
**“A COMPARATIVE STUDY OF HEALTH
STATUS AND QUALITY OF LIFE AMONG
ELDERLY PEOPLE LIVING IN OLD AGE
HOMES AND WITHIN THE FAMILY SETUP
IN AN URBAN AREA”**

**Submitted by
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LIST OF ABBREVIATIONS USED

SI No	Abbreviations	Expansion of Abbreviations
1	AISCCON	All India Senior Citizens Confederation
2	BMI	Body mass index
3	BPL	Below Poverty Line
4	DF	Degrees of Freedom
5	DM	Diabetes Mellitus
7	GDS	Geriatric Depression Scale
8	GDS-15	Geriatric Depression Scale-Short scale
9	Govt	Government
10	HTN	Hypertension
11	IQR	Inter-Quartile Range
12	JNMC	Jawaharlal Nehru Medical College
13	KAHER	Karnataka Lingayat Education society Academy of Health Education and Research
14	MDQ	Mood Disorder Questionnaire
15	MMSE	Mini Mental State Examination
16	NGO	Non Governmental Organisation
18	OAHs	Old Age Homes
19	OPD	Out Patient Department
21	PUC	Pre University College

22	QOL	Quality of Life
24	RHTC	Rural Health Training Centre
25	SD	Standard Deviation
26	SE	Standard Error
27	SPAS	Survey Psychiatric Assessment Schedule
28	SPSS	Statistical Package for Social Science software
30	UHC	Urban Health Centre
31	UHTC	Urban Health Training Centre
32	UN	United Nations
33	USA	United States of America
34	WHO	World Health Organisation
35	WHOQOL	World Health Organisation Quality of Life Questionnaire
36	WHOQOL-BREF	World Health Organisation Quality of Life Questionnaire Brief
37	WHOQOL-OLD	World Health Organisation Quality of Life Questionnaire Old
38	OPQoL	Older People Quality of Life scale
39	SAGE	Study on global AGEing and adult health

ABSTRACT

Title: “A COMPARATIVE STUDY OF HEALTH STATUS AND QUALITY OF LIFE AMONG ELDERLY PEOPLE LIVING IN OLD AGE HOMES AND WITHIN THE FAMILY SETUP IN AN URBAN AREA”

Introduction:

When the fraction of elderly citizen reaches 7% the county is defined ‘an aging nation’ by the UN. India is having the second highest number of elderly (60+) in the world after China and is followed by the USA.

All India Senior Citizens Confederation (AISCCON)’ conducted a survey in 2015-16 which showed that older adults needs to be taken care with more focus on their social and emotional well-being as well as financial and social security. Other studies showed that most of the elderly suffered from some sort of chronic illness or depression and the occurrence of such illnesses rose with increase in age.

Even though improving quality of life of the elderly are mentioned a lot in care policies and development programs for long term betterment of older people, it is not practiced in real life scenario. The present study was done with the objective of comparing the health, quality of life and the prevalence of the depression among seniors living in old age homes and in the family setup.

Objectives

To compare the health status and quality of life and also to know the prevalence of depression among elderly people living in old age homes and within the family setup.

Materials & methods

A community based cross sectional study was conducted among elderly residents of three old age homes located in northern Belagavi and elderly living with

their families in urban field practice area namely Ashok Nagar and Rukmini Nagar of Belagavi city. The study was conducted from 1st January 2021 to 31st December 2021 (12 months). Non-probability purposive sampling method was used for collecting data from old age homes. Proportionate stratified sampling was used for collecting data from family setup. A pre-designed and pre-structured questionnaire was used to assess socio demographic, health status, quality of life and geriatric depression among old age homes and family.

Data collected using the questionnaire were coded and entered in to Microsoft Excel. Data management was done in Microsoft Excel and analysed using SPSS (statistical package for social science) software version 25. Mann-Whitney U test was used for finding the association between categorical variables. Comparison of multiple median scores within the group was tested using Kruskal Wallis test.

Results:

Among elderly living with families, most of them were in the age group of 60 to 74 years, i.e. youngest-old sub-category (80.33%), 51% of them were males and 49% were females. And in old age home setup, majority of them were in age group of 75 to 84 years, i.e. middle-old sub-category (53.33%) and two-third of them were males (74.67%). Majority belonged to the Hindu community (68% among elderly in family setup and 63.33% elderly living in old age homes). Most of the elderly living with families were either illiterate (14.67%) or graduates (16.7%) whereas most of the Old Age home participants were graduates or post graduates (90%) and none were illiterates. Larger part of elderly (68.67%) were married in families with no single or unmarried participant. However in old age homes most of the elderlies were either single or unmarried (41.33%) or widow/widower (38%). Comorbidities like hypertension and diabetes were more

common in elderly living with family whereas cataract was more common in old age home residents. Most of them joined old age home due to personal causes like children had to leave for another place related to work or nobody to care for elderly at home. Remaining married was a strong predictor against entry into old age homes.

This study showed that the overall Quality Of Life of elderly staying with the family (87) was better than the elderly staying in Old age homes (29) [p=0.002]. Elderly residing in Old Age Homes were significantly depressed than elderly living with their families. The prevalence was seen more in females.

Conclusions:

Overall Quality Of Life was better in elderly staying with the family than the elderly staying in Old age homes. Elderly residing in Old Age Homes were significantly depressed than elderly living with their families. The prevalence was seen more in females.

Keywords: Old age home, quality of life, geriatric depression, elderly.

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INTRODUCTION

“To forget the elderly is to ignore the wisdom of the years.”

- Donald Laird, author

The end of a person’s creative and rewarding life is what the term old age brings to mind. Ageing is a natural process. “Old age is an incurable disease”, said by the Roman philosopher Seneca. “You do not heal old age, you protect it, you promote it, and you extend it”, commented by Sir James Sterling Ross.¹

United Nations defined a person as elderly who is over 60 years of age.² Healthy ageing is a process of maintaining functional ability to enable wellbeing in older age, as defined by the World Health Organization.³ When the fraction of people over 60 reaches 7% the country is defined ‘an aging nation’, by the UN. There were more than 700 million persons of 65 years or above in 2019 and is likely to double to 1.5 billion by 2050.⁴

In 2010, an estimated 524 million people were aged 65 or older, i.e 8 % of the world’s population. By 2050, this number is expected to nearly triple to about 1.5 billion, representing 16 % of the world’s population. Although, developed countries have the oldest population profiles, the vast majority of older people and the most rapidly aging populations are in less developed countries.⁵

India is having the second highest number of elderly (60+) in the world after China and is followed by the USA. In India, senior citizen means any person being a citizen of India who has attained the age of 60 years or above according to the “Maintenance & Welfare of Parents & Senior Citizens Act 2007”.⁶ The total

population of elderly was 10.38 crore of which elderly males and females were 5.11 crore and 5.27 crore respectively, as per Census of 2011. According to the report of May 2006 the “Technical Group on Population Projections” constituted by the National Commission on Population published by the Office of the Registrar General of India this share is expected to increase to 10.70 % in 2021 and to 12.40% in 2026.⁷ The government needs to work for the benefit of the older people in India to ensure the elderly can lead a dignified and productive life as senior citizens.

‘All.India.Senior.Citizens.Confederation (AISCCON)’ conducted a survey in 2015-16 which showed that 39% have been either abandoned or live alone , 66% were ‘very poor’ or belonging to BPL category and 60% of senior citizens in families faced abuse or harassment. This survey shows that older adults needs to be taken care with more focus on their social and emotional well-being as well as financial and social security. It is necessary to understand the problems and understandings of elderly to adopt effective and practical measures so that they are taken care of, respected and able to live a wholesome life with dignity which led to the beginning of elderly residential homes or old age homes in India.⁸

In 1992, the number of elderly residential homes in our country was 289, which rose to around 1018 in 2014. Among them, 427 old age homes were of charity or free category, 153 old age homes were in paid category, 146 homes had both free and paid services. Detailed data was not available for 292 homes. 371 elderly homes were available throughout the India for sick and 118 elderly homes were women only.⁹

Lack of caregivers at home including children migrating to other cities and children preferring nuclear family (67%), problems with family members (8%) were the major reasons for people to join old age homes. Staying married was a solid predictor against entry to geriatric homes.¹⁰

The situation is worse as far as women are concerned. Conventionally an Indian woman is identified with her husband. Economic and social dependency on males be it father, husband or son, low educational status and low health care access, makes an elderly woman much more susceptible than her male equivalent. “If men, who were once active in the labour force and had made substantial noticeable contribution, are considered as ‘burden’, then how will women, who have always been invisible contributors, be treated when they are no longer useful?” Leaving their own home, where daily particulars of life was under control, to living in a very large institutionalized setup for the rest of their lives is hard for them.¹¹

A community based study conducted in Bengaluru proposed that more than 50% of the older citizens suffered from chronic diseases. It was noted that occurrence of diseases rose with increase of age, from 39% among 60–64 years to 55% in 70 years and above. The leading causes of mortality in elderly was cardiovascular diseases trailed by respiratory diseases. The most common causes of morbidity in elderly were visual and auditory impairments.¹²

All the aspects of “Health status”, “Lifestyle”, “Life satisfaction”, “Mental health” and “Well- being” together reflects the multidimensional nature of Quality of Life in an individual. Quality of life is a holistic approach that not only emphasizes on individual’s physical, psychological, and spiritual functioning but also their

connections with their environments and opportunities for maintaining and enhancing skills.¹³

According to the National Mental Health Survey, in India, the prevalence of any mental morbidity was 10.6%. Depression is the most common mental morbidity and prevalence of depression in persons aged more than 60 years is higher with a life time prevalence of 6.93% (6.81–7.05).¹⁴ Depression among the elderly population further complicates not only the existing morbidity conditions but also decreases the quality of life and functional ability. Manifestation of depressive disorders in geriatric population is different from adult population with more prominent cognitive and somatic symptoms, which makes detection more difficult and interferes with appropriate help seeking.¹⁵

The people living in the old age homes (OAHs) appears to be overtly neglected by the community and depression is easily overlooked in such individuals especially in elderly people with comorbidities. Its early detection and treatment are imperative to improve quality of life. As identified in the review of literature, commonness of psychiatric disorders were more among the elderly at old age homes.¹⁶

Even though improving quality of life of the elderly are mentioned a lot in care policies and development programs for long term betterment of older people, it is not practiced in real life scenario. Keeping this in mind, the current study aims to evaluate the health status and quality of life of senior citizens in old age homes as compared to those in family setup in an urban area and also to know the prevalence of depression in senior citizens living in old age homes and in family setup.

OBJECTIVES

Primary objective:

1. To compare the health status and quality of life among elderly people living in old age homes and within the family setup.

Secondary objective:

1. To know the prevalence of depression among elderly people living in old age homes and within the family setup.

REVIEW OF LITERATURE

WHO defines 'Quality of Life' as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad concept integrating the persons' physical health, psychological state, level of independence, social relationships, personal beliefs and their relationships to salient features of the environment.¹⁷

Actions taken by WHO in response to population ageing

The United Nations Decade of Healthy Ageing (2021–2030) is a global collaboration, aligned with the last ten years of the Sustainable Development Goals that brings together governments, civil society, international agencies, professionals, academics, the media, and the private sector to enhance the quality of life for elderly, their family, and the communities where they reside.¹⁸

The UN Decade of Healthy Ageing (2021–2030) aims to reduce health inequities and improve the lives of older people, their families and communities in four areas: changing how we think, feel and act towards age and ageism; developing communities in ways that can enhance the capabilities of elderly; delivering integrated care that is person-centered and primary health services suitable to older people; and providing older people who need it with access to quality long-term care.¹⁸

In 2019, a descriptive comparative study was conducted by Mao et al among 100 older adults staying in old age home and staying with family in selected area of Kolkata, West Bengal. Data revealed that most participants (70%) in Old Age Homes

and 54% who stayed with family were women. A graduation rate of 50% was found among participants in OAH and in family setup majority of the participants (52%) had high school education. Study showed significant difference in the mean scores of quality of life of elderly. Participants in OAH were observed to have better quality of life when compared to elderly in family setup.¹⁹

A group of doctors from King George Medical College in Lucknow carried out a cross-sectional study in 2018 to look at the distribution of physical, neuropsychiatric, and cognitive diseases in an elderly community sample with specific socioeconomic data. A residential survey was carried out door to door. All willing senior citizens were screened using the Mini Mental State Examination (MMSE), Survey Psychiatric Assessment Schedule (SPAS)/Mood Disorder Questionnaire (MDQ), physical and neurological examination. In older people (60 years and older), the prevalence of neuropsychiatric disorders (with or without comorbidities) was 11.8%, with the highest prevalence in the 60-69 year age range. Being a woman and having a lower socioeconomic position were factors that were more frequently linked to a neuropsychiatric diagnosis. 7.6% of elderly people were cognitively impaired.²⁰

A community based cross-sectional study was undertaken among elderly women of Chittoor District, Andhra Pradesh to assess the socio-demographic factors and determinants for women to opt old age home rather than staying with family. Total 70 elderly women interviewed, 54 % were between 60-70 yrs. 70% of them were widows and belonging to nuclear family. 94% are Hindus and 74% were house wives. Poverty/financial crisis, misbehaviour of daughter in law and son, life threat from their children, to have peaceful life were important determinants.²¹

From August 2017 to March 2018, Zare et al. performed a community-based cross-sectional study in rural Gummadidala, Nallavelli, and Anantharam and urban Shapur, Kalavathinagar, and Subashnagar districts to evaluate and compare the health condition of senior people in urban and rural areas. 28% of UHTC patients and 49% of RHTC patients had hypertension. Prevalence of cataract was 32% in the UHTC region and 47% in the RHTC area. With the exception of gynaecological disorders, nearly all diseases were more prevalent among rural seniors than in urban elders overall. The prevalence of hypertension, ear, skin, musculoskeletal, psychiatric, cancer, and neurological illnesses was substantially higher in rural seniors than in urban seniors.²²

A cross sectional study was conducted in Raigad district, Maharashtra in 2016. Study was conducted among 60 elderly living in old age homes and 120 within family setup. Matching was done for age and sex & socioeconomic status. In family setup, the Quality of Life of senior citizens in spheres of autonomy, social activities, and relationship was better (60.62%, 70.62%, 66.14% and 58.43%) when compared to Old Age Homes (51.35%, 62.91%, 59.47% and 41.16%) [$p < 0.05$]. Statistically significant difference were seen in the mean geriatric depression score among two groups (3.960 in family and 5.760 in Old Age Home).²³

In order to evaluate and compare the QOL of senior citizens living in old age homes and the community in Davanagere, Karnataka, Kengnal et al. conducted a cross-sectional questionnaire-based research in 2016. They employed the WHOQoL-BREF survey. In rural areas and old age homes, elderly women outnumbered elderly men. The majority of participants were between the age 65 and 70 years. In urban senior individuals, mean scores in the social, psychological, and physical categories

were high. In both urban and rural areas, the majority of the study's participants were illiterate, but in old age homes, most of them were educated. The mean ratings for the psychological and environmental domains differed significantly.²⁴

In 2016, a cross-sectional study was conducted among the elderly of the community and old-age homes in the urban areas of Raipur, Chhattisgarh. To assess the geriatric depression and QOL, Geriatric Depression Scale 15 (GDS-15) and Older People Quality of Life (OPQoL)-35 scale were used respectively. Out of 100 participants, 46 were males. Majority (55%) were in the age group of 60–70 years. Forty-three of the study participants were illiterate, and 36% were literates.. Hypertension was the most common comorbidity, followed by diabetes and digestive and cardiovascular problems. Quality of life was better among the old-age home elderly participants than that of community elderly when compared for overall score (11.78 vs. 13.56). 59% of the elderly were found to have symptoms suggestive of depression.²⁵

In 2015, two old age homes and two areas of Ranchi, Kantatoli and Kanke, were the sites of a cross-sectional research to evaluate and compare the QOL of 80 senior people living in old age homes vs inside the family structure. 40 were from OAHs and 40 from family setup. To assess quality of life, they employed a 26-item QOL scale (WHOQOL-Bref, Hindi), which covers four key areas: environment, social interactions, psychological health, and physical health. Elderly persons living in Old Age Homes had a higher mean QOL score (65.17 ± 7.29) than elderly people living in family setup (61.62 ± 8.52).²⁶

To study QOL of elderly men and women living in institutions and non-institutional settings in urban Bangalore (2013) 800 elderly were selected. They used WHO QoL-100 questionnaire. Among them, fifty percent were men and the other fifty percent were women. Majority of both men and women in the institutional setting were illiterates. They reported that elderly living in institutional setting showed high level of QOL than non-institutional setting.²⁷

A cross sectional analytic study was done from 2012-2013 to compare the morbidity profile of the 88 elderly inmates residing in all the six OAHs of Rajkot city and 180 elderly persons from the community. Median age of elderly living in the OAHs was 72 years while in the community it was 67 years. More females than males were seen in both settings. Only 31.8% of the residents of OAHs believed themselves to be "mainly healthy," as opposed to 45% of residents in family setup. The majority of diseases were more prevalent in elderly in OAHs. One or more medications were taken daily by 48 (54.5%) elderly in OAHs and by 75 (41.7%) elderly people from the community. Elderly residents of OAHs had worse health profiles than those in the community.²⁸

A comparative research was done at the senior residential facilities in Delhi-NCR to learn more about their socioeconomic status, available amenities, and leisure activities. The research involved 120 individuals from five old age homes. They discovered that only older people who are financially independent are eligible for housing in government and private old age institutions. OAHs operated by NGOs aim to give the elderly who are homeless or widowed refuge and meals. The building offers wheelchair access, lifts, and ramps to make it easier for senior people to move

about. The loneliness and lack of care at homes are the primary and most prevalent reasons for older people to enter an old age facility.²⁹

A comparative cross-sectional study was done in 2014 to assess how elderly women living in communities and old age homes perceived themselves and their ageing. In a tertiary care teaching municipal institute's psychiatry OPD and at three distinct old age homes in Mumbai, study was conducted on 60 senior ladies (30 from the community and 30 from old age institutions). Among female inhabitants of old age homes, 36.7% of those chose to live there, while 63.3% were forced to do so. In the community and in nursing homes, respectively, more over half (53.3%) of the female residents indicated they like their present living arrangements, as opposed to 26.7% of residents who merely tolerated it. The remainder of them claimed to be miserable. 13.3% of people in both categories, who were referred to be abandoned, believed that they were only alive for the sake of existing. The remaining ones believed that spirituality represented the true purpose of life.³⁰

To evaluate the incidence of depression among India's older population, a systematic review and meta-analysis were conducted in 2016. On searching PubMed, Scopus, Web of Science, Embase, PsycINFO, IndMed, and Google Scholar for articles published between 1997 and 2016. Analysis of subgroups and sensitivity was done. The prevalence of depression among India's old population was estimated to be 34.4% (95% CI: 29.3-39.7) by 51 studies from 16 states in the nation, with rates greater in the east, rural areas, and populations of women. The prevalence was lower in the studies that did not examine depression before excluding dementia.³¹

In order to compare sociodemographic characteristics and mental morbidity in senior people living in old age homes and the community, Rayirala et al. undertook a case-control research in the city of Hyderabad at the Institute of Mental Health. 50 subjects from different old age institutions made up the cases. 50 respondents (matched for gender) from the neighbourhood close to the senior living facilities were chosen as controls through a house to house survey. In this survey, 10.2% of Christians and 89.8% of Hindus made up the OAH group. Community group had the largest percentage of illiterates (29.2%). In contrast, the OAH group had the largest percentage of graduates (22.4%). While rates of memory difficulties and attention issues were greater in OAHs, the difference was not statistically significant. Rates of orientation problems were higher in the community.³²

In order to evaluate depression and its contributing variables among the elderly, Mali et al. recruited 244 seniors, 122 from old-age residences and the population of Kathmandu area. The Geriatric Depression Scale-Short scale was used to assess depression in older people (GDS-15). Elderly depression was more common in communities than in nursing facilities, with a 41.8% prevalence. According to this study, seniors living in nursing homes were four times more likely to experience depression than seniors living in the community (OR=4.087; 95% CI=2.373-7.038). In either situation, there was no correlation between the respondents' sex and sadness.³³

In 2016, a cross-sectional study was conducted by Karini et al. to evaluate and compare depression among senior people living in OAHs and those living in communities in Visakhapatnam. The average age of research participants who live in the community is estimated to be 67 ± 5.62 , but those who reside in nursing facilities

are 75.96 ± 9.69 . In old age homes, there was a higher prevalence of depression (80%), with 40% having mild depression, 18% having moderate depression, and 22% having severe depression. Whereas among the general population, 52% of people reported having depression, with 18% experiencing mild depression, 18% experiencing moderate depression, and 16% experiencing severe depression. This difference is statistically significant with a p value of <0.05 .³⁴

In order to determine the present prevalence of mental diseases in the elderly population in the rural region, Nair et al. conducted an epidemiological, community-based cross sectional research in 2014 in Singanodi, Raichur District, Karnataka. 366 individuals were given the General Health Questionnaire-12, the Mini Mental State Examination, and the Geriatric Depression Scale. Forty two percent of participants were in the 60–64 age group.

They discovered that widowed participants had a considerably higher rate of mental problems than married participants ($X^2 = 25.17$, $p 0.001$). When compared to men, who had a frequency of 42.4% (72 out of 170), women had a greater prevalence of mental disorders, at 77.6% (152 out of 196). Depression was the most prevalent mental condition (21.9%), while generalized anxiety disorder was found in 10.7% of cases. 16.3% of people had cognitive impairment, with people 80 and older accounting for a disproportionately high share of those who were afflicted.³⁵

In Surat city, a cross-sectional study was conducted in 2010 to find the prevalence of depression among 105 elderly people living in old-age homes, and those living in the affluent areas and in the slums of Surat city. Majority (80.8%) of the participants were in the range of 64–76 years. Mean age of the subjects was 69 ± 8.84 years.

According to the findings, the total incidence of depression was 39.04%, with 20% of cases requiring institutional treatment. The prevalence of depression was higher in old age homes (25.71%) and wealthy neighborhoods (22.8%) than in slums (11.4%). Illiterates had a lower rate of depression of 26.6% than literates (44%).³⁶

METHODOLOGY

Source of data:

Belagavi is a district which is located in north-west region in the state of Karnataka. According to Census 2011 statistics the population of Belagavi city was 4,779,661. As per Adhar Unique Identification Authority of India 2022 data, the population in the district was estimated to be 5,444,990.³⁷ An estimated population aged above 60 years in Karnataka, as per 2011 census projection is 54,87,399. Belagavi has the second highest number of senior citizens after Bengaluru, with 4,47,953.³⁸ In Belagavi city, there are 15 functioning old age homes out of which three old age homes were randomly selected.

For primary and secondary objectives:

Patients admitted at three different old age homes namely Gharkul Old age Home, Shantai Vrudhashram, Karunalaya Old Age Home, located in Belagavi city, North Karnataka during the study period. And elderly persons living with their families in urban field practice area of Belagavi city namely Ashok Nagar and Rukmini Nagar.

Study design:

A Community based cross-sectional study.

Study period:

Study was conducted over a period of 12 months from 1st January 2021- 31st December 2021.

Sample size:

A sample size ratio of 1:2 was taken for the study. (If 2x from family setup, then x from OAHs).

- Elderly from family setup : -

Assuming the prevalence of geriatric population in Karnataka as 8% (according to previous studies).

Name of UHC	Total Population	Geriatric Population	Proportion of population for study
Ashok Nagar	27000*	2160	100
Rukmini Nagar	54528*	4362	200

* As per the CNAA survey done in 2018 (Ref: as per the written information received from staff of the UHC Ashok Nagar and UHC Rukmini Nagar).

Number of elderly people in Ashok Nagar UHC = 2160 (8% of 27,000)

Number of elderly people in Rukmini Nagar UHC = 4362 (8% of 54,528)

Sum of elderly people in Ashok Nagar and Rukmini Nagar = 2160 + 4362 = 6522

Sample size to be considered from Ashok Nagar = $2160 / 6522 \times 300 = 99.14 = 100$

Sample size to be considered from Rukmini Nagar = $4362 / 6522 \times 300 = 200.21 = 200$

From Ashok Nagar and Rukmini Nagar = 100 + 200 = 300

Therefore, elderly from family setup = 300 samples

- Elderly from Old Age homes = 150 samples required

Sl.no	Name of the Old Age Home	Address	No. of Residents
1	Gharkul Old age Home	Benakanhalli, Belagavi	30
2	Shantai Vrudhashram	Jamboti Road, Belagavi	50
3	Karunalaya Old Age Home	Navage, Belagavi	80
			Total = 160

- Total sample size will be: 150 (old age homes) + 300 (family setup) = 450

Sampling method:

Non-probability purposive sampling method was adopted to select 150 elderly out of total 160 representing both sexes from the three old age homes. Proportionate stratified sampling was used for collecting data from family setup.

Inclusion criteria:

- Elderly above the age group of 60 years.
- Residing for at least six months in old age homes. Old age home participants had to give an unbiased data of old age homes' living condition.

Exclusion criteria:

- Any elderly person who is unable to cooperate due to severe diseases.

Method of data collection :

Permission was taken from the administrator or managing director of the old-age home. A written informed consent was taken from the study participants before the interview, after explaining purpose of the study by building a good rapport and confidence amongst the participants which helped in extracting more information. Informed consent was also translated into local languages like Kannada, Hindi and Marathi. A pilot study was conducted among 45 subjects (30 from family setup and 15 from old age homes) before starting the study and required changes were made in the predesigned pretested questionnaire.

Questionnaire design and validation :

A pretested and pre-designed questionnaire was used in evaluating the participants. Questionnaire consisted of three parts. First was regarding the socio-demographic details and health status which covered the details regarding age, gender, religion, education, occupation, pension status, marital status, type of family, number of children, cause for admission, any self-reported illness, history of substance abuse etc.

Second part covered the WHOQOL-OLD questionnaire. This helps in multidimensional assessment of quality of life of elderly. The WHOQOL-OLD module consists of 24 Likert-scaled items assigned to six facets: “Sensory Abilities” (SAB), “Autonomy” (AUT), “Past, Present and Future Activities” (PPF), “Social Participation” (SOP), “Death and Dying” (DAD) and “Intimacy” (INT). Each of the facets has 4 items, thus for all facets the score of possible values can range from 4 to 20, provided all items of a facet have been completed. These scores can be combined

to produce a general (“overall”) score for quality of life in older adults, denoted as the WHOQOL-OLD module “total score”. High scores represent high quality of life, low scores represent low quality of life.³⁹

<i>Facet</i>	<i>Abbr.</i>	\sum <i>items</i>	<i>Items of facets</i>	<i>Possible range of raw score (Min, Max)</i>
Sensory Abilities	SAB	4	1 + 2 + 10 + 20	16 (4, 20)
Autonomy	AUT	4	3 + 4 + 5 + 11	16 (4, 20)
Past, Present and Future Activities	PPF	4	12 + 13 + 15 + 19	16 (4, 20)
Social Participation	SOP	4	14 + 16 + 17 + 18	16 (4, 20)
Death and Dying	DAD	4	6 + 7 + 8 + 9	16 (4, 20)
Intimacy	INT	4	21 + 22 + 23 + 24	16 (4, 20)

Fig 1: Items included in the facets of the WHOQOL-OLD module.³⁹

Third part is the Geriatric Depression Score Short Form (a shorter version of Yesavage’s GDS 15 question instrument) which is a self-reported, basic screening measure of depression that is used for rating depression in the elderly. Scores of 0–4 were considered normal, 5–8 indicated mild depression, 9–11 implied moderate depression, and 12–15 implied severe depression. Any score above 5 on the GDS-15 is an indication for an in-depth psychological evaluation, so respondents found positive for depression on screening were referred to the psychiatry outpatient department of the institute. No investigations or interventions were conducted on patients.

Statistical Analysis :

The data obtained was coded and entered into Microsoft Excel Worksheet. The data was analysed using statistical software SPSS version 25. Continuous variables were analyzed for normality by the Kolmogorov Smirnov test and Shapiro

Wilk test. For the data that followed normal distribution was expressed in terms of mean \pm standard deviation (SD) and the data which followed skewed distribution was expressed as median and interquartile range (IQR). The comparison of QOL scores with respect to marital status, number of children, educational and occupation status was determined by fitting the data into general linear model (GLM) considering 'No significant effect on QOL' as null hypothesis and 'Significant effect on QOL' as alternate hypothesis. The association between GDS score with cause of admission to old age home among the participants in old age home was done using Fisher's exact test. The comparison of multiple median scores within the group was tested using Kruskal Wallis test and among the genders, it was done using Mann-Whitney U test. At 95% confidence interval (CI) probability value ('p' value) of less than or equal to 0.050 was considered to be statistically significant and null hypothesis was rejected.

Ethical clearance

Obtained from the Institutional Ethics Committee for Human Subjects' Research of the Medical College dated 25/01/2021 vide under letter MDC/DOME/75. Written informed consent was obtained from all the study participants before the data collection (ANNEXURE – II).

Definition of Study variables:

1. Socio-demographic Variables:

- **Age in years⁴⁰:**

Age was recorded as told by the participant to the nearest completed years.

Classification of elderly population based on age:

1. Youngest old: 60 to less than 75 years
2. Middle-old: 75 years to less than 85 years
3. Oldest old: 85 years and above

- **Sex:**

Male/Female

- **Religion:**

The participant's religion was grouped under "Hindus", "Muslims", "Christians" and others which include, Sikhs, Buddhists, and Jains.

- **Educational Qualification:**

1. Illiterate: those who cannot read or write with understanding in any language.
2. Read and write: those who have not received formal schooling but can read and write in his language.
3. Standard 1-4: participant who had attended schooling between first and fourth standard
4. Standard 5-10: participant who had attended schooling between fifth and tenth standard
5. 10-12/Diploma/PUC: participant had studied between tenth to twelfth or completed PUC or Diploma
6. Degree/Post graduate: participant who had Bachelor's Degree / Master's Degree

- **Past Occupation⁴¹ :**

The source of their income, as self-reported by the beneficiaries, who would earn his or her living by means of it.

1. Farmer: owns his land or on a contract basis.
2. Labourer- who works on any place including agricultural fields on a daily wage base.

3. Business/self employed: beneficiary who is not an employee under any agency or society like carpenter, plumber, painter, provision store, etc.
4. Government employee: beneficiary who is a permanent or contract worker in any government agencies.
5. Private employee: beneficiary who is a permanent or contract worker in any private companies or factories or NGOs.
6. Retired/pensioner: beneficiary who is currently not working and is receiving pension from any means.
7. Unemployed: beneficiary who currently is not working or is receiving monitory benefits of any kind
8. Home maker: beneficiary who looks after the home, children and currently not working in any kind.

- **Marital status**⁴²:

1. Single: persons who have never married.
2. Married: persons whose opposite or same-sex spouse is living, unless the couple is separated or a divorce has been obtained.
3. Separated: persons currently legally married but who are no longer living with their spouse (for any reason other than illness, work or school) and have not obtained a divorce.
4. Divorced: persons who have obtained a legal divorce and have not remarried.
5. Widow/ widower: persons who have lost their legally-married spouse through death and have not remarried.

Type of family⁴³:

1. Nuclear: The family consisting of married couple along with their dependent children.
2. Joint: It consists of number of married couples and their children who live in the same household.

Body Mass Index⁴⁴:

$$\text{Calculation of BMI} = \text{Weight in kg} / (\text{Height in m})^2$$

BMI calculate was categorized as per WHO criteria for Asian population.

Category	Body Mass Index
Underweight	<18.5Kg/m ²
Normal	18.5– 23.0 Kg/m ²
Overweight	23.0 – 27.5 Kg/m ²
Obese	>27.5 Kg/m ²

RESULTS

Our study was a cross sectional one done in 300 elderly living with family and 150 elderly living in three different old age homes, adding to a total of 450 elderly men and women during the study period from January to December 2021. The Old Age Homes covered were Gharkul old age home, Shantai vrudhashram and Karunalaya old age home located in Belagavi, North Karnataka.

The data collected was tabulated and analyzed under the following sections:

- I. Socio demographic profile and health status of study participants**
- II. Quality of life assessment**
- III. Assessment of Geriatric depression among study participants**

I- Socio demographic profile and health status of study participants

Table 1: Distribution of study participants according to their age (in years) (n=300 for Elderly living in family setup and n=150 for those at Old age homes).

Age group (in years)	Family Setup	OAH
60-74 (Youngest-old)	241 (80.33%)	64 (42.67%)
75-84 (Middle-old)	56 (18.67%)	77 (51.33%)
Greater than 84 (Oldest old)	3 (1%)	9 (6%)
Total	300 (100%)	150 (100%)

In the present study, the mean age of the participants was 68.38 years for elderly living in family setup and 74.63 years for elderly living at OAHs. The distribution of study participants was maximum in age group between 60 to 74 years for family setup (80.33%) and 75 to 84 years in old age home (53.33%).

Figure 1: Distribution of the study participants according to their age (in years) (n=300 for family setup and n=150 for old age home setup).

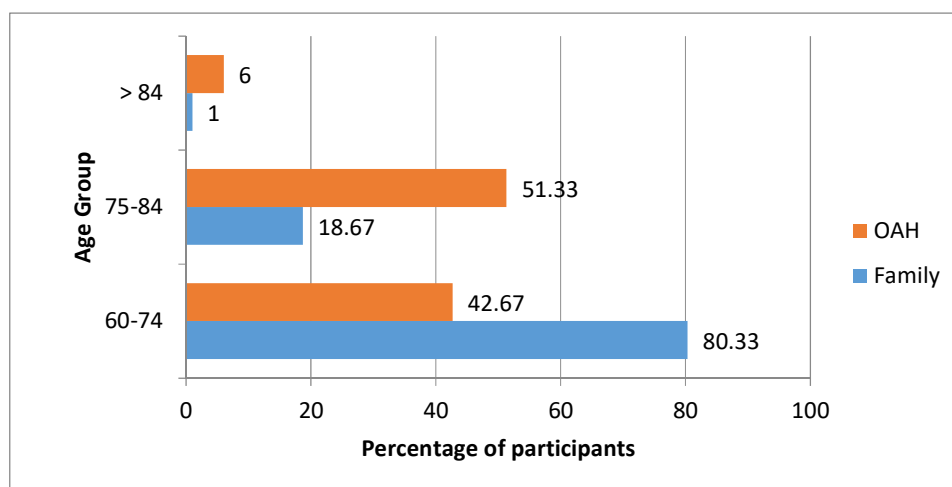


Table 2: Distribution of study participants according to their gender (n=300 for family setup and n=150 for old age home setup).

Gender	Family Setup	OAH
Male	153 (51%)	112 (74.67%)
Female	147 (49%)	38 (25.33%)
Total	300 (100%)	150 (100%)

For family setup, 51% of the participants were males and 49% were females where as in old age home setup 74.67% of the participants were males and 25.33% were females.

Figure 2: Distribution of the study participants according to their gender (in years) (n=300 for family setup and n=150 for old age home setup).

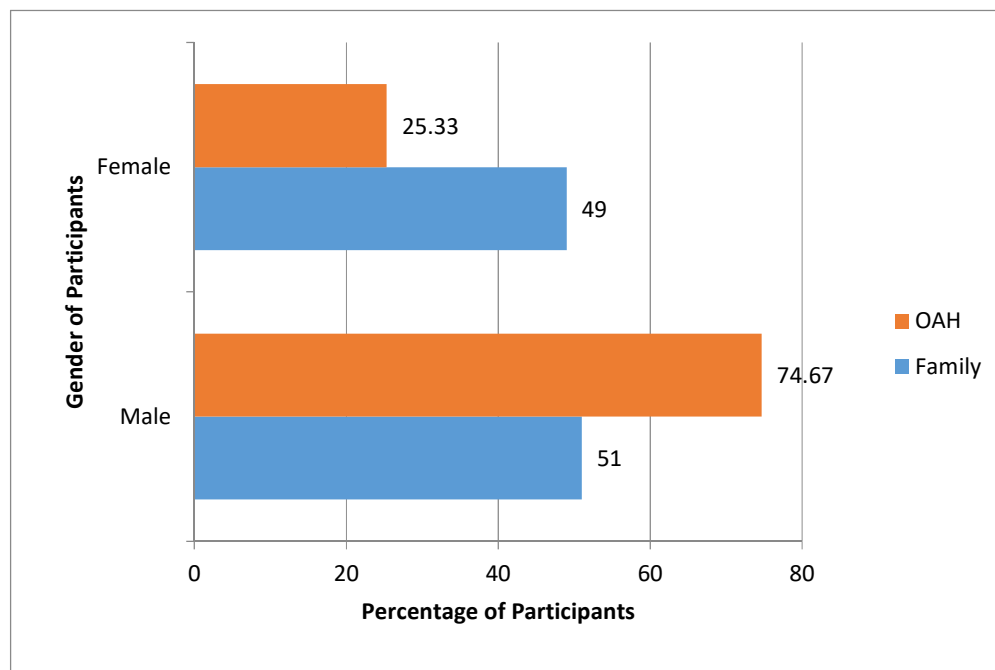


Table 3: Distribution of participants according to their religion (n=300 for family setup and n=150 for old age home setup).

Religion	Family Setup	OAH
Hindu	204 (68%)	95(63.33%)
Muslim	84 (28%)	3 (2%)
Christian	12 (4%)	52 (34.67%)
Others	0 (0%)	0 (0%)
Total	300 (100%)	150 (100%)

Among the study participants, majority belonged to the Hindu community and rest of them belonged to Muslim and Christian community. In family setup, 68% of the participants belonged to Hindu community, 28% belonged to Muslim community and 4% belonged to the Christian community. In old age home setup, 63.33% of the participants belonged to Hindu community, 34.67% to Christian community and 2% belonged to Muslim community.

Figure 3: Distribution of participants according to their religion (n=300 for family setup and n=150 for old age home setup).

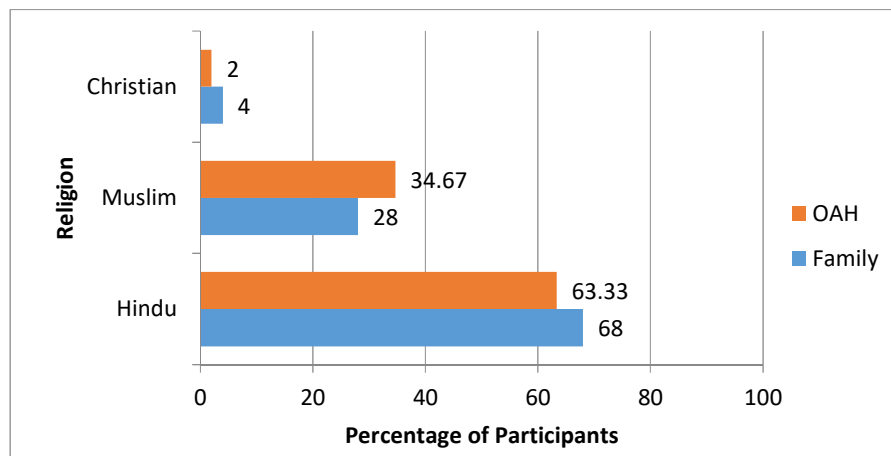


Table 4: Distribution of participants according to their literacy status (n=300 for family setup and n=150 for old age home setup).

Educational Qualification	Family Setup	OAH
Illiterate	44 (14.67%)	0 (0%)
Read and Write	11 (3.67%)	0 (0%)
Standard 1 st - 4 th	16 (5.33%)	15 (10%)
Standard 5 th -10 th	62 (20.67%)	0 (0%)
10 th -12 th / Diploma	117 (39%)	87 (58%)
College / Post Graduate	50 (16.67%)	48 (32%)
Total	300 (100%)	150 (100%)

For family setup 14.67% of the participants were illiterate, 3.67% were able to read and write, 5.33 % attended Lower primary school and 16.67% were graduates whereas in old age home setup 10% attended Lower primary school, 58% had attended upper primary and high school or had basic diploma and 32% were graduates/post graduates.

Table 5: Distribution of participants according to their past occupation (n=300 for family setup and n=150 for old age home setup).

Past Occupation	Family Setup	OAH
Farmer	1 (0.33%)	0 (0%)
Labourer	4 (1.33%)	0 (0%)
Self-Employed	52 (17.33%)	55 (36.67%)
Retired Government Employee	68 (22.7%)	34 (22.67%)
Private Employee	75 (25%)	25 (16.67%)
Home Maker	100 (33.33%)	36 (24%)
Total	300 (100%)	150 (100%)

Majority of the participants in family setup were home makers, the percentage was high because of the large number of female participants who were home makers. In family setup 0.33% were farmers / agricultural land or farm owners, 1.33% were labourers, 17.33% were self-employed, 22.7% were retired government employees, 25% were working in the private sector and industries and 33.33% (majority of the female participants) were home makers. In old age home setup 36.67% of the participants were self-employed, 22.67% were retired government employees, 16.67% were working in the private sector and industries and 24% were home makers.

Table 6: Distribution of participants based on if they receive any pension (n=300 for family setup and n=150 for old age home setup).

Pension	Family Setup	OAH
Yes	158 (52.67%)	67 (44.67%)
No	142 (47.33%)	83 (55.33%)
Total	300 (100%)	150 (100%)

Participants who received and did not receive any sort of monthly pension were almost in the same range in both family setup and old age home setup. In family setup 52.67% of the participants and in old age home setup 44.67% of the participants were receiving some sort of monthly pension where as 47.33% in family setup and 55.33% of the old age home participants were not receiving any sort of monthly pension.

Table 7: Distribution of participants according to their marital status (n=300 for family setup and n=150 for old age home setup).

Marital Status	Family Setup	OAH
Single	0 (0%)	62 (41.33%)
Married	206 (68.67%)	18 (12%)
Separated / Divorced	8 (2.67%)	13 (8.67%)
Widow / Widower	86 (28.67%)	57 (38%)
Total	300 (100%)	150 (100%)

Among the study participants in family setup none were single or unmarried, 68.67% were married, 2.67% were divorced or separated and 28.67% were widow/widower. In old age home setup 41.33% were single / unmarried, 12% were married, 8.67% were separated / divorced and 38% were widow/widower.

Figure 4: Distribution of participants according to their marital status (n=300 for family setup and n=150 for old age home setup).

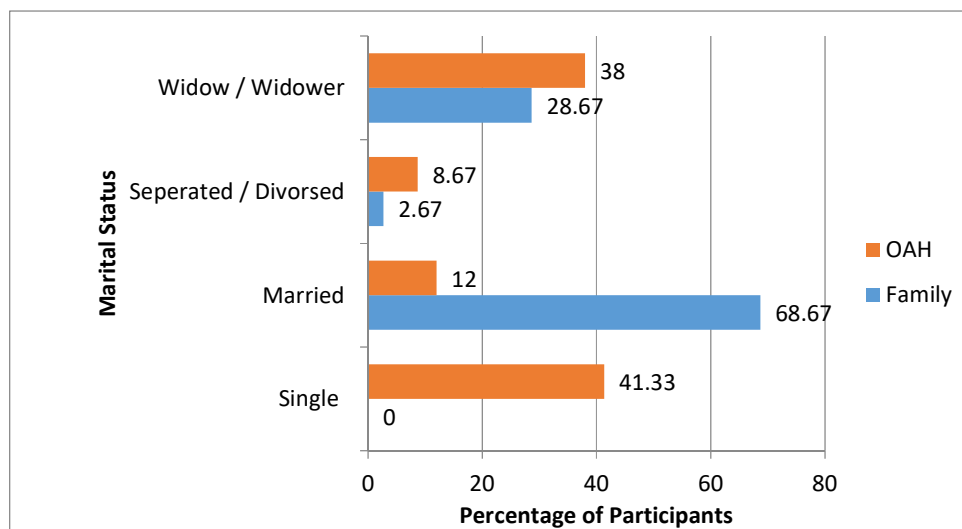


Table 8: Distribution of participants according to type of family status (n=300 for family setup and n=150 for old age home setup).

Type of Family	Family Setup	OAH
Joint	124 (41.33%)	67 (42%)
Nuclear	176 (58.67%)	83 (58%)
Total	300 (100%)	150 (100%)

Among the study participants majority belonged to nuclear family in both family setup and old age home. In family setup 41.33% belonged to joint family and 58.67% belonged to nuclear family whereas in old age home setup 42% belonged to joint family and 58% belonged to nuclear family.

Figure 5: Distribution of participants according to type of family (n=300 for family setup and n=150 for old age home setup).

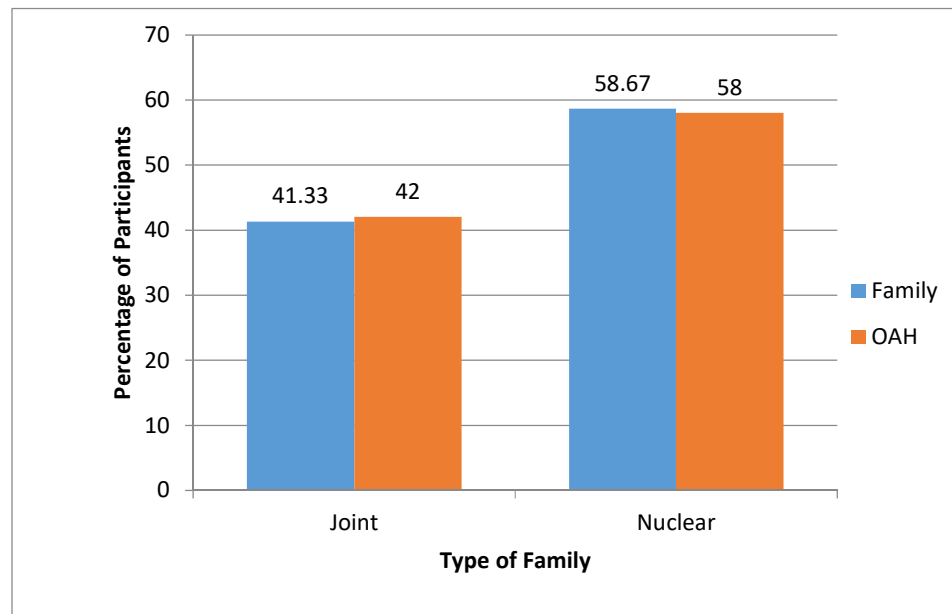


Table 9: Distribution of participants according to number of children (n=300 for family setup and n=150 for old age home setup).

Number of Children	Family Setup	OAH
One	42 (14%)	3 (2%)
Two	95 (31.67%)	47 (31.33%)
Three or more	127 (42.33%)	53 (35.33%)
None	36 (12%)	47 (31.33%)
Total	300 (100%)	150 (100%)

Among the study participants, majority of childless participants were in the old age home. In family setup, 14% had atleast one child, 31.67% had two children, 42.33% had three or more children and 12% didn't have a child. In old age home setup 2% had only one child, 31.33% had two children, 35.33% had three or more children and 31.33% didn't have a child.

Figure 6: Distribution of participants according to number of children (n=300 for family setup and n=150 for old age home setup).

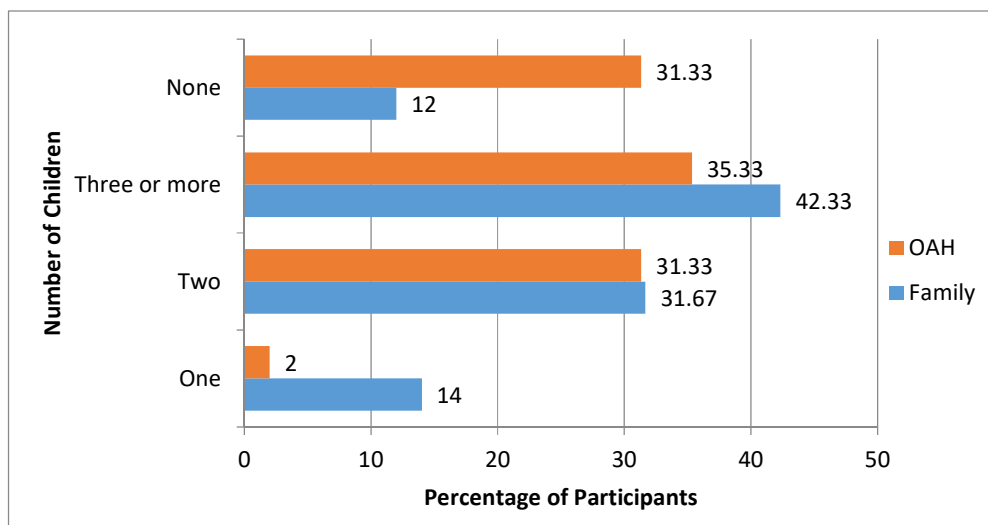


Table 10: Distribution of the study participants according to cause of admission in old age home (n=150 for old age home setup).

Cause of Admission	OAH
Family Disputes	15 (10 %)
Personal Cause	117 (78%)
Economic Cause	18 (12%)
Others	0 (0%)
Total	150 (100%)

Cause of admission wasn't a valid question for the elderly living in family setup but valid for old age home setup. Among old age home participants, 10% of the elderly joined or were sent to old age home due to disputes in family, 78% which is the majority due to personal causes like children had to leave for another place related to work or nobody to care for elderly at home and 12% due to economic causes where the children or the elderly themselves unable to sustain themselves and were sponsored by the Old Age Home as charity.

Figure 7: Distribution of the study participants according to cause of admission in old age home (n=150 for old age home setup).

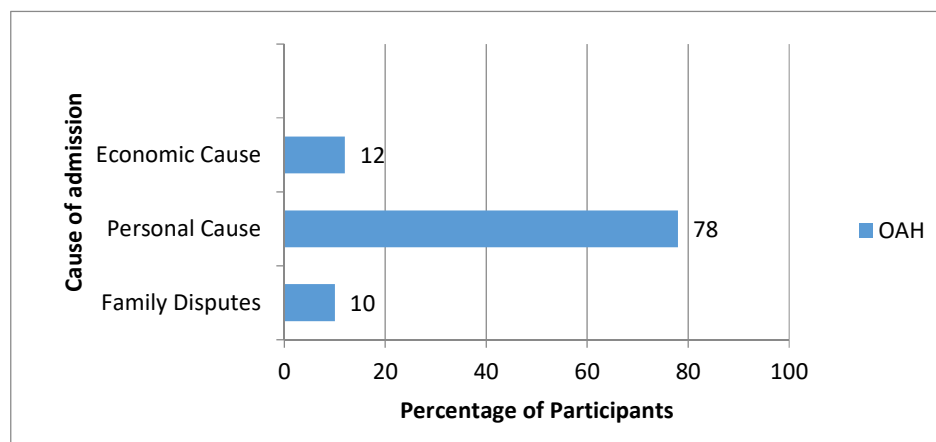


Table 11: Distribution of study participants according to self-reported illness (n=300 for family setup and n=150 for old age home setup).

Self-reported Illness	Family Setup	OAH
DM	59 (19.67%)	16 (10.67%)
HTN	111 (37%)	14 (9.33%)
Cataract	35 (11.67%)	55 (36.67%)
Hearing impairment	31 (10.33%)	28 (18.67%)
None	64 (21.33%)	37 (24.67%)
More than one illness	46 (15.33%)*	51 (34%)*
Total	300 (100%)	150 (100%)

***Multiple responses**

Among the study participants in family setup 19.67% had DM, 37% had HTN, 11.67% had cataract, 21.33% reported as not having any ailments or diseases and 15.33% had multiple or at least more than one illness. Among old age home setup participants 10.67% had DM, 9.33% had HTN, 36.67% had cataract, 24.67% reported as not having any ailments or diseases and 34% had multiple or at least more than one illness.

Figure 8: Distribution of the study participants according to Self-reported Illness. (n=300 for family setup and n=150 for old age home setup).

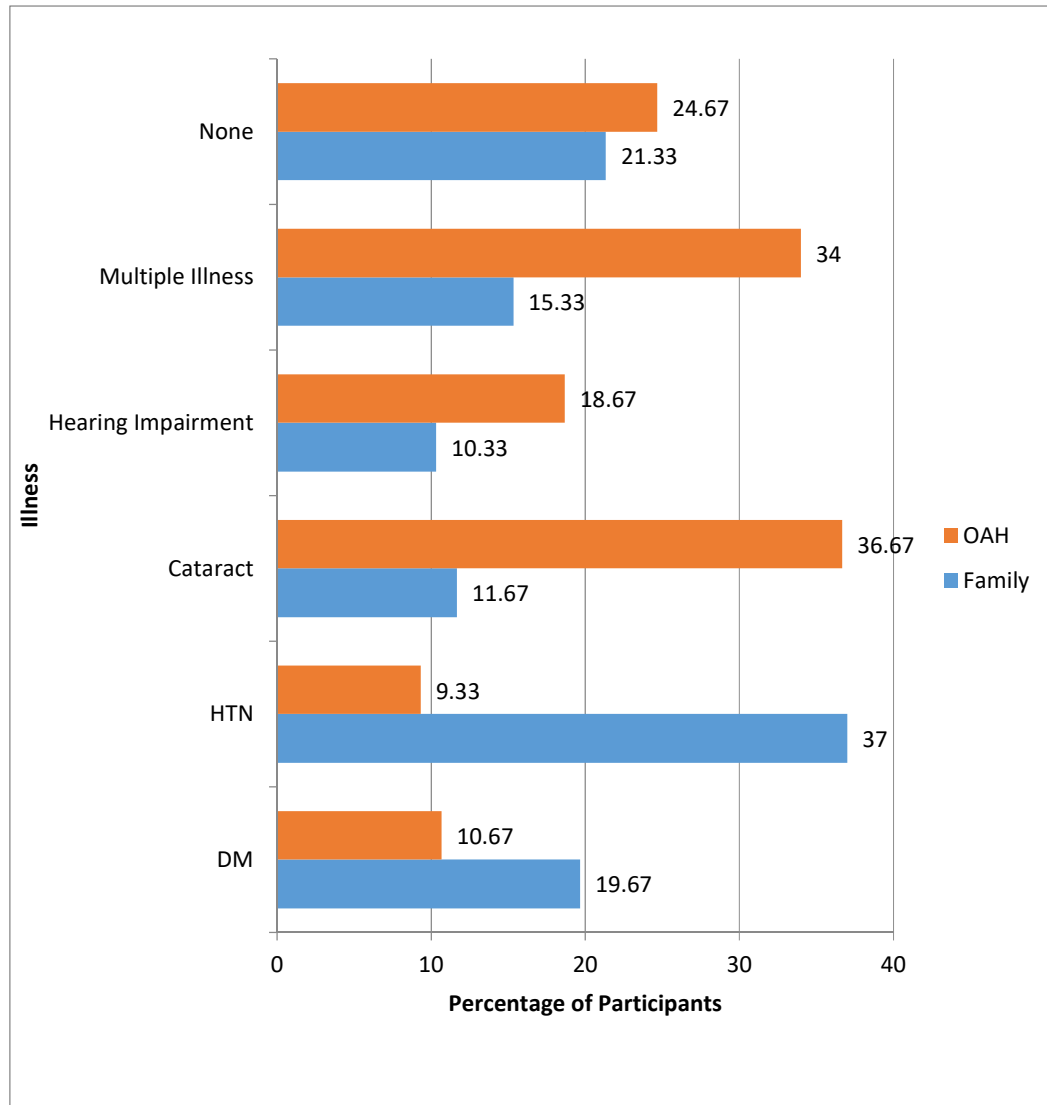


Table 12: Distribution of study participants according to types of substance abuse (n=300 for family setup and n=150 for old age home setup).

History of Substance abuse	Family Setup	OAH
Smoking	5 (1.67%)	0
Alcohol	10 (3.33%)	0
Betel Nut use	52 (17.33%)	0
Tobacco chewing habits	36 (12%)	0
None	197 (65.67%)	150 (100%)
Total	300 (100%)	150 (100%)

Old Age Homes had strict restrictions about substance abuse among their residents and all reported as not having or as to quitting the habit. Substance abuse was common among family setup participants where 1.67% reported to smoking, 3.33% of consuming alcohol, 17.33% reported to use betel nut in the form of packaged pan or as bought from shop/homemade, 12% had tobacco chewing habits and 65.67% reported as not having any such habits.

II- Quality of life assessment**Table 13: Quality Of Life (QOL) profile**

Group	Mean		Median	IQR	Range		*p value
	Mean	SD			Min	Max	
Family setup (n=300)	81.31	17.71	87	25.25	39	110	<0.001
Old age home (n=150)	79.26	11.97	80	9.5	58	103	<0.001

*P value for distribution of data based on Kolmogorov Smirnov and Shapiro Wilk test.

The QOL mean, median and IQR score among the participants from family setup and old age home is as shown in the table. It was observed that, the QOL score followed skewed distribution. Hence the median QOL values were considered for further analysis.

Domain 1: Sensory Abilities

Table 14: Distribution of study participants according to impairment of their senses which affect their routine life.

Setup	Family setup	OAH
Not at all	0 (0%)	0 (0%)
A little	43 (14.33%)	28 (18.66%)
A moderate amount	42 (14%)	11 (7.34%)
Very much	108 (36%)	70 (46.67%)
An extreme amount	107 (35.67%)	41 (27.34%)
Total	300 (100%)	150 (100%)

When asked about how much impairments to their senses affected daily life 36% reported as 'Very much' in family setup and 46.66% reported as 'Very much' by elderly living in the old age homes. None of the elderly reported 'Not at all'.

Table 15: Distribution of study participants according to impairment of senses which affect their ability to involve in activities.

Setup	Family setup	OAH
Not at all	0 (0%)	0 (0%)
A little	42 (14%)	0 (0%)
A moderate amount	35 (11.67%)	40 (26.67%)
Very much	111(37%)	55 (36.67%)
An extreme amount	112 (37.33%)	55 (36.67%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked about how much loss of senses affect their ability to participate in activities 14% reported as A Little, 11.67% reported as A Moderate Amount, 37% reported as Very much and 37.33% reported as An Extreme Amount. In old age home setup participants when asked about how much loss of senses affect their ability to participate in activities 26.66% reported as A Moderate Amount, 36.66% reported as Very much and 36.66% reported as An Extreme Amount.

Table 16: Distribution of study participants according to the problems with sensory functioning and to how much it affects their ability of interaction.

Setup	Family setup	OAH
Not at all	20 (6.67%)	0 (0%)
A little	43 (14%)	13 (8.67%)
Moderately	54 (18%)	15 (10%)
Mostly	96 (32%)	58 (38.67%)
Completely	87 (29%)	64 (42.67%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked about how much problems with your sensory functioning affect your ability to interact with others, 6.67% reported as Not at all, 14.33% reported as A Little, 18% reported as Moderately, 32% reported as Mostly and 29% reported as Completely. In old age home setup participants when asked about how much problems with your sensory functioning affect your ability to interact with others, 8.6% reported as A Little, 10% reported as Moderately, 38.66% reported as Mostly and 42.66% reported as Completely.

Table 17: Distribution of study participants according to the rating of sensory functioning.

Setup	Family setup	OAH
Very poor	5 (1.67%)	0 (0%)
Poor	53 (17.67%)	28 (18.67%)
Neither poor nor good	56 (18.67%)	52 (34.67%)
Good	149 (49.67%)	70 (46.68%)
Very good	37 (12.33%)	0 (0%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked to rate their sensory functioning, 1.67% reported as Very poor, 17.67% reported as Poor, 18.67% reported as Neither poor nor good, 49.67% reported as Good and 37% reported as Very good. In old age home setup participants when asked to rate their sensory functioning, 18.66% reported as Poor, 34.66% reported as neither poor nor good and 46.68% reported as Good.

Table 18: Comparison of sensory abilities of elderly in family and old age home using Mann-Whitney U Test statistics.

Domain 1: Sensory abilities						
Setup	Mean ± SD	Median	SE	Mean rank	Z value	p value
Family setup	15.06 ± 3.799	16	0.219	224.68	-0.192	0.848
OAH	15.36 ± 3.249	16	0.265	227.14		

There was no significant difference in domain of sensory abilities of elderly living in family setup and old age home.

Mann-Whitney U test revealed that both in family and old age home, elderly experience same range of problems related to sensory functioning with U = 224.68, Z = -0.192 and p = 0.848.

Domain 2: Autonomy**Table 19: Distribution of study participants according to the range of freedom they have in making decisions.**

Setup	Family setup	OAH
Not at all	39 (13%)	0 (0%)
A little	49 (16.33%)	60 (40%)
A moderate amount	97 (32.33%)	20 (13.34%)
Very much	97 (32.33%)	56 (37.34%)
An extreme amount	18 (6%)	14 (9.34%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked how much freedom do they have to make their own decisions 13% reported as Not at all, 16.33% reported as A little, 32.33% reported A Moderate Amount, 32.33% reported as Very much and 6% reported as An Extreme Amount. In old age home setup participants when asked how much freedom do they have to make their own decisions 40% reported as A Little, 13.34% reported as A Moderate Amount, 37.34% reported as Very much and 9.34% reported as An Extreme Amount.

Table 20: Distribution of study participants according to how much power they feel they have over their future.

Setup	Family setup	OAH
Not at all	35 (11.67%)	26 (17.34%)
A little	63 (21%)	42 (28%)
A moderate amount	88 (29.33%)	46 (30.66%)
Very much	97 (32.33%)	22 (14.66%)
An extreme amount	17 (5.67%)	14 (9.34%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked how much power they feel they have over their future 11.67% reported as Not at all, 21% reported as A little, 29.33% reported A Moderate Amount, 32.33% reported as Very much and 5.67% reported as An Extreme Amount. In old age home setup participants when asked the same question, 17.34% reported as Not at all, 28% reported as A little, 30.66% reported A Moderate Amount, 14.66% reported as Very much and 9.34% reported as An Extreme Amount.

Table 21: Distribution of study participants according to the how much they feel the people around them are respectful of their freedom.

Setup	Family setup	OAH
Not at all	15 (5%)	0 (0%)
A little	69 (23%)	8 (5.34%)
A moderate amount	128 (42.67%)	121 (80.67%)
Very much	65 (21.67%)	21 (4%)
An extreme amount	23 (7.67%)	0 (0%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked how much they feel the people around them are respectful of their freedom 5% reported as Not at all, 23% reported as A little, 42.67% reported A Moderate Amount, 21.67% reported as Very much and 7.67% reported as An Extreme Amount. In old age home setup participants when asked the same question 5.34% reported as A little, 80.66% reported A Moderate Amount and 14% reported as Very much.

Table 22: Distribution of study participants according to their ability to do the things they like to do.

Setup	Family setup	OAH
Not at all	68 (22.67%)	0 (0%)
A little	83 (27.67%)	40 (26.67%)
Moderately	65 (21.67%)	89 (59.34%)
Mostly	78 (26%)	21 (14%)
Completely	6 (2%)	0 (0%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked how much they feel they can do things they would want to do, 22.67% reported as Not at all, 27.67% reported as A Little, 21.67% reported as Moderately, 26% reported as Mostly and 2% reported as Completely. In old age home setup participants when asked the same question, 26.66% reported as A Little, 59.34% reported as Moderately and 21% reported as Mostly.

Table 23: Comparison of Autonomy of elderly in family and old age home using Mann-Whitney U Test statistics.

Domain 2: Autonomy						
Setup	Mean \pm SD	Median	SE	Mean rank	Z value	p value
Family setup	11.62 \pm 3.694	12	0.213	226.93	-0.333	0.739
OAH	11.83 \pm 2.765	11	0.226	222.63		

There was no significant difference in domain of autonomy of elderly living in family setup and old age home.

Mann-Whitney U test revealed that both in family and old age home, elderly experience similar freedom of making decisions with $U = 222.63$, $Z = -0.333$ and $p = 0.739$.

Domain 3: Past, Present and Future activities.

Table 24: Distribution of study participants according to how much satisfied one is with one’s opportunity to continue succeeding in life.

Setup	Family setup	OAH
Not at all	87 (29%)	15 (10%)
A little	69 (23%)	101 (67.34%)
Moderately	74 (24.67%)	13 (8.67%)
Mostly	59 (19.67%)	21 (14%)
Completely	11 (3.67%)	0 (0%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked how much satisfied one is with one’s opportunity to continue succeeding in life, 29% reported as ‘Not at all’, 23% reported as ‘A Little’, 24.67% reported as Moderately, 19.67% reported as Mostly and 3.67% reported as Completely. In old age home setup participants when asked how much satisfied one is with one’s opportunity to continue succeeding in life, 10% reported as ‘Not at all’, 67.34% reported as A Little, 8.66% reported as Moderately and 14% reported as Mostly.

Table 25: Distribution of study participants according to whether they feel they received the appreciation they deserve in life.

Setup	Family setup	OAH
Not at all	35 (11.67%)	0 (0%)
A little	67 (22.33%)	43 (28.67%)
Moderately	107 (35.67%)	86 (57.34%)
Mostly	63 (21%)	21 (14%)
Completely	28 (9.33%)	0 (0%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked whether they feel they received the appreciation they deserve, 11.67% reported as Not at all, 22.33% reported as A Little, 35.67% reported as Moderately, 21% reported as Mostly and 9.33% reported as Completely. In old age home setup participants when asked the same question, 28.66% reported as A Little, 57.34% reported as Moderately and 14% reported as Mostly.

Table 26: Distribution of study participants according to how fulfilled one was with what one has accomplished in life.

Setup	Family setup	OAH
Not at all	3 (1%)	8 (5.33%)
A little	84 (28%)	0 (0%)
Moderately	103 (34.33%)	89 (59.33%)
Mostly	103 (34.33%)	39 (26%)
Completely	7 (2.33%)	14 (9.34%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked how fulfilled one was with what one has accomplished in life, 1% reported as Not at all, 28% reported as A Little, 34.33% reported as Moderately, 34.33% reported as Mostly and 2.33% reported as Completely. In old age home setup participants when asked how fulfilled one was with what one has accomplished in life, 5.3% reported as Not at all, 59.33% reported as Moderately, 26% reported as Mostly and 9.34% reported as Completely.

Table 27: Distribution of study participants according to how content one was with the things one can anticipate.

Setup	Family setup	OAH
Very dissatisfied	3 (1%)	8 (5.33%)
Dissatisfied	84 (28%)	0 (0%)
Neither satisfied nor dissatisfied	103 (34.33%)	89 (59.33%)
Satisfied	103 (34.33%)	39 (26%)
Very satisfied	7 (2.33%)	14 (9.34%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked how content one was with the things one can anticipate, 1.67% reported as Very dissatisfied, 18% reported as Dissatisfied, 29.67% reported as Neither satisfied nor dissatisfied, 48.33% reported as Satisfied and 2.33% reported as Very satisfied. In old age home setup participants when asked the same question, 5.34% reported as Very dissatisfied, 10% reported as Dissatisfied, 70.66% reported as Neither satisfied nor dissatisfied and 14% reported as Satisfied.

Table 28: Comparison of Past, Present, Future activities of elderly in family and old age home using Mann-Whitney U Test statistics

Domain 2: Past, Present, Future activities						
Setup	Mean ± SD	Median	SE	Mean rank	Z value	p value
Family setup	11.81 ± 3.307	12	0.191	237.48	-2.783	0.005
OAH	11.39 ± 2.616	11	0.214	201.55		

There was significant difference in domain of all activities between elderly living at family setup and old age home.

Mann-Whitney U test revealed that elderly living in families were happier regarding the opportunities received in their life, and about future with U = 201.55, Z = -2.783 and p = 0.005.

Domain 4: Social Participation**Table 29: Distribution of study participants according to one's feeling of having enough to do every day.**

Setup	Family setup	OAH
Not at all	35 (11.67%)	0 (0%)
A little	42 (14%)	53 (35.34%)
Moderately	156 (52%)	76 (50.6%)
Mostly	45 (15%)	21 (14%)
Completely	22 (7.33%)	0 (0%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked about one's feeling of having enough to do every day, 11.67% reported as Not at all, 14% reported as A Little, 52% reported as Moderately, 15% reported as Mostly and 7.33% reported as Completely. In old age home setup participants when asked the same question, 35.34% reported as A Little, 50.66% reported as Moderately and 14% reported as Mostly.

Table 30: Distribution of study participants according to how happy they were about spending their time.

Setup	Family setup	OAH
Not at all	3 (1%)	0 (0%)
A little	61 (20.33%)	0 (0%)
Moderately	134 (44.67%)	84 (56%)
Mostly	95 (31.67%)	66 (44%)
Completely	7 (2.33%)	0 (0%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked how happy they were about spending their time, 1% reported as Not at all, 20.33% reported as A Little, 44.67% reported as Moderately, 31.67% reported as Mostly and 2.33% reported as Completely. In old age home setup participants when asked the same question, 56% reported as Moderately and remaining 44% reported as Mostly.

Table 31: Distribution of study participants according to how happy they were with the amount of activity there were doing.

Setup	Family setup	OAH
Not at all	3 (1%)	0 (0%)
A little	60 (20%)	0 (0%)
Moderately	69 (23%)	84 (56%)
Mostly	161 (53.67%)	66 (44%)
Completely	7 (2.33%)	0 (0%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked how happy they were with the amount of activity they were doing, 1% reported as Not at all, 20% reported as A Little, 23% reported as Moderately, 53.67% reported as Mostly and 7% reported as Completely. In old age home setup participants when asked the same question, 56% reported as Moderately and remaining 44% reported as Mostly.

Table 32: Distribution of study participants according to their opportunities at participating in community activities.

Setup	Family setup	OAH
Very dissatisfied	3 (1%)	8 (5.33%)
Dissatisfied	69 (23%)	0 (0%)
Neither satisfied nor dissatisfied	94 (31.33%)	103 (68.67%)
Satisfied	127 (42.33%)	39 (26%)
Very satisfied	7 (2.33%)	14 (9.34%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked how happy they were with their opportunities at participating in community activities, 1% reported as Very dissatisfied, 23% reported as Dissatisfied, 31.33% reported as Neither satisfied nor dissatisfied, 42.33% reported as Satisfied and 2.33% reported as Very satisfied. In old age home setup participants when asked the same question, 5.34% reported as Very dissatisfied, 68.66% reported as Neither satisfied nor dissatisfied and 26% reported as Satisfied.

Table 33: Comparison of Social Participation of elderly in family and old age home using Mann-Whitney U Test statistics

Domain 4: Social Participation						
Setup	Mean ± SD	Median	SE	Mean rank	Z value	p value
Family setup	12.65 ± 3.131	13	0.181	225.33	-0.041	0.967
OAH	2.97 ± 1.43	13	0.117	225.85		

There was no significant difference in domain of social participation between elderly living in family setup and old age home.

Mann-Whitney U test revealed that both in family and old age home, elderly experience similar opportunities to participate in community activities with U = 225.33, Z = -0.041 and p = 0.967.

Domain 5: Fear of Death or Dying

Table 34: Distribution of study participants according to how worried they were with how they will pass away.

Setup	Family setup	OAH
Not at all	3 (1%)	0 (0%)
A little	25 (8.33%)	16 (10.67%)
A moderate amount	23 (7.67%)	8 (5.34%)
Very much	85 (28.33%)	58 (38.67%)
An extreme amount	164 (54.67%)	68 (45.34%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked how worried they were with how they will pass away, 1% reported as Not at all, 8.33% reported as A little, 7.67% reported A Moderate Amount, 28.33% reported as Very much and 54.67% reported as An Extreme Amount. In old age home setup participants when asked the same question, 10.66% reported as A little, 5.34% reported A Moderate Amount, 38.66% reported as Very much and 45.34% reported as An Extreme Amount.

Table 35: Distribution of study participants according to how incapable they feel in controlling their death.

Setup	Family setup	OAH
Not at all	3 (1%)	15 (10%)
A little	26 (8.67%)	0 (0%)
A moderate amount	27 (9%)	9 (6%)
Very much	71 (23.67%)	58 (38.67%)
An extreme amount	173 (57.67%)	68 (45.34%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked how incapable they feel in controlling their death, 1% reported as Not at all, 8.67% reported as A little, 9% reported A Moderate Amount, 23.67% reported as Very much and 57.67% reported as An Extreme Amount. In old age home setup participants when asked the same question, 10% reported as ‘Not at all’, 6% reported ‘A Moderate Amount’, 38.66% reported as ‘Very much’ and 45.34% reported as ‘An Extreme Amount’.

Table 36: Distribution of study participants according to the level of fear of dying.

Setup	Family setup	OAH
Not at all	3 (1%)	0 (0%)
A little	25 (8.33%)	23 (15.34%)
A moderate amount	13 (4.33%)	1 (0.67%)
Very much	88 (29.33%)	90 (60%)
An extreme amount	171 (57%)	36 (24%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked how afraid they were of death, 1% reported as Not at all, 8.33% reported as A little, 4.33% reported A Moderate Amount, 29.33% reported as Very much and 57% reported as An Extreme Amount. In old age home setup participants when asked the same question, 15.34% reported as A little, 0.66% reported A Moderate Amount, 60% reported as Very much and 24% reported as An Extreme Amount.

Table 37: Distribution of study participants according to fear of experiencing pain before passing away.

Setup	Family setup	OAH
Not at all	3 (1%)	15 (10%)
A little	26 (8.67%)	8 (5.34%)
A moderate amount	14 (4.67%)	0 (0%)
Very much	85 (28.33%)	91 (60.67%)
An extreme amount	172 (57.33%)	36 (24%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked how much do they fear of experiencing pain before passing away, 1% reported as Not at all, 8.67% reported as A little, 4.67% reported A Moderate Amount, 28.33% reported as Very much and 57.33% reported as An Extreme Amount. In old age home setup participants when asked the same question, 10% reported as Not at all, 5.34% reported as A little, 60.66% reported as Very much and 24% reported as An Extreme Amount.

Table 38: Comparison of Fear of Death or Dying elderly in family and old age home using Mann-Whitney U Test statistics

Domain 5: Death or Dying						
Setup	Mean ± SD	Median	SE	Mean rank	Z value	p value
Family setup	7.21 ± 3.856	20	0.223	241.85	-3.994	< 0.001
OAH	6.04 ± 4.103	16	0.335	192.8		

There was significant difference in domain of death and dying between elderly living in family setup and old age home.

Mann-Whitney U test revealed that elderly living in families were more afraid of death and being incapable of controlling their death as compared to ones in Old Age Home, with U = 192.8, Z = -3.994 and p = < 0.001.

Domain 6: Intimacy

Table 39: Distribution of study participants according to sense of companionship experienced in life.

Setup	Family setup	OAH
Not at all	0 (0%)	0 (0%)
A little	54 (18%)	50 (33.34%)
A moderate amount	108 (36%)	82 (54.67%)
Very much	136 (45.33%)	18 (12%)
An extreme amount	2 (0.67%)	0 (0%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked to what extent do they experience a sense of companionship in life, 18% reported as A little, 36% reported A Moderate Amount, 45.33% reported as Very much and 0.67% reported as An Extreme Amount. In old age home setup participants when asked the same question, 33.34% reported as A little, 54.66% reported A Moderate Amount and 12% reported as Very much.

Table 40: Distribution of study participants according to how much they experienced love in life.

Setup	Family setup	OAH
Not at all	0 (0%)	0 (0%)
A little	54 (18%)	50 (33.34%)
A moderate amount	108 (36%)	34 (22.67%)
Very much	136 (45.33%)	66 (44%)
An extreme amount	2 (0.67%)	0 (0%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked to how much they experienced love in life, 18% reported as A little, 36% reported A Moderate Amount, 45.33% reported as Very much and 0.67% reported as An Extreme Amount. In old age home setup participants when asked the same question, 33.34% reported as A little, 22.66% reported A Moderate Amount and 44% reported as Very much.

Table 41: Distribution of study participants according to their opportunities to love?

Setup	Family setup	OAH
Not at all	0 (0%)	0 (0%)
A little	57 (19%)	66 (44%)
Moderately	133 (43.33%)	18 (12%)
Mostly	108 (36%)	66 (44%)
Completely	2 (0.67%)	0 (0%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked about their opportunities to love, 19% reported as A Little, 44.33% reported as Moderately, 36% reported as Mostly and 0.67% reported as Completely. In old age home setup participants when asked the same question, 44% reported as A Little, 12% reported as Moderately and 44% reported as Mostly.

Table 42: Distribution of study participants according to their chances to be loved.

Setup	Family setup	OAH
Not at all	0 (1%)	0 (0%)
A little	52 (17.33%)	51 (34%)
Moderately	137 (45.67%)	81 (54%)
Mostly	109 (36.33%)	18 (12%)
Completely	2 (0.67%)	0 (0%)
Total	300 (100%)	150 (100%)

Among family setup participants when asked about their chances to be loved, 17.33% reported as A Little, 45.67% reported as Moderately, 36.33% reported as Mostly and 0.67% reported as Completely. In old age home setup participants when asked the same question, 34% reported as A Little, 54% reported as Moderately and 12% reported as Mostly.

Table 43: Comparison of Intimacy feeling in elderly at family and old age home using Mann-Whitney U Test statistics

Domain 6: Intimacy						
Setup	Mean ± SD	Median	SE	Mean rank	Z value	p value
Family setup	12.96 ± 2.898	12	0.167	241.05	-4.397	< 0.001
OAH	11.67 ± 2.934	12	0.24	188.47		

There was significant difference in domain of intimacy between elderly living in family setup and old age home.

Mann-Whitney U test revealed that elderly in family were feeling more sense of companionship and having opportunities to love when compared to those at Old Age Home setup with U = 188.47, Z = -4.397 and p = < 0.001.

Table 44: Comparison of overall QOL of participants living in family setup and Old Age Home.

Overall Quality of Life						
Setup	Mean ± SD	Median	SE	Mean	Z Value	P Value
Family Setup	81.31± 17.713	87	1.023	238.95	-3.106	0.002
OAH	39.63± 40.586	29	2.343	198.6		

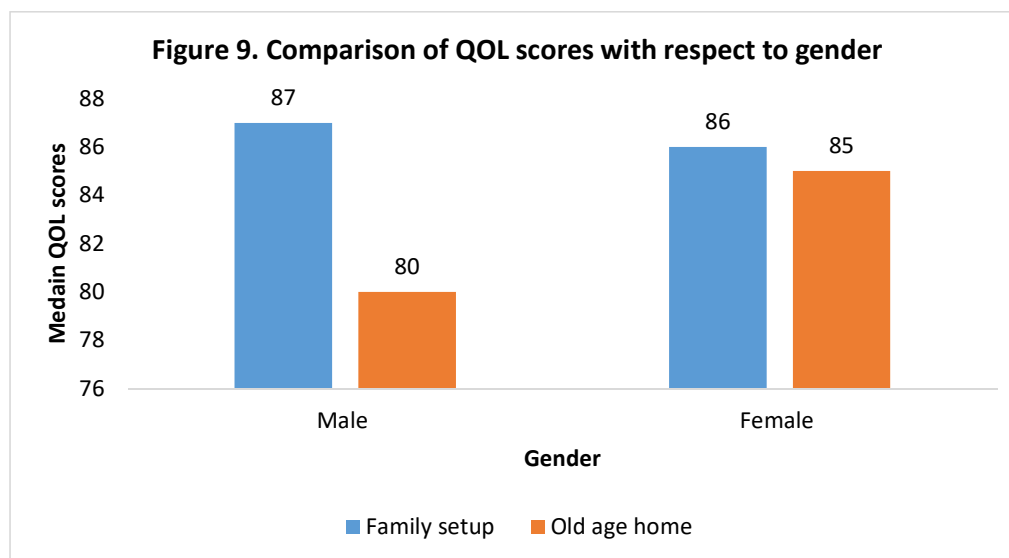
There was significant difference in overall quality of life of elderly living within family and in old age homes.

Mann-Whitney U test revealed that comparing together all six domains of quality of life, overall QoL value was significantly higher for those in the family setup when compared to ones at Old.Age Homes with U = 198.6, Z = -3.106 and p = 0.002.

Table 45: Comparison of QOL scores with respect to gender

Gender	Groups						p Value
	Family Setup (n=300)			Old age home (n=150)			
	n	Median	IQR	n	Median	IQR	
Male	153	87	25.5	112	80	5	0.047
Female	147	86	23	38	85	24	
p Value	0.158			0.150			

DF =1; F= 3.958; Constant $R^2 = 0.018$

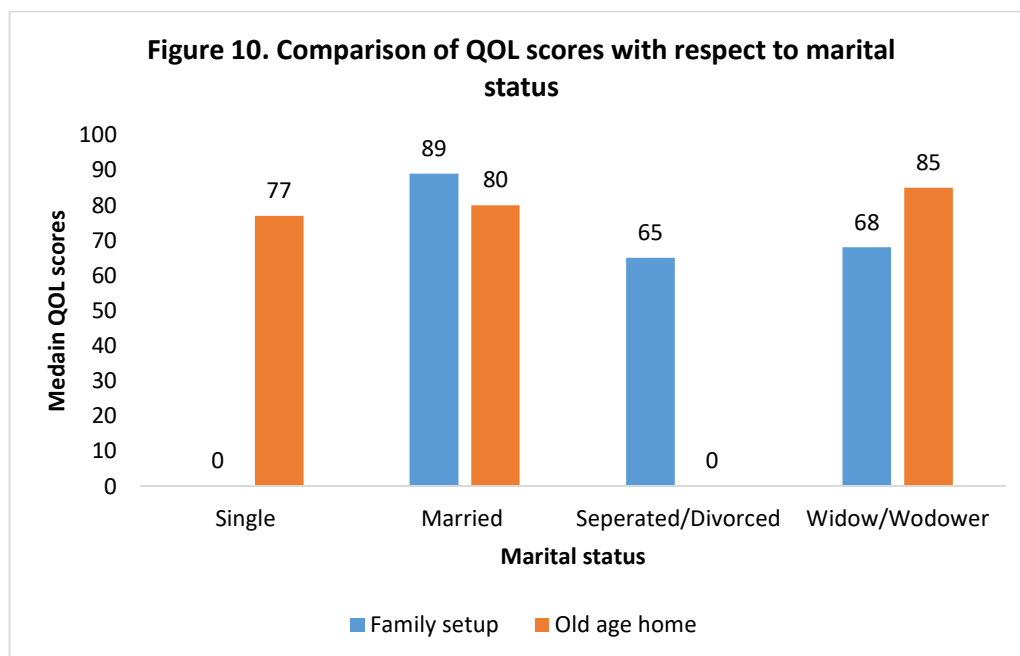


The comparison of QOL scores among the participants with respect to gender within and between groups is as shown in table and graph above. It was observed that, median scores within the groups among the participants with respect to gender were statistically similar in both the groups ($p > 0.050$). The median scores among both the genders in both the groups were significantly different ($p = 0.047$).

Table 46: Comparison of QOL scores with respect to marital status

Marital Status	Groups						P Value
	Family Setup (n=300)			Old age home (n=150)			
	n	Median	IQR	n	Median	IQR	
Single	0	-	-	62	77.00	8	<0.001
Married	206	89.00	15.00	18	80.00	23.00	
Separated/Divorced*	8	65.00	22.75	13	-	-	
Widow/widower	86	68.00	31.75	57	85.00	7.00	
p Value	<0.001			<0.001			

DF =3; F= 34.500; Constant R² = 0.018; *QOL scores

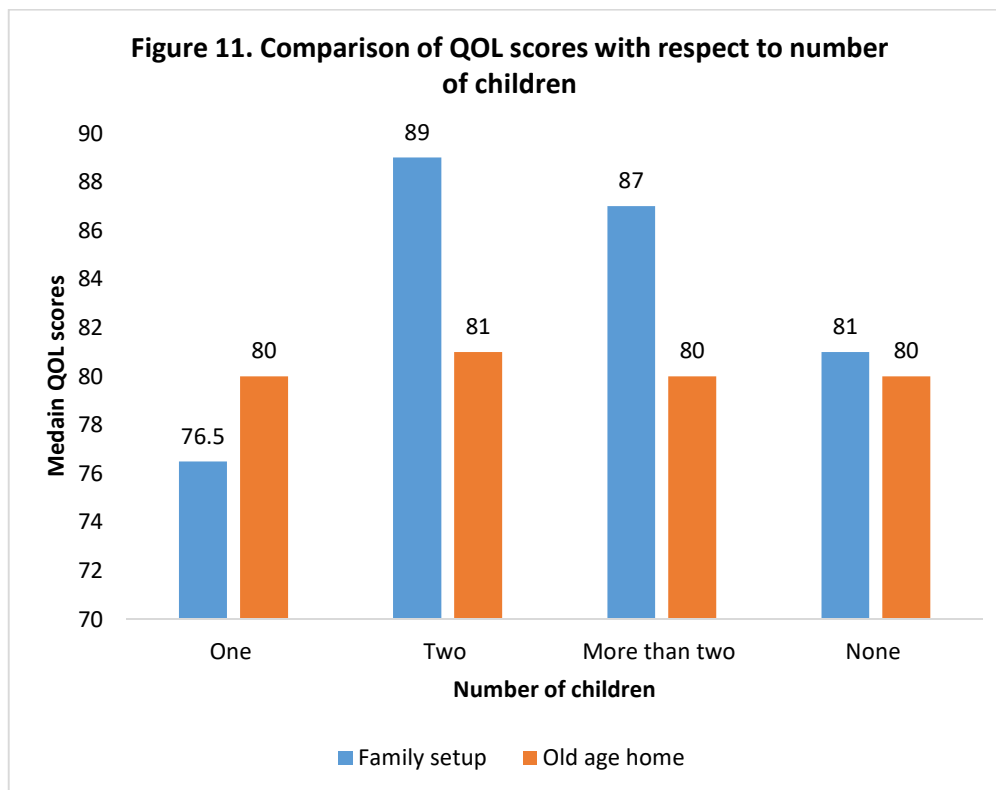


The QOL scores among the participants with respect to marital status within and between groups is as shown in table and graph above. It was observed that, median scores within the groups among the participants with different marital status were significantly different ($p < 0.001$). Also, the median scores among the participants in both the groups were significantly different ($p < 0.001$).

Table 47: Comparison of QOL scores with respect to number of children

Number of children	Groups						P Value
	Family Setup (n=300)			Old age home (n=150)			
	n	Median	IQR	n	Median	IQR	
One	42	76.50	25.75	3	80.00	-	0.036
Two	95	89.00	21.00	47	81.00	8.00	
More than two	127	87.00	27.00	53	80.00	8.00	
None	36	81.00	19.50	47	80.00	18.00	
p Value	0.070			0.551			

DF =3; F= 2.873; Constant $R^2 = 0.019$



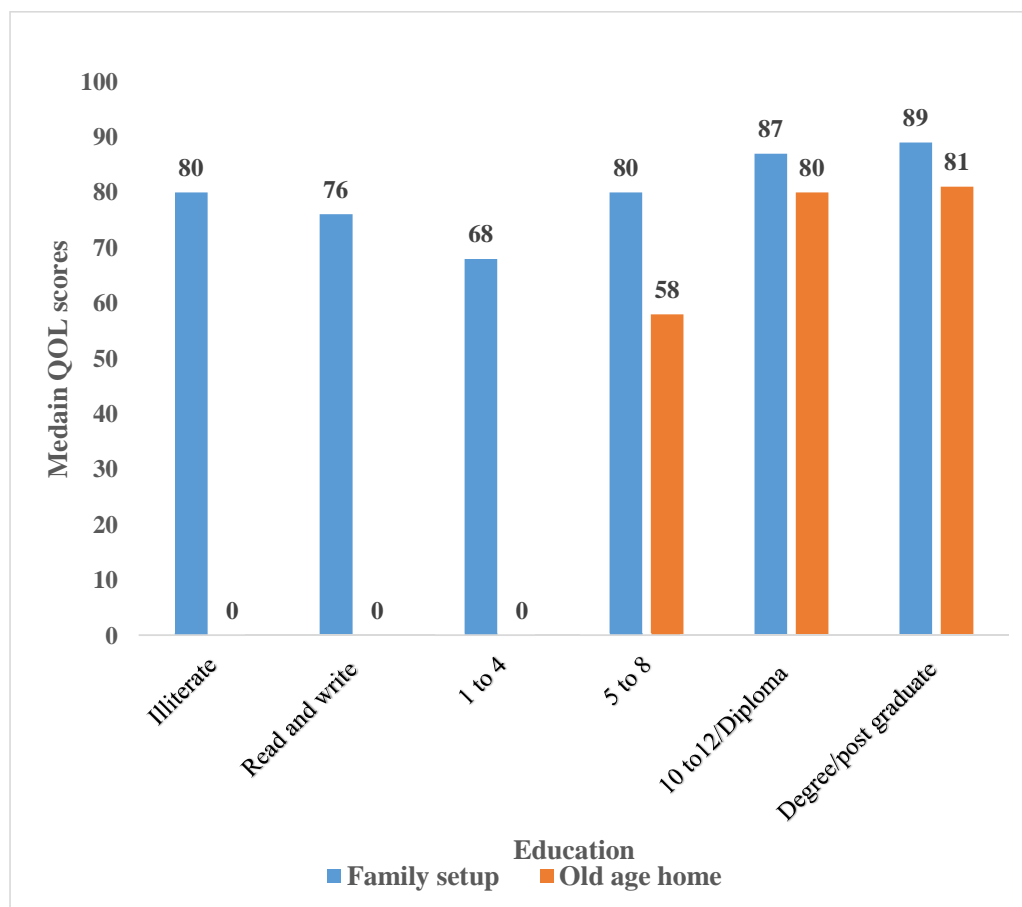
The QOL scores among the participants with respect to number of children within and between groups is as shown in table and graph above. It was observed that, median scores within the groups among the participants with number of children were significantly similar ($p > 0.050$). The median scores among the participants in both the groups were significantly different ($p < 0.001$).

Table 48: Comparison of QOL scores with respect to educational status

Educational Status	Groups						p Value
	Family Setup (n=300)			Old age home (n=150)			
	n	Median	IQR	n	Median	IQR	
Illiterate	44	80.00	23.75	-	-	-	0.013
Read and write	11	76.00	16.00	-	-	-	
Standard 1 to 4	16	68.00	19.5	-	-	-	
Standard 5 to 8	62	80.00	21.50	15	58.00	45.00	
10 to 12 /Diploma	117	87.00	29.00	87	80.00	8.00	
Degree/post graduate	50	89.00	26.00	48	81.00	38.00	
p Value	<0.001			0.840			

DF =5; F= 2.937; Constant $R^2 = 0.032$

Figure 12. Comparison of QOL scores with respect to educational status

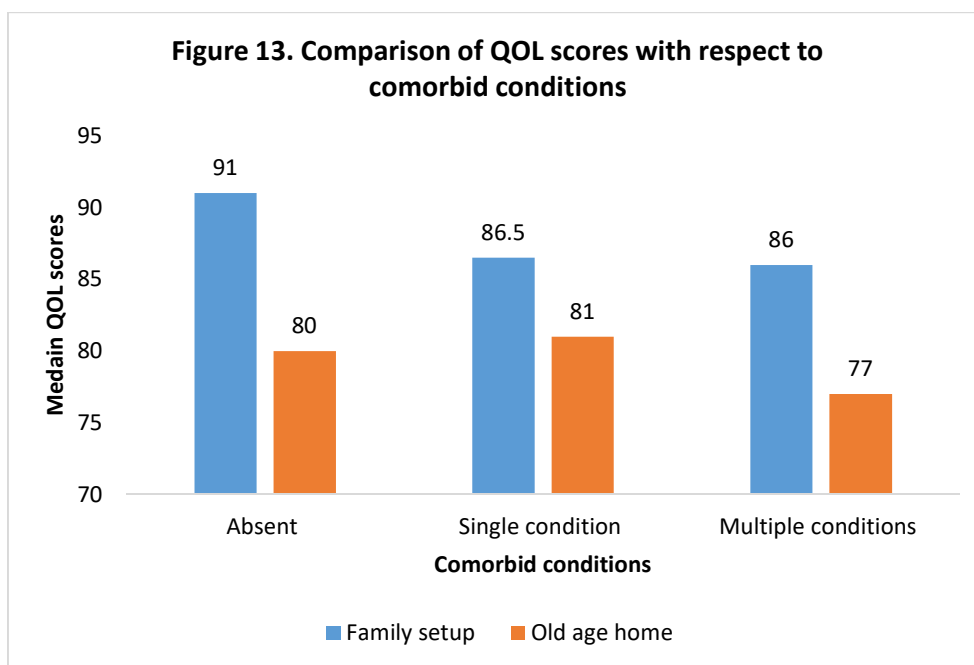


The QOL scores among the participants with respect to their education within and between groups is as shown in table and graph above. It was observed that, median scores within the groups among the participants with respect to education were significantly different among the participants in home set up ($p < 0.001$) and statistically similar among those in old age home. The median scores among the participants in both the groups were significantly different ($p = 0.013$).

Table 49: Comparison of QOL scores with respect to comorbid conditions

Comorbid conditions	Groups						p Value
	Family Setup (n=300)			Old age home (n=150)			
	n	Median	IQR	n	Median	IQR	
Absent	47	91.00	14.00	23	80.00	18.00	0.219
Single condition	206	86.5	27.00	76	81.00	8.00	
Multiple condition	47	86.00	24.00	51	77.00	18.00	
p Value*	<0.001			<0.001			

DF =2; F= 1.523; Constant R² = 0.007



The QOL scores among the participants with respect to presence of comorbid conditions within and between groups is as shown in table and graph above. It was observed that, median scores within the groups among the participants with respect to presence of comorbid conditions were significantly different among the participants in both the groups ($p < 0.001$). The median scores among the participants in both the groups were significantly similar in both the groups ($p = 0.219$).

III : Geriatric depression among study participants**Table 50: Prevalence of geriatric depression in study participants (n=300 for family setup and n=150 for old age home setup).**

Sex	Setup	Normal	Mild	Moderate	Severe	Total
Male	Family	112 (73.2%)	27 (17.65%)	14 (9.15%)	0 (0%)	300 (100%)
	OAH	60 (53.57%)	44 (39.29%)	8 (7.14%)	0 (0%)	150 (100%)
Female	Family	94 (63.95%)	41 (27.89%)	12 (8.16%)	0 (0%)	300 (100%)
	OAH	4 (10.53%)	5 (13.16%)	29 (76.32%)	0 (0%)	150 (100%)
Summary	Family	206 (68.67%)	68 (22.67%)	26 (8.67%)	0 (0%)	300 (100%)
	OAH	64 (42.67%)	49 (32.67%)	37 (24.67%)	0 (0%)	150 (100%)

The above table clearly explains about the prevalence of depression in both the groups also categorized by gender. Based on the response to GDS score, it was found that 73.2% of males and 63.95% of females were normal in family setup whereas in old age home, 53.57% of males and 10.53% of females were found to be normal. Mild depression was found in 22.67% of participants in family setup (17.65% in males and 27.89% in females) and 32.67% in old age home setup (39.29% in males and 13.16% in females). 8.67% of the participants in family setup (9.15% of males and 8.16% of females) and 24.67% of old age home residents (7.14% of males and 76.32% of

females) were identified to have moderate depression. There were no participants categorized with severe depression.

Figure 14: Distribution of participants based on geriatric depression scale (n=300 for family setup and n=150 for old age home setup).

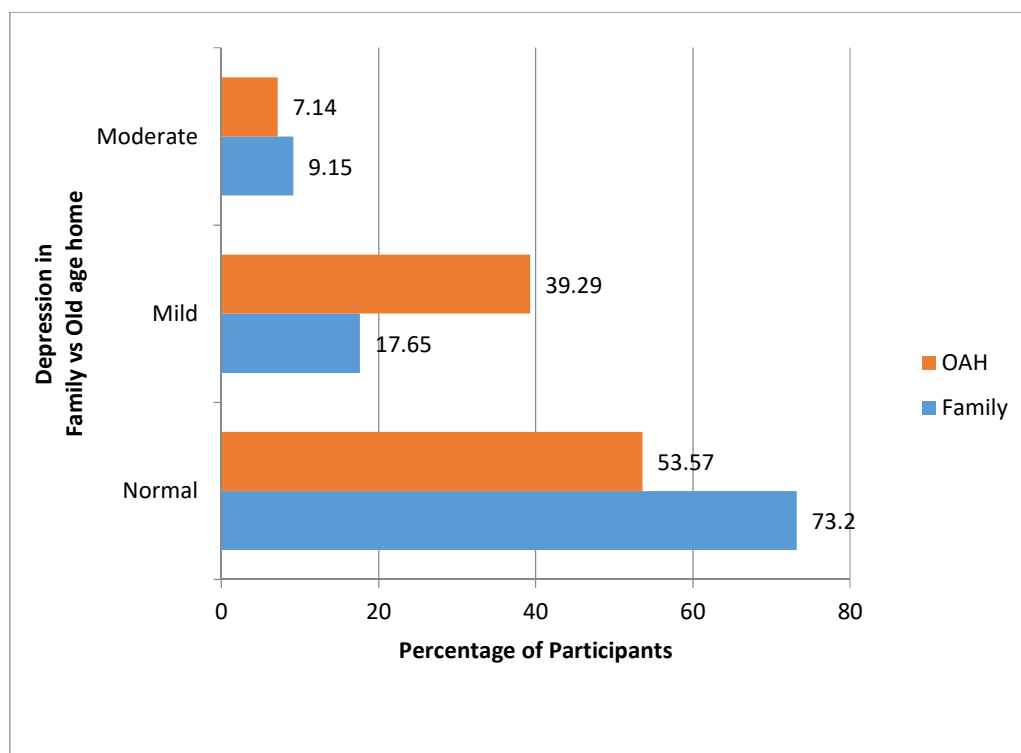
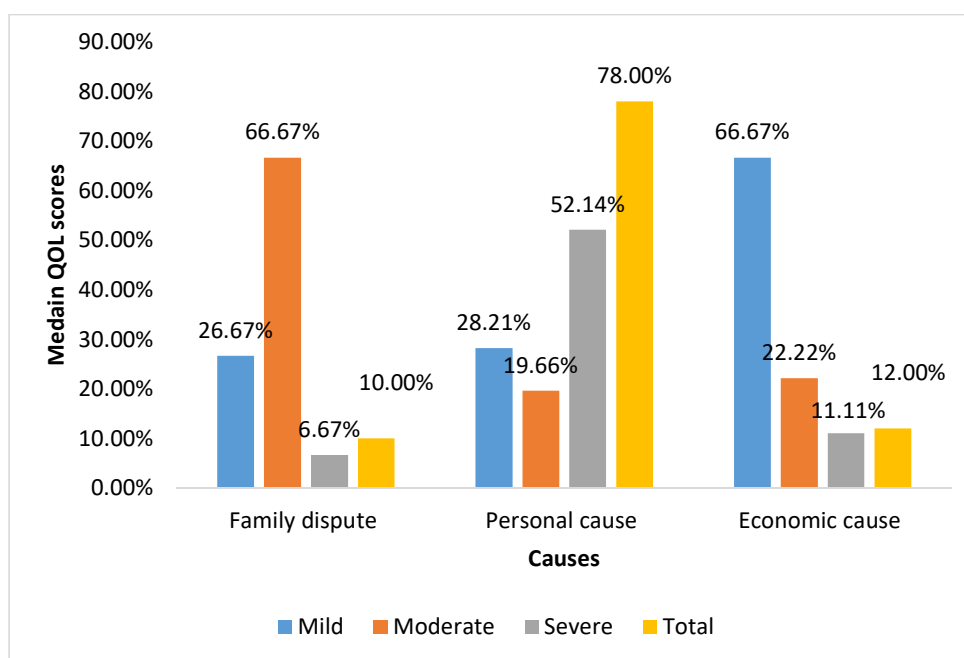


Table 51: Association between GDS grade and cause of admission among the participants in Old age Home residents

Cause of admission	GDS Grade							
	Mild		Moderate		Normal		Total	
	No.	%	No.	%	No.	%	No.	%
Family dispute	4	26.67	10	66.67	1	6.67	15	10
Personal cause	33	28.21	23	19.66	61	52.14	117	78.00
Economic cause	12	66.67	4	22.22	2	11.11	18	12.00
Total	49	32.67	37	24.67	64	42.67	150	100.00

p < 0.001

Figure 15. Association between GDS grade and cause of admission among the participants old age home



In the present study maximum participants were at old age home due to personal cause. Among them significantly higher number of participants had normal GDS score (52.14%) followed by mild (28.21%) and moderate (19.66%). Further, maximum number of participants with family dispute had moderate GDS score (66.67%). Statistically significant association was noted between cause of admission at old age home and GDS grades ($p < 0.001$).

DISCUSSION

This community based cross – sectional study was conducted to measure and associate the health status and quality of life as well as depression in 150 senior citizens in three different old age homes & 300 senior citizens in family in the urban area under UHC Ashok Nagar and Rukmini Nagar, under the administrative control of JNMC in Belagavi district, Karnataka state, India. The study was conducted from 1st January 2021 to 31st December 2021 (12 months).

I. Socio demographic profile and health status of study participants

Table 1 shows distribution of the study participants according to their age

In our study, distribution of study participants was maximum in young-old subgroup (60-74years) in family setup (80.33%) and old-old subgroup (75-84 years) in old age home setup (53.33%). The mean age of the participants was 68.38 for elderly living in family setup and 74.63 for elderly living in old age home. Similar results were found in a cross sectional study done in Rajkot city by Zalavadiya et al. The median age of senior citizens residing in the Old Age Home was 72 years where as in family setup it is 67 years. Another study was conducted in the year of 2016, in Raigad, Maharashtra. They found that in OAHs majority (45%) of the senior citizens were in the age group above 80 years and among senior citizens living with family, most of them were in age group 70-79yrs.²³

A multicenter study was done by Sahoo et al in 100 elderly participants to assess the depression and QOL among elderly and compare these parameters among the inhabitants of old age home and in the community. In their study, majority of

participants(37%) were in age group 60-70 years whereas in family most of them (21%) belonged to age group 71-80 years.²⁵

Table 2 in present study shows distribution of study participants according to their sex

In the present study, 51% of the participants were male in family setup and 49% were females where as in old age home setup 74.67% of the participants were male and 25.33% were females. But another study done by Mao et al in Kolkata found that majority of the participants were female, (70%) in Old Age Home and 54% were women in family setup. This dissimilarity in results might be due to the regional or cultural differences.¹⁹

Table 3 shows distribution of participants according to their religious category

Among the study participants, majority belonged to the Hindu community (66.4%) and rest of them belonged to Muslim and Christian community (33.6%). In family setup, 68% of the participants belonged to Hindu community, 28% belonged to Muslim community and 4% belonged to the Christian community. In old age home setup, 63.33% of the participants belonged to Hindu community, 34.67% to Christian community and 2% belonged to Muslim community. Similar results were found in a study done in Ranchi where 62.5% and 52.8% were Hindus in OAH and family respectively. The second majority were Christians (35.2% in OAH and 46.2% in family).²⁶

Table 4 in our study shows distribution of participants according to their literacy status

Amongst elderly living with family, 14.67% of the participants were illiterate, 3.67% were able to read and write, 5.33 % attended Lower primary school and 16.67% were graduates however in old age home setup majority (58%) had attended high school or had basic diploma and 32% were graduates/post graduates. These results were in accord with the study results of Mao et al. which showed 50% of Old. Age Home participants were graduates, whereas maximum participants (52%) from family had a high school education.

Similar findings were seen in the study done by Aryankhesal et al in 2019 in Tehran, Iran. It says that 70.85% had a diploma and under diploma education among residents of a nursing home.⁴⁵

Table 5 shows distribution of participants according to their occupation

Majority of the participants(33.33%) in family setup were home makers, the percentage was high because of the large number of female participants who were home makers. Rest of them, 0.33% were farmers / agricultural land or farm owners (least), 1.33% were labourers, 17.33% were self employed, 22.7% were retired government employees, 25% were working in the private sector and industries. In old age home setup 36.67% of the participants were self employed, some still continue to do handicrafts and stitching which is put for sale. 22.67% were retired government employees, 16.67% were working in the private sector and industries and 24% were home makers.

In another study done in Telangana, Hyderabad by Rayilara et al, in the family group, 50% were never employed, 18.8% were working and retired were 31.3%. In the Old age home, majority of them were either unemployed (46.9) or retired (47%).

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Table 6 in our study shows distribution of study participants based on whether they receive any pension

Participants who received and did not receive any sort of monthly pension were almost in the same range in both family setup and old age home setup. In family setup 52.67% of the participants and in old age home setup 44.67% of the participants were receiving some sort of monthly pension where as 47.33% in family setup and 55.33% of the senior citizens in old age home setup didn't receive any sort of monthly pension.

Findings of another study, Jothi et al in Puducherry in 2019 found that 68% of the eligible beneficiaries were receiving pension for the past 5-10 years though comparison was not done between old age home residents and elderly in family.⁴⁶

Table 7 shows distribution of participants according to their marital status

Among the study participants in family setup none were single or unmarried, most of them (68.67%) were married, 2.67% were divorced or separated and 28.67% were widow/widower. Whereas in old age home, majority of the participants were single / unmarried (41.33%), also 38% were widow/widower, 12% were married, 8.67% were separated / divorced. Similar were the findings from a study done in Devangere by Kengnal et-al in which majority (40%) were single in OAH whereas majority among elderly in community were married (74%).²⁴

This is similar to the observations made by Rayilara et al (2014). . In the community group, 41.7% were from extended nuclear family but in OAH, majority of them (48%) were widow/widower. This says that remaining married is a strong predictor against entry to residential care.³²

In another study done in Kancheepuram in 106 elders by Thresa et al, they found that in family setup, 64% of the elderly were married and 30% were single/widower, however in OAH 68% were married and 25% were single/widower. According to this study, there is no much difference in marital status of elderly in family setup and old age home.⁴⁷

Table 8 in the study shows distribution of participants according to type of family status

Among the study participants majority belonged to nuclear family in both family setup and old age home. In family setup 41.33% belonged to joint family and 58.67% belonged to nuclear family whereas in old age home setup 42% belonged to joint family and 58% belonged to nuclear family. Similar findings were found in a cross sectional study conducted in Raigad among 180 elderly. In old age home, most of the participants (31 %) were from nuclear family and 15% were living with their spouse. Among elderly living with families, 54 % were from a joint family and only 10% were living in nuclear families.²³

Table 9 in the current study shows distribution of participants according to number of children

Among the study participants, majority of childless participants were in the old age home. In family setup 14% had atleast one child, 31.67% had two children,

majority, i.e, 42.33% had three or more children and 12% didn't have a child. In old age home setup most of them (35.33%) had three or more children, 31.33% had two children, but 31.33% didn't have a child.

A study conducted in Kolkata by Mao et al showed that in old age home, 30% had one child, 26% had either no children or 2 children and 18% had more than or equal to 3 children. Whereas in family setup, majority of them (52%) had more than or equal to 3 children, and 10 % had no children. These findings suggest that majority of elderly in family setup living in community had more than 3 children but in old age home there were approximately equal number of elderlies with children or without any children.¹⁹

Table 10 in our study shows distribution of the study participants according to cause of admission

In the current study, 78% which is the majority joined old age home due to personal causes like children had to leave for another place related to work or nobody to care for elderly at home, 10% of the them joined or were sent to old age home due to disputes in family, and 12% due to economic causes where the children or the elderly were unable to sustain themselves.

In an explorative study done in Lucknow, they found the most common reasons were misbehavior of children (29.8 %) and poverty/no financial support (29.3%).²⁰

To explore the reasons for shifting in the old age homes, a cross sectional study was done by Gaitri Rajkumari in Silchar, Manipur, reported that most common reasons for joining OAHs were verbal abuse of daughter in law (42.02%) and financial constraints (14.49%), verbal abuse of son (10.14%), nobody to look after (8.69%), physical abuse (7.24%), tarnishing self-respect, and health issues.⁴⁸

Table 11 in this study shows distribution of study participants according to self-reported illness

Among the study participants in family setup 19.67% had reported to have diabetes mellitus type 2, 37% were taking medication for hypertension, 11.67% had cataract, 21.33% reported as not having any ailments or diseases and 15.33% had multiple or at least more than one illness. So, among elderly in family setup, the most common illness was hypertension. Among old age home setup participants 10.67% reported to have diabetes mellitus type 2, 9.33% had hypertension, 36.67% had cataract, 24.67% reported as not having any ailments or diseases and 34% had multiple or at least more than one illness. High prevalence of cataract in old age home residents might be due to lack of regular ophthalmic camps in the old age homes. The importance of regular health camps or checkups need to be emphasized to the OAH officials.

Contrary to these findings, in the study done in a Tier 2 city in 2017 by Zalavadiya et al, they found that proportion of elderly suffering from cataract, diabetes mellitus and arthritis/joint pains was significantly higher ($P < 0.05$) in OAHs as compared to the elderly living in community.²⁸

In a comparative study done by Beevi JS among elderly females of OAH inmates and in community, the common illnesses identified were ‘hypertension’ (39% in OAHs & 37.1% in community), ‘diabetes’ (16.7% in OAHs & 10.3% in community), ‘arthritis’ (34.3% in OAHs & 48.4% in community), and ‘chronic respiratory diseases’ (21.4% in OAHs & 10.3% in community).³⁰

Table 12 shows the distribution of study participants according to types of substance abuse

Old Age Homes had strict restrictions about substance abuse among their residents and all reported as not having or as to quitting the habit. Substance abuse was common among family setup participants where 1.67% reported to smoking, 3.33% of consuming alcohol, 17.33% reported to use betel nut in the form of packaged pan or as bought from shop/homemade, 12% had tobacco chewing habits and 65.67% reported as not having any such habits.

A narrative review was done by Sarkar et al to provide an overview of the substance use disorders in the elderly, but it was not a comparative study. They found that alcohol (6.7%) and prescription drugs (0.8%) are the most commonly found substances of abuse among the elderly.⁴⁹

II- Quality of life assessment

Table 13, 14, 15, 16, 17, 18: Comparison of sensory abilities of elderly in family and old age home (Domain 1)

The present study found that there was no significant difference in domain of sensory abilities of elderly living in family setup and old age home (p=0.848). Median score for both groups was 16. A study conducted by Amonkar et al in Raigad also

stated insignificant difference between sensory abilities of both groups ($p=0.537$). Both studies show that elderly exhibit similar range of sensory incapability pertaining to their age whether living with family or in OAH.²³

A prospective cohort study done in Ontario, Canada, using Resident Assessment Instrument for Home Care (RAI-HC) in 3,52,656 elderly aged 65 and above found that 20.5% of the study participants had Dual Sensory Impairment (DSI), i.e, both visual and hearing impairment. Communication problems and cognitive function impairment was seen in majority of the elderly with DSI. The home care clients with DSI were at greater risk for worsening of their communication ability over time. Same has been documented in community-dwelling older adults with DSI as communication requires a greater degree of concentration and breakdowns in communication can result in a fear of being offended or isolated, which can create an aversion to social contact and activities.⁵⁰

Table 19, 20, 21, 22, 23 : Comparison of Autonomy of elderly in family and old age home (Domain 2)

Our study found no significant difference in domain of autonomy of senior citizens in family setup and Old. Age Home ($p=0.739$). The median scores for family group and OAH group was 12 and 11 respectively. This is contrary to the finding in Raigad study done by Amonkar et al which found that elderly living with families had more decision making power compared to OAH residents ($p=0.008$). This difference in findings might be due to the fact that old age homes under study have provided good amount of freedom to their residents to carry out day to day decisions.²³

A systematic review was conducted by Moilanen et al to identify, describe and synthesise previous studies on older people's perceptions of autonomy in residential care. Older people living in residential care said that their autonomy promoted their well-being, subjective vitality and mental health. They also felt that it decreased stress levels, depression and apathy, and improved their quality of life and satisfaction.⁵¹

Table 24, 25, 26, 27, 28 : Comparison of Past, Present, Future activities of elderly in family and old age (Domain 3)

It was found that there was significant difference in perceptions of past, present and future activities between elderly living in family setup and old age home ($p=0.005$). The median scores for family group and OAH group was 12 and 11 respectively. These findings were in concordance with findings from study done by Amonkar et al in Raigad. The domain score was significantly higher in family setup than in OAH ($p=0.013$). This states that elderly with family received more recognition, were satisfied with past achievements and have a better perception of future as compared to elderly in OAH.²³

Contradicting to this finding, a cross-sectional study conducted among elderly of the community and old-age homes in the urban areas of Raipur, Chhattisgarh (2016) to compare their depression and quality of life. The mean score of leisure and activities was higher in old-age home elderly participants (15.28) as compared to elderly in community (13.86). This study shows that elderly in old age home were more satisfied with the day-to-day activities as compared to the community setup elderly.²⁵

Table 29, 30, 31, 32, 33: Comparison of Social Participation of elderly in family and old age home (Domain 4)

There was no significant difference in matter of social participation between elderly living in family setup and old age home ($p=0.967$). The median score for both the groups was 13. This finding might be due to the frequent recreational activities conducted by the old age home management to keep up the spirit of the OAH residents.

Although this is contrary to the study finding of Panday et al. They conducted a cross-sectional study in Ranchi to assess and compare quality of life (QOL) between elderly people living in OAH and within the family setup. They found that mean score of social health of those participants living in OAH was 1.58 ± 0.63 and of those living with family was 2.82 ± 1.10 . Social health was good of those respondents who were living in family because of person's interaction with many people in family and going to relative's home, neighbour, and religious place.²⁶

A study done in Mangalore to study QOL of 160 elderly subjects using World Health Organization Quality of Life (WHOQOL) questionnaire reported elderly persons living with their family had a better social relationship and social participation than those living at old age homes ($p<0.001$). Elderly men had a better social relationship compared to elderly women ($p<0.05$).⁵²

Table 34, 35, 36, 37, 38 : Comparison of Fear of Death or Dying in elderly living in family and old age home (Domain 5)

It was found from this study that there is significant difference in perception of death and dying between elderly living in family setup and old age home

($p < 0.001$). Elderly living in families were more scared of dying and not being able to control death as compared to elderly living in old age home. This might be due to the fear of losing the love of their dear ones and not able to spend time with the family members. Whereas in case of OAH residents, they have already been separated from their near ones so they tend to fear less about dying and losing loved ones.

A correlation study in 99 older adults using Collet-Lester Scale of Death Fear and the Dying Process and the WHOQOL-BREF Questionnaire by Badillo et al in Mexico found that no relationship was seen on the global scale of death fear and the dying process with the QOL. But negative relationship was observed between the fear of own death and physical dimensions of the QOL ($p < .05$). Positive relationship was found between the fear of the death of others and the social dimension of quality of life ($p < .05$).⁵³

Table 39, 40, 41, 42, 43 : Comparison of Intimacy feeling in elderly at old age home and family setup Domain 6)

There was significant difference in perception of intimacy between elderly living in family setup and old age home ($p < 0.001$). The median score for both the groups was 12. Undoubtedly, elderly in family were experiencing more sense of companionship, have opportunities to love when compared to those elderly living in Old Age Home.

Similar findings were seen in a study done in Mangalore by Areeckal et al. The elderly at old age homes had a better personal and intimate relationship than those living with their family ($p < 0.001$).⁵²

Table 44: Comparison of overall QOL of senior citizens in family setup and Old Age Home

Our study has found that there was significant difference in overall quality of life of elderly living within family and in old age homes ($p=0.002$). Overall QOL median score for family is 87 which is much higher than median score of OAH group, i.e 29. According to this study, older people living at home had a higher overall quality of life than elderly in OAHs. This is in line with the findings of Raigad study which is total WHOQOL-old score was 59.42 in the elderly staying in OAHs and 64.41 in elderly staying within family setup ($P > 0.05$).²³

The mean score of life overall, health, social relationship, and control over life, home and neighborhood, psychological and emotional well-being, financial circumstances, leisure and activities, and QOL of community and old age home participants were 11.78 and 13.56, 12.8 and 14, 10.48 and 13.9, 11.92 and 14.08, 9.38 and 12.36, 10.96 and 13.7, 14.5 and 16.7, 13.86 and 15.28, respectively. The QOL of elderly of the community was poorer than the OAHs, having cumulative mean scores of 95.26 and 113.58, respectively.²⁵

Contrary to that, other research in 800 elderly in Bengaluru found that in institutional settings majority of men and women showed higher level of quality compared to family setting.²⁷

Table 45: Comparison of QOL scores with respect to gender

It was observed that, median scores within the groups among the participants with respect to gender were statistically similar in both the groups ($p>0.050$). The median scores for male and female in family setup is 87 and 86 respectively. And in

OAH it was 80 and 85 respectively. But there was statistical difference in the median scores among both the genders in both the groups ($p=0.047$). Both males and females living with families had better QOL compared to the males and females living in OAHs.

A literature review by Lee et al based on data from the WHO's Study on global AGEing and adult health (SAGE) on 33,019 participants aged 50 years and above from China, Ghana, India, Russia, and South Africa. This study reported that male older adults had a better QOL than female older adults across all the study countries.³¹

Table 46: Comparison of QOL scores with respect to marital status

In this study it was observed that, median scores within the groups among the participants with different marital status were significantly different ($p<0.001$). The median QOL scores for elderlies living in family were highest for married (89) and lowest for divorced/separated (65). Whereas in OAH, median QOL score was highest for widow/widower (85) and lowest for single elderly (77).

A cross-sectional study conducted in 107 participants in Indonesia, there was significant difference noted in mean QOL of married elderly (69), single elderly (62), and divorced elderly (64) [$p<0.05$]. These findings were similar to our study results.[49] Remaining married was a strong predictor against entry into old age homes.⁵⁴

Table 47: Comparison of QOL scores with respect to number of children

The median scores within the groups among the participants with number of children were significantly similar ($p>0.050$). But comparing QOL of both the groups

with regard to their number of children, it was statistically different ($p < 0.001$). Except for elderly living in families with one child (76), the median QOL scores were higher in family group with two or more than two children as compared to elderly in OAH.

Kaur et al conducted a cross sectional study in Rohtak, Haryana in 213 elderly people found that those elderly who got support from their family members had higher QOL than those who got support from their spouse or did not get any support.⁵⁵

Table 48: Comparison of QOL scores with respect to educational status

It was observed that, median scores within the groups among the participants with respect to education were significantly different among the participants in home set up ($p < 0.001$). This states that, within family setup highest QOL was seen among degree/post graduate elderly (89) and lowest was among elderly who had done primary schooling (68). But statistically similar results were found among those in old age home ($p = 0.840$) as most of them in OAHs were graduates or completed upper primary education. The median scores among the participants in both the groups compared with educational status were significantly different ($p = 0.013$).

A cross sectional study performed on 175 elderly in Tehran found that with increase in literacy level, the quality of life also increases. Diploma and university graduates had better QOL as compared to illiterates or under diploma holders ($p = 0.005$).⁴⁵

Table 49: Comparison of QOL scores with respect to comorbid conditions

Our study found that the median scores within the groups among the participants with respect to presence of comorbid conditions were significantly

different among the participants in both the groups ($p < 0.001$). Among elderly living with families, highest QOL was seen in participants with not a single comorbid condition(91). Among participants in OAH lowest QOL was seen with elderly having multiple comorbidities like HTN, DM, hearing impairment, cataract etc(77). The median scores among the participants in both the groups were significantly similar in both the groups ($p = 0.219$). Both groups reported similar QOL with regard to number of comorbidities as reported by the participants.

Contrary to this finding, a comparative study of morbidity profile of elderly in OAHs and in community done in Rajkot showed that majority of the known illnesses were more common among elderly of the OAHs ($p = 0.013$). Only 6.8% elderly of the OAHs had no illnesses against 16.7% from community and this difference was found to be statistically significant.²⁸

III : Geriatric depression among study participants

Table 50: Prevalence of geriatric depression in study participants

Based on the response to GDS score, it was found that most of the males (73.2%) and more than half (63.95%) of females were normal in family setup whereas in old age home, half of the male participants (53.56%) and only a few of the females (10.53%) were found to be normal. Mild depression was found in a quarter of participants in family setup (17.65% in males and 27.89% in females) and one-third in old age home setup (39.29% in males and 13.16% in females). 8.67% of the participants in family setup (9.15% of males and 8.16% of females) and 24.67% of old age home residents (7.14% of males and 76.32% of females) were identified to have moderate depression. There were no participants categorized with severe depression.

The findings of a study done by Mali et al in Kathmandu (2020) were also comparable. Place of residence was significantly associated with depression ($P < 0.001$). Elderly people residing at old age home were four (OR=4.087 95%, CI=2.373-7.038) times more likely to have depression than those residing in community. Though they couldn't find any association between depression and gender of the respondents in both of the settings.³³

In another cross-sectional study to compare depression among elderly living in old age homes and community in Visakhapatnam by Karini et al, similar results were noted. Prevalence of depression was more in OAHs (80%) with 40% having mild depression, 18% found to have moderate depression and 22% severe depression. While in community, 52% were depressed with 18% having mild depression, 18% having moderate depression and 16% having severe depression ($p < 0.05$).³⁴

Table 51: Association between GDS grade and cause of admission among the participants in Old age Home residents

In the present study maximum participants were at old age home due to personal cause. Among them significantly higher number of participants had normal GDS score(52.14%) followed by mild (28.21%) and moderate (19.66%). Further, maximum number participants with family dispute had moderate GDS (66.67%). Statistically significant association was noted between cause of admission at old age home and GDS grades ($p < 0.001$).

A guest editorial by Hanratty et al published by Cambridge University press reported that few major reasons for admission into residential care home like grief over the death of loved ones, loss of home, pets, social support and close friends; loss of function and control over the body; loss of independence and autonomy, is strongly associated with depression.⁵⁶

CONCLUSION

Our study noted that among elderly living with families, most of them were in the age group of 60 to 74 years (80.33%), 51% of them were males and 49% were females. And in old age home setup, majority of them were in age group of 75 to 84 years (53.33%) and two-third of them were males (74.67%). Majority belonged to the Hindu community (68% among elderly in family setup and 63.33% elderly living in old age homes). Most of the elderly living with families were either illiterate (14.67%) or graduates (16.7%) whereas most of the old age home participants were graduates or post graduates (90%) and there were no illiterates.

Most of the participants in family setup were home makers but in old age homes more than one third of the participants were self-employed and retired government employees. Larger part of elderly (68.67%) were married in families with no single or unmarried participant. However in old age homes most of the elderlies were either single or unmarried (41.33%) or widow/widower (38%). Comorbidities like hypertension and diabetes were more common in elderly living with family setup whereas cataract was more common in old age home residents. Health status as identified by their self-reported co-morbid conditions didn't show any significant difference between the two groups.

Majority belonged to nuclear family in both family setup and old age home. Most of them joined OAH due to personal causes like children had to leave for another place related to work or nobody to care for elderly at home. Remaining married was a strong predictor against entry into old age homes.

This study showed that the overall Quality Of Life of elderly staying with the family (87) was better than the elderly staying in Old age homes (29) and the difference was statistically significant. This difference may be due to care, love, and companionship offered by friends and relatives in family setup. Education and marital status had significant effect on the quality of life of elderly in both setups.

Elderly residing in Old Age Homes were significantly depressed than elderly living with their families. And the prevalence was seen more in females. Though severe depression was not reported in any participants, majority of the females in old age homes were reported to have moderate depression based on the GDS score. It is, hence, necessary to provide more care to older adults living with family and more social support to those living in old-age home.

LIMITATIONS

Following limitations were noted in our study:

1. Since the study was time-bound, the sample size was small, making it difficult to generalize the findings.
2. As matching was not done in this study, sociodemographic confounding variables could not be removed.
3. Since the questionnaire in this study included sensitive questions, participants could have been hesitant to give private information, thus, response bias could have been subjected.
4. The participants who were referred to psychiatry clinic were not followed up.

RECOMMENDATIONS

1. To evaluate the elements impacting the quality of life of elderly and to thoroughly determine the cause of admission in old age homes, more research is recommended.
2. Awareness should be created among community and in families regarding geriatric health to build better relationship within families which may improve the quality of life of elderly.
3. High prevalence of depression in the study population emphasizes the need to focus on creating awareness regarding depression among general population. Also to ensure that proper healthcare services are available for early identification of depression and its management in elderly.
4. Accessibility of old age pension schemes to the elderly based on government norms should be emphasized.
5. Government or public-private partnership run Old Age Homes with better infrastructure and facilities should be established at various levels for economically vulnerable groups in the society.

SUMMARY

Our study was a cross sectional one done in 300 elderly living with family and 150 elderly living in three different old age homes, adding to a total of 450 elderly men and women during the study period from January to December 2021. The Old Age Homes covered were Gharkul old age home, Shantai vrudhashram and Karunalaya old age home located in Belagavi, North Karnataka.

Study participants were maximum in age group of 60 to 74 years in family setup (80.33%) and 75 to 84 years in OAH (53.33%). Among elderly living with families, 51% of them were males and 49% were females where as in old age home setup 74.67% of the participants were males and 25.33% were females. Among the study participants, majority belonged to the Hindu community (68% among elderly living with family and 63.33% in elderly living in old age home). Education status of study participants shows that elderly in families, 14.67% of them were illiterate, and 16.7% were graduates whereas most of the senior citizens in OAHs were graduates or post graduates (90%) and there were no illiterates.

Majority of the participants in family setup were home makers, and in old age homes more than one third of the participants were self-employed and retired government employees. Participants who received and did not receive any sort of monthly pension were almost in the same range in both family setup and old age home setup (In family setup 52.67% and in OAHs 44.67%). Larger part of elderly (68.67%) were married in families with no single or unmarried participant however in old age homes most of the elderlies were either single or unmarried (41.33%) or widow/widower (38%). Among the study participants majority belonged to nuclear

family in both family setup (58.6%) and old age home (58%). Among the study participants, most of the elderly without children resided in old age home. In family setting, nearly half of the participants (42.33%) had three or more kids, however the old age home setting, the majority of the elderly either had three kids or none at all (31.33%).

When considering the numerous reasons for admittance into an old age home, the majority, or 78%, were personal reasons, such as when children had to move away for a job-related reason or when there was no one to take care of the elderly at home, and 12% due to economic causes where the children or the elderly themselves were unable to sustain themselves. About 10% of the elderly joined or were sent to old age home due to disputes in family.

Comorbidities like hypertension and diabetes were more common in elderly living with family whereas cataract was more common in old age home residents. Old Age Homes had strict restrictions about substance abuse among their residents and all reported as not having or as to quitting the habit. Among family setup participants, 65.67% reported as not having any such habits. Betel nut was the most common substance abused (17.33%), 12% had tobacco chewing habits, 3.33% were abusing alcohol and 1.67% reported to smoke.

Comparing the six different domains of QOL of senior citizens living in home setup and in OAHs, first one being impairment of sensory functioning affecting their life, it was found that both groups faced same problems with sensory functioning and thus the difference was not statistically significant ($p = 0.848$). Second domain was autonomy, in which we found that both groups had similar decision making power in their life and thus the difference was not statistically significant ($p = 0.739$). The third

domain analyzed their past, present, future activities. Participants living with family were happier and satisfied with respect to the past and future achievements and opportunities in their life also satisfied with the recognition they received ($p=0.005$). Comparing next domain of social participation, no significant difference was seen between elderly living in family setup and old age home (0.967). The fifth domain was fear of death or dying. Compared to OAH inhabitants, the elderly in families expressed greater anxiety and fear of death (<0.001). Last domain was intimacy. There was significant difference in domain of intimacy between elderly living in family setup and old age homes ($p<0.001$). According to the study, older people living at home had a higher overall quality of life than older people residing in OAHs. Furthermore, the outcome was statistically significant (0.002).

Comparing the QOL scores among the participants with respect to gender within and between groups, in old age homes, females had better quality of life compared to males. Whereas in family, elderly males had better quality of life. When QOL scores were compared with respect to marital status, married elderly had better quality of life in family. However, in OAH had improved quality of life as to widow/widower living with family ($p<0.001$).

In family setting, elderly who were living with families with two or more than two children had better quality of life as compared to those living in OAH with two or more kids and this association was significant ($p<0.001$).

Irrespective of the education, the elderly in family setting had better QOL scores compared to those in OAH. In both categories, there was no correlation between education and QOL. Comparing the health status of elderly with no disease,

single disease and more than one disease, we couldn't find any significant association between both family and old age home groups ($p=0.219$).

Elderly residing in Old Age Homes (57%) were significantly depressed than elderly living with their families (31.3%). And the prevalence was seen more in females residing in old age homes. Though severe depression was not reported in any participants, majority of the females in old age homes were reported to have moderate depression based on the GDS score (76.32%).

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ANNEXURE – I

KAHER

J. N. MEDICAL COLLEGE, BELAGAVI

DEPARTMENT OF COMMUNITY MEDICINE

Title: “A comparative study of health status and quality of life among elderly people living in old age homes and within the family setup in an urban area”

PG Guide: _____

Associate Professor of Community Medicine

Investigator: _____

Postgraduate student (Reg. No.- BD0120002)

Introduction:

India is the second largest country in the world with about 8.6crores elderly above 65 years of age in the year mid-2016. In this dynamic era, where the aging of population rapidly increasing in one hand and the erosion of joint family traditional practice and social values occurring on the other hand, the old age homes concept proves to be helpful for elderly. Studies conducted in the community and in OAHs have shown a large variation in the prevalence of chronic diseases. However not much information is available of the scenario of comparative morbidity among elderly residents of the community and in the OAHs of a similar geographic location. Hence, the present study is undertaken..

Objectives / Purpose of the study:

You are being invited to participate in this study to compare health status and quality of life among elderly people living in old age homes and within family setup in an urban area and also to know the prevalence of depression in the elderly participants.

Explanation of procedure:

I will personally interview each elderly using a standard questionnaire. The questionnaire includes

- 1] Socio-demographic factors
- 2] General Physical Examination
- 3] Systemic Examination
- 4] WHO QUALITY OF LIFE-OLD QUESTIONNAIRE (WHOQOL-OLD)
- 5] Geriatric Depression Scale (Short Form)

The interview will take not more than 40minutes per participant. If you agree to participate, the required information will be collected. At any moment, you can withdraw from the study without giving any reason.

POSSIBLE BENEFITS:

The investigator does not promise or guarantee that you will receive direct benefit by being in this study. It will benefit the whole community because by this study, we will be able to compare the health status and quality of life of elderly people living in old age homes and with their family in an urban area.

POSSIBLE RISKS:

There is no risk associated with participation in this study.

CONFIDENTIALITY:

Your identity will not be revealed. All information will be collected, coded and anonymized so that no one will know your personal identity.

WITHDRAWAL:

Participation in this study is voluntary. If you do not wish to participate in this study, you will not lose any benefits to which you are entitled at UHC / PHC / KLE Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi.

COSTS OF PARTICIPATION:

The cost of the study will be borne by the investigator. There will be no additional cost to you for participating in this study.

PAYMENT OF PARTICIPATION:

There will be no incentives to you for participating in this study.

AUTHORIZATION TO PUBLISH/ PRESENT RESULTS:

The investigators may use the information gathered from this stud for presentations in scientific meets and publications in scientific journals. However, your personal identity will not be disclosed in such presentation or publication.

LEGAL RIGHTS:

By signing this consent form, you are not waiving off any of your legal rights.

QUESTIONS:

If you have any questions about your rights as a study participant, you may contact **Dr. Harsha Hegde**, Chairperson, JNMC Institutional Ethics Committee on Human Subjects' Research at 0831-2741701 / 9480422500 or **Dr. (Mrs.) N.S. Mahantashetti**, Principal, J.N. Medical College, Belagavi at 0831-2471350.

CONSENT STATEMENT:

“I have been explained all the contents of this consent form in my local language and have understood and clarifies all my queries about the study to the best of my knowledge. Furthermore, I recognize that I have the complete right to withdraw the consent at any point during the study. I understand that the information given by me will be confidential and will be used for research purpose only. Further, I am aware that the result of this research will be presented/ published without disclosing any personal identification of the participants.

I hereby give my voluntary consent for participation in this study. I do sign the informed consent form in front of an eyewitness whom I recognize.”

Name of the participant: _____ Signature/ left thumb impression

Name of the eyewitness: _____ Signature/ left thumb impression

Name of the investigator: _____ Signature

Date:

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DD MM YYYY

Signature of the PG guide

ANNEXURE – II

RESEARCH QUESTIONNAIRE

KAHER

J. N. MEDICAL COLLEGE, BELAGAVI

DEPARTMENT OF COMMUNITY MEDICINE

Title: “A comparative study of health status and quality of life among elderly people living in old age homes and within the family setup in an urban area”

PG Guide:

Investigator: (REG. NO. BD0120002)

(Note: The personal data provided by you will be kept confidential. Only aggregated results will be presented/ published without revealing your personal identity).

Sl. No. _____

Date of interview: ____/____/_____

1. SOCIO DEMOGRAPHIC DETAILS:

1. Name: - _____

2. Age in years _____

3. Sex: - 1] Male 2] Female

4 Religion: - 1] Hindu 2] Muslim 3] Christian 4]Others, specify _____

5. Educational qualification: - 1]Illiterate 2] Read and write 3] Standard 1-4th 4] Standard 5-8th 5] 10-12/Diploma 6] Degree/Post graduate

6. Previous Occupation (Before 60 years): - 1] Farmer 2]Laborer

3] Self Employee 4] Govt. Employee 5] Private Employee

6] Retired/Pensioner 7] Home Maker 8] others, specify

-
7. Are you getting any pension : 1] Yes 2] No
If yes, how much per month- Rs-----/ month
 8. Marital status: 1] Single 2] Married 3] Separated / Divorced 5] Widow/ widower
 9. Type of Family: 1] Joint 2] Nuclear
 10. Number of Children: 1] One 2] Two 3] Three or more 4]None
 11. Cause for admission: 1] Family disputes 2] Personal cause 3] Economic cause
4] Others, specify _____
 12. Self-reported Illness: 1] DM 2] HTN 3] Obesity 4] Cataract
5] Hearing deafness 6] Any others 7] None
 13. History of substance abuse: 1]Yes 2] No if yes, duration- _____years
1] Smoking 2] Alcohol 3] Betel Nut use 4] Tobacco chewing habits

2. General physical examination: -

- | | |
|------------------------------------|---------------------------|
| 1. Conscious Yes/ No | 2. Cooperative Yes/ No |
| 3. Built- Heavy /Moderate /Poor | 4. Clubbing- + / |
| 5. Nutrition- Adequate /Inadequate | 6. Lymphadenopathy- + / - |
| 7. Pallor- + / - | 8. Skin- N/ AbN |
| 9. Icterus- + / - | 10. Height- ____cms |
| 11. Spine—N/AbN | Weight- ____Kgs |
| 12. Joints – N / AbN | 13. BMI |
| 14. Oedema – + / - | |

VITALS:

PR____/min	BP ____mmHg
Temp Febrile / Afebrile	RR____/min

3.Systemic Examination

1. CVS
2. RS
3. GIT
4. CNS(MMSE)
5. GUT

3. WHO QUALITY OF LIFE-OLD QUESTIONNAIRE (WHOQOL-OLD)

Instructions

This questionnaire asks for your thoughts and feelings about certain aspects of your quality of life and addresses issues that may be important to you as an older member of society. Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life in the last two weeks.

- The following questions ask about how much you have experienced certain things in the last two weeks.

Sl. No.		Not at all	A little	A moderate amount	Very much	An extreme amount
1.	To what extent do impairments to your senses (e.g. hearing, vision, taste, smell, touch) affect your daily life?	1	2	3	4	5
2.	To what extent does loss of, for example, hearing, vision, taste, smell or touch affect your ability to participate in activities?	1	2	3	4	5
3.	How much freedom do you have to make your own decisions?	1	2	3	4	5
4.	To what extent do you feel in control of your future?	1	2	3	4	5
5.	How much do you feel that the people around you are respectful of your freedom?	1	2	3	4	5
6.	How concerned are you about the way in which you will die?	1	2	3	4	5
7.	How much are you afraid of not being able to control your death?	1	2	3	4	5
8.	How scared are you of dying?	1	2	3	4	5
9.	How much do you fear being in pain before you die?	1	2	3	4	5

- The following questions ask about **how completely** you experience or were able to do certain things in the last two weeks.

		Not at all	A little	Moderately	Mostly	Completely
10.	To what extent do problems with your sensory functioning (e.g. hearing, vision, taste, smell, touch) affect your ability to interact with others?	1	2	3	4	5
11.	To what extent are you able to do the things you'd like to do?	1	2	3	4	5
12.	To what extent are you satisfied with your opportunities to continue achieving in life?	1	2	3	4	5
13.	How much do you feel that you have received the recognition you deserve in life?	1	2	3	4	5
14.	To what extent do you feel that you have enough to do each day?	1	2	3	4	5

- The following questions ask you to say how **satisfied, happy or good** you have felt about various aspects of your life over the last two weeks.

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
15.	How satisfied are you with what you have achieved in life?	1	2	3	4	5
16.	How satisfied are you with the way you use your time?	1	2	3	4	5
17.	How satisfied are you with your level of activity?	1	2	3	4	5
18.	How satisfied are you with your opportunity to participate in community activities?	1	2	3	4	5
19.	How happy are you with the things you are able to look forward to?	1	2	3	4	5
20.	How would you rate your sensory functioning (e.g. hearing, vision, taste, smell, touch)?	1	2	3	4	5

- The following question refer to any **intimate relationships** that you may have. Please consider these questions with reference to a close partner or other close person with whom you can share intimacy more than with any other person in your life.

		Not at all	A little	A moderate amount	Very much	An extreme amount
21.	To what extent do you feel a sense of companionship in your life?	1	2	3	4	5
22.	To what extent do you experience love in your life?	1	2	3	4	5

		Not at all	A little	Moderately	Mostly	Completely
23.	To what extent do you have opportunities to love?	1	2	3	4	5
24.	To what extent do you have opportunities to be loved?	1	2	3	4	5

4. Geriatric Depression Scale (Short Form)

Instructions: Choose the best answer for how you felt over the past week.

No.	Question	Answer	Scor
1.	Are you basically satisfied with your life?	YES/ NO	
2.	Have you dropped many of your activities and interests?	YES/ NO	
3.	Do you feel that your life is empty?	YES/ NO	
4.	Do you often get bored?	YES/ NO	
5.	Are you in good spirits most of the time?	YES/ NO	
6.	Are you afraid that something bad is going to happen to you?	YES/ NO	
7.	Do you feel happy most of the time?	YES/ NO	
8.	Do you often feel helpless?	YES/ NO	
9.	Do you prefer to stay at home, rather than going out and doing	YES/ NO	
10.	Do you feel you have more problems with memory than most?	YES/ NO	
11.	Do you think it is wonderful to be alive?	YES/ NO	
12.	Do you feel pretty worthless the way you are now?	YES/ NO	
13.	Do you feel full of energy?	YES/ NO	
14.	Do you feel that your situation is hopeless?	YES/ NO	
15.	Do you think that most people are better off than you are?	YES/ NO	
		TOTAL	

ANNEXURE – III
KEY TO MASTER CHART

1. Age in years
2. Sex
 - (1) Male (2) Female
3. Religion
 - (1) Hindu (2) Muslim (3) Christian (4) Others
4. Educational Qualification
 - (1) Illiterate (2) Read & write (3) Std 1-4 (4) Std 5-8
 - (5) Std 10-12/Diploma (6) Degree / Post Graduate
5. Previous Occupation
 - (1) Farmer (2) Labourer (3)Self Employee (4) Govt Employee
 - (5) Pvt Employee (6) Rtd / Pensioner (7) Home Maker
6. Pension
 - (1) Yes (2)No
7. Marital Status
 - (1) Single (2) Married (3) Seperated/Divorced (4) Widow/Widower
8. Type of Family
 - (1) Joint (2) Nuclear
9. Number of Children
 - (1) One (2) Two (3) Three or more (4) None
10. Self reported Illness
 - (1) DM (2) HTN (3) Obesity (4) Cataract (5) Hearing deafness
 - (6) Any Others (7) None
11. Substance Abuse
 - (1) Yes (2) No
12. To what extent do impairments to your senses (e.g. hearing, vision, taste, smell, touch) affect your daily life?
 - (1) Not at all (2) A little (3) A moderate amount (4) Very much
 - (5) An extreme amount
13. To what extent does loss of, for example, hearing, vision, taste, smell or touch affect your ability to participate in activities?
 - (1) Not at all (2) A little (3) A moderate amount (4) Very much
 - (5) An extreme amount
14. How much freedom do you have to make your own decisions?
 - (1) Not at all (2) A little (3) A moderate amount (4) Very much
 - (5) An extreme amount

15. To what extent do you feel in control of your future?
(1) Not at all (2) A little (3) A moderate amount (4) Very much
(5) An extreme amount
16. How much do you feel that the people around you are respectful of your freedom?
(1) Not at all (2) A little (3) A moderate amount (4) Very much
(5) An extreme amount
17. How concerned are you about the way in which you will die?
(1) Not at all (2) A little (3) A moderate amount (4) Very much
(5) An extreme amount
18. How much are you afraid of not being able to control your death?
(1) Not at all (2) A little (3) A moderate amount (4) Very much
(5) An extreme amount
19. How scared are you of dying?
(1) Not at all (2) A little (3) A moderate amount (4) Very much
(5) An extreme amount
20. How much do you fear being in pain before you die?
(1) Not at all (2) A little (3) A moderate amount (4) Very much
(5) An extreme amount
21. To what extent do problems with your sensory functioning (e.g. hearing, vision, taste, smell, touch) affect your ability to interact with others?
(1) Not at all (2) A little (3) Moderately (4) Mostly
(5) Completely
22. To what extent are you able to do the things you'd like to do?
(1) Not at all (2) A little (3) Moderately (4) Mostly
(5) Completely
23. To what extent are you satisfied with your opportunities to continue achieving in life?⁽¹⁾
Not at all (2) A little (3) Moderately (4) Mostly
(5) Completely
24. How much do you feel that you have received the recognition you deserve in life?
(1) Not at all (2) A little (3) Moderately (4) Mostly
(5) Completely
25. To what extent do you feel that you have enough to do each day?
(1) Not at all (2) A little (3) Moderately (4) Mostly
(5) Completely
26. How satisfied are you with what you have achieved in life?
(1) Very dissatisfied (2) Dissatisfied (3) Neither dissatisfied nor satisfied
(4) Satisfied (5) Very satisfied

27. How satisfied are you with the way you use your time?
(1) Very dissatisfied (2) Dissatisfied (3) Neither dissatisfied nor satisfied
(4) Satisfied (5) Very satisfied
28. How satisfied are you with your level of activity?
(1) Very dissatisfied (2) Dissatisfied (3) Neither dissatisfied nor satisfied
(4) Satisfied (5) Very satisfied
29. How satisfied are you with your opportunity to participate in community activities?
(1) Very dissatisfied (2) Dissatisfied (3) Neither dissatisfied nor satisfied
(4) Satisfied (5) Very satisfied
30. How happy are you with the things you are able to look forward to?
(1) Very dissatisfied (2) Dissatisfied (3) Neither dissatisfied nor satisfied
(4) Satisfied (5) Very satisfied
31. How would you rate your sensory functioning (e.g. hearing, vision, taste, smell, touch)?
(1) Very dissatisfied (2) Dissatisfied (3) Neither dissatisfied nor satisfied
(4) Satisfied (5) Very satisfied
32. To what extent do you feel a sense of companionship in your life?
(1) Not at all (2) A little (3) A moderate amount (4) Very much
(5) An extreme amount
33. To what extent do you experience love in your life?
(1) Not at all (2) A little (3) A moderate amount (4) Very much
(5) An extreme amount
34. To what extent do you have opportunities to love?
(1) Not at all (2) A little (3) Moderately (4) Mostly
(5) Completely
35. To what extent do you have opportunities to be loved?
(1) Not at all (2) A little (3) Moderately (4) Mostly
(5) Completely
36. Are you basically satisfied with your life?
(0) Yes (1) No
37. Have you dropped many of your activities and interests?
(1) Yes (0) No
38. Do you feel that your life is empty?
(1) Yes (0) No
39. Do you often get bored?
(1) Yes (0) No
40. Are you in good spirits most of the time?
(0) Yes (1) No

41. Are you afraid that something bad is going to happen to you?
(1) Yes (0) No
42. Do you feel happy most of the time?
(0) Yes (1) No
43. Do you often feel helpless?
(1) Yes (0) No
44. Do you prefer to stay at home, rather than going out and doing new things?
(1) Yes (0) No
45. Do you feel you have more problems with memory than most?
(1) Yes (0) No
46. Do you think it is wonderful to be alive?
(0) Yes (1) No
47. Do you feel pretty worthless the way you are now?
(1) Yes (0) No
48. Do you feel full of energy?
(0) Yes (1) No
49. Do you feel that your situation is hopeless?
(1) Yes (0) No
50. Do you think that most people are better off than you are?
(1) Yes (0) No

ANNEXURE – IV
KEY TO MASTER CHART