in case of disability, loss of adult children and concomitant responsibility for grandchildren and women. This would be reviewed every five years. The Central government announced 'Annapurna Programme' in the year 1999 for the elderly destitute. Under the programme, all older persons who are eligible for the NOAPS are given 10 kg. rice/wheat monthly, free of cost, through the existing public distribution system

- ✓ *National Policy on Older Persons (NPOP), 1999:* The Ministry of Social Justice and Empowerment announced and adopted NPOP to reaffirm its commitment of ensuring the well-being of older persons. The policy defines 'senior citizen' as a person who is 60 years old or above. The Policy envisages State support to meet the various objectives; a few of them are:
  - To encourage individuals to make provision for their own and spouse's old age;
  - To encourage families to take care of their older family members;
  - To enable and support voluntary and non-governmental organizations to supplement the care provided by the family;
  - To provide care and protection to the vulnerable elderly people;
  - To provide adequate healthcare facility to the elderly;
  - To promote research and training facilities to train geriatric care givers and organizers of services for the elderly; and
- ✓ *National Council for Older Persons, 2005:* The government has reconstituted it to advice and aid the government on developing policies and programmes for older persons. It provides feedback

on the implementation of NPOP and specific initiatives for older persons. It is the highest body to advise and coordinate with government in the formulation and implementation of policy and programmes for the welfare of the elderly population.

- ✓ *Maintenance and Welfare of Parents and Senior Citizens Act, 2007:* It was enacted to ensure need based maintenance for parents and senior citizens and their welfare. The Act provides for:
  - Maintenance of Parents/senior citizens by children/relatives made obligatory and justifiable through Tribunals
  - Revocation of transfer of property by senior citizens in case of negligence by relatives
  - Penal provision for abandonment of senior citizens
  - Establishment of Old Age Homes for Indigent Senior Citizens
  - Adequate medical facilities and security for Senior Citizens

The Act has to be brought into force by individual State Government. As on 3.2.2010, the Act had been notified by 22 States and all Union Territories. The Act is not applicable to the State of Jammu & Kashmir, while Himachal Pradesh has its own Act for Senior Citizens.

- ✓ *Indira Gandhi National Widow Pension Scheme, 2009:* IGNWPS is implemented by Ministry of Rural Development, Government of India for widows aged between 45 and 64 years of age who belong to a household living below Poverty Line. The pension amount is Rs 200 per month per beneficiary and the concerned state governments are also urged to provide the equal amount to the person. The pension is to be credited into a post office or public sector bank account of the beneficiary. The pension will be discontinued if there is the case of remarriage or once the widow moves above the poverty line.
- ✓ *National Policy for Senior Citizens 2011:* It addresses issues concerning senior citizens in the age group of 60 and above living in urban and rural areas, special needs of the oldest old and older women. In principle the policy values an age integrated society. It will endeavor to strengthen integration between generations, facilitate interaction between the old and the young as well as strengthen bonds between different age groups. It believes in the

development of a formal and informal social support system, so that the capacity of the family to take care of senior citizens is strengthened and they continue to live in the family.

- ✓ *Old Age Social and Income Security (OASIS):* The Ministry has commissioned the National Project tilted OASIS for young workers employed in the unorganized sector (including farmers, shopkeepers, professional, taxi-drivers, casual/contract laborers, etc.). According to this project, every young worker can build up enough savings during his/her working life, which would serve as a shield against poverty in old age. The need for this arose because of lack of adequate instrument to enable workers in the unorganized sector to provide for their future old age.
- ✓ There are several other schemes for ensuring pension in latter stages of life like *Jeevan Akshay life insurance policy*. It is primarily for the self-employed (e.g., doctors, lawyers, shopkeepers) persons in the age group 50 and above who can purchase this policy on their own lives and get a monthly pension; *Bhavishya Jeevan plan* a specially designed endowment plan for professionals who have limited spans of high income. The Unit Trust of India also provides contributory programmes for medical care, such as the *Senior Citizens Unit Plan* and *the Group Medical Insurance program*. These various plans are for workers in the unorganized sector and primarily funded by individuals. These retirement income vehicles operate like Individual Retirement Accounts (IRAs). However most of the plans are not suitable for agricultural workers or destitute because the contribution levels required for such plans are too high.
- ✓ In 1992 the schemes of giving *rebate on the income* tax paid by senior citizens were introduced. The Law also helps retired citizens in evicting tenants who occupy their houses and refuse to vacate them. Various other ministries like Ministry of Health and Family Welfare, Ministry of Railways, Ministry of Finance and Ministry of Civil Aviation have some concessions and benefits for elderly population.

A Review of Plans and Policies

The consumption pattern undergoes a change in old age with a greater tilt towards medical and health goods. The increase in the life

expectancy has really added years of life or it has prolonged the misery of people needs to be considered. When people are already poor, living longer may ultimately mean living with unattended medical problems as health services cannot be readily purchased and they might not have any financial assistance (World Economic Forum, 2008). An estimated one-third of older people in India are entitled to the national pension. However, not all of those entitled receive it, because the central government sets cash ceilings for each state, thus limiting the number of beneficiaries (Gorman, 2004) and there are some eligibility criterions for being qualified as a beneficiary which means a section of those who may be in need are filtered out at the initial level if they do not fulfill the eligibility criterion.

India is still in the stage of development where each section of the population needs investment and attention, thus given the limited resources with different priorities makes universal coverage of old age security programmes a matter of concern. At present, India spends 1.7 per cent of its Gross Domestic Product on social protection measures. The amount of pension to be given to the beneficiaries is very nominal to keep up with the rising inflation which led beneficiaries to barely meet their basic needs (Prasad, 2011). The population employed in the organized sector is entitled to various post retirement benefits but that proportion is as small as that of 10 per cent. Thus, a large proportion of the elderly population is uncovered and is dependent on their past savings which a majority of households lack (Mishra, 2011). On the other hand evolution of nuclear family systems and rising expectations due to increase in per capita income, education, etc., are some of the factors that are likely to further weekend the traditional safeguards of elderly. The existing plans and policies for old age security are handful which makes it difficult to ensure the universal coverage.

The initiatives taken by Indian government are though few but commendable if the benefits are reaching to those who are real beneficiaries. The irony is that a large section of poor elderly who are in need of assistance are ignorant about policies and welfare schemes of government. Lack of awareness leads to lack of demand and thus a large deserving section is left out. Ageing has an important gender dimension. Universally, women tend to live longer than men (Gorman, 2004). Indian society is patriarchal in nature which makes the condition of women more vulnerable. The benefits meant for

them are grasped in between before they can reap the fruits. Such sections of the society are hard to reach and if identified it is difficult to make sure that they are being benefitted. In 2011 India was ranked 95th out of 178 countries in Transparency International's Corruption Perceptions Index which throws light on deep rooted corruption in Indian system. There are high possibilities that the amount allotted by government for poor and needy elderly is fulfilling the needs of those who do not deserve it and a meager amount is actually reaching to the real beneficiaries. Considering this possibility, the government of India has introduced the Direct Benefit transfer plan in the year 2013 for seven schemes in 20 districts. Under this plan, the benefits such as pensions etc will be directly credited to the bank or post office accounts of identified beneficiaries. This will help in improving the targeting and reduce the corruption in the distribution of benefits. The problem is not that there is an increase in the proportion of older people, but many people are spending their lives in poverty and ill-health. Studies estimating poverty rates by age group generally conclude that poverty is higher among the very young and the very old (Ibid.).

Every coin has two sides. It would be unjust to conclude that government efforts are going in vain. Such efforts are handful but they are indeed bringing a change to the life of elderly. For a poor person who has no capacity to work and no resources at his disposal, even a small amount of help counts to him. According to a survey conducted by HelpAge International (Gorman, 2004) across the countries including India many beneficiaries reported that they are living because they are receiving assistance from the government. An eighty year old woman living in Uttar Pradesh and a receiving pension said that

If I do not get this money I will die here in my bed and nobody will bother about me.

Another seventy year old man living with his wife, married son and daughter in a village finds difficult to meet bare needs of life said that, *"Life will be miserable without pension money*".

The expenditure on medical and health needs increases in old age and in that situation assistance from outside helps in reducing the burden of increased expenditure. A 78 year old widow who is a beneficiary said that, *"I am too sick to do physical work and if I do not get my*

pension money then how will I eat and pay for the doctor and medicines? I have to borrow money even when I am getting this pension. What would happen if I did not get it?"

The weakening of joint family system and increase in the cost of living makes the condition of elderly more vulnerable. Many a times the immediate family considers elder members of the household as burden because they are not adding anything to the income of the household. In such situation pension works as an income and an incentive for their family to take care of them. A 75 years old widow living in Madhopur village felt that her family treats her well, but her pension makes an important difference, "*If I do not get this money I will be treated as an undesirable burden and my children will pass me from one house to another*".

There are many more instances which reflect that help from the government irrespective of its size means a lot for elderly people especially those who are destitute in ensuring a place for themselves in the society.

The Road Ahead

The issue of old age security will move much beyond the capacity of government looking at the pace at which number and proportion of the elderly population is increasing in coming decades. In a society, as large and culturally diverse and complex as India, changes take place at different speeds and at different levels of population which takes ageing process far away from uniformity. There is a lot to be done starting from the individual level to the governmental level:

- *Individual level*: India has one of the world's highest domestic savings rate, i.e., 33.7 per cent in 2009–10 (RBI bulletin, 2010) but where these savings are invested is a cause of concern. Workers should be encouraged to contribute towards a self financed old age income security within their abilities.
- *Societal level:* The issues related to ageing should be advocated so as to make people aware and raise their consciousness for such issues, particularly, professionals, politicians, voluntary workers, NGOs and the general public need to be targeted by these awareness-building exercises. The neglect of elderly should not be acceptable to the society.

- *State level:* The government shall make provisions to introduce an Old Age Pension scheme for all needy, especially the rural aged, widows and people in urban slums. The existing pensions need to be enhanced, and their appropriate disbursement must be ensured. The age of retirement should be increased to reduce the double burden on government expenditure
- The society needs to move back to its traditional values and norms. The institution of family should be strengthened as the emotional support comes from family unlike other needs which could be met from other sources.

The problem of caring for a vast elderly population is complex and how soon and effectively this can be achieved is still a question. There is a long way to go ahead in making old age a privilege and meeting the Universal Declaration of Human Rights which states that Everyone has the right to a standard of living adequate for the health and the wellbeing of himself and his family... and to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.

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Notes

1. Age-sex structure is bending towards elderly population due to increase in life expectancy and simultaneous reduction in fertility rates.
2. Security of an income to take the place of earnings when they are interrupted by unemployment, sickness, or accident; to provide for retirement benefit, to provide against loss of support by death of either person and to meet exceptional expenditure such as those connected with birth, death and marriage (Beveridge, 1943).
3. See Appendix 1.
4. The population pyramids of India will change with a shift towards elderly population. See Appendix 2.

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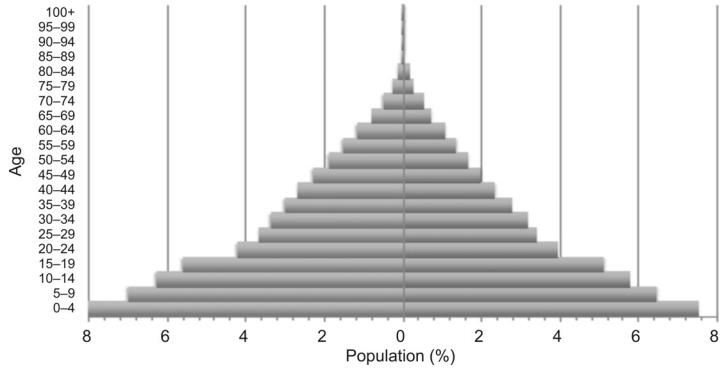
Appendix 1
Estimates of Total Population and Per cent of 60+ Population at World Level, Developed and Developing Countries

	Population (Millions)			*% of Total Population Age 60+*		
	1950	*2007*	*2050*	*1950*	*2007*	*2050*
World	2,519	6,616	9,076	8.2	10.7	21.7
Developed Countries	813	1,217	1,236	11.7	20.7	32.4
Less Developed Countries	1,707	5,398	7,840	6.4	8.4	20

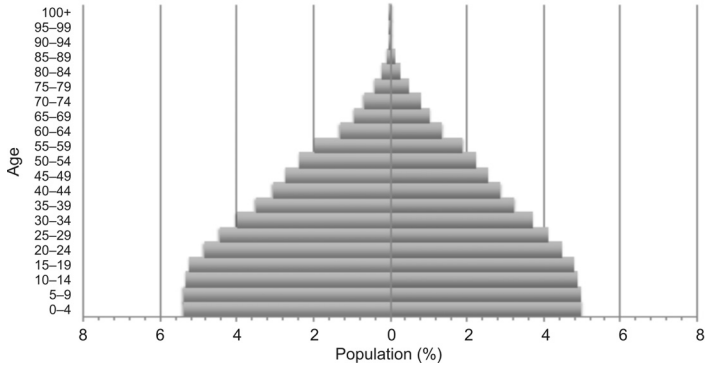
Source: United Nations (2007)

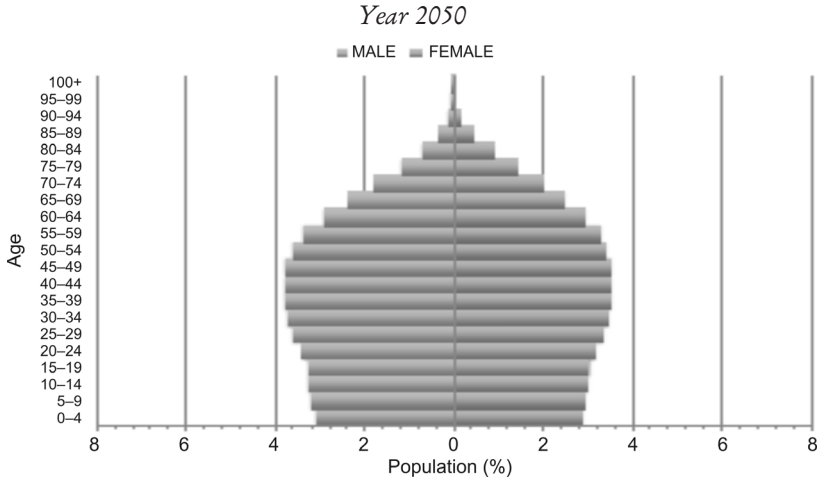
Appendix 2
Population Pyramids for India

Year 1970



Year 2010





Source: United Nations (2009.)

The above three age-sex population pyramids for India shows a change in the population structure over time with the base getting narrowed down and bulging out at the center. This clearly reflects that the proportion of child population has decreased from 1970 to 2010 and will continue decreasing as projected for the year 2050. The population pyramid of 1970 is showing a broader base which gets narrowed down as the age increases, in contrast to this, the year 2010 is showing narrowing down of base, however the proportion of child population is still higher but as India move to year 2050 there will be more proportion of working age population in the total population and the older population in comparison to child population. This throws light on the change in dependency ratio and the need of the efforts to ensure well being of this increasing section of population. Over the time the proportion of women is higher than men in older ages which will further increase by 2050 which means that there will be more number of elderly women seeking support and care. The elderly population will also grow old, though it is not clearly visible in the year 1970, slightly visible for 2010 but clearly there is an increase in the proportion of population in the age group 80 and above. The pyramids clearly emphasize the need of reforms for meeting the needs of this ever increasing elderly population.

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Ageing Population and Economic Growth: Understanding Problems in Indian Healthcare and its Policy Implications

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ABSTRACT

Adequate healthcare services for the ageing population is an urgent social need. India has so far failed to provide healthcare and related services despite reasonable economic growth during the last decade. Government lacks healthcare infrastructure, trained staff and institutions required for such a task. This paper describes the status of ageing population in India and analyses its implications for policy. Reforming the existing institutions and practices can remedy the problems of Indian healthcare. Care for the ageing population is an urgent need that can be fulfilled by designing intelligent policies, efficient delivery mechanisms and strenuous and continuous evaluation of policies and programmes.

Keywords: Ageing, Growth, Healthcare, Policy, Delivery, Services, India

Health is considered to be the most crucial aspect of well-being (Sen, 1996). Unfortunately India's performance in creating and delivering healthcare and related support services remains abysmally unsatisfactory (Purohit, 2004). This paper analyses the status of health facilities in India, its preparedness to deal with the needs of ageing population and implications of ageing and related services. Policy implications are analysed by sub-dividing it into distinct sections

dealing with growth and social needs, delivery of public services and ageing-related services. I use the term elderly and ageing population interchangeably. Population ageing has accelerated in the last decade in India and is considered as unprecedented (Kumar, 1997). In essence, it is argued that there is certain universality to ageing as a lifelong process in which 'all' are already involved (McGuire *et al.,* 2005). Let me caution that I do not give any rationale for action on ageing. I assume it to be our priority as elderly have always held a privileged position in Indian society, if not in reality, at least in imagination. Needs of ageing population deserve our attention due to pervasiveness of elderly Indians bereft of adequate healthcare and economic security, despite economic growth of last years. First section describes ageing in India, second section analyses its policy implications, third and last section concludes that adequate care for the elderly must be a policy priority. This can be achieved by designing intelligent and workable policies and delivery mechanisms by taking ground realities and competence into consideration. Care for the elderly should not be viewed merely as a policy prescription, but on larger and humane terms as morally binding. Elderly (along with children) belong to segment of population that are helpless to help themselves. Policy responses from government and private sector, must be swift, complete and institutional.

Understanding Ageing in India

Ageing can be understood as life experience and is related to ability of living (Ibid.). In many developed and developing countries, old age has come to be associated with lack of interest in living and life-process. The ageing population and the elderly are often associated with disability, dementia, inactivity and dependency; rather than with vitality, competency, activity and productivity (Ibid.). Developed countries have been able to increase the life-expectancy to 75.8 years for men, and 81 years for women (Visco, 2001). In India life expectancy for men is 66.38 years and 68.7 years for women (World Factbook, n.d.). After achieving the age of 80 men can expect to live about 7.3 years more and women about 8.9 years further (Doyle and Mckee, 2009). Attitudes towards ageing play an important role in determining how one experiences ageing in life (McGuire *et al.,* 2005). Research over last thirty years has highlighted that intellectual

capacity of the human brain increases until the age of forty and remains stable until the early sixty's (Schaie and Hofer, 2001). Intellectual performance of human brain is multi-dimensional, involving verbal ability, memory, reasoning and numerical skills (Doyle and Mckee, 2009). Ageing of Indian population is likely to be experienced adversely (Purohit, 2003). It has been so far difficult to obtain the precise estimates of the number of the aged and their actual needs (Visaria, 2001). To fully use India's 'demographic dividend', healthy ageing of Indian population is a necessary condition (Engelgau *et al.*, 2011). Thus, it is important to foresee the future factors that would determine the patterns of morbidity, disability and mortality in context of different regions in India (Kumar, 1997); as health is the most fundamental form of wealth available to a nation-state (Corbett, 2009). Ageing is a fact of life and affordable and efficient care must be a priority area for future action.

India's health expenditure is 3.9 per cent of GDP; Physicians density is 0.69 physicians/1000 population; hospital bed density is 0.9 beds/1000 population (World Factbook, n.d.). Increased life expectancy has led to increase in the total number of adult population between 2001 and 2011, and is projected to reach 324 million by 2050 (Sinha *et al.*, 2013). Low income states in India have lower life expectancy, high occurrence of diseases and high mortality rates (Purohit, 2004); which is equally applicable to elderly residing in such states. Along with physical health, mental health of the elderly is emerging to be a major public health concern (Sinha *et al.*, 2013). About 50 per cent of elderly Indian suffer from chronic diseases and about 5 per cent suffer from immobility (Kumar, 1997). Amongst older adults in the rural population, depression is a major health concern, particularly affecting women and elderly widows (Sinha *et al.*, 2013). Low and middle-income countries, including India, are witnessing a rise in non-communicable diseases (e.g., heart disease, alzheimer's, cataract, many kinds of cancer, diabetes, osteoporosis etc), that create advanced risk of disability (Basu and King, 2013). Rural population are severely affected by non-diagnosed non-communicable diseases which accompanies increase in personal expenditure towards treatment (Ibid.). Empirical evidence suggests that 40 per cent of household expenditures are spent on treating non-communicable diseases. Moreover such

households fall under, what is called as 'distress pattern' for treatment (borrowing and sales of assets) (Engelgau *et al.,* 2011). Financial burden of non-communicable diseases' treatment are shifting towards the patients (many times, elderly and poor or both) (Engelgau *et al.,* 2011). Evidence suggests that households are forced into poverty when faced with high medical expenses (see, McIntyre *et al.,* 2006).

Short and long term disability created by non-communicable diseases has direct consequences for participation in labour force or indirectly, by supporting those who participate in labour force, thus affecting productivity and per capita GDP growth rate (Engelgau *et al.,* 2011). Ill-health impoverishes the affected population by imposing high cost burdens on patients and their families (Russell, 2004). Considerable productive gain would be made by improving health of ageing segment of the population which does not actively participate in paid work, nevertheless contributes to the economy by volunteering, community well-being and domestic activities (McDaid and Needle, 2009), or has done so in the past. In the following section the another will analyse the policy implications of care for ageing which has emerged as an urgent social need calling for public and private management.

Policy Implications

Growth and Social Need

Strategic policy framework that can increase growth and reduce poverty rests on two pillars, i.e. improved investment climate (i.e. macro stability and openness, infrastructural development and better governance and institutions); and creating and executing policies of 'empowerment' (Ferro, *et al.*, 2004). Ageing and related services fall into the latter category as it requires creating workable policies and delivery systems. It is an established fact that advent of markets bring with them ills of different kinds. Fortunately, the established position of Indian economy creates more opportunities than closing them (Basu, 2004). It must be kept in mind that ageing is not an ill produced by the market, however response to it can be moulded by its functioning/non-functioning. Overall economic reforms would be more acceptable and popular to regional and state governments if it were also directed towards reform and advancement of human

development issues (education, health, water supply, women's welfare, child nutrition) (Bardhan, 2004). Although reform agenda is challenging, it is feasible as rewards from robust pro-poor growth is enormous. Policies and programmes for education, health and social protection are important for overall investment climate as well as for empowerment of weaker sections (Ferro, Rosenblatt and Stern, 2004). Therefore rather than trying to organise the retreat of the state, market reformers should pay more attention to reform of state machinery and institutions (Bardhan, 2004).

Health is the basis on which individual functions and is vital for a growing economy (Corbett, 2009). Improved health conditions can advance the health status of deprived sections of the populations in two ways. First, economic growth and employment can bring better access to health facilities and higher nutritional intake amongst the deprived population. Second, public support for better healthcare, education, food consumption and housing will transform the general health status (Sen, 1996). Economic reforms must go on simultaneously as it has given much desired impetus to economic growth and contributed to decline in poverty; and as one-third of world's poor live in India; reduction in poverty due to economic growth is a significant achievement (Ferro, *et al.,* 2004). Various empirical studies (Ravallion and Datt, 2004; Sundaram and Tendulkar, 2002) portray economic growth to be primary determinant of poverty reduction. However with regards to poverty reduction, there is divergence between northern and southern states. Poorer northern states have lagged behind due to low economic growth (Ferro, *et al.,* 2004). Concerning health, decrease in central grants has had a recognisable impact on poor states. Poorer states have found themselves failing to raise resources required for health sector (Bloom *et al.,* 2010). Inter-state differences in availability of health services and health sector staff is stark, which has consequences for overall health status of the country (Purohit, 2004), and elderly in particular.

The primary purpose of public health is to create and sustain conditions conducive for a healthy population (Corbett, 2009). There are three major approaches to decrease health inequalities, first, creating interventions to improve the health of disadvantaged groups; second, creating interventions to reduce the gap between those in

deprived circumstances and relatively better off groups; third, addressing the entire health gradient (see, Graham, 2000). Suitable policy approach to choose is up to the government on consideration of social needs; however chosen policy approach must be useable and not a dream/perfect document. Essential elements of health policy are effective public health mechanisms and health promoting interventions (McDaid and Needle, 2009). It is argued that provision of primary care is basic to functioning of the health systems as it is the first point of contact for patient or patient's family (Amery and Gillam, 2009). Non-comunicable diseases affect the spending pattern of a household thereby reducing the amount spent on food and education (Engelgau *et al.,* 2011). Consequently prevalence of illness and money spent on their treatment have direct implication for national economic growth and poverty reduction strategies (Ibkd.). Therefore, problems of human development ought to be taken up as they would persist even if trade, fiscal and industrial policy reforms are successful (Bardhan, 2004). Economic development must go hand in hand with social development (Purohit, 2004), as both are co-dependent.

Delivery of Public Goods

Indian state as a whole, till date, has found itself helpless in providing a comprehensive care to a large segment of elderly population (Kumar, 1997). Till recent past, traditional family arrangements provided the security to the elderly. Due to change in living arrangements, elderly are at a high risk of being poor or sliding into poverty (Purohit, 2001). Since individual states are responsible for delivery of human development services (Ferro, *Ibid.*, 2004), it makes the development goals more cumbersome to coordinate and leaves possibilities of leakage through mismanagement. Regional parties and governments hold political power, thus making national coordination on policy quite difficult. With such shift in political power, it is also observed that there is increase in fiscal dependence of state governments on the centre (Bardhan, 2004), which can be leveraged by an efficient centre to deliver policy goals. Existing data does not tell much about the quality of actual public services that are delivered (Banerjee, 2004). On the other hand very little attention is given to problems of delivery in creation of human development policies and programmes.

If the debilitating deficiency in the administrative delivery mechanisms remains (as it is today in most states), any possibility of creating a minimum safety net is low (Bardhan, 2004). A policy or programme would be effective if it is designed subject to given constraints laid down by available social and economic competences (Basu, 2004). Reform in designing policies and delivery mechanisms are needed to ensure just and efficient working. This is not easy to do as India lacks the culture of social policy evaluation. Second aiming at perfect policies and programmes has been counterproductive as it does not work on a large-scale and is not reproducible (Banerjee, 2004). Thus working characteristics of market and features of society must be considered as given, while crafting any workable policy or programme (Basu, 2004).

Effective health systems require effective governance (Amery and Gillam, 2009). Poor performance of health systems in terms of healthcare delivery can be attributed to weaknesses in institutions, budgeting and public expenditure management (Grindle, 2004). As each state's budgetary allocation determines the state's responsibility towards healthcare services and provisions (Purohit, 2004), central government must ensure, before allocating resources for a particular policy/programme that individual states are more accountable with regards to fiscal discipline, efficient allocation of resources vis-à-vis stated priorities, have mechanisms that swiftly handle corruption or mismanagement and actively create conditions that lead to high impact on health outcomes (through public information campaign, advocacy etc) (Amery and Gillam, 2009). For health aims to reach its objective and thereby achieve behavioural change, advocacy must be comprehensive in nature, thus distinguishing and targeting responsibilities from individual to society (Corbett, 2009). For effective delivery of health services, state must have adequate number of well-trained health workers (Amery and Gillam, 2009). In order to deliver the health services effectively, organisation culture and incentive system must be taken into consideration (Blumenthal and Bohmer, 1995). There is a strong need for innovation with regards to effective delivery of public goods. Such innovations should be rigorously evaluated and best practices amongst them must be circulated (Banerjee, 2004). Evaluation of policy intervention is an urgent need in

health sector (MCDaid and Needle, 2009). Consequently outcome measurement in health to be effective ought to be inclusive by taking into consideration not only health outcomes of an intervention, but also registering its effect on social participation, community well-being, work performance and family welfare (Ibid.). Although programmes should be suited to the external environments, however it is important to note that programmes strictly attuned to their environment cannot be imitated elsewhere (Banerjee, 2004), thus working solutions ready for adaptation to ground conditions and knowledge of time and place are better placed to serve our social needs.

Impartial Access to Ageing Services

Being objective, or need for 'objectivity' in health assessment is important for two main reasons, first, for critical assessment of health status of the people and second, in scrutinising policies that are intended to promote good health (Sen 1996). However the process working through economic growth and public support can also work independent of each other. Many countries, such as Costa Rica, Jamaica, China, Sri Lanka, Cuba etc have improved their health status and infrastructure without much economic growth. Evidence also suggests that increased GNP per capita can contribute towards improved health conditions (Ibid.). Elderly in India are increasingly vulnerable because the traditional support provided by extended families (or joint families) is undergoing change due to rapid socio-economic development (Kumar, 1997); and demands of the labour market. Mostly outdated views determine the popular perception of old age. Such prejudiced views would be increasingly questioned when wealthier and socially active older people are more assertive (Doyle, *et al.,* 2009), and have access to services that helps them live their lives with dignity. Robust health and economic security arrangements are vital for the elderly (Purohit, 2001). Public policy can aid in developing a legal and regulated environment where membership based organisations can present their needs (Jhabvala and Kanbur, 2004). High-income states have clear advantage over low income states when it comes to accessing healthcare services and provisions, i.e. per capita government expenditure on health, per capita availability of beds in hospitals and total number of health staffs, in rural and urban settings (Purohit, 2004).

Access to public goods, like health and education, has come to be a matter of haphazard extraction of entitlements from the political system; dependent on political power of individuals or groups laying claim to it (Banerjee, 2004). Nonetheless policy reforms have played chief role in reduction of poverty (Ferro, *et al.*, 2004), and can also do the same to decrease health inequalities. Social influence is the essence of policy making and achieving such an influence in society relies on persuasion, decision-making, compromise and changing people's attitudes (Corbett, 2009). To improve the quality of health care and control the rising health cost, 'medical practice guidelines' have become increasingly acceptable as policy instruments (Rizzo and Sindelar, 1995). A significant way of reducing and effectively tackling corruption and providing impartial access to health services is by making information accessible and by promoting transparency in fees, budgets and expenditures (Amery and Gillam, 2009). Poor healthcare infrastructure and limited access to healthcare services contribute to ill-health of population (Pandian *et al.,* 2007). Current government healthcare provisions are inadequate to deal with the demands of the ageing population (Purohit, 2003). It is still unclear how public health programmes can pin-point older adults with high risk of disability related to non-communicable diseases in a diverse demographic (Basu and King, 2013). Thus targeting elderly with specific problems remains a challenge. Nonetheless impartial access to a comprehensive health services can serve the basic health needs of ageing population and aid them in living satisfactory lives.

Conclusion

This paper highlights the health crisis facing the ageing population. The author has limited the paper to discussing the status of ageing in India, (lack of) policy preparedness and future trajectory of action. With high economic growth, government and private action on this social need is a requirement. Government is incumbent to deal with the problems of the ageing population, private sector can help by supplying 'know-how' for designing efficient delivery mechanisms. Intelligent and workable policy design and efficient execution on the ground can tackle the needs of ageing population. Indian thought distinguishably supports the care of the elderly. It is time we translate our noble thoughts into robust action. Intelligent policy design,

efficient delivery mechanism and strenuous evaluation will go a long way in making our thought a reality.

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Population Ageing and Affirmative Policy for the Elderly in India: A Need for Policy Reorientation

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ABSTRACT

Population ageing has emerged as an alarming problem in the world. It has been a major concern for long in the developed world. But it is now engulfing the developing countries as well, including India on a very rapid pace for which these countries, given their socio-economic conditions, are not well prepared. The population of elderly has rapidly increased in India in the recent years and is going to take a quantum jump in the coming decades. Realising the increasing magnitude of elderly population and OADR and urgency of the problem, the Government of India has already formulated a national policy on elderly population which is very noble and progressive in intentions and objectives and comprehensive in vision and scope. It identifies the problems of the elderly, the associated challenges and the strategies for meeting their needs. But the policy is very weak on several substantive points. The present paper describes the ageing scenario in India, critically assesses the affirmative policy of Indian state on the elderly persons and gives significant suggestions for urgently reorienting the policy to fully ensure welfare of the elderly in the country.

Keywords: Population ageing, Elderly, National Policy on Older Population, Old age dependency ratio (OADR), Affirmative policy.

> "Population ageing is unprecedented, without parallel in human history and the twenty-first century will witness even more rapid ageing than did the century just past."
>
> —The United Nations, World Assembly on Ageing (2002)

The aforementioned observation made by the United Nations clearly indicates about the alarming pace of population ageing in the world which compels us to introspect about certain important questions, like: Are we prepared for the care of our parents or grandparents or even our own care and well-being in the old age? Are public policies and social security measures meant for older persons appropriate and sufficient enough to successfully meet their needs currently and face the challenges in future? Keeping the significance and urgency of the problem in view, the present paper first briefly touches upon the important concepts and theories and then gives a broad overview of the scenario of population ageing in India. Secondly, it critically analyses the current affirmative policy of the Indian state for the care of the older people in the country. Finally, it gives some critical remarks and suggestions for reorientation of the policy. An attempt is made here to analyze the issues from a sociological angle.

Let us begin with clarifying certain concepts. The concept of population ageing, used here, is defined as the process in which older persons become a proportionally larger share of the total population. In this sense it is observed that population ageing is one of the most distinctive demographic features of the 20th century and it will certainly remain so throughout the 21st century. In fact, ageing is a multi-dimensional phenomenon. Different scholars have viewed ageing differently – as the outcome of biological, demographic, sociological, physiological or other processes. Ageing in its demographic sense is not the same as the biological process of ageing which is dynamic and continuous. Chronological age does not measure physiological or psychological age (Hermanova, 1988). A chronological definition of old age is often used by governments for administrative purposes, but is a poor indicator of functional ability of the person.

At theoretical level, it is affirmed that a *pure* sociological perspective for the study of ageing is needed because, as Kontos (2005) tells, early sociological study of ageing drew heavily from the

scientific, biomedical and specifically geriatric models which regard ageing as a purely demographic and biological phenomenon. Although study of ageing is very much concerned about bio-medicine, the 1960s and 1970s witnessed the emergence of 'big theory' in the sociology of ageing which focused on a search for common and universal explanation of ageing. According to Lynott and Lynott (1996), the first big theory on ageing was Cumming and Henry's book *Growing Old: the Process of Disengagement* (1961) in which they propounded the 'Disengagement theory' which holds that ageing is an inevitable, mutual withdrawal or disengagement resulting in decreased interaction between the ageing person and others in the social system he/she belongs to. It is considered normal and natural for an older person to withdraw from society. In contrast, Havighurst *et al.,* (1968) developed 'Activity theory' stating that ageing is associated with remaining active. It is held that basic personality, attitudes, and behaviours remain constant throughout the life span of a person. These two theories basically focus on the role or impact of individual's age in the process of ageing. Further, 'Age Stratification theory' propounded by Riley (1971), claims that age is an important factor of social inequality, bias and discrimination like class, race and gender. In 'Life Course theory', Edler (1985) opines that to understand diverse lifestyles of the aged one must have track of entire life course of the elderly. Most recently, the 1990s and the beginning of the new millennium has witnessed the emergence of 'critical cultural gerontology' (Gullette 2000) which involves explicit importation of social theory/theorists (such as Foucault) to unpack power relationships among older persons and other groups (Powell 2001). Thus, it is evident that there is no unanimity among sociological theories in explaining ageing as they differ in their emphasis on different dimensions of ageing. However, it would be relevant to see which theory/theories help us understand the ageing scenario, the social stance towards the elderly and the state policy toward them in India.

Scenario of Population Ageing

Population ageing has become a phenomenon of major significance across the world. The demographic transition, which signifies change in population trend from high to low fertility and mortality rates, has created a trend towards an increasing overall number as well

as increasing proportion of older persons across the globe. It is observed (United Nations 2001) that the proportion of the aged (60 years and above) in the total world population has increased from 8 per cent in 1950 to 10 per cent in 2000, i.e., increase by 2 per cent in 50 years. But the number of the aged people has increased three-times. The worry is their proportion is projected to reach 21 per cent of the world population in 2050, i.e., increase by 11 per cent over 2000 in 50 years. This is five-times the rate of increase over the previous 50 years (1950–2000) – certainly a very high rate of growth of the population of the elderly. Further, it is noticed that the proportion of the aged in the developed regions is higher – increasing from 12 per cent in 1950 to 19 per cent in 2000 and is projected to reach 34 per cent (over one-third of the population) in 2050. In case of the less developed regions, the proportion has increased very slowly from just 6 per cent 1950 to 8 per cent in 2000 but is projected to increase very rapidly (more rapidly than the developed regions) to reach 19 per cent in 2050. In absolute terms, the total number of the aged in the less developed regions was only a little more than developed regions in 1950 and 2000, but it is going to be about four-times in 2050, i.e., a very heavy load of the aged on the former. In case of least developed countries, the elderly population was the lowest and static at 5 per cent of the population during 1950 to 2000 but is going be double at 10 per cent in 2050. Hence, the rapid ageing of the population in all the regions of the world raises concerns about whether a shrinking labour-force will be able to support the huge population of the elderly people who are commonly dependent on others. This trend of rapid ageing of population poses difficult social policy challenges in the developed as well as developing countries, including India.

Further, in order to understand the implications of an ageing population specifically in India, the changing demographic configuration of the country needs to be understood first. Table 1 shows that India's population has rapidly increased from 361 millions in 1951 to 1210 millions in 2011 and is projected to reach 1,380.21 millions in 2021, i.e., about four-times that of 1951, though the decadal growth rate of population has decreased significantly since 2001 (21.54% in 1991–2001, 17.60 per cent in 2001–11 and projected to be 14.68% in 2011–21). Simultaneously, the total population of the older persons

has increased from just 19.61 millions in 1951, 98.47 millions in 2011, and is projected to reach 143.25 millions in 2021, i.e., over seven-times increase in 2021 over 1951.

Table 1
Growth of Total Population and Population Aged 60 or Over – India

Census Year	*Total Population (millions)*	*Population of the Aged 60+ (millions)*
1951	361.09	19.61
961	439.23	24.71
1971	548.16	32.70
1981	683.33	43.17
1991	846.42	56.68
2001	1,028.74	76.62
2011	1,210.19	98.47
2021*	1,380.21	143.25

Source: (i) *Provisional Population Totals – India: Size, Growth Rate and Distribution of Population,* (at censusindia.gov.in/2011-Provisional Results, accessed Sept. 07, 2012);
(ii) *Elderly in India-Profile and Programmes, 2006*, Second Issue, Govt. of India, Central Statistical Organisation, Ministry of Statistics and Programme Implementation, [at www.mospi.gov.in].

* Projected figure.

Also the growth rate of their population has been increasing rapidly in comparison with the growth rate of total population, especially since 2001 (see, Government of India 2011: 29). In 1951–61 the decadal growth rate of elderly population was only slightly higher (23.9%) than that of the total population (21.64%), i.e., a gap of only 2.26 per cent, in 2001–11 the growth rate of elderly population was over 11 per cent higher than that of total population, but in 2011–21 the growth rate of elderly population is projected to be over three-times higher (45.33%) than that of total population (14.68%), i.e., a gap of over 30 per cent.

The trend of age-group distribution of the population in India is given in Table 2. It is observed from the table that the proportion of those in 0–14 (years) age-group has been on the decline since 1981 (slow decline from 40% in 1971 to 38.7 in 1981 and then sharp decline to 29% in 2011 and projected to further decline to 25% in 2021). The

proportion of those in the working age-group 15–59 years marginally increased from 56.1 per cent in 1951 to 56.9 in 2001, then increased to 62.7 per cent in 2011 (increase by 5% over 2001) and is projected to increase slightly to reach 64 per cent in 2021 (increase by mere 1.3% over 2011, and by only 8% over 1951). The proportion of those in age-groups 60 years and above (i.e., the older people) shows an ever increasing trend since 1951. Their proportion increased very slowly from 5.5 per cent 1951 to 6.7 per cent in 1991 (increase by below 0.4% in a decade), then slightly faster reaching 8.2 per cent in 2011 (increase by 0.8% over 2001) and is projected to be 10.7 per cent in 2021 (increase by 2.5% over 2011). The broad trend of the total population in the country currently is that the proportion of those below 14 years is declining fast, of those in 15–59 age group is marginally rising but of those in age group 60 and above is rising faster.

Table 2

Per cent of Age-Distribution of Population by Broad Age-Groups, India Since 1951

Census	*0–14 Years*	*15–59 Years*	*60 Years & above*	*Total*
1951	38.4%	56.1%	5.5%	100.00
1961	41.1%	53.3%	5.6%	100.00
1971	42.0%	52.0%	6.0%	100.00
1981	39.7%	53.9%	6.4%	100.00
1991	37.6%	55.7%	6.7%	100.00
2001	35.3%	56.9%	7.4%	100.00
2011*	29.0%	62.7%	8.2%	100.00
2021*	25.1%	64.0%	10.7%	100.00

Source: Government of India (2011), *Situation Analysis of the Elderly in India, 2011*, Figure 1, p. 4.

* Projected figures.

It is held that the population of India is ageing in two ways: (i) ageing at the base of the population pyramid as a result of slow growth due to reduced fertility (birth rate reduced from 33.09 per thousand in 1981 to 22.10 in 2011), and (ii) ageing at the top of pyramid due to reduced mortality (death rate reduced from 12.5 per thousand in 1981 to 7.2 per thousand in 2011).

Further, the projected population of those aged 60+ by sex is provided in the report of the technical group on population projections constituted by the National Commission on Population, May 2006. Here it is observed that the population of those in 60+ age-group is going to increase from about 83.58 million in 2006 to 173 million in 2026 (comprising 84.62 million males and 88.56 million females), i.e., their population will increase by over two times in two decades. In terms of percentage, their proportion in total population will increase from 7.5 per cent in 2006 to 12.4 per cent in 2026 (11.8% male and 13.10% females) (Government of India 2008). With rapid increase in the number and proportion of people aged 60 years and above, the dependency ratio of India's population is rising. There are some figures available about OADR in India. According to the report, '*Situation Analysis of the Elderly in India 2011*' (Government of India 2011), the OADR ratio has been showing an ever-increasing trend, climbing up from 10.9 per cent in 1961 to 13.1 per cent in 2001 for India as a whole (ibid., 33). The data also reveals that OADR in rural area (14.1%) is more than that of urban areas (10.8%). Dependency is found to be slightly higher among women (13.8%) than among men (12.2%) and the gap between female and male old-age dependency ratio is increasing over time (ibid.). Further, it is observed that the OADR varies across states. For instance, in 2001 it was highest for Kerala at 16.5 per cent, followed by Punjab (15.2%) and lowest for Delhi at 8.4 per cent followed by Assam (10.3%), thus a gap of about 7 per cent between the highest and lowest reporting states. The highest OADR for female was reported in case of Kerala (17.7%) and lowest for Delhi (9.3%). OADR for rural was highest for Punjab (17%) and lowest for Delhi (7.7%) (ibid.).

The NSSO data (60th round) of 2004 (see, Government of India 2011:34) reveals that over 50 per cent of elderly population is economically 'fully dependent on others'. But the (complete) economic dependence is quite higher for women (over 70%) than men (about 30%). Over 50 per cent men are economically not dependent on others whereas this figure is only about 15 per cent for women. The trend is almost similar in both rural and urban areas. Additionally, 11 per cent urban elderly persons and 14 per cent of rural elderly persons are 'partially dependent on others'. So, about 65 per cent of the elderly

population is fully or partially dependent economically on others. Further, the NSSO data for 2004 pertaining to economically dependent aged persons (see, ibid.) show that elderly persons are mostly supported by their own children, the figure being 78 per cent for rural persons and 76 per cent for urban persons. Dependency of the elderly on one's spouse was 15 per cent in urban areas and 13 per cent in rural areas, higher in case of women than men. Their dependency on grandchildren was just 3 per cent in both rural and urban areas. Of elderly women, less than 20 per cent depended on their spouses, more than 70 per cent on their children, 3 per cent on grand children and about 6 per cent on others including the non-relations. It may be stated that the dual phenomenon of reduced fertility and reduced mortality over the decades has resulted in the gradual shifting of the dependency burden from the young to the old as the proportion of those in the young age-group is declining and of those in the elderly age is increasing.

National Policy Framework of Affirmative Action for the Elderly

Traditionally the care of the elderly has been mainly a concern of the family in India. Quite understandably, the problem of population ageing and welfare of the elderly did not figure much in the arena of the state policy in the early decades after Independence. But with rising population of the elderly and ageing of the population, these issues have penetrated into the policy domain of the Indian state in the recent decades. The Government of India has made attempts especially in the recent decades to incorporate the Constitutional directives and the UN resolutions in its policies and programmes pertaining to the elderly. The Indian Constitution is sensitive to the need of care of the elderly. India has enunciated a comprehensive national policy and other legislations and taken measures for providing social security to older persons in the country.

Constitutional Measures: The Constitution of India which came in force in 1950, is sensitive to the care of the elderly persons. Article 41 of the Constitution which comes under Directive Principles of State Policy states, "the state shall *within the limits of its economic capacity and development*, make effective provision for ... *old age sickness and disablement* ..." (italics added). Entry 24 in List III of schedule VII of

the Constitution deals with the welfare of labour, including *old age pension*. Item No. 9 of the State List and items 20, 23, 24 of Concurrent list relate to old age pension, social security, social insurance and economic and social planning. So, both the Union government and the State governments are required under the Constitution to take affirmative measures for the welfare of the elderly.

National Policy on Older Persons: The Government of India announced a comprehensive "National Policy on Older Persons" (NPOP) in 1999. This policy provides a broad framework detailing the national policy on the older persons, specifies principal areas of intervention and action strategies, involvement of NGOs and media, and the important role of the family in providing social security to the elderly. The goal of the policy is to promote well-being of the older persons. The policy aims at strengthening the legitimate place of older persons in society and to help them to live the last phase of their life with purpose, dignity and peace. It embodies some laudable principles. It categorically recognizes the need of affirmative action for the older persons. It promises to ensure that their rights are not violated and they are provided "opportunities and equitable share in development program and administrative actions". It considers the life cycle as a continuum of which 60+ phase is an integral part, and hence, this phase is not viewed as a life of complete dependency. Rather, older persons are regarded as a resource who can render useful service in the family and outside. For this they, as per the policy, need to be provided opportunities and facilities to enable them to continue contributing effectively to the family, community and the society. This way they would be able to lead an "active, creative, productive and satisfying life". The policy envisions an age-integrated society for which the bonds between the young and the old will be strengthened. It believes in the 'empowerment' of the elderly which will require enabling them to acquire better control over their lives and participate in matters that affect them and also become equal partners in the development process. It talks of giving special attention to rural areas where three-fourth of the older population lives and also to the older women who face more problems than men. The policy recognizes that larger budgetary allocation from the state is needed for the welfare of the elderly.

Further, NPOP has identified the principal areas of intervention for meeting the needs of the elderly. The policy envisages that the state will extend support to provide them services and make available opportunities for the development of their potential so that their quality of life would improve. However, it clearly states, "it is neither feasible nor desirable for the state alone to attain the objectives of the National Policy. Individuals, families, communities and institutions of civil society have to join hands as partners". The approach adopted by the state here is: to encourage elderly persons to make provision for their own as well as their spouse; to encourage families to look after their elderly family members; to support voluntary organizations and NGOs to complement the care provided by the family; to provide care and protection to the vulnerable section of the elderly; to provide financial security for adequate healthcare facility; to promote research and training facilities to train geriatric care givers and organizers of services for the elderly; and to create awareness regarding ageing and elderly persons to enable them live a productive and satisfying life. The policy also lays down the implementation strategy for its oprationalisation, which cover measures like preparation of Plan of Action, setting up separate Bureau for Older Persons, forming Directorates of Older Persons in the States, setting up a National Council for Older Persons, forming Autonomous National Association of Older Persons, and encouraging the participation of the Panchayati Raj institutions. Thus, the policy can be considered as a good beginning by the government in recognising the problems of older persons and laying the broad framework and guidelines of action for promoting their well-being.

Subsequent to enunciating the policy the Central government constituted a National Council for Older Persons (NCOP) in 1999 to oversee implementation of the NPOP. In 2005, the Council was reconstituted with members consisting of representatives of Central and State governments, representatives of NGOs, citizen's groups, retired persons' associations, and experts in the areas of law, social welfare and medicine. Moreover, an Inter-Ministerial Committee on Older Persons has been constituted as another body to coordinate implementation of the NPOP. The Maintenance and Welfare of Parents and Senior Citizens Act, 2007 has been passed. It has been

notified by 22 States and UTs already. In addition, there are several programmes/schemes implemented by some Ministries of the Government. Since 1992, an Integrated Programme for Older Persons (IPOP) is under operation. The programme has been revised in 2008 to support new innovative projects for welfare of the elderly. Schemes are run by some Ministries for helping the elderly persons. These are Ministry of Health & Family Welfare, Ministry of Rural Development, Ministry of Railways, Ministry of Finance, and Ministry of Civil Aviation (see, Govt. of India, 2011). The National Old Age Pension Scheme (NOAPS) is a popular programme which covers the elderly who are 65 years or above and have little or no regular means of subsistence of their own or through support from family or other sources. Under the Annapurna Scheme rice or wheat is provided to the elderly who are below poverty line but not covered under NOAPS.

Critical Observations

The population of the elderly persons in India is large. The rate of growth of their population has been increasing fast in the recent years, which is going to increase much faster in the coming days. It is observed that the elderly often suffer from depression caused by loneliness and alienation. The negative effects of old age generally derive from their loss of authority, absence of a meaningful role in social life, marginality in social relationships, material insecurity, dependence and attenuated intergenerational relationships (Bali 1999).

On the face of it India's stated national policy on older persons (NPOP) seems to be very noble, broad and progressive. It shows that the Indian state is aware of the mounting problems of the elderly population and is also sensitive to their needs. The NOAP vision of an age-integrated society in which the elderly would live exploitation-free, active, meaningful and satisfying life is laudable.

Since Independence India has followed the Western/modernist model of development. Weakening/fragmentation of the family and traditional community is the inevitable consequence of this trajectory of development, which has already happened in the modern industrialized countries of the world. A largely similar trend is on the rise in India with processes like increasing urbanization, industrialization, individualism, consumerism, and physical and occupational mobility.

Even though many families may look joint in structure, emotional jointness has been weakened seriously with increasing assertion of the nuclear units within joint family which also split frequently with partitions. Within nuclear family as well individualist norms and values and mobility have reduced physical proximity and emotional solidarity. Community feelings, bonds and networks have also been eroded even in rural areas which are now increasingly plagued with competition, tensions and conflicts related to property, power and status. Rather than recognizing the changing facts the national policy anchors itself on the family for the care of the elderly and, hence, is fated to largely fail.

Further, it is found that private sector has emerged as the dominant player in the current neoliberal paradigm of development with the new policy shifts under globalization in the country. It has entered in the domain of welfare, including health sector in a big way. But the NPOP leaves it free from sharing the burden of welfare of the elderly or to cater only to the needs of the economically well off sections who can pay for services like healthcare though private sector is given several concessions by the state in this sector. The policy guideline clearly says that 'private sector agencies [will be] ... catering to those who have the means and desire better standards of care'. The government also does not want to take full responsibility for the care of the elderly. As already mentioned, the policy guidelines categorically state, 'it is neither feasible nor desirable for the state alone to attain the objectives of the National Policy'. Other agencies have to share the responsibility.

The worry is even according to the government estimates, one-third of the country's population is below poverty line and another one-third belongs to the lower middle class, and thus two-third of the population does not have adequate economic resources to meet the basic needs of their elderly in the family. The elderly persons and families belonging to the two-third of the population would remain suffering unless they get sufficient direct economic support from the state. This support does not seem to be forthcoming in near future as the current growth and private sector-centric development paradigm of development will not permit that. As regards NGOs, it is known that only few NGOs are working

satisfactorily and most of them are engaged in messy/corrupt practices, some of them blacklisted by the government itself. So, not much can be expected from them in delivering care to the elderly.

The government has launched several welfare programmes for older persons but these are not implemented adequately and effectively. The government has launched scheme for the financial security of elderly persons like old-age pension which gives only a token payment to prevent extreme destitution of the old people. There is no pension fund for providing security to the unorganized sector workers who constitute overwhelming majority of the working population (over 90% of the workforce is employed in unorganized sector in India). The state governments talk of severe financial constraints and, hence are unable to implement substantive measures for the welfare of the elderly.

It seems ironical that the policy makers in both political and bureaucratic circles are adults who join the rank of elderly soon after the end of their professional life. Even then they have not paid much attention to formulate and implement a concrete policy and rigorous implementation mechanism to ensure proper care of all the elderly people in the country. A little reflection clears the haze here. The policy makers are generally privileged and better off people and even most of those who come from poorer background generally become well off through one means or the other and by the time the professional career of policy makers ends they are able to amass sufficient wealth to provide for their care in the old age. No wonder they do not bother much in concrete terms for the care of the poorer elderly while formulating and implementing policies for the latter. NPOP very well recognizes that the large number of elderly belong to the poor and lower middle class families who face severe financial constraints and, hence, cannot provide required care to their elderly. Even then adequate financial allocations are not made in the plans for the welfare of such elderly people. The existing political economy put the poorer sections, including their elderly on the margins.

So, NPOP seriously lacks in substance in many vital terms, such as societal understanding and commitment on the part of the state, budgetary resource allocation, institutional arrangement, specificity of timeframe for meeting the policy objectives, etc. It provides a limited

surface level (not structural) diagnosis of the problem, talks of what needs to be done in a limited manner at present and mostly about what needs to be done in future, which obviously would not alleviate much the plight especially of the poorer elderly people in the country, particularly women and those living in rural areas. The policy talks of the problems of the elderly as persons, in individual terms, while the problem is mainly structural, i.e., class, gender and region-based, especially when it comes to financial requirements needed for the care of the elderly.

Suggestions for Policy Reorientation

Given the dominance of the liberalization, privatization and globalization regime and the existing scenario of the care of the elderly in the country, the need of the hour is to go for reorientation of the existing policy and programmes to provide them adequate and better care. As the proportion of the elderly is going to substantially increase year after year reaching a very high number in the coming decades, it may be essential to make the provision of adequate care for the elderly a Fundamental Right under the Indian Constitution to be fulfilled by the state itself or through its policy frame within a specific timeframe, say in the next thirty years. Moreover, following the United Nations resolutions, the policy and programmes for the care of the elderly need to be made an integral part of the overall development policy and programmes formulated for the development of the country. The development plans both at the centre and states need to make budgetary allocations in proportion to the ratio of the elderly in the population, and this has to be increased in successive plans in accordance with the rising population of the elderly. More attention has to be paid to the elderly belonging to the lower and lower middle classes, particularly women and those living in rural areas because they are more marginalized. The OADR varies across states, which needs to be taken note of in the policy formulation. Old-age pension has to be substantially increased in terms of both number and amount of monetary support to cover more elderly people with higher amount to meet their needs adequately. Family members and even others may be given substantial income tax deductions/benefits to incentivize care of the elderly.

It is important to pay greater attention to ageing related issues and to promote holistic policies and programmes for dealing with the problems of the elderly. Given the existing model of development followed in the country, it is quite understandable that neither the government nor private sector or civil society alone can provide full social security to the elderly. So, NPOP suggests partnership approach in which mainly the governments and civil society organisations/NGOs are proposed to work jointly. This partnership needs to be further broadened and the private sector needs to be brought in to share sufficient responsibility to make joint efforts to design and implement a full-proof social security system for the elderly in India. In addition, the Government health services need to be well-equipped in terms of infrastructure and manpower training to address the special needs of the elderly (Das and Shah 2001). It is also necessary to build inter-generational alliances to remove discriminatory attitudes and practices toward the elderly and to ensure their welfare. Besides the national efforts, global/international initiatives need to be taken to generate adequate resources, through debt relief and development financing, to address the impact of population ageing and to integrate key policies in this area. There is a need to promote participation of older people in global and national level policy formulation to ensure provisions for their well-being in society.

In addition to the proposed institutional arrangements suggested in NPOP, some additional institutional interventions are needed to strengthen and complement the efforts for promoting the well-being of the elderly. Here, one may propose formation of an Elderly Service Network (ESN) manned by a network of volunteers working at central, state, UT and district levels. The network would consist of volunteer representatives from academics, researchers, NGOs, government officials and private sector. The network would work as facilitator, coordinator, monitoring agency and as intermediary between service providers and older persons. The network would also act as a pressure group to influence policy decisions of the government at different levels, ensure inflow of adequate flow of resources and effective implementation of policies and programmes.

Further, it is essential to recognize that in a situation of increasingly individualization of society the elder people also need to come

forward as a self-interested collectivity at different levels, both in formal and informal terms, to promote their own well-being. Their organizations, known as Network of Elderly People (NEP) may be formed from village/town through national levels for which initiative can be taken by the government and NGOs. Besides the ESN, this NEP also can work as a pressure group for mainstreaming care of the elderly in the overall development strategy of the country, and extend support to public authorities to facilitate and monitor implementation of policies and programmes meant for their welfare. In addition, the elderly can also pull in their own individual resources for helping each other and providing company and emotional support to each other in the neighborhood at informal level. For this, some common place and facilities may be required which can be arranged by them or with the support of external agencies like the local self-government (PRIs), NGOs and private sector. Such an initiative would also promote social harmony in the community and society in general.

It is essential to recognize that the situation of all the elderly is not the same. They are divided into different categories like those in early, middle and late phases of old age. Generally, the (upper) middle and upper class elderly in the early phase of old age possess valuable skills, knowledge and money which they can devote for the welfare of the poor, including the poor elderly people in the society. They need to be encouraged to do so. This would reduce their social and emotional isolation and make their life more fulfilling, happier and satisfying.

In fact, it is high time for the Indian policy makers to provide full safety net to the rapidly growing ageing population. The policy makers must design such a policy in which individual, family, community, government, CSOs/NGOs and private sector would play the desired role for ensuring proper care to the elderly in the country.

Finally, it can be held that no single 'big theory' in the sociology of ageing seems to help fully understand/explain the situation of the elderly in India. It may be because these theories have been based mainly on the experiences of Euro-American societies which are different from India. The disengagement theory largely explains the everyday mindset of the Indian family and community where especially in middle/late phase of the old age the elderly people are

expected to withdraw from active social engagement and allow others in the family and society to take charge. But the state policy in India as reflected in NPOP is guided by the activity theory and life course theory as it does not consider old age as a period of social disengagement but full of activity with different phases of old age characterized differently. Though the problem of discrimination due to old age is recognized by the state, issues of power relationship between them and others are not specifically raised. The task of developing a universal sociological theory of ageing or a theory appropriate to understand the Indian situation and frame fully adequate affirmative policy for the elderly continues to remain a huge intellectual challenge.

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Elderly and the Youth in the Intergenerational Indian Society

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ABSTRACT

India, rapidly growing and competing with the developed nations, is going through changes in its demographic structure too. The projected increase in the number of the youth is a harbinger of further development. The projected augmentation in the elderly population will also be an asset to the nation as opposed to the views of some who look at this phase of life as a serious threat to development. This paper proposes that judicious changes in policy, training and implementation may prove to be mutually beneficial for the youth and the elderly in the intergenerational Indian society. The social capital of youth may be invested in reaping the benefits of successful ageing. The wisdom of the elderly may sow virtues and values and protect the young from risky behaviour.

Keywords: Elderly, Youth, policy changes, training, implementation, successful ageing, inter-generational society.

Demographic change is a global phenomenon. Over the next two decades, Indian population is set to witness a rapid growth both in the youth and the elderly population. The proportion of population in the working age group 15–59 years is expected to rise to 64.3 per cent in the year 2026. The proportion of youth population in the age group of

15–24 years is expected to be 16 per cent of the total population in the year 2026. By the year 2026 the proportion of population aged above 60 years is also set to increase considerably. The number of older persons in the population is expected to increase by 173 million in the year 2026, an increase in the total population to 12.4 per cent.

Youth, in the prime of their physical and mental health are seen as competent members of the society and capable of significant contribution. Elderly on the other hand with their decline in physical and functioning are seen as a liability. The projected demographic figures of the elderly are often looked at negatively. People are concerned about India's capacity to provide care for the elderly against the growing norm of a nuclear family structure and the expansion in numbers of the elderly is seen as a diversion of public service resources away from the youth.

This paper proposes that with the burgeoning elderly population still in its nascent stage, the society may prepare itself to herald the demographic change by expanding the horizon of its vision beyond old age homes and old age pension. Elderly can contribute immensely to the society and youth can be a catalyst for this. The exchange process between the youth and the elderly may bring mutual benefits for both.

Youth – Challenges and Opportunities

Young age beginning in adolescence poses many challenges and opportunities for people. The major problems are the need to cope with physical and psychological changes, social change related problems like attitude of others towards him/her, over conscious with self, need to establish a career and finding a life partner. These challenges may be translated into opportunities when their problems of hyperactivity, curiosity, need for recognition and emotional changes may be channelized in the right direction by the older generation who can help them cope with their developmental tasks, needs and challenges. Youth may be agents for social change in a continuously changing society. The need for independence, access to information and misinformation, bonding with the family and other members in the society is different from how it was earlier and how it could be tomorrow. The policy makers should therefore continuously

review the prevailing pattern, analyze the challenges and opportunities available to the youth and plan accordingly.

Elderly – Challenges and Opportunities

In the present Indian scenario, the plight of a larger segment of Indian old people is miserable owing to myriad Biopsychosociocultural reasons including poverty, lack of education, insurance, declining physical and/or mental health and not being able to avail the medical facilities, empty nest syndrome as many have their children work abroad, widowhood, etc. Many are unaware even of their correct age as they were born in an era when too many children in the household were the norm. Age is socially defined rather than chronologically. In some cultures getting their daughters married or the birth of their grandchildren mark the beginning of old age. Paying attention to their physical appearance in some societies elicits satirical comments especially for women. Declining physical strength unfortunately make them victims of robbery, physical assault and homicide.

Elderly people are highly prone to mental morbidities due to ageing of the brain, problems associated with physical health, cerebral pathology, socio-economic factors such as breakdown of the family support systems, and decrease in economic independence. The mental disorders that are frequently encountered include dementia and mood disorders. The rapid urbanization and societal modernization has brought in its wake a breakdown in family values and the framework of family support, economic insecurity, social isolation, and elderly abuse leading to a host of psychological illnesses. The socio-economic problems of the elderly are aggravated by factors such as the lack of social security and inadequate facilities for health care, rehabilitation, and recreation. Also, in most of the developing countries, pension and social security is restricted to those who have worked in the public sector or the organized sector of industry. Many surveys have shown that retired elderly people are confronted with the problems of financial insecurity and loneliness.

However, as theories posits, the intelligence of elderly becomes crystallized and their worldly wisdom is high. Some are gifted with special skills such as financial acumen, indigenous knowledge, expertise in their chosen field, etc. They are capable of providing

unconditional love and emotional support to the youngsters. It is observed in Indian society, paradoxically, young children displaying adolescent rebellion more with parents but they tend to mellow down with their grandparents. According to Erikson's theory, older adults are theoretically able to achieve a fuller or more complete level of development than are those who are younger and whose egos have not been as thoroughly tested by time and events.

A fortunate lot of elders are able to play an active role in the household in terms of intellectual guidance and they are still viewed as leaders and head of the family. In rural areas older adults who are strong and active spend their days just as younger adults do, tending the cattle and performing other chores. When elders decline physically, they retain positions of seniority and are treated with respect.

Future elder population will differ from those of past decades. More number of them would be educated, financially independent and unlike the earlier period when wives outlived husbands by several years because of the huge difference in age, in future couples may find more time to spend together.

Many studies defies the belief that care of elderly means providing them the basic physical needs such as food, shelter and safety. Psychological needs of the elderly remains a neglected domain. Increasing number of elderly are subjected to mood disorders especially depression. Secluded in an old age home and living in an institution like atmosphere is not the choice of many. Though old age homes is the best resort for those who are abused in the family environment and economically weak, many elderly prefer "ageing in place". This demands that one's home and household products not only provide continued enjoyment and stimulation, it must also support one's declining functional limitations and enhance one's quality of life.

Elderly as Facilitators of Moral Development in the Young

According to moral development theory of Kohlberg, young children after age 10 reach the stage of conventional morality when they internalize the standards of authority figures and subsequently in young adulthood reach the stage of post-conventional morality when they recognize conflicts between moral standards and make their own judgments on the basis of principles of right, fairness and justice. In

Eastern culture, elders especially mentors, parents and grandparents have a larger role to play in the moral development of the young. These factors may therefore be included in the agenda of interaction between the young and the old.

A multipronged approach operating on the Bronfenbrenner's (2005) model targeting the youth including his/her microsystem and that which extends to the mesosystem and the exosystem, at each level elderly playing a significant role may prevent youth getting into risky behaviours, protect them from environmental hazards and nurture psychological growth.

Social Modernization – The Young and the Old

Social Modernization favors younger generation, but it affects older population negatively, especially in rural areas. Modernization marginalize people who are neither able to hold on to the old customs and traditions nor adopt the new practices willfully. Young people, though to a large extent are favored by modernization remain alienated from the society. They are caught in the web of making big money and cherishing their culture.

The interaction between the young and the old can be strengthened so that both are mutually benefitted and break away from the negative effects of modernization. Modernization may be positively viewed as it may provide opportunities for systems of extending employment which may not be threat for young employees rather a source of guidance and mentorship.

Successful Ageing

Successful ageing incorporates three interactive components (Rowe & Kahn, 1998) – (i) the absence of disease and the disability associated with disease, which includes not being ill but also not having the risk factors that will increase the chances of disease and disability (ii) maintaining high cognitive and physical function, which gives the individual the potential to be active and competent (iii) "engagement with life" refers to involvement in productive activity and involvement with other people.

This can be achieved in an age-integrated society, where all kinds of roles-learning, working and playing – would be open to adults of all

ages (Riley, 1994). As age-integration emerges, future cohorts may have different experiences and attitudes. In general there is an opportunity for them to enjoy longer lives, better health and more active life styles than previous generations. Future elderly will seek out designs that accommodate rather than discriminate, sympathize rather than stigmatize, and interact with all age group people

In studies among communities around the world, a team of anthropologists found that older people fare best when they retain social status and opportunities for community participation, even after they become frail (Keith *et al.,* 1994). When elders are excluded from important social roles and infirmity brings separation from the community, ageing leads to reduced psychological well-being. To avert this elderly and youngsters may be inculcated with civic responsibility. Civic responsibility is a complex capacity that combines cognition, emotion and behaviour. Civic responsibility involves knowledge of political issues and the means through which citizens can resolve differing views fairly; feelings of attachment to the community, of wanting to make a difference in its welfare; and skills for achieving civic goals, such as how to contact and question public officials and conduct meetings so all participants have a voice (Flanagan & Faison, 2001). This will enable both the young and the old to dispel stereotypes about each other and ensure them avail the benefits due to them.

Mutual Social Support

Szendre and Jose (1996) developed a programme that targeted the provision of telephone support by older community residents to inner city adolescents. Adolescents were invited to call "grandparents" to discuss any matter of interest to them, either positive or negative. Although the programme only targeted adolescents, the effect of intervention was, in fact, reciprocal. Both the older grandparent and younger adolescent participants in this intervention reported increased well-being and life satisfaction. The adolescents enjoyed and benefited from having an adult take special interest in them, while the older people enjoyed being able to provide support and having a positive impact on the teenager.

Both elderly and young generation can complement each other in providing support. Resiliency is the ability to adapt effectively in the face of threats to development is receiving increasing attention because investigators want to find ways to protect young people from the damaging effects of stressful life conditions (Masten, 2001). Several long-term studies on the relationship of life stressors in childhood to competence and adjustment in adolescence and adulthood (Werner & Smith, 2001) reveal that, some individuals were shielded from negative outcomes, whereas others had lasting problems. Four broad factors that seemed to offer protection were (i) Personal Characteristics (ii) Warm Parental Relationship (iii) Social support outside the immediate family and (iv) a strong community. A person outside the immediate family – perhaps a grandparent, a teacher or a close friend who forms a special relationship with the child can promote resiliency (Zimmerman & Arunkumar, 1994).

Spirituality

Spirituality is an important dimension of human behaviour. The spiritual pursuits recommended by religious scriptures have helped in preventing mental and physical disorders in people for ages. Many people report considerable behaviour change after they are exposed to some kind of spiritual experience. It is reported to enhance their quality of life. Religion has high potential for self-control, coping and detachment from suffering (Rangaswami, 1994). It is a misconception that only older people will be spiritual. Spirituality can be socialized to the children at a very young age. Young people who are dismayed with pragmatic problems of life for the first time in the course of their development may be guided through spirituality by senior citizens who are enlightened by the power of spirituality.

Technology Use – The Young and the Elderly

The technology usage has reached the present day elderly in a very minimal level however it has produced beneficial effects on their well-being. Computers can enhance the lives of older individuals by enabling them to maintain functional independence, access services, and interact with friends and relatives (Czaja, 1996). For instance, distance has reduced between the elderly and their children who have migrated to foreign countries via mobile phones and internet.

However, it is critically important that computer systems be designed with considering the motor, perceptual, and cognitive capabilities of the older user.

Rogers, *et al.*, (1998) reported two important trends among older adults who interact with computers frequently in their daily activities. They are (i) older adults reported some frustrations in dealing with technologies that were not easy to use and (ii) the participants were very interested in learning to use new technologies in general.

There is a proliferation of web sites that are designed for an older population, particularly in the domain of health-related issues. Elderly are also equipping themselves in their skills pertaining to usage of social networking sites. Awareness of age-related abilities and limitations in the area of attention are directly relevant to the design of web sites intended to be accessible to older users.

Young people who are adept at this can contribute immensely in this area. In future, with increased rate in literacy and attitudinal change social networking service utilization and internet usage among the elderly may be expected to go up. Technology may also be of assistance for the elderly to be more functionally and psychologically independent. Youth may be a source of assistance for elderly in making the elderly computer savvy.

Culture and Context

The definition of culture as "a set of shared attitudes, values, goals, and practices that characterizes an institution, organization, or group" sounds a paradox as far as India is concerned as we observe a multitude of cultures coexisting in this large nation. Culture also changes with time as with place. Still a common thread connects the versatile people and practices, of which valuing the elderly and inculcating values in the young are indispensable characteristics.

Taking a closer look at the demographics, the present day young and old are clearly very different from the yesteryear and the future. Today's younger generation is imbued with different set of distractions and enabling/disabling technology. Indian youth live in a collectivistic culture, which places greater emphasize on family, unlike the individualistic Western culture and youngsters play a pivotal role in protecting the elderly and are entrusted with the responsibility of

care-giving. The future elderly unlike those in the present would be better educated, informed, techno-savvy and live longer. Ageing will not only be an immediate personal issue but also a salient factor in crucial public policies, which should include all other segments of population, particularly the youth. The suitability of the existing theories, the developmental tasks of the different stages of life is therefore challenged.

Cultural psychologists throw light on the fact that human children grow into cognitively competent adults in the context of a structured social world full of material and symbolic artifacts such as tools and language, structured social interactions such as rituals and games and cultural institutions such as families and religions. They claim that the cultural context is not just a facilitator or motivator for cognitive development, but rather a unique "ontogenetic niche" (a unique context for development) that actually structures human cognition in fundamental ways. This context may be beneficial not only to children but adolescence and older adults as well, as development is a continuous process.

Significance of Quality Care-Giving

Long term care for older person in India has always been a matter of family functioning. Currently, very less number of old age homes or senior citizen accommodations provides shelter to older people with mental and physical disability requiring assistance in activities of daily living and intense nursing care. Irrespective of economic status the care givers of such individuals undergo great stress in caring such disabled relatives and also lead their own lives. Therefore many elderly do not receive the kind of quality care that they are entitled to. Older people living alone without any surviving caregivers also need long term care at some point of time or the other.

Among the young, studies confirm that family influences like parents' misuse of drugs, poor or inconsistent parenting practices, family conflict and troubled distant relationships is an important risk factor for them to indulge in drug abuse (Masse & Tremblay, 1997). Young people who do not receive needed care are at increased risk of physical and mental health problems, including frequent smoking and drinking. Adolescents whose families have been disrupted by parental

separation or death are more likely to start abusing drugs early and to engage in them more frequently during the next few years. However, studies show that protective factors that reduce the risk of suicide include a sense of connectedness to family and school, emotional well-being and academic achievement (Borowsky *et al.*, 2001).

Gaining insight from the scientific studies about the mutual support and its positive impact, the pendulum may swing back; Indian society may work on strengthening its collectivistic culture which not necessarily includes one's own family members but a society inclusive of others in all age group especially by weaving a bond between the young and the old.

Suggestions for Policy Making

It can be concluded that the following suggestions may be helpful for policy making to make use of the youth power for sustainable development and making it possible for the youth and the elderly to coexist peacefully and prosperously in the intergenerational Indian society.

1. Youth can be trained to dispel negative stereotypes about elderly and accommodate elderly in extended employment systems and benefit from the knowledge disseminated by them.
2. Youth may learn work ethic and culture from elderly and in turn provide support for ageing parents and other members in the society. Youth force can be used as a leverage to alleviate the poverty of the elderly, elderly may counsel the young ones in upgrading their wealth and sustaining environmental resources.
3. Government may plan more for elderly than just the 'old age homes'. Other facilities such as recreation centres, meals on wheels, housekeeping facilities for those ageing in place, day care centres, nursing assistance, and respite care may be implemented. Youth trained in appropriate skills may spearhead such projects
4. Training centres may be set up for imparting indigenous knowledge of the elderly to the youth. For ex., Japanese elderly are said to have more knowledge on disaster management which helps them to cope with frequent natural havoc.

5. Preventive programmes for the youth such as suicide prevention, juvenile delinquents prevention and rehabilitation, may include participation of the elderly who can be a source of moral and emotional support to the youth.
6. More number of Psychological counselors (Gerontologists) may be trained and appointed to cater to the psychological needs of the elderly.

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Prevalence of Diabetes Mellitus among the Elderly: An Empirical Study in Cuttack (Odisha)

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ABSTRACT

Diabetes in the elderly is emerging as one of the most important public health problems of the 21st century. Diabetes and its complications take a major toll on the quality of life of the elderly and the health care costs of the society. The purpose of the present study was to find out the prevalence of diabetes among elderly in an urban setup and to study the associated risk factors for diabetes among the elderly. 420 elderly (60 years and above) who attended the Geriatric health camp organised by Rotary Club of Cuttack Mid-Town, were the subject of this study. Data were collected from all the elderly diagnosed as diabetic through the questionnaire. It was found that out of 420 study elderly, 82 (19.52%) were diabetic. 53.65 per cent (N=44) female elderly were diabetics and 38(46.34%) males were diagnosed as diabetic. It was also observed that 21(5%) respondents were diagnosed to be diabetic earlier and 61 respondents(14.52%) were freshly diagnosed to be diabetic in this camp. Life style profile of diabetic elderly revealed that the majority of them were non substance abuser (92.7%) non-vegetarian (67.1%), having sedentary life style (48.8%) and living without any physical exercise (54.9%).

Keywords: Diabetes Mellitus, Glucose, Body Mass Index, Risk factors

The elderly population's increased longevity is leading to a rapid growth of the older population with chronic non-communicable diseases like diabetes (World Health Organization, 2012). Hence, there is a growing worldwide concern by public policies to enable older adults to maintain their independence and well-being as well as to respond effectively to the many challenges inherent to old age (Strine, *et al.,* 2008).

The worldwide prevalence of diabetes among adults (aged 20–79 years) affected 385 million individuals in 2010 and is expected to rise 54 per cent by 2030 (International Diabetes Federation, 2012). According to the International Diabetes Federation (2011), type 2 diabetes is accountable for at least 90 per cent of all cases of diabetes. In particular, diabetes in older adults has become a major public health problem (Mushi *et al.,* 2006). Half of the currently affected individuals are over 60 years of age, but the highest prevalence is found in those who are over 80 years of age, a number estimated to reach 40 million by 2050 (Gambert & Pinkstaff, 2006). In fact, Diabetes Mellitus is a chronic disease that requires several adjustments in patient's lifestyle and has been referred to as the most demanding of all chronic diseases in terms of management Because it is an incurable disease, diabetes has to be managed through a strict daily regimen of medication, use of insulin, exercise and diet. These patients are, therefore, faced with behavioural and psychological challenges that put them on an increased risk of developing several co-morbidities (Pretorious, C. *et al.,* 2009). Moreover, both old age and diabetes are independently associated with increased risk of cognitive dysfunctions (Mushi *et al.,* 2006), as well as an increased risk of psychological distress, anxiety, depression, hypertension, mood disorders, and functional impairment, therefore, affecting negatively patients' well-being. (Mushi *et al.,* 2006; Strine *et al.,* 2008).

The vast majority of cases of diabetes in the elderly are of type 2. Of the approximately 580 million elderly people (60 years and more) in the world today, around 355 million live in developing countries. (Dharmarajan, T.S., 2003).

The number of people with type 2 diabetes is increasing in the world at large and Asian Indians have the highest prevalence. The number of adults with diabetes in the world is projected to rise from

135 million in 1995 to 300 million in the year 2025. The major part of this numerical increase will occur in developing countries, especially in Asia. The countries that are projected to have the most cases of diabetes in 2025 are India (57 million), China (38 million) and the USA (22 million). The greatest increase between 1995 and 2025 is expected to occur in India (195%). In developing countries, the majority of people with diabetes are in the age range of 45–64 years, (Rao, P.V. *et al.,* 1998) whereas in the developed countries the majority of people with diabetes are aged *?* 65 years. (King, H. *et al.,* 2002)

In India there has been a rapid rise in the number of elderly with nearly 80 million people over 60 years which is equal to the entire population of the largest European country. By 2020, it is projected that three-quarters of all deaths in developing countries could be age-related. Non-communicable diseases such as diseases of the circulatory system, cancers and diabetes will cause the largest share of these deaths. (Ramchandran, A. *et al.,* 2001)

In a study conducted among asymptomatic elderly individuals in India, prevalence of diabetes mellitus was 13.0 per cent. (Gupta, H.L. *et al.,* 2002) In a study in rural South India, the age-adjusted rates for known diabetes in the middle-aged and elderly subjects were unexpectedly high, considering the poor socioeconomic circumstances, decreased health awareness and decreased access to medical facilities. (Rao, P.V. *et al.,* 1998). In a study conducted in Trivandrum, the capital city of Kerala State, overall prevalence of type 2 diabetes was found to be 16.3 per cent. (Raman, K.V. *et al.,* 199). These data suggest that increasing life-expectancy (as in Kerala State) and changes in lifestyle and nutrition may result in substantially higher incidence of diabetes in India than currently established.

Low-socioeconomic status is associated with development of diabetes. (Ross, N.A., *et al.,* 2010). Elderly persons living in urban slums are more vulnerable to various non-communicable diseases and their complications due to lack of basic amenities, poor health-seeking behaviour and stress due to lack of social support. (Anand, K., *et al.,* 2007).

In spite of its high prevalence, and being a major cause of mortality, diabetes remains highly undiagnosed. Undiagnosed diabetes

is associated with increased risk of all-cause mortality. (Wild, S.H. *et al.,* 2005). Delayed diagnosis and inadequate or improper treatment result in poor disease outcomes.

Aims and Objectives

1. To study the prevalence of diabetes among elderly in an urban setup.
2. To study the associated risk factors for diabetes among the elderly.

Material and Methods

Geriatric health camp was organised by Rotary Club of Cuttack Mid-Town and Rotary Club of Cuttack Millennium. In ward number 41 and ward number 42, door to door campaign was arranged and pamphlets were distributed for information to aged persons as regards to the arrangement of this specific geriatric health camp. Corporators of both the wards also actively participated. On both the days, Rotarians of both the Clubs were in charge of bringing the aged from each household for the free investigation of diabetes.

Methodology

The methodology comprised of interview, physical examination, clinical examination and laboratory investigations. General demographic, socioeconomic and family structure information was obtained through a pre-structured, pretested questionnaire. Personal history regarding physical activity, diet, substance abuse (alcohol) and exercise were noted. Data were collected from all the elderly diagnosed as diabetic through the questionnaire.

Weight was recorded (to an accuracy of 1 kg) & the height of each subject (to an accuracy of 1 cm.) was measured. Blood pressure was measured in lying down position. Elderly with a pressure ? 140 mmHg systolic & ? 90 mmHg diastolic or else who were on treatment were considered hypertensive. Obesity was assessed by calculating Body Mass Index (BMI) using formula (wt in kg/ht in mt^2). Elderly with BMI ? 25 were classified as overweight.

Diabetes was diagnosed if the fasting blood glucose was ?126 mg/dl after an overnight fast for at least 8 hours, or if the participant

was taking treatment for diabetes. Impaired fasting blood glucose was diagnosed if fasting blood glucose was 110–125 mg/dl.

The awareness status regarding their own diabetes mellitus was defined as having diabetes diagnosed by a health professional with presence of a prescription, or anti-diabetic medicines possessed by the participant. The treatment status was defined as taking any pharmacological treatment for diabetes. Participants who were already diabetic and taking treatment were considered to have control if the fasting blood glucose was <126 mg/dl.

A normal fasting plasma glucose level is less than 110 mg per dl and normal 2 hr PPG levels are less than 140 mg per dl. Blood glucose levels above the normal level but below the criterion established for diabetes mellitus indicate impaired glucose homeostasis. Persons with fasting plasma glucose levels ranging from 110 to 126 mg per dl are said to have impaired fasting glucose, while those with a 2 hr PPG level between 140 mg per dl and 200 mg per dl are said to have impaired glucose tolerance. Both impaired fasting glucose and impaired glucose tolerance are associated with an increased risk of developing type 2 diabetes mellitus.

Data were analysed through SPSS package.. A test of significance like Pearson's Chi-square test was used to find out the results. P values <0.05 were considered significant for the identified risk factors and outcome variables.

Results

Table 1 shows the prevalence of diabetic mellitus among the study sample.

Table 1
Prevalence of Diabetes among the Elderly Under Study Subjects

	Male	*Female*	*Total*			
	No.	*%*	*No.*	*%*	*No.*	*%*
Total subjects	185	44.05	235	55.95	420	100.00
Known Diabetics	11	2.62	10	2.38	21	5.00
New Diabetics	27	6.43	34	8.10	61	14.52
Total	38	9.05	44	10.48	82	19.52

Table 2
Distribution of Diabetic Subjects According to Epidemiological Factors (n = 82)

Epidemiological Factors	*M*	*F*	*Total*	*%*	*Epidemiological Factors*	*M*	*F*	*Total*	*%*
Religion					†BMI				
Hindu	31	37	68	82.9	Under weight	6	3	9	11.0
Muslim	7	7	14	17.1	Normal weight	23	26	49	59.7
Marital status					Over weight	9	15	24	29.3
Married	34	39	73	89.0	Substance Abuse				
Widower/Widow	4	5	9	11.0	Yes	5	1	6	7.3
Literacy					No	33	43	76	92.7
Illiterate	8	12	20	24.4	Diet				
Literate	30	32	62	75.6	Veg.	14	13	27	32.9
Occupation-					Mixed/non-veg.	24	31	55	67.1
Working	7	22	29	35.4	**Exercise (Including morning and evening walk)**				
Non-Working	31	22	53	64.6	Routine	9	7	16	19.5
Type of family					Occasional	10	11	21	25.6
Nuclear	22	25	47	57.3	No	19	26	45	54.9
Joint	15	16	31	37.8	Physical Activity				
Joint Extended	1	3	4	4.9	Sedentary.	13	27	40	48.8

Cont'd...

Cont'd...

Economic Dependency					Moderate.	17	17	34	41.5
Dependent	10	35	45	54.9	Heavy	8	0	8	9.8
Independent	28	9	37	45.1					
*SES									
Upper	3	5	8	9.8					
Upper Middle	6	3	9	11.0					
Middle	17	23	40	48.8					
Lower Middle	3	7	10	12.2					
Lower	9	6	15	18.3					

*SES – Socio-economic status, †BMI– Body Mass Index

(Upper class: Income per month: > Rs 25,000.00

Upper middle: income per month: > Rs 15,000.00 and < Rs 25,000.00

Middle: Income per month: > Rs 10,000.00 and < Rs 15,000.00

Lower middle: Income per month: > Rs5, 000.00 and < Rs 10,000.00

Lower: Income per month: < Rs 5,000.00)

Out of 420 study elderly, 82 (19.52%) were diabetic, and among diabetes 38 (46.34%) were males and 44 (53.65%) were females. It is also observed that 21 (5%) of respondents have been diagnosed to be diabetic earlier and 61 (14.52%) of respondents were freshly diagnosed to be diabetic. The earlier diagnosed patients were found to be on medicines.

From Table 2, it is observed that the majority of diabetic elderly were Hindu (82.9%), married (89.00%), literate (75.6%), non-working occupation (64.6%), from nuclear family set up (57.3%), economically dependent (54.9%), with middle class of socioeconomic status (48.8%) and with normal BMI (59.7%). Life style profile of diabetic elderly revealed that the majority of them were non substance abuser (92.7%), non-vegetarian (67.1%), having sedentary life style (48.8%) and living without any physical exercise (54.9%).

Table 3
Association of Risk Factors with Diabetes

Risk Factors	*Diabetic (n=82)*	*Non-Diabetic (n=338)*	*Chi-Squire Value*	*P-Value*
Sex				
Male	38	139	0.21	0.608
Female	44	191		
Hypertension				
Hypertensive	66	21	4.79	0.0265
Normal	16	317		
Family history of Diabetes				
Yes	55	6	141.85	0.0
No	27	332		
BMI				
= 25	24	44	1.9	0.188
Normal	49	254		
Sedentary life style				
Yes	40	272	1.74	0.177
No	42	66		
Lack of Daily Exercise	45	174	0.58	0.48
Non-veg. diet	55	186	2.38	0.142
Alcohol	6	27	0.21	0.68

The common risk factors found in our study for diabetes were positive family history 65 (15.47%), lack of exercise 45 (10.71%), Non-veg./mixed diet 55 (13.09%), sedentary life style 40 (9.52%), hypertension 66 (15.71%), overweight 24 (5.71%) and alcoholic 6 (1.4%).

Among the total respondents, 61 have reported their family history of diabetes. Out of them, 55 (90.16%) were diagnosed to be diabetic. Family history of diabetes mellitus was found to be associated with increased risk for diabetes, which is statistically significant ($p < 0.001$) and supports the role of heritability as long has been known for diabetes.

Likewise, among the total respondents, 87 were diagnosed to be hypertensive. Out of them, 66 (75.86%) persons were diagnosed to be diabetic. Hypertension is also found to be statistically significant ($p < 0.05$) which shows the twin epidemic of non-communicable diseases.

Obesity (over weight) was recorded in case of 68 respondents. Out of them, 24 (35.29%) were diagnosed to be diabetic patients. 219 respondents did not do any exercise (including morning and evening walk). Out of them, 45 (20.54%) were diagnosed to be diabetic. Sedentary life style was reported by 312 respondents. Out of them, 40 (12.82%) were diagnosed to be diabetic. Among the total respondents, 241 were found to be Non-vegetarian. Out of them, 55 (22.82%) were diagnosed to be diabetic. Among the total respondents, 33 were found to be alcoholic. Out of them, only 6 persons (18.18%) were diagnosed to be diabetic.

Risk factors like BMI, Life style, lack of exercise, Non-veg. Diet, alcoholic etc. were found not to be statistically significant.

Discussion

The present study was conducted to analyze the epidemiological factors, along with risk factors for diabetes in geriatric subjects who were suffering from Type 2 diabetes. Out of 420 patients examined and investigated, the overall prevalence of diabetes was found to be 19.52 per cent. The prevalence of diabetes was 9.05 per cent in males and

10.47 per cent in females among the total study subjects and among the diabetic patients, 38 (46.34%) were males and 44 (53.65%) were females.

Earlier studies from Assam by Medhi GK *et al.,* (2006) have observed prevalence of diabetes in 17.4 per cent of elderly. An urban area study conducted by Gurav RB *et al.,* (2002) have reported the prevalence of diabetes in 9.41 per cent of elderly. Similarly, Ahmad, J. *et al.,* (2011) have reported prevalence of diabetes among elderly to be 16.66 per cent. A study was conducted by Singh, J. *et al.,* in an urban slum in Nagpur during 2011. They have reported the prevalence of diabetes in 17.75 per cent of the elderly. Puria, S. *et al.,* (2008) have conducted a cross sectional study in Chandigarh and have reported prevalence of diabetes in 24.6 per cent of the elderly. The study of Singh, A.K. *et al.,* (2012) in an urban slum of Delhi among the elderly estimated that the prevalence of diabetes to be 18.8 per cent. They have also reported that diabetes decreased with increasing age, and was higher among women. All these studies have supported the present findings that elderly are suffering from diabetic though magnitude of prevalence of diabetes varies in all the studies.

Prevalence of various risk factors for diabetes was observed in this study. Obesity (BMI?25) was present in 24 (29.26%) out of 82 diabetes. Framingham study (1980) has reported the obesity as a risk factor in 26.5 per cent of diabetic patients. Singh, *et al.,* (2012) have reported the overweight as a risk factor in 18 per cent of diabetic patients.

Positive family history for diabetes was found in 555 (67.07%) out of 82 diabetic patients. Ramachandran, A. *et al.,* (2006) have reported positive family history as a risk factor in 16.9 per cent of diabetic patients and Puri, S. has reported positive family history in 27.0 per cent of diabetic patients.

Sedentary life style was present in 40 (48.8%) of the diabetes in our study. The study of Puria, *et al.,* (2008) reports the sedimentary life style as a risk factor in 47.3 per cent of diabetic patients. Lack of exercise was found in 45 (54.87%) of diabetic patients, hypertension was found in 66 (75.86%) of diabetic patients. In the study, family history of diabetes mellitus was found to be associated with increased

risk for diabetes which is statistically significant ($p < 0.001$) and supports the role of heritability as long has been known for diabetes. History of hypertension is also found to be statistically significant ($p < 0.05$) which shows the twin epidemic of the present non-communicable diseases. The other risk factors observed were not significantly associated with diabetics.

Singh *et al.,* (2012) have reported "Stress" as the commonest risk factor (64.9%) followed by family history of diabetes (63.38%) and others. They have reported family history of diabetes and hypertension were significantly associated with diabetes ($p < 0.05$) while other risk factors were not significantly associated which supports my findings. Puria, S. *et al.,* (2008) have reported sedimentary life style (47.3%) to be the most common risk factor for diabetes. According to them, among the co-morbidities, 41.9 per cent had hypertension while 28.1 per cent had CVD. From all these studies, it is found that hypertension is closely associated with diabetes.

Conclusion and Suggestions

Diabetes in the elderly population is growing into epidemic proportions throughout the world. Though there are some disease similarities in older and middle-aged people, understanding the pathophysiology, clinical features and treatment of the elderly diabetic population presents additional challenges. Tight metabolic control should be the goal of therapy, but may not be safe in all the elderly patients because of co-morbidities and risk of hypoglycaemia.

Physical exercise improves muscle strength and endurance and improves insulin sensitivity. Older people, unlike the young have to perform more regular and daily exercise to improve and sustain insulin sensitivity. Lifestyle modifications to prevent weight gain, especially abdominal accumulation of fat are important for prevention and treatment of diabetes.

The lifestyle changes are required to avoid diseases like diabetes and patients need continues motivation to continue diabetic treatment and dietary restriction. There is a need to have a holistic and multidisciplinary approach for management of elderly diabetes.

Strengthening primary health care services with special emphasis on the vulnerable population like elderly persons is needed. Non-communicable diseases are a major cause of morbidity and mortality in this age group, and deserve special attention of policy makers and programme managers.

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