

DISSERTATION ON

**A STUDY OF MORBIDITY PROFILE IN SOUTH
INDIAN GERIATRIC POPULATION IN A RURAL
COMMUNITY AT THIRUVERKADU
THIRUVALLUR DISTRICT**

Submitted In partial fulfilment of

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CERTIFICATE

This is to certify that the dissertation titled **“A STUDY OF MORBIDITY PROFILE IN SOUTH INDIAN GERIATRIC POPULATION IN A RURAL COMMUNITY AT THIRUVERKADU THIRUVALLUR DISTRICT”** is the bonafide work done by **Dr. T.C. RAJA SAKKARAPANI**, Post Graduate Student, Department of Geriatric Medicine, Madras Medical College, Chennai – 600003, in partial fulfilment of the University rules and regulations for the award of **MD DEGREE** in **GERIATRIC MEDICINE BRANCH – XVI**, under our guidance and supervision, for the examination to be held on **April 2017**.

**Prof.Dr.S.Sivakumar, M.D.,
D.T.R.D.,**
Professor and Head,
Department of Geriatric Medicine,
MMC & RGGGH,
Chennai – 600003

Prof. Dr. MK.MURALITHARAN,
M.S., M.Ch (Neuro),,
Dean
MMC & RGGGH,
Chennai – 600003

DECLARATION

I solemnly declare that this dissertation titled **“A STUDY OF MORBIDITY PROFILE IN SOUTH INDIAN GERIATRIC POPULATION IN A RURAL COMMUNITY AT THIRUVERKADU THIRUVALLUR DISTRICT”** was done by me at Madras Medical College, Chennai – 600003, during the period March 2016 to August 2016 under the guidance and supervision of the **Professor Dr.S.Sivakumar, M.D., D.T.R.D.,** to be submitted to the The Tamilnadu Dr.M.G.R. Medical University, towards the partial fulfilment of requirements for the award of **MD DEGREE IN GERIATRIC MEDICINE BRANCH – XVI.**

Dr. T.C. RAJA SAKKARAPANI,
MD GERIATRIC MEDICINE,
Post Graduate Student,
Department of Geriatric Medicine,
Madras Medical College,
Chennai – 600003.

Place:

Date :

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Introduction

INTRODUCTION

Each and every person in the world have to come across the process “Ageing”. It is a by product of the demographic transition. One of the major features of demographic transition across the world has been considerable increase in absolute and relative number of aged people.

Now-a-days , aged people facing a very challenging life like poverty, loneliness, depression. Those are already vulnerable group in need of care and attention. In growing urbanization and dependency of job availability, children are increasing opting out of the extended family setup, having their “Empty Nest” and establishing their own nuclear family.

We are in a having to show the priority to medial and economic issues faced by the geriatric population in India. This will definitely help them to bring a better life with the Quality and health care. About 60% of the people are elderly population who is surviving in developing world, and this gets rise to 70% by 2010 itself.

More than two-thirds need health care, while about three-fifths need financial aid. A better co-ordination of case across health and social services as well as across different levels of health care is seen as crucial. By promoting the maintenance of function and confidence engagement can support healthy ageing.

Most notable are healthy promotions, hygiene maintenance and disease preventing programmes that target main cause of morbidity and premature mortality in particular Diabetes and hypertension and most important mental health.

According to the morbidities, that half of them in our nation suffers with chronic disease. This is basically a case control study which based on Questionnaire about morbidity profile in South Indian geriatric population in a rural community. Depending upon the Age, Sex, Occupation, Economic Status, Religion, Habits and perception this study reveals the co-morbidities which is prevalent in geriatric population.

Now-a-days pattern of life has changed the joint family system was moved to nuclear family due to increase in rural to urban migration. An important part of geriatric population is care and support from family, which is covered by our study under the topic perception. The geriatric patients who are under the treatment are failed to follow-up the doctors, due to many personal reasons. To avoid these issues and to reduce the mortality the aged people should be given counseling and create awareness regarding the follow up treatment. In this study, the prevalence rates of co-morbidities were compared between 500 geriatric people, statistically and conclusion is made. Recently the treatment part focuses only on to the concerned disease,

in order to improve on treatment side, focus on the co-morbidities associated with that particular disease is playing a very huge role. Hence the study which highlights the burdens of health problems in elderly individuals at Thiruverkadu a rural area of Chennai.

In the rapidly ageing population, we urgently need to reappraise the complex and uncomfortable relations between the age discrimination, Quality and length of life.

A thorough examination of the geriatric morbidity and related risk factors are required to improve the delivery of health care to the elderly. We are in a need to high light the medical and socio economic problems of elderly in India and strategies for bringing about an improvement in their Quality of life.

Aim and Objectives

AIM & OBJECTIVES

1. To determine the prevalence of morbidity pattern among geriatric population.
2. To assess the association between socio-demographic factors and the morbidities among geriatric population.

Review of Literature

REVIEW OF LITERATURE

Morbidity is defined as diseased condition. The study of morbidities among our 500 geriatric subjects are done in the rural area for identifying the incidence or prevalence of a disease or of all diseases (Morbidity rate). The prevalence of a disease in a particular percentage of the population.

The morbidities discussed in the study are listed below.

- 1) Diabetes Mellitus
- 2) Hypertension
- 3) Osteoarthritis
- 4) Coronary artery disease
- 5) Cerebrovascular accidents
- 6) Asthma
- 7) Chronic obstructive pulmonary disease
- 8) Epilepsy
- 9) Thyroid disorder
- 10) Anaemia
- 11) Cataract
- 12) Cancer
- 13) Dementia
- 14) Depression
- 15) Dental problems

- 16) Parkinson's disease
- 17) Chronic liver disease
- 18) Chronic kidney disease
- 19) Hearing deficit
- 20) Tuberculosis

Many people are affected >5 morbidities who are especially undergone the change in family members attitude.

The factors which influence these morbidities were also discussed in detail.

The Questionnaire about morbidity profile in a rural community has been taken with the following topics.

- Age, Sex
- Religion
- Occupation
- Education
- Socio-economic status
- Family
- Habits
- Perception
- Morbidity details

The study results state DM were predominantly in males (53.14%); Hypertension were predominantly in males (53.33%); Many morbidity has their high incident on males are COPD 80%, CLD (81.82%), Parkinson's disease (72.22%), Epilepsy (64.29%), CVA (69.23%), CKD (61.54%), Cancer (62.5%), Dementia (61.15%), Depression (59.09%), dental (57.39%), when compared to females.

“A study by PGT Department of Community Medicine, MGM MC & LSK Hospital, Bihar (2014), “The study of morbidity profile of geriatric population in an urban community of Kishanganj, Bihar, India” states that females are three times more prevalent in DM. A similar study done on the Urban area located at Thane also reported that 32.18% affected with cataract and 16.34% from hypertension, while my study shows cataract 53.8% and hypertension 57%”.

The study took place on urban area of Udaipur, Rajasthan District with geriatric subjects 48% had hypertension and 44% cataract.

The study conducted on Bihar 63.75% were anaemic and 15% were diabetic. In this present study 30.8% of anaemia and 54.2% of hypertension. It has been also noted that 19% were affected with cataract in the study conducted on Chandigarh.

The study done on Aurangabad District “Study of addiction on problems and morbidity among geriatric population” in rural area of Aurangabad district” shows smoking 29.96%, alcohol 18.18%, tobacco chewing 29.29%. In this present study smoking (21.4%), alcohol (18.6%), tobacco chewing (14.6%).

A study by Department of Preventive & Social Medicine, Govt. Medical College, Aurangabad 2012, “ The study of morbidity profile of geriatric population in the field practice area of rural health training center, Paithan of Govt. Medical College, Aurangabad, states that Arthritis-23.04%, Dementia-21.6%, DM-13.92%, COPD-7.52%, Hearing impairment-24.8%, Anaemia-8.32%, Cataract-40.16%, was present in elderly. Prevalence of addiction among males was 68.34% and among females 45.42% use to chew tobacco.

In this present study COPD-24%, Hearing impairment-45.6%, Anaemia-30.8%, Cataract-53.8%.

The study by RP. Thakur. “Health problems among the elderly: A cross sectional study, “shows prevalence of hypertension was 30.7%, 12% had diabetics, males are more than females.

A very large proportion of 32.6% had dental problems. Almost half show their history of depression.

Studies in developed countries have identified certain key issues. In their study among older people reported higher risk of under nutrition among elders living alone.

“Foottit & Anderson, in their study on a sample of 325. Elderly living in the community in Australia found that perceiving wellness was influenced by hearing, mobility, memory, chronic disease, exercise, single status. Therefore country-specific studies of health and social problems in the elderly are needed”.

In “Morbidity Profile of Elderly” A cross sectional study of urban area” Agra 89.2% population of the elderly were having morbidities. Most commonly anaemia (26.20%) followed by cataract (24.4%), hypertension and arthritis both as 22.2%.

In South Korea study “Morbidity and related factors among elderly people in South Korea” has remitted that, the most prevalent was hypertension (37.5%) followed by arthritis (15.6%), Diabetics (14.9%). Morbidity and related factors among elderly people in South Korea results from the Ansar Geriatric (AGE) Cohort study reported the most common morbidities were chronic disease such as Hypertension, arthritis and DM. In women osteoporosis and arthritis were the 2nd and 3rd most prevalent disease.

The Department of Community Medicine Terna Medical College, Mumbai was conducted a study. This study was dealing with “Morbidity profile among Geriatric population in an urban area, Navai, Mumbai”. This study results have highest load of morbidity in >75 years old population.

Most common morbidity among geriatrics found was psychosocial problems i.e. stress in (59.4%) followed by musculoskeletal system problems (55.6%), eye problem like diminished vision mostly due to cataract (46.3%), hypertension (28.1%), dental problems (21.9%), respiratory system disorder (11.9%), ENT (hearing impairment) (10.6%), and DM (10%).

A study of the morbidity profile of geriatric patients in rural areas of Ghaziabad, Uttar Pradesh showed that maximum cases were eye problems presbyopia (36.10%) and cataract (22.48%).

An epidemiological study of the morbidity pattern among the elderly population in Ahmedabad, Gujarat showed that maximum problems of Locomotors (48.6%) followed by vision (42.7%) and hypertension (34.4%), psychological problems only 3.7%.

A community based study of the morbidity profile among elderly people in a rural area of Patiala having multiple morbidities (61.1%)

showing significant rising trend with increase in age. In this study CVS (88.4%) was maximum. The leading cause of morbidity were Hypertension (53.7%), Arthritis (49.7%), Cataract (41.6%) and Anaemia (30.8%).

A study of morbidity profile among the Geriatric population, Eluru, Andhra Pradesh, India results were osteoarthritis which accounts 66%.

An epidemiological study to access morbidity profile among geriatric population in District Dehradun, April 2010 results show high prevalence of cardiovascular morbidity, arthritis, cataract.

Life style and morbidity profile of geriatric population in urban area of Chandigarh study showed 40.4% had hypertension, 57.2% had OA, 25.5% were DM, 67.4% had cataract and 34.2% had respiratory problems.

Major causes of morbidity among elderly according to ICMR

Disease	Percentage
Visual impairment	88
Locomotor disease	40
Neurological disease	18.7
Cardiovascular disease	17.4
Respiratory disease	16.1
Skin disease	13.3

Morbidity profile, health seeking behavior and home environment survey for Adaptive measures in Geriatric population – Urban community study results showed 64.1% were from 60 to 69 years age category, 9.1% current smokers, 94.1% had 1 to 3 morbidities, 4.1% had 4 to 6 morbidities, hypertension emerged as a major morbidity.

Socio-economic conditions, morbidity pattern and social support among the elderly women in rural area, Thiruvananthapuram 2001 study showed morbidity due to cancer, CHD, DM, hypertension and arteriosclerosis had increased while there was a decline in morbidity among the elderly from conditions like skin disease, visual and hearing handicaps and multiple orthopaedic problems.

Morbidity pattern and health-seeking behavior of aged population residing in Shimla Hills of North India - A cross sectional study showed most common morbidity among them were musculoskeletal problems (55%) followed by hypertension (40.5%). Two third were seeking treatment for their health problems.

Profile of psychiatric disorders and life events in medically ill elderly: experiences from geriatric clinic in Northern India 2007. The study results were hypertension was the most commonly reported physical diagnosis (50%), other specific medical illness were OA (15%), DM (13%),

constipation (8%). The study found 18% subjects had depression and 11% and other mental disorders.

Study on morbidity pattern among elderly in urban population of Mysore, Karnataka, India 2012 study results were disorders of oral cavity were more prevalent among aged males (40.6%) while disease of skin were more prevalent among aged females (10%). Most common disorder reported among the elderly were disease of the eyes (51.7%) followed by DM & nutritional problems (38.4%).

Age pattern of incidence of geriatric disease in the U.S. elderly population: Medicare – based analysis 2012, study showed the majority of disease (e.g. prostate cancer, asthma, DM) had a monotonic decline (or decline after a short period of increase) in incidence with age with a subsequent leveling off and decline was observed for myocardial infarction, stroke, heart failure, ulcer and Alzheimer's disease.

Health survey among elderly population residing in an urban slum of Pune city 2010 study results were

Medical Problem	Percentage
Semile cataract	68
Musculoskeletal disorders	53
Hypertension	27
Hemiplegia	7
Hearing loss	6
Respiratory disorders	5

Most common musculoskeletal problem is osteoarthritis most common respiratory disorder was COPD.

An epidemiological study to assess morbidity profile among geriatric population in Dist, Dehradun, 2010, study results were hypertension (38.6%), DM (17.7%), arthritis (21.2%), asthma (7.7%), cataract (17.5%).

Study of health profile of residents of geriatric home in Ahmadabad Dist 2011. Study showed most common presenting symptoms of the elderly were loss of teeth (70%), joint pain (60.2%), impaired vision (44.2%), CVA (34.9%) and insomnia (34%).

Morbidity status and its social determinants among elderly population of Lucknow, India 2013, study showed musculoskeletal problems 58.1%,

females were more affected when compare to males; 68.5% males and 73% of females in rural areas had symptoms and eye problem. 47.2% of males and 26.1% of females in rural areas had respiratory problems. 41.6% of males and 36% of females in rural areas had GIT (Gastro intestinal) problems.

Geriatric morbidity profile in an urban slum, Central India 2009 to 2011 in urban slum areas of UHTC. This study showed that the most common morbidities identified in study population was anaemia (96.5%) followed by hypertension (34.75%), artheritis (32.25%), cataract (21%) and DM (17.75%).

Morbidity pattern in the inmates of residential Asham in rural Dakshina, Kannada Dist, Karnataka 2016 represents the morbidity pattern of population were mainly anaemia (64.2%) followed by hypertension (51.9%) and joint problems (44.1%). The other problems include Gastrointestinal symptoms (27.4%), visual activity problems (24%), respiratory problems (22.3%), diabetes (17.3%).

Material and Methodology

MATERIALS AND METHODOLOGY

Study Design:

Cross Sectional Study

Study Place:

THIRUVERKADU, Thiruvallur District.

Study duration:

Six months (April to September 2016)

Study Population:

- **Inclusion Criteria**

Patients who are above 60 years old of both sex

- **Exclusion Criteria**

Older people who are not able to perceive and respond.

Sample Size:

Five hundred people, who are all above 60 years.

Estimated prevalence of morbidity among geriatric population ~ 50%

Sample size,

$$N = \frac{Za^2 \times P \times (1-P)}{d^2}$$

Where,

Z_a = two tailed deviate for 95% confidence level

P = prevalence of morbidity among geriatric population 50%

d = precision (or) allowable error of the prevalence 5%

Calculating the sample size

$$N = \frac{(1.96)^2 \times 0.5 \times 0.5}{0.05 \times 0.05} = 384$$

Accounting to non response of 20%

$$N = 384 + 0.2 (384) = 461$$

Sampling:

This study which involved 500 aged willing people who are at the age of above 60 years in the rural community at Thiruverkadu.

Study tool:

Pre designed and tested Questionnaire which includes

- 1) Age
- 2) Sex
- 3) Type of family
- 4) Income
- 5) Habits
- 6) Religion

- 7) History of chronic disease
- 8) Psychiatric illness such as depression and dementia.

This pilot study was carried out with the outpatients among the geriatric subjects, whose will and concern has taken and following with some of the questions from the interview schedule were modified.

Collection procedure:

Health assistants were informed and asked to provide the importance of this study to the family to participate in this study. All our involved people are clearly explained about the use of this study and ensured their strict confidentiality.

Proper consent has been taken from the involved people and if they don't want to participate, in this study they were not forced to do so.

On an average of about three-five visits were done by our team to assure that the willing people has participated.

Those visits were very helpful to people who missed their first contact.

After taking verbal consent each individual was subjected to personal interview and clinical examination.

The information was collected with the help of health assistants, other faculty members and anganwadi workers through a pre-designed, pre-tested and structural proforma. All the subjects were examined well. A person was regarded as hypertensive according to the JNC-VII BP classification or if he was already taking anti-hypertensive medications.

According to the list given by primary health centre the geriatric subjects were recorded as diabetics those who were on treatment of Type 2 DM under the program of NCD (Non-Communicable Disease).

Visual examination was conducted using torch light and by asking the patients to count fingers.

Tuning Forks test was formed to detect Hearing loss.

- 1) Clinically diagnosed disease – anaemia.
- 2) Oral cavity was visualized to rule out dental caries, loss of teeth and oral.
- 3) TB as recorded as per the RNTCP records
- 4) Asthma and COPD were diagnosed according to the treatment taken by the patient.

Epilepsy was also recorded as per the patients history and treatment details.

Parkinson's disease was judged clinically and also by this medication records.

Dementia assessed using Mini-mental state examination (MMSE) and by this medication records.

Depression was diagnosed by GDS (Geriatric Depression Scale)

- 1) Personal details, findings of physical and psychological examination were also done.
- 2) Osteoarthritis examined clinically and with the help of their treatment details.
- 3) CVA, CAD, Thyroid disorder and cancer were detected using their medical records.

Data Entry & Analysis

Data collected were entered in Microsoft Excel 2013 version and analysed using SPSS (Statistical package for Software Solutions) Version 21. The statistical association between variables were tested using chi-square tests.

Results

RESULTS

Distribution study subjects according to Socio-demographic factors

Demography		Frequency	Percentage %
Age	60-69 Years	309	61.8%
	70-79 Years	153	30.6%
	80 Years & Above	38	7.6%
Sex	Male	273	54.6%
	Female	227	45.4%
Occupation	Agricultural Worker	17	3.4%
	Labourer	100	20.0%
	Business	4	0.8%
	White Collar Job	3	0.6%
	None	376	75.2%
Education	Uneducated	300	60.0%
	Primary Grade	85	17.0%
	Secondary Grade	80	16.0%
	Higher Secondary Grade & above	35	7.0%
Religion	Hindu	404	80.8%
	Christian	74	14.8%
	Muslim	22	4.4%
SES	Lower Class	310	62.0%
	Lower Middle Class	84	16.8%
	Middle Class	60	12.0%
	Upper Middle Class	27	5.4%
	Upper Class	19	3.8%
Family	Nuclear	269	53.8%
	Joint	187	37.4%
	Three Generation	29	5.8%
	Living alone	15	3.0%

According to Sex distribution

Demography	Type	Sex	
		Male	Female
Occupation	Agricultural worker	9 (52.94%)	8(47.06%)
	Labourer	66(66%)	34(34%)
	Business	2(50%)	2(50%)
	White Collar Job	1(33.33%)	2(66.67%)
	None	195(51.86%)	181(48.14%)
Education	Uneducated	136(45.33%)	164(54.67%)
	Primary Grade	55(64.71%)	30(35.29%)
	Secondary Grade	60(75%)	20(25%)
	Higher Secondary Grade & Above	22(62.86%)	13(37.14%)
Religion	Hindu	220(54.46%)	184(45.54%)
	Christian	41(55.41%)	33(44.59%)
	Muslim	12(54.55%)	10(45.45%)
SES	Lower Class	162(52.26%)	148(47.74%)
	Lower Middle Class	59(70.24%)	25(29.76%)
	Middle Class	32(53.33%)	28(46.67%)
	Upper Middle Class	12(44.44%)	15(55.56%)
	Upper Class	8(42.11%)	11(57.89%)
Family	Nuclear	142(52.79%)	127(47.21%)
	Joint	106(56.68%)	81(43.32%)
	Three Generation	16(55.17%)	13(44.83%)
	Living alone	9(60%)	6(40%)
Habit	No addiction	81(28.03%)	208(71.97%)
	Smoker	23(92%)	2(8%)
	Alcoholic	29(100%)	0(0%)
	Beetel Nut Chewer	19(61.29%)	12(38.71%)
	Tobacco Consumer	16(80%)	4(20%)
	Panparag Consumer	0(0%)	0(0%)
	Gutka consumer	8(100%)	0(0%)
	HANS consumer	1(50%)	1(50%)
	Drug Abuser	0(0%)	0(0%)
	2 Addictions	58(100%)	0(0%)
	3 Addictions	33(100%)	0(0%)
4 Addictions	5(100%)	0(0%)	

Age :

Age group about 60-69 years involved for over more than half of the study population (61.8%).

70 to 79 years involved for about 30.6% \geq 80 years (80 years and above) were about 7.6% in the study population.

Education:

Uneducated people among the study population women were high (54.67%) when compared to males (45.33%).

Socio-economic status:

Under the guidelines of Kuppusamy's scale (2012)

The study subjects

- 62% were belong to the classification lower class
- 16.8% belongs to lower middle class
- 12% belongs to middle class
- 5.4% belongs to upper middle class and
- Upper class study subjects were 3.8%

Religion:

Involved geriatric study subjects consist of 80.8% Hindus and 14.8% Christian and 4.4% Muslims.

Type of family:

In this study population, 53.5% belongs to Nuclear family, 37.4% belongs to the joint family, 5.8% of the people belongs to the Three Generation family 3% belongs to the living alone category.

On the basis of sex:

Our study consists of nuclear family in males 52.79% and females 47.21%.

Joint family males are 56.68% and females are 42.32%.

Three generation males 55.17% and females are of 44.83% and coming under the category living above males – 60% and females are 40%.

Occupation:

It was mentioned that 20% of the study population were working as Labourer and 3.4% of study subjects chosen this occupation as Agriculture, while 0.8% were business people and white collar job for 0.6%, finally 75.2% belongs to the category none (non-workers).

On the basis of different sex, regarding their occupation were statistically denoted as below.

Agricultural worker in male belongs to 52.94% and female belongs to 47.06%. Men are slightly high in Agriculture field. Labourer occupation

accompanied by 66% males and 34% female. Business category give equal percentage as 50% males and 50% females.

Under the category none 51.86% and males while compared to females are 48.14%

Distribution of study subjects according to type of addiction

Addiction	Frequency	Percentage %
Smoking	107	21.4%
Alcoholism	93	18.6%
Betel Nut Chewing	40	8.0%
Tobacco	73	14.6%
Panparag	1	0.2%
Gutka	34	6.8%
Hans	2	0.4%

In this study subjects, people are in the habit of Smoking were about 21.4% then Alcoholism was about 18.6% and Betal nut chewer was noted 8% and Tobacco consumption is about 14.6%, Gutka is of 6.8%, Panparag is about 0.2% and Hans is about 0.4%.

There are people, who also has the habit of using these addictions more than one.

e.g. There are people in our elderly study who has habit of smoking and alcoholism together on any other addictions in combination.

No. of Addictions	Frequency	Percentage %
None	289	57.8%
One	115	23.0%
Two	58	11.6%
Three	33	6.6%
Four	5	1.0%

The people in our study who has no addictions were about 57.8%. More than one addictions like two about 11.6%, Three about 6.6%, Four is about 1% and one is all about 23%.

When comparing the males and females regarding addiction, the statistic we received were given below.

Habit	Males	Females
No addiction	81 (28.03%)	208(71.97%)
Smoker	23(92%)	2(8%)
Alcoholic	29(100%)	0(0%)
Betal nut chewers	19(61.29%)	12(38.17%)
Tobacco chewers	16(80%)	4(20%)
Panparag chewers	0(0%)	0(0%)

Habit	Males	Females
Gutka Chewers	8(100%)	0(0%)
Hans Chewers	1(50%)	1(50%)
Drug abusers	0(0%)	0(0%)
2 addictions	58(100%)	0(0%)
3 addictions	33(100%)	0(0%)
4 addictions	5(100%)	0(0%)

Smoking is comparatively high in males 92% when compared to females 8%, Alcoholic is about 100% in males and 0% in females, Beal nut chewers, Tobacco chewers, Panparag, Hans chewers in all these addictions males are comparatively higher than females as listed in the above table.

More than one (or) two addictions males are predominantly higher than females.

In relation to family and psychological perception the study subjects distribution are listed below

Perception	Frequency	Percentage %
Change in family members attitude	138	27.6%
Loss of income	99	19.8%
Expect family support	133	26.6%
No expectation from family	48	9.6%
Lonely feel	119	23.8%
Neglected feel	97	19.4%

The above table shows the psychological perception of the elderly subjects felt the change of attitude in the member of their family towards them because of lack of care, support, respect and not treating them properly.

27.6% had accredited for the change in behavior of their own family members because of their loss of income.

19.8% of our study population has committed the loss of income. These are the people 26.6% who had the feedback of expect family support and 9.6% of the people had no expectation from their family. 19.4% had neglected feel and feeling of loneliness is about 23.8%.

In relation to psychological perception and type of family

Perception	Nuclear	Joint	Three Generation	Living Alone	χ^2 Test p value
Change in family members attitude	56 (40.6%)	78 (56.5%)	1 (0.7%)	3 (2.2%)	0.001
Loss of income	46 (46.5%)	47 (47.5%)	3 (3%)	3 (3%)	0.101
Expect family support	55 (41.4%)	72 (54.1%)	1 (0.8%)	5 (3.8%)	0.001
No expectation from family	32 (66.7%)	12 (25%)	4 (8.3%)	0 (0%)	0.112
Lonely feel	54 (45.4%)	47 (39.5%)	13 (10.9%)	5 (4.2%)	0.018
Neglected feel	48 (49.5%)	42 (43.3%)	4 (4.1%)	3 (3.1%)	0.547

In psychological perception distribution, the change in family members attitude is significantly high in joint family 78 (56.5%).

While nuclear family 56 (40.6%), and living alone shows 2.2% and three generation family is about 1 (0.7%).

Loss of income is slightly high in joint families (47.5%)

Except family support is high in joint family (54.1%)

Lonely feeling of the elderly subject is slightly high in nuclear families (45.4%).

Neglected feel among the study subject in high in the nuclear family (4.5%).

Prevalence of morbidities among our study subjects

Morbidity	Frequency	Percentage %
DM	271	54.2%
HTN	285	57.0%
OA	195	39.0%
CAD	197	39.4%
CVA	39	7.8%
ASTHMA	7	1.4%
COPD	120	24.0%
EPI	28	5.6%
THYRO	56	11.2%
ANEMIA	14	30.8%
CATARACT	269	53.8%
CANCER	40	8.0%
DEMENTIA	139	27.8%
DEPRESSION	176	35.2%
HEARING	228	45.6%
DENTAL	406	81.2%
PARKINSON	36	7.2%
CKD	26	5.2%
CLD	11	2.2%
TB	6	1.2%

Among our study population 81.2% were diagnosed with Dental problem which includes dental caries, loss of teeth, chronic periodontitis,

followed by 57% were detected as hypertension than 54.2% were found to be DM and 53.8% were affected due to cataract and refractory errors. Loss of hearing were about 45.6%.

Comparing the morbidities with the age classification

Morbidity	60-69 Years	70-79 Years	80 Years & Above	χ^2 Test p value
DM	171 (63.1%)	88 (32.47%)	12 (4.43%)	0.013
HTN	166 (58.25%)	101 (35.44%)	18 (6.32%)	0.02
OA	107 (54.87%)	60 (30.77%)	28 (14.36%)	0.0001
CAD	116 (58.88%)	68 (34.52%)	13 (6.6%)	0.286
CVA	16 (41.03%)	18 (46.15%)	5 (12.82%)	0.02
ASTHMA	2 (28.57%)	4 (57.14%)	1 (14.29%)	0.19
COPD	82 (68.33%)	33 (27.5%)	5 (4.17%)	0.133
EPI	17 (60.71%)	8 (28.57%)	3 (10.71%)	0.809
THYRO	42 (75%)	13 (23.21%)	1 (1.79%)	0.058
ANEMIA	105 (68.18%)	34 (22.08%)	15 (9.74%)	0.018
CATARACT	191 (71%)	67 (24.91%)	11 (4.09%)	0.001
CANCER	13 (32.5%)	16 (40%)	11 (27.5%)	0.001
DEMENTIA	51 (36.69%)	59 (42.45%)	29 (20.86%)	0.001
DEPRESSION	79 (44.89%)	72 (40.91%)	25 (14.2%)	0.001
HEARING	92 (40.35%)	99 (43.42%)	37 (16.23%)	0.001
DENTAL	238 (58.62%)	133 (32.76%)	35 (8.62%)	0.008
PARKINSON	13 (36.11%)	21 (58.33%)	2 (5.56%)	0.001
CKD	11 (42.31%)	14 (53.85%)	1 (3.85%)	0.03
CLD	8 (72.73%)	3 (27.27%)	0 (0%)	0.573
TB	4 (66.67%)	2 (33.33%)	0 (0%)	0.779

The age group of 60 to 69 years elderly subjects show their morbidity prevalence significantly higher in Diabetics (63.1%), Hypertension (58.25%), Osteoarthritis (54.87%), CAD (58.88%), COPD (68.33%), Epilepsy (60.71%), Thyroid disorders (75%), Anaemia (68.18%), Cataract (71%), Dental problems (58.62%), CLD (72.73%), TB (66.67%), Depression slightly higher in age group of 60 to 69 years (44.89%) when compared to other age groups 70 to 79 years (40.91%).

The age group of 70 to 79 years elderly people shows their morbidity profile significantly higher in Asthma (57.14%), Dementia (42.45%), Parkinson's disease (58.33%), CKD (53.85%), slightly higher in CVA, Cancers, Hearing Problems in this age group 70 to 79 years.

Morbidity Profile in Elderly Males & Females

Morbidity	Male	Female	χ^2 Test p value
DM	144 (53.14%)	127 (46.86%)	0.475
HTN	152 (53.33%)	133 (46.67%)	0.512
OA	72 (36.92%)	123 (63.08%)	0.001
CAD	102 (51.78%)	95 (48.22%)	0.307
CVA	27 (69.23%)	12 (30.77%)	0.056
ASTHMA	2 (28.57%)	5 (71.43%)	0.164
COPD	96 (80%)	24 (20%)	0.001
EPI	18 (64.29%)	10 (35.71%)	0.289
THYRO	11 (19.64%)	45 (80.36%)	0.001
ANEMIA	50 (32.47%)	104 (67.53%)	0.001

CATARACT	132 (49.07%)	137 (50.93%)	0.007
CANCER	25 (62.5%)	15 (37.5%)	0.295
DEMENTIA	85 (61.15%)	54 (38.85%)	0.068
DEPRESSION	104 (59.09%)	72 (40.91%)	0.137
HEARING	145 (63.6%)	83 (36.4%)	0.001
DENTAL	233 (57.39%)	173 (42.61%)	0.009
PARKINSON	26 (72.22%)	10 (27.78%)	0.027
CKD	16 (61.54%)	10 (38.46%)	0.465
CLD	9 (81.82%)	2 (18.18%)	0.067
TB	4 (66.67%)	2 (33.33%)	0.55

In this study group males were predominantly affected DM (63.14%), HTN (53.33%), CVA (69.23%), COPD (80%), Epilepsy (64.29%), Cancers (62.5%), Dementia (61.15%), Depression (59.09%), Hearing problems (63.6%), Dental problems (57.9%), Parkinson's disease (72.22%), CKD (61.54%), CLD (81.82%), TB (66.67%) when compared to females.

In this study group females were predominantly affected with Osteoarthritis (63.08%), Asthma (71.43%), Thyroid disorders (80.36%), Anaemia (67.53%) when compared to males.

In my study CAD, cataract, morbidities were more or less same in both sexes.

Morbidity profile according to Age & Sex

	60-69 Years		70-79 Years		80 Years & Above	
	Male	Female	Male	Female	Male	Female
DM	79 (46.2%)	92 (53.8%)	55 (62.5%)	33 (37.5%)	10 (83.33%)	2 (16.67%)
HTN	77 (46.39%)	89 (53.61%)	61 (60.4%)	40 (39.6%)	14 (77.78%)	4 (22.22%)
OA	23 (21.5%)	84 (78.5%)	32 (53.33%)	28 (46.67%)	17 (60.71%)	11 (39.29%)
CAD	51 (43.97%)	65 (56.03%)	42 (61.76%)	26 (38.24%)	9 (69.23%)	4 (30.77%)
CVA	11 (68.75%)	5 (31.25%)	12 (66.67%)	6 (33.33%)	4 (80%)	1 (20%)
ASTHMA	0 (0%)	2 (100%)	2 (50%)	2 (50%)	0 (0%)	1 (100%)
COPD	66 (80.49%)	16 (%)	27 (%)	6 (%)	3 (%)	2 (%)
EPI	9 (52.94%)	8 (47.06%)	7 (87.5%)	1 (12.5%)	2 (66.67%)	1 (33.33%)
THYRO	8 (19.05%)	34 (80.95%)	2 (15.38%)	11 (84.62%)	1 (100%)	0 (0%)
ANEMIA	26 (24.76%)	79 (75.24%)	17 (50%)	17 (50%)	7 (46.67%)	8 (53.33%)
CATARACT	82 (42.93%)	109 (57.07%)	41 (61.19%)	26 (38.81%)	9 (81.82%)	2 (18.18%)
CANCER	7 (53.85%)	6 (46.15%)	11 (68.75%)	5 (31.25%)	7 (63.64%)	4 (36.36%)
DEMENTIA	23 (45.1%)	28 (54.9%)	40 (67.8%)	19 (32.2%)	22 (75.86%)	7 (24.14%)
DEPRESSION	37 (46.84%)	42 (53.16%)	49 (68.06%)	23 (31.94%)	18 (72%)	7 (28%)
HEARING	52 (56.52%)	40 (43.48%)	67 (67.68%)	32 (32.32%)	26 (70.27%)	11 (29.73%)
DENTAL	121 (50.84%)	117 (49.16%)	89 (66.92%)	44 (33.08%)	23 (65.71%)	12 (34.29%)
PARKINSON	8 (61.54%)	5 (38.46%)	16 (76.19%)	5 (23.81%)	2 (100%)	0 (0%)
CKD	5 (45.45%)	6 (54.55%)	10 (71.43%)	4 (28.57%)	1 (100%)	0 (0%)
CLD	7 (87.5%)	1 (12.5%)	2 (66.67%)	1 (33.33%)	0 (0%)	0 (0%)
TB	3 (75%)	1 (25%)	1 (50%)	1 (50%)	0 (0%)	0 (0%)

In my study 60 to 69 years old age group females were slightly higher affected with Diabetics (53.8%) when compared to males whereas 70 to 79 years old age group males (62.5%) were affected with diabetics when compared to females.

80 years and above age group males were predominantly affected when compared to females.

In hypertension 60 to 69 years old age group females (53.16%) were slightly higher affected when compared to males, whereas 70 to 79 years old age group males were predominantly affected (60.4%) and 80 years and above age group males were much affected (77.78%) when compared to females.

In osteoarthritis 60 to 69 years old age group females were predominantly affected (78.5%) when compared to males, whereas, 70 to 79 years age group males were slightly higher than females and 80 years and above age group males were affected (60.71%) when compared to females.

In CAD females were slightly high (56.03%) under the age group of 60 to 69 years, 70 to 79 years (61.76%) and 80 years and above (69.23%) males were predominantly affected.

In CVA, COPD, Epilepsy, Parkinson's disease, Cancers, Hearing loss all categories males were predominantly affected when compared to males in 60 to 69 years and 80 years and above.

In thyroid disorders females were predominantly affected than males in 60 to 69 years (80.95%) and 70 to 79 years (84.62%) whereas 80 years and above age group males were predominantly affected than females.

Females were predominantly affected than males in anaemia under the age group of 60to69 years (75.24%) and 80years and above (53.33%).

In cataract, under the age group 60to69 years females (57.07%) were affected than males and in 70to79 years (61.19%) and ≥ 80 years (81.12%) males were predominantly affected when compared to females.

Under the age group of 70 to79 years and ≥ 80 years males were highly affected than females and 60 to 69 years females were slightly high when compared to males under the morbidities of dementia & depression.

Males were comparatively affected than females in dental problems in the age group of 70 to79 years and ≥ 80 years.

In CKD males were higher than females under the age group of 70to 79years and ≥ 80 years.

Under the age group of 60 to 69 years females were slightly high than males in CKD.

In CLD males were predominantly affected than females under the categories of 60 to 69 years and 70 to 79 years.

In TB, 60 to 69 years age group males (75%) were affected than females and 70 to 79 years age group 50% affected in both sex.

**Comparing Education with Morbidity Profile Analysis of Morbidities
with Educational Status of the study population**

	EDUCATED	UNEDUCATED	χ^2 Test p value
DM	122 (45.02%)	149 (54.98%)	0.013
HTN	125 (43.86%)	160 (56.14%)	0.043
OA	76 (38.97%)	119 (61.03%)	0.708
CAD	78 (39.59%)	119 (60.41%)	0.881
CVA	21 (53.85%)	18 (46.15%)	0.066
ASTHMA	2 (28.57%)	5 (71.43%)	C.534
COPD	43 (35.83%)	77 (64.17%)	0.285
EPI	10 (35.71%)	18 (64.29%)	0.634
THYRO	21 (37.5%)	35 (62.5%)	0.685
ANEMIA	45 (29.22%)	109 (70.78%)	0.001
CATARACT	99 (36.8%)	170 (63.2%)	0.115
CANCER	18 (45%)	22 (55%)	0.501
DEMENTIA	66 (47.48%)	73 (52.52%)	0.034
DEPRESSIO N	70 (39.77%)	106 (60.23%)	0.939
HEARING	87 (38.16%)	141 (61.84%)	0.441
DENTAL	159 (39.16%)	247 (60.84%)	0.427
PARKINSON	17 (47.22%)	19 (52.78%)	0.359
CKD	14 (53.85%)	12 (46.15%)	0.139
CLD	8 (72.73%)	3 (27.27%)	0.025
TB	2 (33.33%)	4 (66.67%)	0.737

It was observed that uneducated people in the study subjects were highly affected with certain morbidities like Diabetics (54.98%), Hypertension (54.14%), Osteoarthritis (61.03%), CAD (60.41%), Asthma (71.43%) COPD (64.17%), Epilepsy (64.29%), Thyroid disorders (62.5%), Anaemia (70.78%), Cataract (63.2%), Cancer (55%), Depression (60.23%), Hearing loss (61.84%), Dental Problems (60.84%), TB (66.67%) Except in CVA (53.85%), CKD (53.85%), CLD (72.73%) educated people were affected more.

Distribution of the study population in relation to occupation & morbidities

	WORKING	NOT WORKING	χ^2 Test p value
DM	57(21.03%)	214 (78.97%)	0.034
HTN	52 (18.25%)	233 (81.75%)	0.001
OA	44 (22.56%)	151 (77.44%)	0.355
CAD	35 (17.77%)	162 (82.23%)	0.003
CVA	3 (7.69%)	36 (92.31%)	0.010
ASTHMA	2 (28.57%)	5 (71.43%)	0.816
COPD	37 (30.83%)	83 (69.17%)	0.079
EPI	7 (25%)	21 (75%)	0.980
THYRO	12 (21.43%)	44 (78.57%)	0.535
ANEMIA	46 (29.87%)	108 (70.13%)	0.080
CATARACT	88 (32.71%)	181 (67.29%)	0.001
CANCER	3 (7.5%)	37 (92.5%)	0.008
DEMENTIA	7 (5.04%)	132 (94.96%)	0.001
DEPRESSIO N	18 (10.23%)	158 (89.77%)	0.001
HEARING	26(11.4%)	202 (88.6%)	0.001
DENTAL	94 (23.15%)	312 (76.85%)	0.076
PARKINSON	2 (5.56%)	34 (94.44%)	0.006
CKD	4 (15.38%)	22 (84.62%)	0.254
CLD	3 (27.27%)	8 (72.73%)	0.848
TB	1 (16.67%)	5 (83.33%)	0.643

Under this category the prevalence of morbidities were higher in not working people when compared to working people.

**Distribution of the study population in relation to socio-economic status
& morbidities**

	LOWER CLASS	OTHER CLASS	χ^2 Test p value
DM	161 (59.41%)	110 (40.59%)	0.194
HTN	183 (64.21%)	102 (35.79%)	0.241
OA	111 (56.92%)	84 (43.08%)	0.061
CAD	126 (63.96%)	71 (36.04%)	0.467
CVA	19 (48.72%)	20 (51.28%)	0.075
ASTHMA	4 (57.14%)	3 (42.86%)	0.790
COPD	85 (70.83%)	35 (29.17%)	0.022
EPI	15 (53.57%)	13 (46.43%)	0.344
THYRO	37 (66.07%)	19 (33.93%)	0.505
ANEMIA	110 (71.43%)	44 (28.57%)	0.004
CATARACT	179 (66.54%)	90 (33.46%)	0.024
CANCER	21 (52.5%)	19 (47.5%)	0.197
DEMENTIA	72 (51.8%)	67 (48.2%)	0.004
DEPRESSION	101 (57.39%)	75 (42.61%)	0.117
HEARING	140 (61.4%)	88 (38.6%)	0.801
DENTAL	252 (62.07%)	154 (37.93%)	0.947
PARKINSON	15 (41.67%)	21 (58.33%)	0.009
CKD	15 (57.69%)	11 (42.31%)	0.642
CLD	6 (54.55%)	5 (45.45%)	0.607
TB	4 (66.67%)	2 (33.33%)	0.813

It was noted that lower class people shown high prevalence in morbidities like Diabetics, Hypertension, Osteoarthritis, CAD, Asthma, COPD, Epilepsy, Thyroid Disorders, Anaemia, Cataract, Cancer, Dementia, Depression, Hearing Loss, Dental Problems, CKD, CLD, TB.

In CVA Parkinson's disease other than Lower class people shows their prevalence.

Distribution of the study population in relation of type of family and morbidities

	NUCLEAR	JOINT	THREE GENERATION	LIVING ALONE	X2 p value
DM	135 (49.82%)	114 (42.07%)	12 (4.43%)	10 (3.69%)	0.045
HTN	145 (50.88%)	119 (41.75%)	7 (2.46%)	14 (4.91%)	0.001
OA	93 (47.69%)	77 (39.49%)	20 (10.26%)	5 (2.56%)	0.003
CAD	102 (51.78%)	82 (41.62%)	9 (4.57%)	4 (2.03%)	0.300
CVA	11 (28.21%)	25 (64.1%)	3 (7.69%)	0 (0%)	0.002
ASTHMA	1 (14.29%)	5 (71.43%)	1 (14.29%)	0 (0%)	0.148
COPD	72 (60%)	42 (35%)	6 (5%)	0 (0%)	0.099
EPI	17 (60.71%)	9 (32.14%)	2 (7.14%)	0 (0%)	0.690
THYRO	31 (55.36%)	21 (37.5%)	4 (7.14%)	0 (0%)	0.549
ANEMIA	90 (58.44%)	49 (31.82%)	10 (6.49%)	5 (3.25%)	0.396
CATARACT	165 (61.34%)	93 (34.57%)	5 (1.86%)	6 (2.23%)	0.001
CANCER	13 (32.5%)	16 (40%)	10 (25%)	1 (2.5%)	0.001
DEMENTIA	44 (31.65%)	71 (51.08%)	18 (12.95%)	6 (4.32%)	0.001
DEPRESSION	64 (36.36%)	88 (50%)	16 (9.09%)	8 (4.55%)	0.001
HEARING	99 (43.42%)	99 (43.42%)	24 (10.53%)	6 (2.63%)	0.001
DENTAL	204 (50.25%)	165 (40.64%)	26 (6.4%)	11 (2.71%)	0.004
PARKINSON	16 (44.44%)	14 (38.89%)	5 (13.89%)	1 (2.78%)	0.169
CKD	10 (38.46%)	15 (57.69%)	1 (3.85%)	0 (0%)	0.156
CLD	5 (45.45%)	6 (54.55%)	0 (0%)	0 (0%)	0.568
TB	3 (50%)	3 (50%)	0 (0%)	0 (0%)	0.847

This study shows that the prevalence of morbidities were comparatively higher in nuclear family such as Diabetics (49.82%), Hypertension (50.88%), Osteoarthritis (47.69%), CAD (51.78%), COPD (60%), Epilepsy (60.71%), Thyroid disorder (55.36%), Anaemia (58.44%), Cataract (61.34%), Dental problems (50.25%).

These are the morbidities which show high prevalence in joint family like CVA (64.1%), Asthma (71.43%), Cancers (40%), Dementia (51.08%), Depression (50%), CKD (57.69%), CLD (54.55%).

Distribution of the study population in relation to habits & morbidities

	ADDICTION		X ² p value
	YES	NO	
DM	106 (39.11%)	165 (60.89%)	0.129
HTN	110 (38.6%)	175 (61.4%)	0.060
OA	54 (27.69%)	141 (72.31%)	0.000
CAD	74 (37.56%)	123 (62.44%)	0.091
CVA	22 (56.41%)	17 (43.59%)	0.061
ASTHMA	2 (28.57%)	5 (71.43%)	0.462
COPD	92 (76.67%)	28 (23.33%)	0.000
EPI	14 (50%)	14 (50%)	0.390
THYRO	13 (23.21%)	43 (76.79%)	0.002
ANEMIA	46 (29.87%)	108 (70.13%)	0.000
CATARACT	114 (42.38%)	155 (57.62%)	0.930
CANCER	18 (45%)	22 (55%)	0.709

	ADDICTION		X ² p value
	YES	NO	
DEMENTIA	57 (41.01%)	82 (58.99%)	0.738
DEPRESSION	71 (40.34%)	105 (59.66%)	0.535
HEARING	105 (46.05%)	123 (53.95%)	0.110
DENTAL	183 (45.07%)	223 (54.93%)	0.007
PARKINSON	18 (50%)	18 (50%)	0.325
CKD	11 (42.31%)	15 (57.69%)	0.991
CLD	9 (81.82%)	2 (18.18%)	0.007

In this study, the prevalence of morbidities were high in non addiction people such as Diabetics (60.89%), Hypertension (61.4%), Osteoarthritis (72.31%), CAD (62.44%), Asthma (71.43%), Thyroid disorders (76.79%), Anaemic (70.13%), Cataract (57.62%), Cancer (55%), Dementia (58.99%), Depression (59.66%), Hearing deficit (53.95%), Dental (54.93%), CKD (57.69%).

CVA, COPD, CLD all are high in addiction people.

Comparative study between psychological perception and morbidities

Perception	<5 Morbidities	>5 Morbidities	χ^2 Test p value
Change in family members attitude	62 (44.9%)	76 (55.1%)	0.004
Loss of income	38 (38.4%)	61 (61.6%)	0.001
Expect family support	62 (46.6%)	71 (53.4%)	0.020
No expectation from family	36 (75%)	12 (25%)	0.004
Lonely feel	39 (32.8%)	80 (67.2%)	0.001
Neglected feel	42 (43.3%)	55 (56.7%)	0.009

It was observed that change in family members attitude gets affected with more than 5 morbidities (55.1%), the person who except from family support (53.4%), lonely feel (67.2%), neglected feel (56.7%) and loss of income (61.6%) has prevalence of morbidities which is more than 5 and the prevalence of morbidities in low from the people who has no expectation from the family (75%).

Discussion

DISCUSSION

In this study total number of people were 500 and among them majority belongs to 60 to 69 years with 61.8%, Male (54.6%) and Females (45.4%). The above study is a geriatric study hence majority of the involved people are uneducated 60%. The study has many people who are in socio economic status of lower class 62% and nuclear family people were about 53.8%.

The illiterate were about 60% when compared to literate people. In this study the statistics says about more than half of the population affected with the morbidities are illiterate when comparing with educated people. People who are not working were affected with high percentage on each and every disease which is statistically shown above working place shows a low percentage on every morbidities.

Lower class people were increased in number who are suffering with morbidities while other class people shows comparatively less number.

This definitely affects the occupation status of the people and their socio-economic status.

I. Morbidity in Relation to Age & Sex:

The total population were divided into 3 categories depends upon te age. Among them more than half of the morbidities were higher in 60 to 69 years age group when compared to 70 to 79 and ≥ 80 years. Co-morbidities like CVA, Asthma, Cancer, Dementia, CKD, Hearing, Parkinson's 70 to 79 years age group were highly suffered among the three categories.

When comparing between male and female morbidities were significantly high in males when compared to females such as DM, HTN, CVA, COPD, Epilepsy, Cancer, Dementia, Depression, Hearing deficits, Dental problems, Parkinsons, CKD, CLD, TB. Females show their prevalence of morbidities like Osteoarthritis, Asthma, Anaemia, Thyroid disorders.

II. Morbidities in Relation to perception:

Geriatric subjects usually undergoes a change in family member's attitude which is very common shows their high prevalence of morbidities (>5 morbidities), when compared to people who are supported and no change of attitude. Lonely feel people gets high number of co-morbidities. Neglected feel in the geriatric patients gives a statistical report shows high prevalence of morbidities. People who expect family support and loss of income also commonly affected with higher number of morbidities.

Geriatric people who don't expect from their family have less number of morbidity statistically.

III. Morbidities in relation to type of family

Type of family plays a important role in relation to the morbidities.

Now-a-days nuclear family is the unavoidable part of life due to generation gap. The study shows statistically nuclear family geriatric people gets more morbidities like DM, hypertension, osteoarthritis, COPD, CAD, Epilepsy, Thyroid Disorders, Anaemia, Cataract, Dental Problems.

Whereas in Joint family people gets high number of morbidities like CVA, Asthma, Cancer, Dementia, Depression, CKD, CLD. The three generation category people shows a very low risk of affecting with these morbidities.

Nuclear family shows their very high morbidity percentage when compared to the joint family and three generation people.

IV. Morbidities in relation to habits and addiction

It is observed that smoking habit is high (21.4%) among all the addictions.

Alcoholism shows the second highest addictions among the geriatric subjects (18.6%).

Tobacco chewers recorded as 14.6% and Betal nut chewers were 8%, Gutka were about 6.8%. Panparag and Hans are not so significant in this study, due to their very low percentage 0.2% and 0.4%.

The number of addictions among the population were high, people who are addicted to more than one addictions were also statistically recorded. Number of addictions with two habits shows 11.6%, Three (6.6%), One (23%) and Four (1%) and the people with no addictions were 57.8%.

Comparing with the age either one or more than one habit, the people who indulged were significantly high in the age group of about 60 to 69 years. When comparing with others.

Discussing about the morbidity part, the addictions were included such morbidities like COPD, Asthma, CVA.

The statistical report shows the addicted people gets high incidence of morbidities like COPD, CVA & CLD.

The study states that males are comparatively very high in addictions than females. Almost 100% in alcoholism and Gutka consumption.

“The problem is less among the geriatric people when comparing with the Youths”, says WHO. Among the subjects, the morbidity profile is interconnected and interdependent on a number of associated factors.

Habits

Tobacco habits take shape in adolescence and tend to continue into old age. Anti-tobacco campaigns area of relatively recent onset and may have missed out the present elderly when they are young adults. This lifestyle factor puts the elderly at greater risk for most non-communicable disease. Tobacco cessation campaigns among the elderly should be worthwhile because tobacco cessation is beneficial in chronic users also.

Cataract

We observed a very high prevalence of visual impairment 53.8% in our study population, even higher than that found in the WHO multicentric study, reported poor vision in 45.4% in elderly.

Secondary eye care involves definitive management of common blinding conditions such as cataract which accounts 62.6% of blindness in India. According to ICMR visual impairment results 88%. The eye camp approach to make cataract surgery available has been highly successful and has received wide popular support. Apart from the cataract surgery these

camps undertake general health surveys for detection of visual defects as well as masses. These type of camps are to be encouraged and improved.

Hearing Problems:

Hearing problems are high in the present study sample than that reported by the WHO multicentric study. Hearing impairment shows 45.6% in the present study. There is need for evaluation and management of hearing problems among the elderly.

The study conducted our Mumbai shows 10.6% of hearing impairment.

The Kashmir valley study 2009 results were about 34.2% are affected with impaired hearing.

44.2% impaired vision on the study conducted on 2011 at Ahmedabad district.

Dental

Dental problems is a common accompanied of aging and in India, a largely unmet due remote areas lack dental health personnel. While planning health care for elderly, dental component should also be considered.

In the present study Dental problems shows highest percentage of all as 81.2%.

While in a study from Mumbai “Morbidity profile among Geriatric population” shows 21.9%

DM:

DM is the leading morbidity among the geriatric population.

In this present study self-reported DM was higher among the male 53.14% compared to females and the total number of percentage in this study shows 54.2% which was statistically significant.

While the study from Kishankaraj Bihar shows 15% were diabetic and similar study on Pondicherry resulted 43% involved people to be diabetic.

Aurangabad study 2012 shows 13.92% were diabetic and study conducted on Chandigarh shows 25.5% were affected with DM.

Northern India 2007 geriatric clinic study results were 13% DM and similar study on Dehradun 2010, study results about 17.7% were diabetics affected people.

Study of Central India 2009 to 2011 in Urban areas of UHTC shows DM were about 17.75% and in rural area of Karnataka 2016 in DM resulted about 17.3%.

Hypertension

The prevalence of known hypertension was reported in 57.0% of the total study population. The prevalence was higher in males 53.33% when compared with females.

The Bihar study on 2013 show results on HTN 50.63% and Udaipur study 48% and Urban geriatric population in Rajasthan study resulted 48% had HTN.

“In the survey of Urban slums, the affected people were of 27%”.

The study of Terna Medical College shows 28.1% were affected with HTN and in Ahmedabad study 34.4% of HTN.

Patiala community based morbidity profile shows 53.7% while present study were about 57.0%. Similar study conducted on urban area of Chandigarh resulted 40.4% had HTN, Shimla Hills study shows 40.5% had HTN.

In the study 2009 at Kashmir Valley 64.7% had HTN as the major problem and also 2007 study in Northern India HTN show most commonly reported clinical diagnosis (50%).

COPD:

COPD is the fourth leading cause of death worldwide. According to WHO estimates by 2030 COPD is estimated to rank 3rd in the list of disease in terms of mortality and 7th as regards to world wide burden of diseases. As per the global surveillance prevention and control of chronic respiratory disease by WHO the prevalence of COPD varies among different countries and also within different regions in a country, ranging from 3.2 to 18.3.

Higher prevalence being in Nepal, India contributes a significant and growing percentage of COPD mortality, which is estimated to be amongst the highest in the world i.e. more than 64.7% estimated age standardized death rate per 1 lakh amongst both sex.

The questionnaire based surveys have estimated the prevalence of COPD to be around 4%. The occurrence of COPD increases with age and the prevalence and incidence are highest among the very old. Partly a function of the age related declined in lung function, but in large part as a result of general aging of the population.

In the present study COPD results as 24.0% while ICMR results shows 16.1% affected with respiratory disease mainly obstructive.

COPD is increased among the males 80% and in relation to age higher prevalence shown in 60-69 years old people 68.33%. COPD is

prevalent in non-working people 69.17% and lower class people shows higher incidence 70.83% when compared to other class people.

COPD resulted as 76.67% in people who are addicted to habits such as smoking.

Cigarette smoking is the leading risk factor for the development of COPD.

In the Aurangabad study results shows COPD (7.52%).

The study conducted on 2013 at Lucknow shows 47.2% males and 26.1% females are affected with respiratory problems mainly COPD.

The study at Kannada Dist conducted on 2016 shows 22.3% of respiratory problems (34.2%) statistically.

In order to reduce the prevalence of COPD, smoking cessation should be improved and early diagnosis and regular follow-up and treatment should be encouraged.

Anaemia:

Anaemia is major public health problem both in developing as well as in developed countries, although the rates are higher at all ages in under

developed nations. It is an very important health indicator and affects both cognitive and physical functions in the study.

Corrected annual incidence of anaemia increases steadily with age when the WHO definition of anaemia is used. Prevalence rates of anaemia in older adults have been found to vary between 2.9 and 1% in men and 3.3 and 41% in women. In the (NHANES II) National Healthy and Nutritional Examination Survey, the incidence of anaemia in men and women older than 65 years of age was 11% and 10% respectively, the prevalence of anaemia rose rapidly after the age of 50 years, approaching a rate greater than 20% in those individuals aged 85 years or older.

The present study shows anaemia affected people as 30.8%. The prevalence of anaemia is comparatively high in females 67.53% and the rate is high with the 60-69 years people about 68.18%.

Loneliness being a strong risk factor for under nutrition among elder people. This way perhaps be the reason for the higher prevalence of weight loss and anaemia.

Comparing with the educated people the incidence is higher on uneducated people 70.78%.

Lower class people shows higher rate of anaemia affected person 71.43%.

In the present study shows anaemia is relatively high in the people who are in the nuclear family (58.44%). Living alone which can be taken as a surrogate measure of loneliness, was higher in rural area 11.76% according to WHO study carried out all over India. Covering 10035 individuals over 60 years of age.

The Pondicherry study shows high prevalence of 49.6% had anaemia and it was higher in females (56.6%) compared to males.

The Bihar study conducted on 2013 shows 63.75% were anaemic.

A similar study on Pondicherry shows 86% anaemic.

The study at Patiala shows results 30.8% had anaemia.

Karnataka study conducted on 2016 shows 64.2% were affected by Anaemia which is highest among all of their morbidities.

OSTEOARTHRITIS

Osteoarthritis is a common disabling disease in the elderly population. The reported prevalence of osteoarthritis in rural India is 5 to 6% and in urban area is 10 to 12%. Prevalence in elderly population beyond 60 years of age reaches more than 50%. It is the most common arthritis and second only to back pain. Indians have more knee OA compared to western populations where men have more hip OA. High prevalence of knee OA in Indians may be attributed to excessive squatting in day to day activities, especially among females.

The present study shows OA affected people as 39%.

The prevalence of OA is comparatively high in females (63.08%) and the rate is high with 60 to 69 years people about 54.87%. Comparing with the educated people the incidence is higher on uneducated people 61.03%.

In my study OA is comparatively high in non working people 77.44% OA is high in lower class people when compared to other class people (56.92%). OA is high in nuclear family when compared to other family type (47.69%) OA is high in non addicted people when compared to addicted people (72.31%).

In Aurangabad study results shows arthritis 23.04%.

Health problems among the elderly : A cross – sectional study results shows 44.7% of the elderly population was found to suffer from arthritis, which was more prevalent in the rural (50.98%) than in the urban areas (38.42%). This difference was statistically significant.

The study was conducted by Department of Community Medicine, Terna Medical College, Mumbai shows musculo skeletal problems (55.6%).

A community based study of the morbidity profile among elderly people in rural area of Patiala shows arthritis 49.7%.

A study was conducted at Eluru, Andhra Pradesh results shows Osteoarthritis (66%).

A study was conducted by ICMR shows locometer disease about 40%.

Morbidity pattern and health seeking behavior of aged population residing in Shimla Hills of North India. A cross sectional study showed musculo skeletal problems (55%).

Profile of psychiatric disorders and life events in medically ill elderly experiences from geriatric clinic in Northern India 2007 results showed osteoarthritis about 15%.

A study conducted on 2010 at Pune urban slum results shows musculo skeletal disorders 53% most common in osteoarthritis.

An epidemiological study conducted t Dehradun on 2010 shows osteoarthritis about 21.2%.

A study conducted on 2013, at Lucknow shows musculo skeletal problems about 58.1%.

A study was conducted by Central India on 2009 to 2011 in urban slum areas of UHTC results show Osteoarthritis about 32.25%.

A study was conducted on 2016, at rural area, Karnataka results show osteoarthritis about 44.1%.

CORONARY ARTERY DISEASE

“As the age increases, incidence of coronary artery disease increases. It is the leading cause of death both in men and women older than 65 years. Hypertension occurs in about one half to two third of people older than 65 years and heart failure is the most frequent hospital discharge diagnosis in elderly population. Indian economy is improving and that will be again reflected as increase in elder population estimated elders in 1997 were 16 to 18% which is expected to increase to 23 to 25% by 2020. By 80 years of age, the frequency of symptomatic CAD is about 20 to 30% in both men and women”.

In this study the elderly people affected with CAD 39.4%.

The prevalence of CAD is comparatively high in 60 to 69 years old people about 58.88%.

Comparing with the educated people the incidence is higher on uneducated people about 60.41%.

Lower class people shows higher rate of CAD affected person 63.96%.

Comparing with the working people the incidence is higher on non working people 82.23%.

In the present study shows CAD is relatively high in the people who are in the nuclear family (51.78%).

A community based study of the morbidity profile among elderly people in a rural area of Patiala shows cardiovascular morbidity was maximum 88.4%.

An epidemiological study to access morbidity profile among geriatric population in Dist. Dehradun April 2010 results show high prevalence of cardio vascular morbidity.

Major causes of morbidity among elderly according to ICMR report shows cardiovascular disease 17.4%.

CEREBRO VASCULAR ACCIDENT

In each year about 15 million people suffer from stroke around the world and these 5 million dies while another 5 million are permanently disabled. It is the second leading cause of death world wide, accounting for almost 10% of may lose their independence and consequently become a burden to society.

Stroke is the 6th leading cause of disability – adjusted life years world-wide. The majority of strokes (75 to 89%) occur in people over 65 years and for each decade of life after the age of 55 years, the stroke rate doubles for both genders. The growing life expectancy in India, increasing urbanization, smoking and the genetic susceptibility of South Asians to metabolic syndrome is sure to increase the stroke burden in India.

In this study, the prevalence of stroke is 39.4%. CVA is slightly higher in the age group of 70 to 79 years (46.15%).

In this study CVA is comparatively high in males (69.23%).

In this study CVA is high in educated people (53.85%) when compared to uneducated people.

In this study CVA is high in non working people (92.31%) when compared to working people.

CVA is high in Joint family type (64.1%) when compared to other family types.

CVA is high in addicted people (56.41%) when compared to non addicted people.

Major causes of morbidity among elderly according to ICMR report shows homological disease 18.7% most commonly cerebro vascular accident morbidity.

A study was conducted on 2011, Ahamadabad dist results show CVA (34.9%).

ASTHMA

Asthma is highly prevalent disease with an estimated 300 million patients globally. Global prevalence rates of doctor diagnosed asthma and clinical treated asthma in adults have been found to be 4.3% and 4.5% respectively. Varying by as much as 21 fold amongst 70 countries, with improved health care facilities and a rise in the average Indian life expectancy from 50 years in 1947 to 67 years in 2012, the elderly population is on the rise. This has led to an increased prevalence of chronic life style disorders. Indian prevalence of asthma has been found to be between 2.5% and 5%.

In this study shows the prevalence of BA 1.4%

Comparison study the prevalence of BA was slightly high in age group of 70 to 79 years (46.15%).

The prevalence of BA was high in female sex group (71.43%) when compared to male sex group.

The prevalence of BA was high in uneducated group (71.43%) when compared to educated group.

In this study BA is comparatively high in non working group (71.43%).

BA is high in lower class (57.14%) when compared to other class people.

BA is high in joint type of family (71.43%) when compared to other type to families.

BA is high in addicted people 70.13% when compared to non addicted people.

An epidemiological study to access morbidity profile among geriatric population in Dist, Dehradun 2010, study results showed Asthma 7.7%.

EPILEPSY

The incidence and prevalence of epilepsy is highest in elderly, Hauser reported that the incidence of epilepsy increases with age, 28 per 100000 at age 50 years, 40 per 100000 at 60 years, 139 per 100000 at age 75 years. Around 25% of new onset seizures occur in people more than 65 years of age and nearly 25% of all patients with epilepsy are elderly. The annual incidence of epilepsy rises with each decade over 60 years. Overall the incidence of epilepsy in elderly is likely to be 6 to 7 times greater than younger adults.

The present study shows the prevalence of epilepsy is 5.6%.

The prevalence of epilepsy is comparatively high in males (64.29%) and the rate is high with the 60 to 69 years people about 60.17%).

Comparing with the educated people the incidence is higher on uneducated people 64.29%.

Comparing with the working people the incidence is higher on not working people 75%.

Lower class people shows higher rate of epilepsy affected person 53.57%.

In the present study shows epilepsy is relatively high in the people who are in the nuclear family (60.71%).

A study was conducted on 2010 at Geriatric population in Dist, Dehradun result shows BA 7.7%.

THYROID DISORDERS

Hypothyroidism

A 20 year follow up of Wickham survey revealed significantly increased age specific hazard rates for hypothyroidism in individuals age >60 years and the risk of hypothyroidism in individual aged >60 years and the risk of hypothyroidism was notably higher in women who tested positive for antithyroid peroxidase (TPO) antibodies. In the Framingham study, 5.9% of women and 2.3% of men aged >60 years had TSH values >10mU/L, 39% of whom had subnormal Free T4 levels. In each age decade, a higher percentage of women than men had increase serum TSH levels and in the 9th decade of life, the prevalence of a serum TSH value above the reference range was 15 to 20%.

Hyperthyroidism:

The NHANES III study showed that 0.7% of all individuals had a serum TSH level <0.1 mU/L and 1.8% had serum TSH levels below the lower limit of the reference range of 0.4 mU/L Grave's disease is the most common cause of hyperthyroidism in all age groups, but the incidence of toxic multinodular goitre increases with age and is more frequent in areas of low iodine intake.

In this study the prevalence of thyroid disorders was 11.2% among elderly population.

The prevalence of Thyroid disorder is comparatively high in females 80.36% and the rate is high with the 60 to 69 years people about 75%.

Comparing with the educated people the incidence is higher on uneducated people 62.5%.

Lower class people shows higher rate of thyroid disorders affected person 66.07%.

In the present study shows thyroid disorders in relatively high in the people who are in the nuclear family (55.36%).

DEMENTIA

The Alzheimer's Disease International (ADI) group estimated that there were 35.6 million people with dementia in 2010 and that this number would double every 20 years. 58% of these people with dementia were living in developing countries and this number is estimated to 71% by 2050. A 2010 report estimated that there were 3.6 million cases of dementia in Indians over the age of 60 years. The figure was expected to increase to 8 million by 2030.

The frequency of dementia doubles every 5 years affecting 1% of the 60 to 64 years age group, 2% of 65 to 69 years old and 50 on affecting upto 35 to 45% of >85 years old.

The world Alzheimer report 2010 estimates the costs of dementia care to be 604 billion US dollars in 2010. Considering informal (family) care, medical care and social care costs. In low income countries, informal family care costs predominate. In contrast, the direct costs of social care accounts for about 50% of the costs in high income countries with increased longevity and nuclearisation of families in developing countries, direct social costs, are going to increase substantially.

In this study the prevalence of dementia in elderly is 27.8%.

The prevalence of dementia is comparatively high in males (61.15%) and the rate is high with the 70 to 79 years old people about 42.45%.

Comparing with the educated people the incidence is higher on unaddicted people (58.99%).

A study by Department of Preventive and Social Medicine, Govt. Medical College, Aurangabad 2012 report shows the prevalence of dementia was 21.6%.

DEPRESSION

Geriatric depression is a growing public health problem. The estimated prevalence of geriatric major depression in the general population is 1-2%. The prevalence of major depression in community dwelling older adults is 1-3%, but the prevalence is atleast 10 to 12% in primary care and hospital inpatient settings.

According to the WHO Global burden of disease report 2004, depression was the leading cause of burden of disease during 2000-2002, ranked as third worldwide. It is projected to reach second place of the disability adjusted life years (DALYs) ranking worldwide by 2020 and the first place by 2030. According to a WHO report, patients over 55 years with depression have a four times higher death rate than those without depression, mostly due to heart disease or stroke.

The community based mental health studies in India have revealed that the point prevalence of depression in geriatric Indian population varies between 13 and 25%.

Worldwide, women outlive men. There is a vast interplay of hormonal factors that predispose women to depression. The most striking and consistent finding in psychiatric epidemiology all over e world is that women outnumber men for all types of depression.

Depression occurs in around 10 to 15% of people aged over 65 years and is severe in 3%.

In this study shows the prevalence of depression among elderly population is 35.2%.

The prevalence of depression is comparatively high in males (59.09%) and the rate is high with the 60 to 69 years people about (44.89%).

Comparing with the educated people the incidence is higher on uneducated people (60.23%).

Lower class people shows higher rate of incidence 57.39%.

In the present study shows depression is relatively high in the people who are in the joint family (0%).

Comparing with the working people the incidence is higher on notworking people (89.77%).

Comparing with the addicted people the incidence is higher on non addicted people (59.66%).

A study was conducted on 2009 at Kashmir Valley results shows were the depression was correlated with family support, as only 20% of aged population having family support was found depressed and on another side people were affected who are not supported by the family.

Another study was conducted on 2007 at North India results 18% subjects had depression.

CANCERS

Cancer is the leading cause of mortality among the age group 60 to 79 years. It is estimated that by 2030 approximately 70% of all cancers will be diagnosed above the age of 65 years. The concept of geriatric oncology was first articulated in the eighties by pioneers such as Rosemary Yancik, Paul Carbone and Jerry Yates, older individuals are more prone to develop neoplasms than younger individuals.

In this study shows the prevalence of cancers 8% among elderly population.

The prevalence of cancers is comparatively high in males (62.5%) and the rate is high with the 70 to 79 years people about 40%

Comparing with the educated people the incidence is higher on uneducated people (55%).

Comparing with the working people the incidence is higher on not working people (92.5%).

PARKINSON'S DISEASE

Parkinson's disease is the 2nd most common neuro degenerative condition after Alzheimer's disease. The risk of developing Parkinson's disease increase with age, with the median age of onset in the 7th decade.

The accurate incidence and prevalence rates of Parkinson's disease are different to ascertain as there is no diagnostic test and methodological criteria may affect results. The crude incidence in Northern Europe is between 6 and 17 cases per 100000 of the population per year. The prevalence rates show wide variations with highest rates in Europe, lowest in blacks living in Africa and mid range among the orientals. The variations may reflect differences in the survival rates, study – methodology, and true racial differences. In Kolkata, India, Das et al reported age adjusted prevalence rate and average annual incidence rate of 52.85 / 100000 and 5.71 / 10000 per year respectively. The higher prevalence rates have been reported in Parsi community.

In the present study shows the prevalence of Parkinson's disease in elderly population 7.2%.

The prevalence of Parkinson's disease is comparatively high in males 72.22% and the rate is high with 70 to 79 years people about 8.33%.

Comparing with the working people the incidence is higher on not working people (94.44%).

CHRONIC KIDNEY DISEASE

CKD represents an emerging public health problem. CKD is common -70% of >70 years old. It is one of the most potent risk factors for cardiovascular disease and contributes to around 15% of all hospitalizations and nearly 10% of all deaths.

CKD is also accompanied by multiple other co-morbidities : Hypertension, anaemia, hyperparathyroidism and renal osteodystrophy. Timely identification and management of CKD can slow its rate of progression and reduce the cardiovascular risk upto 50%. However, the assessment and management of CKD in elderly patients can be an area of uncertainty for general practitioners.

In this study shows the prevalence of CKD is 5.2%.

The prevalence of CKD is comparatively high in males (61.54%) and the rate is high with the 70 to 79 years old people about 53.85%.

Comparing with the uneducated people the incidence is higher on educated people 53.85%.

Comparing with the working people the incidence is higher on not working people 84.62%.

Lower class people shows higher rate of CKD affected person 57.69%.

In the present study shows CKD is relatively high in people who are in joint family 57.69%.

Comparing with the addicted people the incidence is higher on non addicted people 57.69%.

CLD (Chronic Liver disease)

A study in adults in Southern India revealed that of 583 patients with portal hypertension, one-seventh 14.3% were elderly (age >60 years). All forms of CLD are becoming more common in older age, with an increased number of deaths from liver disease. Some cases were detected by chance with routine blood tests only 6% of liver biopsies are performed in over 80 years old, but there is no evidence for increased risk.

In this study shows the prevalence of CLD is 2.2%.

The prevalence of CLD is comparatively high in males (81.82%) and the rate is high with the 60 to 69 years people about (72.73%).

Comparing with the uneducated people the incidence is higher on educated people (72.73%).

Lower class people shows higher rate of CLD affected person (54.55%).

Comparing with the non addicted people the incidence is higher on addicted people about (81.82%).

In the present study shows CLD is relatively high in the people who are in joint family (54.55%).

TB

TB is a global public health problem. India is a high TB burden. Country and has more new TB cases annually than any other country in the world. TB is emerging as an important treatable cause of morbidity and mortality in the elderly population globally. Atypical clinical and radiological presentation and consequent delays in the diagnosis and initiation of specific treatment, presence of co-morbid conditions, need for institutionalization, age related diminution in immune function and the increased tendency to develop adverse drug reactions all tender TB in the elderly a formidable challenge to clinicians.

In high TB burden countries at the peak of the epidemic, TB is most often seen among young adults and is less in older age. In low TB burden countries, an increase in the incidence of TB and increase mortality due to TB has been observed with increasing age.

The prevalence of TB increases in the elderly people. In elderly residing in nursing homes the incidence is particularly high. They often do not have classical presentation. Recognition of TB is delayed in the elderly because of frequent pre-existing respiratory symptoms due to smoking, heart disease or other causes.

It is common to mistake the cough as smoker's cough and to disregard the symptom. In the elderly, there is decreased incidence of fever, cough, hemoptysis and night sweats. So a high index of suspicion is required to make a diagnosis. Most cases represent reactivation of previous infection. This may be due to malnutrition in the elderly, intake of steroids, and immunosuppressants, increasing age, DM, renal failure, gastrectomy, alcoholism, smoking and immunodeficiency state like HIV infection.

In this study shows the prevalence of TB 1.2%

The prevalence of TB is comparatively high in males 66.67% and the rate is high with the 60 to 69 years people about 66.67%.

Comparing with the educated people the incidence is higher on uneducated people about 66.67%.

Comparing with the working people the incidence is higher on not working people about 83.33%.

Lower class people shows higher rate of TB 66.67%.

Summary & Conclusion

SUMMARY AND CONCLUSION

A community based cross sectional survey was conducted among 500 Geriatric people at rural area, Thiruverkadu, Thiruvallur District regarding morbidity profile. In order to determine the prevalence of morbidity pattern among those geriatric population.

Socioeconomic characteristics of the geriatric population which is expressed statistically to rule out the prevalence of morbidities. In this study participants are exposed to pretested questionnaire was used to collect information regarding socio demographic details and their comorbidities history in detail to rule out the prevalence of morbidities.

In order to improve the health of the elderly population, it is important to carry out more such studies and screening programmes to identify the problems as this can help the public health planners in planning health services and developing effective (programs) in disease prevention. As there is a rapid expansion in number of elderly population, there is an urgent need to develop geriatric health care services in the countries like India and provide training to health care providers to manage the commonly existing health problems in country.

To improve the mobile clinic for bedridden patient and to give counseling to the care givers to reduce the caregiver apathy. Then to improve the family members support, these types of study will be helpful. Addiction to be prevented by geriatric counseling, with the help of this type of statistical study. Addiction to be controlled by organizing geriatric rehabilitation programs.

- 1) To improve geriatric health care.
- 2) Mental stability care and support should be given to those people by “Quality Improving Programmes”.
- 3) To improve the geriatric population for the followup to reduce the mortality.

Limitations

LIMITATIONS

1) Sample Size:

This was calculated for only estimating the prevalence of morbidity. The sample size calculation was not done to elicit various associations. These were done only as exploratory exercises. A larger sample size would be required to establish these associations adequately. Therefore, most of the deductions are more speculative than empirical.

2) Selection of study sample:

The rural area nearest to the respective health centre was chosen for the survey. This may have some amount of selection bias in the sample. Rural area nearest to the health center may have more access to health services, and their morbidities may be less compare with more remote areas. This may to some extent limit external validity of the study.

3) Measurement errors in detection of morbidities:

As this was the house to house survey most of the morbidities were elicited by simple questions, self reporting and clinical examinations, without confirmation by sophisticated laboratory test or other costly investigations. This may under estimate the morbidities because early or subclinical cases may be missed. This may have affected the internal validity of the study. Morbidity may have been under estimated.

Recommendations

RECOMMENDATIONS

The present study thus clearly shows that elderly population has got specific needs related to physical, social, medical, economical and physiological aspects. Major population of the elderly were out of the work force, practically or totally dependent on others and suffered from range of health related problems. There is growing need for good quality geriatric health care service at the primary level and it should be based on the “felt needs”. Regular screening, health check-ups to lessen morbidity should be promoted. Involvement of NGO and voluntary organizations are equally important. Behaviour and life style modification in the form of primordial prevention and counseling of high risk groups should be carried out to improve the quality of life of the aged. Facility for their leisure time should be provided in the form of libraries, religious gatherings and clubs etc.

Loneliness and depression can be attributed to family relation, tension and less social attention of family members and community apart from their individual personality. Gender equity, female literacy, women empowerment in relation to elderly morbidity profile and various socio demographic factors should be given a serious thought. Finally the increasing population of aged has called for the need of training and further research and large community based study in Geriatrics and Gerontology.

References

REFERENCES

- 1) Global Journal of Medicine and public health.
- 2) Aging profiles : Guidance for producing local health profiles of older people available.
- 3) WHO – World Health Day – toolkit for oragnizers.
- 4) Tomstad ST, Soderhamnu, Espenes GA, Soderhamn O. Living alone, receiving help, helplessness and inactivity are strongly related to risk of undernutrition among older home – dwelling people. Int J Gen. Med 2012..
- 5) Footlit J, Anderson D. Association between perception of wellness and health – related quality of life, co-morbidites, modifiable life style factos and demographics in older Austalians. Australas J Ageing 2012.
- 6) Harris N, Grootjans J. The application of ecological thinking to better understand the needs of communities of older people. Australas J Ageing 2012.
- 7) Pandve HT, Deshmukh P. Health survey among elderly population residing in an urban slum of Pune city. IAG 2010.
- 8) Bhatia SP, Swami HM, Thakur JS, Bhatia V. A study of health problems and loneliness among elderly in Chandigarh.

- 9) Prakash R, Choudhury SK, Singh VS. A study of morbidity pattern among geriatric population in an urban area of Udaipur, Rajasthan.
- 10) LENA A, Ashok K, Padma M, Kamath V, Kamath A. Health and social problems of the elderly: A cross sectional study in Udupi Taluk.
- 11) WHO collaborative programme supported by the Govt. of India. Multicentric study to establish epidemiological data on health problems in elderly.
- 12) Droll R, Peto R, Borcham J, Sutherland I. Mortality in relation to smoking; 50 years observation on male british doctors, BMJ.
- 13) Park K. Park's text book of preventive and social medicine 21st edition. Jabalpur, India; M/s. Banarsidas Bhanot; 2011. Blindness; pp 370-4.
- 14) Park K. Visual impairment and blineness In Park K, editor. Park's text book of preventive and social medicine. 22nd edition Jabalpur, India.
- 15) Health problems among the elderly RP Thakur, A Banerjee and VB Nukumb.
- 16) Age Care Statistics
- 17) About Aging
- 18) Kumar V. Aging in India, Indian J Med Res 1997.
- 19) Josh K, Kumar R, Avasthi A. A morbidity profile and its relationship with disability and psychological distress among elderly people in North India.

- 20) JNC-VII (The Joint National Committee on prevention, detection, evaluation and treatment of high blood pressure). The seventh report of the Joint National committee on prevention, detection, evaluation and treatment of high blood pressure JAMA 2003.
- 21) Garg BS, Gupta SC, Mishra VN and Singh RB. A medico – social study of aged in urban area Indian Medical Gasette. Mar 1982, 16:90-95.
- 22) Singh C A. Study of health status of aged among rural population of merrut. Thesis for M.D. – Merrul University 1990.
- 23) Kapil U, Sood AK. Morbidity pattern in aged person attending rural health centre in Haryana. Indian J of Pub Health.
- 24) Swami HM, Bhatia V, Dutta R. A community based study of the morbidity profile among the elderly in Chandigarh, India, Bahrain, Med Bull 2002.
- 25) Harshal T, Pandve, Deshmukh P. Health survey among elderly population residing in an urban slum of Pune city, Journal of the Indian Academy of Geriatrics, 2010.
- 26) Bharati D R, Pal R, Rekha R, Yamuma TV, Kar S and Radjou AN. Ageing in Puducherry, South India, An overview of morbidity profile J. Pharm bioallied Sci. 2011. Oct – Dec.

- 27) A study of morbidity profile of geriatric population in the field practice area of rural health training centre, Paithan of Govt. Medical College, Aurangabad.
- 28) A study of morbidity profile among Geriatric population in an urban area, Mumbai. Dept.of Community Medicine, Terna Medical College, Mumbai.
- 29) A study of the morbidity profile of geriatric patients in rural areas of Ghaziabad, Utter Pradesh.
- 30) An epidemiological study of the morbidity pattern among the elderly population in Ahmedabad, Gujarat.
- 31) Community based study of the morbidity profile among elderly people in rural area of Patiala.
- 32) A study of morbidity profile among the geriatric Age, Eluru, Andhra Pradesh.
- 33) Study of morbidity profile of elderly at old age homes and its association with disability.

Annexures

**INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI 600 003**

EC Reg.No.ECR/270/Inst./TN/2013
Telephone No.044 25305301
Fax: 011 25363970

CERTIFICATE OF APPROVAL

To
Dr.T.C.Raja Sakkarapani
Post Graduate in M.D. (Geriatric Medicine)
Department of Geriatric Medicine
Madras Medical College
Chennai 600 003

Dear Dr.T.C.Raja Sakkarapani,

The Institutional Ethics Committee has considered your request and approved your study titled **"A STUDY OF MORBIDITY PROFILE IN SOUTH INDIAN GERIATRIC POPULATION IN RURAL COMMUNITY AT THIRUVERKADU, THIRUVALLUR DISTRICT, CHENNAI "- NO. (II) 39032016.**

The following members of Ethics Committee were present in the meeting hold on **22.03.2016** conducted at Madras Medical College, Chennai 3

1.Dr.C.Rajendran, MD.,	:Chairperson
2.Dr.R.Vimala,MD.,Dean,MMC,Ch-3	:Deputy Chairperson
3.Prof.Sudha Seshayyan,MD., Vice Principal,MMC,Ch-3	: Member Secretary
4.Prof.P.Raghumani,MS, Dept.of Surgery,RGGGH,Ch-3	: Member
5.Dr.Baby Vasumathi, Director, Inst. of O&G,Ch-8	: Member
6.Prof.M.Saraswathi,MD.,Director, Inst.of Path,MMC,Ch-3	: Member
7.Prof.Srinivasagalu,Director,Inst.of Int.Med.,MMC,Ch-3	: Member
8.Tmt.J.Rajalakshmi, JAO,MMC, Ch-3	: Lay Person
9.Thiru S.Govindasamy, BA.,BL,High Court,Chennai	: Lawyer
10.Tmt.Arnold Saulina, MA.,MSW.,	:Social Scientist

We approve the proposal to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.



Member Secretary - Ethics Committee

MEMBER SECRETARY
INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE
CHENNAI-600 003

INFORMATION SHEET

TITLE : "A STUDY OF MORBIDITY PROFILE IN SOUTH INDIAN GERIATRIC POPULATION IN A RURAL COMMUNITY" at Thiruverkadu, Tiruvallur District, Chennai

NAME OF THE INVESTIGATOR :

STUDY CENTRE : Home to Home visit at Thiruverkadu
(Thiruvallur District)

NAME OF THE PARTICIPANT : **AGE :** **SEX :**

PURPOSE OF THE STUDY :

The purpose of the study is to determine various social demographic factors in the geriatric population and to rule out the prevalence of morbidities in relation with age, sex, education and habits among the population

STUDY DESIGN : Cross Sectional Study

STUDY PROCEDURE : Questionnaire to geriatric populations

POSSIBLE RISKS : No possible risks by means of this study.

CONFIDENTIALITY OF THE INFORMATION OBTAINED FROM THE PATIENT:

The privacy of the patients in the research will be maintained throughout the study. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared.

DECISION TO PARTICIPATE IN THE STUDY :

Taking part in this study is voluntary. You are free to decide whether to participate in this study or to withdraw at any time; your decision will not result in any loss of benefits to which you are otherwise entitled.

RESULT OF THE STUDY :

Using appropriate statistical method the study has highlighted a high prevalence of morbidity and identifying the common existing problems

Signature of Investigator

Signature of Participant

Date :

Place:

தகவல் தாள்

தென்னிந்தியாவில் உள்ள கிராமத்தில் வசிக்கும் முதியோர்களின் ஆரோக்கியமற்ற நிலைமைகள் பற்றிய ஒரு குறுக்குவெட்டு ஆய்வு (தேர்ந்தெடுக்கப்பட்ட கிராமம் திருவேற்காடு, திருவள்ளூர் மாவட்டம்) - 2016.

இன்றைய வாழ்வில் முதியோர்களின் ஆரோக்கியமற்ற நிலைமை என்பது ஒரு பெரும் சமையாக மாறி வருகின்றது. ஆரோக்கியமற்ற நிலைமைகள் 60 வயதிற்கு மேற்பட்டவர்களுக்கு அதிகமாக காணப்படுகிறது. இந்த ஆய்வில் முதியோர்களின் பல்வேறு வகையான நோய்களை பற்றியும் அவர்களின் வயது, பாலினம், படிப்பறிவு, வேலை, பழக்கவழக்கங்கள் போன்றவைகளோடு ஒப்பிட்டு அதன் மூலம் ஆரோக்கியமற்ற நிலைமைகள் வரிசைப்படுத்தப்படுகின்றன.

இதன் மூலம் எந்த வகையான மக்களுக்கு, எந்தெந்த விதமான ஆரோக்கியமற்ற தன்மைகள் ஏற்படுகிறது என்பதை அறிந்து அதை தடுக்க உதவியாக இருக்கிறது.

நீங்கள் இந்த ஆராய்ச்சியில் பங்கேற்று இதில் கேட்கப்படும் கேள்விகளுக்கு பதில் அளிக்க விரும்புகிறோம்.

இந்த ஆராய்ச்சியின் முடிவுகளை அல்லது கருத்துக்களை வெளியிடும்போதோ அல்லது ஆராய்ச்சியின் போதோ தங்களது பெயரையோ, அடையாளங்களையோ வெளியிடமாட்டோம் என்பதையும் தெரிவித்துக் கொள்கிறோம்.

இந்த ஆராய்ச்சியில் பங்கேற்பது தங்களுடைய விருப்பத்தின் பேரில்தான் இருக்கிறது. மேலும் அவர்கள் எந்நேரமும் இந்த ஆராய்ச்சியிலிருந்து பின்வாங்கலாம் என்பதையும் தெரிவித்துக் கொள்கிறோம்.

இந்த ஆராய்ச்சியின் முடிவுகளை ஆராய்ச்சியின் போது அல்லது ஆராய்ச்சியின் முடிவன்போது தங்களுக்கு அறிவிக்கப்படும் என்பதையும் தெரிவித்துக் கொள்கிறோம்.

INFORMED CONSENT FORM

Title of the study: **"A STUDY OF MORBIDITY PROFILE IN SOUTH INDIAN GERIATRIC POPULATION IN A RURAL COMMUNITY"** at Thiruverkadu, Tiruvallur District, Chennai

Name of the Participant :

Name of the Principal (Co-Investigator) :

Name of the Institution : Madras Medical College

Name and address of the sponsor / agency (ies) (if any) :

Documentation of the informed consent

I _____ have read the information in this form (or it has been read to me). I was free to ask any questions and they have been answered. Hereby give my consent to be included as a participant in **"A STUDY OF MORBIDITY PROFILE IN SOUTH INDIAN GERIATRIC POPULATION IN A RURAL COMMUNITY"** at Thiruverkadu, Tiruvallur District, Chennai

1. I have read and understood this consent form and the information provided to me.
2. I have had the consent document explained to me.
3. I have been explained about my rights and responsibilities by the investigator. I have the right to withdraw from the study at any time.
4. I have been informed the investigator of all the treatments I am taking or have taken in the past _____ months including any native (alternative) treatment.
5. I hereby give permission to the investigators to release the information obtained from me as result of participation in this study to the regulatory authorities, Govt. agencies, and IEC. I understand that they are publicly presented.
6. I have understand that my identity will be kept confidential if my data are publicly presented
7. I have had my questions answered to my satisfaction.
8. I have decided to be in the research study.

I am aware that if I have any question during this study, I should contact the investigator. By signing this consent form I attest that the information given in this document has been clearly explained to me and understood by me, I will be given a copy of this consent document.

For Geriatric participants:

Name and signature / thumb impression of the participant (or legal representative if participant incompetent)

Name _____ Signature _____ Date _____

Name and Signature of impartial witness (required for illiterate patients):

Name _____ Signature _____ Date _____

Address and contact number of the impartial witness:

Name and Signature of the investigator or his representative obtaining consent:

Name _____ Signature _____ Date _____

ஒப்புதல் படிவம்

தென்னிந்தியாவில் உள்ள கிராமத்தில் வசிக்கும் முதியோர்களின் ஆரோக்கியமற்ற நிலைமைகள் பற்றிய ஒரு குறுக்குவெட்டு ஆய்வு (தோந்தெடுக்கப்பட்ட கிராமம் திருவேற்காடு, திருவள்ளூர் மாவட்டம்) - 2016.

பெயர் : வயது :
ஆராய்ச்சி சேர்க்கை எண் :

இந்த ஆராய்ச்சியின் விவரங்களைக் கொண்ட தகவல் தாளைப் பெற்றுக்கொண்டேன்.

இந்த ஆராய்ச்சியின் விவரங்களும் அதன் நோக்கமும் முழுமையாக எனக்கு தெளிவாக விளக்கப்பட்டது.

எனக்கு விளக்கப்பட்ட விஷயங்களை நான் புரிந்துகொண்டு எனது சம்மதத்தை தெரிவிக்கிறேன்.

இந்த ஆராய்ச்சியில் பிறரின் நிர்ப்பந்தமின்றி என் சொந்த விருப்பத்தின் பேரில் தான் பங்கு பெறுகின்றேன். இந்த ஆராய்ச்சியில் இருந்து நான் எந்நேரமும் பின் வாங்கலாம் என்பதையும் அதனால் எந்த பாதிப்பும் ஏற்படாது என்பதையும் நான் புரிந்துக் கொண்டேன்.

நான் என்னுடைய சுய நினைவுடனும் மற்றும் முழு சுதந்திரத்துடனும் இந்த மருத்துவ ஆராய்ச்சியில் என்னை/எனது குழந்தையை சேர்த்துக் கொள்ள சம்மதிக்கிறேன்.

ஆராய்ச்சியாளர் மற்றும் அவரைச் சார்ந்தவர்களோ, நெறிமுறைக்குழு உறுப்பினர்களோ நான் இந்த ஆராய்ச்சியில் இருந்து விலகினாலும் என்னுடைய அனுமதியின்றி எனது உடல்நிலை குறித்த தகவல்களை இந்த ஆராய்ச்சிக்கோ இது தொடர்பான வேறு ஆராய்ச்சிகளுக்கோ பயன்படுத்திக்கொள்ள முடியும் என்று புரிந்து கொண்டு சம்மதம் அளிக்கிறேன். ஆனாலும் என்னுடைய அடையாளம் வெளியிடப்படமாட்டாது என்று புரிந்துகொள்கிறேன்.

இந்த ஆராய்ச்சியின் தகவல்களையும் முடிவுகளையும் அறிவியல் நோக்கத்திற்காக பயன்படுத்துவதற்கு நான்/எனது குழந்தையை அனுமதிக்கிறேன். நான் ஆராய்ச்சியில் பங்குபெற சம்மதிக்கிறேன்.

பங்கேற்பாளர் பெயர் : பங்கேற்பவரின் கையொப்பம்
(அல்லது) கட்டைவிரல் ரேகை :

ஆய்வாளர் பெயர் : ஆய்வாளரின் கையொப்பம்

இடம் : தேதி :

QUESTIONNAIRE

**STUDY OF MORBIDITY PROFILE IN SOUTH INDIAN
GERIATRIC POPULATION IN A RURAL COMMUNITY**

Name :

Age :

60 to 69	70 to 79	≥ 80

Sex :

Male	Female

Address :

Occupation :

Agriculture	Labourer	Business	Others White collar Jobs	None

Educational Status :

Un Educated	Educated

If Educated :

Primary	Secondary	HS & Above

Religion : Hindu Christian Muslim Others

Socioeconomic Status : Lower Lower Middle Middle
Upper Middle Upper
(According to Kuppusamy Classification)

Type of Family : Nuclear Joint Three Generation

HABIT :

Type of Addiction : Smoking
 Alcohol
 Betal Nut Lime Chewer
 Tobacco
 Panparag
 Gutka
 Hans
 Substance abuse
 Drugs abuse

Subjects according to family relation & psychological perception.

Perception:

1.	Change of attitude of family members (Neglect & Abuse)	
2.	Loss of income and occupation	
3.	Expect support from family	
4.	Don't expect from family	
5.	Feeling of neglect	
6.	Feeling of loneliness	

MORBIDITIES

S.NO.	MORBIDITIES	DURATION	DRUGS
1.	Diabetes Mellitus		
2.	Hypertension		
3.	Arthritis		
4.	Coronary Artery Disease		
5.	Stroke		
6.	Bronchial Asthma		
7.	COPD		
8.	Epilepsy		
9.	Thyroid Disorder <input type="checkbox"/> Hypothyroidism <input type="checkbox"/> Hyperthyroidism		
10.	Anaemia		
11.	Cataract		
12.	Cancers		
13.	Depression		
14.	Dementia		
15.	Parkinson's Disease		
16.	Hearing Loss		
17.	Loss of Teeth & Dental Caries		
18.	CKD		
19.	CLD		
20.	TB		

ABBREVIATION

DM	-	Diabetes Mellitus
HTN	-	Hypertension
CAD	-	Coronary Artery Disease
COPD	-	Chronic Obstructive Pulmonary Disease
CKD	-	Chronic Kidney Disease
TB	-	Tuberculosis
OA	-	Osteoarthritis
PD	-	Parkinson's Disease
CVA	-	Cerebro Vascular Accident
BA	-	Bronchial Asthma



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Page count: 84
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INTRODUCTION

Each and every person in the world have to come across the process "Ageing". It is a by product of the demographic transition. "One of the major features of demographic transition across the world has been considerable increase in absolute and relative number of aged people".

Now-a-days , aged people facing a very challenging life like poverty, loneliness, depression. Those are already vulnerable group in need of care and attention. In growing urbanization and dependency of job availability, children are increasing opting out of the extended family setup, having their "Empty Nest" and establishing their own nuclear family.

We are in a having to show the priority to medial and economic issues faced by the geriatric population in India. This will definitely help them to bring a better life with the Quality and health care. About 60% of the people are elderly population who is surviving in developing world, and this gets rise to 70% by 2010 itself.

More than two-thirds need health care, while about three-fifths need financial aid. "A better co-ordination of case across health and social services as well as across different levels of health care is seen as crucial". By promoting the maintenance of function and confidence engagement can support healthy ageing

Match Overview

INTRODUCTION

Each and every person in the world have to come across the process "Ageing". It is a by product of the demographic transition. "One of the major features of demographic transition across the world has been considerable increase in absolute and relative number of aged people".

Now-a-days , aged people facing a very challenging life like poverty, loneliness, depression. Those are already vulnerable group in need of care and attention. In growing urbanization and dependency of job availability, children are increasing opting out of the extended family setup, having their "Empty Nest" and establishing their own nuclear family.

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²³ More than two-thirds world health care while about three-fifths need

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