Chronic Morbidity Pattern and Quality of Life among Geriatric Fisherman Population in Pondicherry-An Explanatory Sequential Mixed Method Study

Dr.S.Kirubakaran[1], Dr.K.Logeswari[2], Dr.G.Aravind[3], Dr.M. Janaki[4*], Dr.J. Shanmuga Priya[5]

[1,3] Assistant Professor, Department of Community Medicine, Government Medical College, Omandurar Government Estate, Chennai
[2] Assistant Professor, Department of Community Medicine, Dhanalakshmi Srinivasan Medical College hospital, Perambalur.
[4] Associate Professor, Department of Community Medicine, Govt Villupuram Medical College, Villupuram
[5] Resident, AarupadaiVeedu Medical College and Hospital, Pondicherry

Abstract
Background: Almost half of the geriatric population in India has chronic morbidity. Health status is an important factor that has a significant impact on the quality of life of an elderly population. **Objectives:** To find out the pattern of chronic morbidities and to explore the coping skills among the Geriatric Population. **Methodology:** The study was Explanatory Mixed Methods study design, where a quantitative phase (Survey) followed by the qualitative phase (In depth interviews [IDI]) is used. A total of 450 patients aged 60 and above from the coastal villages were studied and analysed. Socio Demographic details, Morbidity Patten and the treatment taken. **Results:** For the 5 item General Health Questionnaire among the 254 Young old 92 (36.2%) were positive and among the 216 Older/Oldest population about 88 (40.7%) were positive which is statistically significant (p value 0.0224) comparing the two age categories Regarding Alzheimer's disease – 8 item questionnaire positive there is statistically very significant (p value 0.0003) difference among the Young old 44 (17.6%) and for Older/Oldest population about 64 (29.6%).**Conclusion:** Hence it is prudent to screen the elderly population for these General health, Alzheimer's diseases spread knowledge, awareness and self-care advice to them among the fisherman community though their food pattern and physical activity is on positive note. This will help to create "the society for ages" and to promote the concept of active and healthy ageing.
Keywords: Elderly, Quality of Life, Chronic morbidity, Geriatrics, Fisherman

Introduction
Globally, there are an estimated 605 million people aged 60 years and above. Improvements in health care facilities have brought about increased life expectancy, which is considered to be one of the utmost achievements of the 20th century.[1] Almost half of the geriatric population in India has chronic morbidity. In India a higher proportion of 8.1% elders above 60 years of age live in rural residence. Aging of the global population has been accompanied by a rising prevalence of chronic and degenerative disease and consequently higher incidence of chronic pain.[2]

Health status is an important factor that has a significant impact on the quality of life of an elderly population. Quality of life (QOL) has been defined as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, of standards and concerns". [3] Ageing, along with the functional decline, economic dependence, and social cut off, autonomy of young generation, compromises quality of life. Hence this present study will be done with following objectives.

Objectives
- To find out the pattern of chronic morbidities and to explore its perception among the Geriatric Fisherman Population.
- To Study the degenerative diseases among the Young Old and Older/Oldest population

Material and Methods:
Study Design & Study Setting:
This study was Explanatory Sequential Mixed Methods study design (quant → QUAL), where a quantitative phase (Survey) followed by the qualitative phase (In depth interviews [IDI]) was used to supplement the data obtained from the analytical cross sectional survey. The study was undertaken in the coastal areas of field practice area of the Rural and Urban Health Training Centre of Department of Community Medicine, of Our Medical College and Hospital, Pondicherry, India.

Sample Size & Study Population:
We included all the patients attending our OPD at Urban Health Training Centre and Rural Health Training Centre for the period of Two month. A total of 450 patients aged 60 and above and who gave the consent were included in the study and the patients who were having severe/serious illness and not willing to give consent were excluded.

Quantitative research – Survey (Quan)
Data Collection:
For the data collection purpose we modified the OPD registration cards which was already under the routine procedure to the patients attending our health centres. Using a "conventional pilot testing technique," the draught questionnaire was tested on a convenient sample of 30 elderly respondents in a location other than the study site. After then, it was updated to make the questions' phrasing, order, and response possibilities easier to understand. It was used to collect the data on Socio Demographic details, Morbidity Patten and the treatment taken. After obtaining informed consent, pre designed and pre-tested questionnaire is administered to collect the data. The structured questionnaire covers information on socio-demographic information, Brief history, and Diagnosis and treatment plan. Apart from this, Anthropometric measurements like Height, Weight will be recorded. Body mass index is also be calculated for the study participants.

Statistical analysis:
The quantitative data were entered in Msexcel Sheet and Missing datas and data cleaning was done and imported into the SPSS 12.0.1 software (SPSS Inc., Chicago, IL, USA) package for analysis. Simple Descriptive analysis was done to find out frequencies and percentages and for the Test of significance Chi-Square test was used.

Post Survey- Qualitative Research (QUAL):
In-depth Interviews was done with those elderly people who were living with chronic morbidity. The study participants were included in this study using Purposive sampling method. Almost 6 interviews were conducted till the data saturation and no any new additional derived out of the transcript. The important characteristics of the sample was demographic data. Key components of grounded theory approach such as theoretical sensitivity, constant comparison, theoretical sampling and theoretical saturation was followed.[4] The discussion was audio recorded and transcribed as *verbatim* using software Express Scribe (version-5.01).

After obtaining informed consent, interviews was conducted at their home at a time convenient to the participants. Investigator trained in qualitative research techniques, conducted the interviews by using a semi-structured guideline using broad open-ended questions which was pilot tested. The participants were approached face to face. Audio recording was done along with the field notes. No one was present besides the participants and researcher. No any repeat interviews were conducted. The average duration of the interviews was 30-40mins. The transcripts were not returned to the participants and overall summary was narrated to check for the corrections.

The content of qualitative data was manually analysed. Both inductive and deductive codes created from the transcripts were used in the textual level analysis of the data. Later, comparable codes were combined to create categories, which were then subdivided into themes. The theme was derived from the data. Two researchers conducted content analysis to improve the "trustworthiness" of the findings.

Visual Diagram of Study Design:-
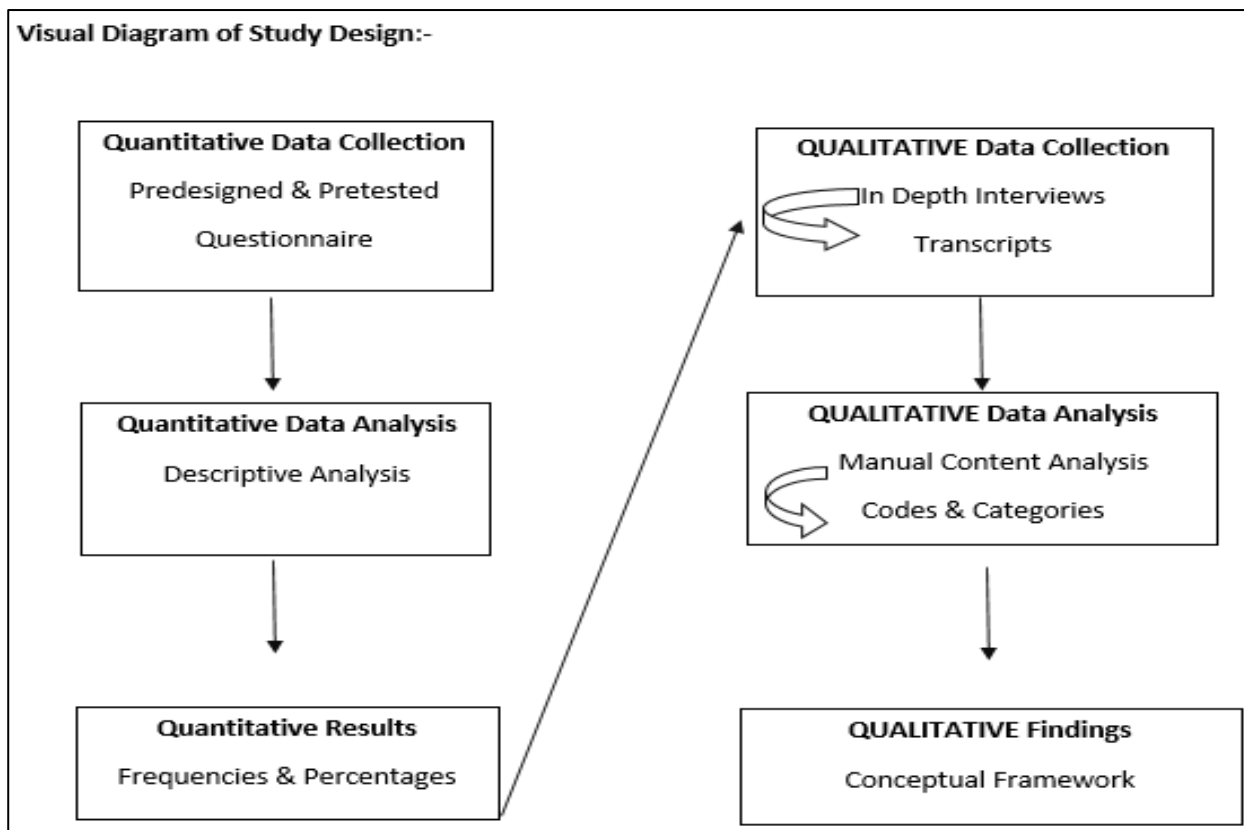
Ethical Issues: Ethical principles such as respect for the persons, beneficence, and justice were adhered. This study was cleared by the Research Committee and the Institutional Ethics Committee approval at Pondicherry

Results:

In this study the total number of Respondents were 450, females 324 (72%) outnumbered the males 126 (28%). The classification of old age among our study participants were 60-69 age group of young old were 254 (56.6%), Older old of 70-79 age group were 133 (29.5%) and oldest older 80-89 age group were 63 (14%).

The social demographic details of our study respondents, 220 (48.8%) were fishing related work, 99 (22%) were agricultural work, 81 (18%) were house work, 24 (5.3%) were doing labours, 11 (2.4%) were not working, 6 (1.3%) were doing some other job and 9 (2%) were rearing animal. Nearly 110 (24.6%) were belongs to below poverty line, 124 (27.3%) were belongs to above poverty line and 216 (48 %) respondents don't know which category they belong to. Almost 252 (56%) were married, 6 (1.3%) were unmarried, 159 (35.3%) were widowed, 11 (2.5%) were divorced and 54 (12%) were separated. Around 240 (53.3%) were joint family, 81 (18%) were Nuclear family, 90 (20%) were Living alone and 38 (8.6%) were separate in care takers house. Only 105 (23.3%) Have health insurance and 345 (76.6%) did not have health insurance

Table 1: Screening of Mental problems – General Health Questionnaire

General Health Questionnaire	Yes
Have you recently lost much sleep over worry?	279 (62%)
Have you recently felt constantly under strain?	192 (48%)
Have you recently been able to enjoy your normal day to day activities?	123 (27.3%)
Have you recently been feeling unhappy and depressed?	174 (38.7%)
Have you recently been feeling reasonably happy, all things considered?	123 (27.3%)

Table 1, Describes the screening of mental health problems for the 5items general health questionnaire in that 279 (62%) had answered yes for have you recently lost sleep over worry. 192 (42.7%) answered yes for have you recently felt constantly under strain. 123 (27.3%) answered yes for have you recently been able to enjoy your normal day to day activities 174 (38.7%) answered yes for have you recently been feeling unhappy and depressed. 123 (27.3%) answered yes for have you recently been feeling reasonably happy all things considered.

Table 2: Psychosis Screening

Questions	Yes
Suspiciousness / belief of black magic/ other abnormal false belief (not shared by family members)	126 (28%)
Hearing voices when along/hallucination in other modality (Visual/smell/taste/tactile)	75 (16.7%)
Talking/muttering /laughing to self	36 (8 %)
Any other strange behavior which people would consider it as psychiatric illness of effect of evil spirits?	21 (4.7 %)

Table 2, On Psychosis Screening 126 (28 %) answered yes for suspiciousness/ belief of black magic / other abnormal false belief, 75 (16.7 %) answered yes for hearing voices when along / hallucination in other modality (visual /smell/taste/ tactile), 36 (8 %) answered 'yes' for talking/muttering/laughing to self, 21 (4.7%) answered yes for any other strange behaviour which people would consider it as psychiatric Illness or effect of evil spirits.

Table 3: Alzheimer's disease questionnaire

AD8 Questionnaire	Yes
Problems in Judgment (Problems in –making decisions/ financial decisions/ thinking)	93 (20.7%)
Less interest in hobbies/ activities	114 (25.3%)
Repeats the same things over and over (Questions, stories or statements)	45 (10%)
Trouble learning how to use a tool, appliance or gadget (VCR, Computer, Microwave, remote control)	78 (17.3%)
Forgets correct month or year	120 (26.7%)
Trouble handling complicated financial affairs (e.g. Balancing check book, income taxes, paying bills)	45 (10%)
Forgets correct month or year	63 (14%)
Trouble handling complicated financial affairs (e.g. Balancing check book, income taxes, paying bills)	198 (44%)

Table 3, In AD8 Questionnaire 93 (20.7%) answered yes for problems in judgment. 114 (25.3%) answered yes for less interest in hobbies/activities, 45 (10%) answered yes for repeats same things over and over. 78 (17.3%) answered yes for trouble in learning how to use tool, appliance, a gadget (VCR, Computer, Microwave, Remote control) 120 (26.7%) answered 'yes' for forgets correct month or year, 45 (10%) answered yes for trouble handling complicated financial affair (e.g. Balancing check book, income taxes, paying bills). 63 (14%) answered yes for trouble in remembering appointments, 198 (44%) answered yes for daily problems in thanking and memory.

Table 4, Describes the screening of neurological problems, In neurological screening 39 (8.7%) answered yes for have from one or more episodes of consciousness 24 (5.3%) answered 'yes' for have an episode of sudden loss of contact with surroundings, 75 (16.7%) answered yes for shaking of head arms or legs which would not be controlled., 36 (8%) answered' yes' for abnormality in speech. 3 (0.7%) answered yes for paralysis of face with deviation of mouth to one side. 123 (27.3%) have any difficulty in walking properly. To exclude individuals with pain or swelling of joints of legs. 6 (1.3%) answered yes for loss of sensation or abnormal sensation over face, or legs. 176.8 (39.3%) have

detoriation of memory over the last five years. 45 (10%) have episode of severe pain in face. 186 (41.3%) have frequent headaches.

Table 4: Screening of Neurological Problems

Questions	Yes response
Have from one or more episode of loss of consciousness	39 (8.7%)
Have an episode of sudden loss of contact with surroundings	24 (5.3%)
Have/ had shaking or head, arms, or legs which could not be controlled	75 (16.7%)
Have abnormality in speech	36 (8%)
Have paralysis of the face with deviation of mouth to one side	3 (0.7%)
Have any difficulty in walking properly (to exclude individuals with pain or swelling of joints of legs)	123 (27.3%)
Ever lose the sensation or had abnormal sensations over the face, arms or legs	6 (1.3 %)
Have deterioration of memory over the last five years	176.8 (39.3%)
Have episodes of severe pain in the face	45 (10%)
Have frequent headaches	186 (41.3%)

The self-reported medical histories were 111 (24.7%) have diabetes mellitus, 102 (22.7%) have hypertension , 15 (3.3%) have asthma, 3 (0.7%) have Hear attack (MI) 9 (2%) have renal stone, 3 (0.7%) have thyroid disease, 102 (22.7%) have glaucoma / cataract, 210 (46.7%) have joint pain / arthritis, 192 (42.7%) have visual problems, 75 (16.7%) having earing problems, 9 (2%) have blood disorder / Anaemia, 27 (6%) has alcohol use and 48 (10.7%) has tobacco use. Among others 3 (0.7%) have encephalitis, 6 (1.3%) have gastritis. 3 (0.7%) have gangrene, 3 (0.7%) have dental caries, 3 (0.7%) have Nodule, 66 (14.7 %) have no medical history.

Table 5: Comparison of Young Old (60-69 years of age) and Older/Oldest age group (> 70 yearsof age) with the Patients screened positive

	Young old (254)	Older/Oldest (216)	P Value <0.05	CI Limits
General Health Questionnaire	92 (36.2%)	88 (40.7%)	0.0224	0.4718, 0.9915
Psychosis Score – 4 item	14 (5.4%)	15 (6.7%)	0.1586	0.5685, 1.201
Alzheimer's disease – 8 item	44 (17.6%)	64 (29.6%)	0.0003	0.3071, 0.7362

As seen in the above table 5, the Comparison of Young Old (60-69 years of age) and Older/Oldest age group (> 70 years of age) with the Patients screened positive. For the 5 item General Health Questionnaire among the 254 Young old 92 (36.2%) were positive and among the 216 Older/Oldest population about 88 (40.7%) were positive which is statistically significant (p value 0.0224) comparing the two age categories. For the 4 –item Psychosis score, in Young old 14 (5.4%) and for Older/Oldest population about 15 (6.7%) were positive. Regarding Alzheimer's disease – 8 item questionnaire positive there is statistically very significant (p value 0.0003) difference among the Young old 44 (17.6%) and for Older/Oldest population about 64 (29.6%).

Phase II, Qualitative observations was conceptualized as framework based on the assessed in five broad categories based on assimilating the codes leading to one theme as under the category of Morbidity, the codes were Suffering , Restriction, Emotional, Disturbance, Caretaker, Immobilization, Diet & Nutrition , Comorbidity. For the category of Finance, the codes were Pension, Children Support, Relatives, Health insurance. Regarding the Quality of Life, the codes were found to be Not satisfied, Bad, Family, Issues, Old age home, hospitalization. For the category of Death, the codes were Expected Death, Wanted to live long, Achievements before death. Peaceful death and for the fifth category Community, the codes Spending time with family, No expectations, old age organization. The conceptual framework explains the multipronged issues which the fisherman old age people faced.

Phase II – Qualitative study (Coding Tree)[Fig 1]
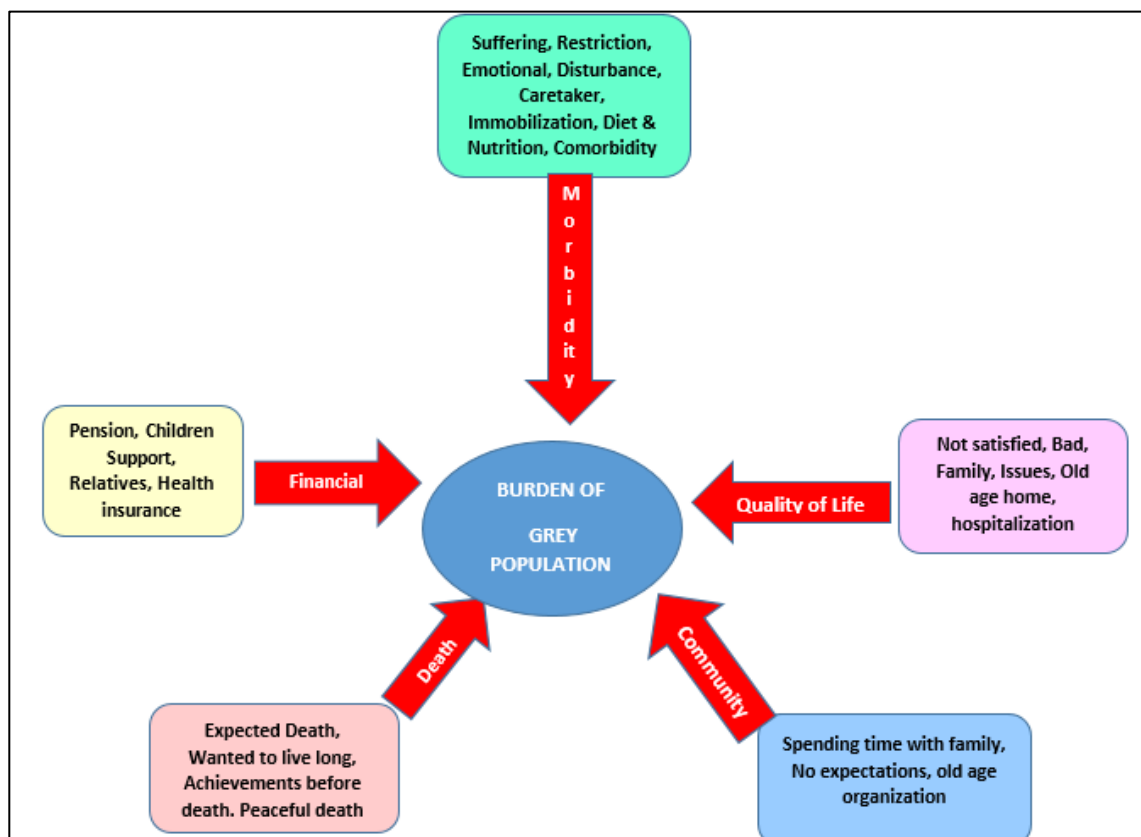
Discussion

The United Nations does not quote standard numerical criterion but agrees that those with age of 60-plus years considered to be the elderly population. In India elderly population accounts for 7% of total population, of which two third live in village and nearly half of them in poor conditions. As a result of urbanization, migration, and dual career nuclear families, care of elderly people has become more of personal and social problem in India. As young generation migrates from rural to urban areas in search of better life and job opportunities, it resulting in the elderly persons being left out to take care of themselves at times when family support is most needed.

We found that medical problems by the elderly people were mainly non communicable diseases. Diabetes, hypertension, joint pain accounted for majority of cases. A total of 37 (24.7%) had diabetes. A total of 34 (22.7%) have hypertension. Similar study conducted in Dehradun had reported 41.4% [5] of geriatric population have hypertension. A community based study in Rajasthan reported 48% hypertension among geriatric age group.[6]

Joint pain, arthritis is next predominant illness in our study. A total of 74 (46.7%) have arthritis. Study done by HANES in osteoarthritis shows,[7] 31% of women have Osteoarthritis and 21% men have osteoarthritis. Cataract accounted for 34 (22.7%) and visual problems 64 (42.7%) in our study population whereas community based study in Chandigarh revealed 19% of the subjects have mature and immature cataract. A total of 25 (16.7%) have hearing impairment. previous studies done by American medical association revealed 30% to 40% of accelerated rate of cognitive hearing impairment in geriatric population.[8]

A total of 0.7% have thyroid diseases. A total of 58 (38.7%) have psychiatric illness mainly depression, loneliness and feeling of neglect. Also, 2% have Anaemia. On the contrary, Chandigarh based community survey had reported majority of same population to be having anaemia, which was nearly two third of population.

There is no statistically significant difference in prevalence of morbidity in two subsets of elderly (early elderly and late elderly). A total of 0.7% have elephantiasis and 1.3% have gastritis, 0.7% have gangrene 0.7% have dental caries. Neglect in nutrition and lack of personal hygiene and care as a contributing factor for the precipitation of these disease. Continuous monitoring and independent evaluation of the Programme and research in Geriatrics and implementation of NPHCE. Some chronic morbidities might have been missed because the focus of the study was only on medical conditions documented from the patients coming to the OPD in primary health centre. The present study was restricted to medical admission only, in the primary health centre thus limiting the inclusion of many chronic conditions. This is the key limitation of this study.

Conclusion

The high prevalence of chronic morbidity and multi-morbidity found in this study has further highlighted the burden of Degenerative diseases and non-communicable diseases facing current health care practices among the fisherman old age group. There is a need for healthcare providers to face up and meet these challenges.Hence it is prudent to screen the elderly population for these General health, Alzheimer's diseases spread knowledge, awareness and self-care advice to them among the fisherman community though their food pattern and physical activity is on positive note. This will help to create "the society for ages" and to promote the concept of active and healthy ageing.

References:

1. Purty AJ, Bazroy J, Kar M, Vasudevan K, Veliath A, Panda P. Morbidity Pattern among the elderly population in the rural area of Tamil Nadu, India. Turk J Med Sci 2006; 36 : 45-50.
2. Pereira LV, Vasconcelos PPD, Souza LAF, Pereira GDA, Nakatani AYK, Bachion MM. Prevalence and intensity of chronic pain and self-perceived health among elderly people: a population-based study. Revistalatino-americana de enfermagem 2014;22 (4):662-9.
3. Akbar F, Kumar M, Das N, Chatterjee S, Mukhopadhyay S, Chakraborty M. Quality of Life (QOL) Among Geriatric Population in Siliguri Sub-division of District Darjeeling, West Bengal. Nat.J.Res.Com.Med .,2(1), 2013, 1 – 78.
4. Alvarado AM, Salazar AM. Adaptation to chronic benign pain in elderly adults. Invest EducEnferm 2015;33(1):138-47.
5. Kishore S JuyalR,SemwalJ,ChandraR,Morbidity profile of elderly persons.JK Sci 2007;9(2);87-9.
6. Otto CM,LindBK,KitzmanDW,GershBJ,SiscovickDS,Association of arotic valve sclerosis with cardiovascular mortality and morbidity in elderly.NEngl J Med 1999;341(3):142-7.
7. Basic data on arthritis of the knee, hip and sacroiliac joints in adults ages 25-74 years, United States, 1971-1975. National Center for Health Statistics series 11, no. 213, 1979.
8. Frank R. Lin, MD, PhD; Kristine Yaffe, MD; Jin Xia, MS; Qian-Li Xue, PhD; Tamara B. Harris, MD, MS; Elizabeth Purchase-Helzner, PhD; Suzanne Satterfield, MD, DrPH; Hilsa N. Ayonayon, PhD; Luigi Ferrucci, MD, PhD; Eleanor M. Simonsick, PhD; for the Health ABC Study Group. Hearing Loss and Cognitive Decline in Older Adults. JAMA Intern Med. 2013;173(4):293-299. Published online January 21, 2013