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Status of long-term care needs of aged people in elders' homes in Sri Lanka

Manori K Weeratunga[1]

Abstract:

As Sri Lanka's population is ageing rapidly, an increasing number of older people will gradually enter the 80-and-above age category. Although the family care of elderly people is regarded as culturally accepted way of caring for elders, currently there is an emerging demand for institutional care for elders. Unlike in family setting, the institutionalized elderly have greater difficulties in performing their daily activities. This study examines the status of long-term care of aged people in elders' homes with regard to cognitive and physical impairment as observed through health records and self-health reporting. The study is based on the information collected from eight elders' homes covering three Districts-Colombo, Gampaha and Kalutara. The study adopted a mixed method approach with the use of a semi-structured survey of 150 elderly people who need long-term care. Functional disability is seen commonly in older adults. Physical impairment is associated with underlying medical conditions as well as with external factors such as social and financial support and the environment. Investigation in to cognitive impairment revealed that it is higher among the older adults who barely receive required mental support. Approximately three percent of the sampled elderly had a

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I would like to acknowledge Small Research Grants, University of Colombo for providing me financial assistance and required research committee approval for the proposal of this study.

mental disability. A lower rate of mental disability is due to the fact that the majority of the elderly people surveyed are still below the age of 75. Major issues encountered by institutionalized elders include lack of basic facilities, shortage of workers, and unhygienic conditions, as well as a lack of, or no support received from their families.

Key words: long-term care, healthy-ageing, impairment status, adult homes, health problems

Introduction

As Sri Lanka's population ages, more personal care and health support services will be needed for people who, as a consequence of disability or aging, require assistance to function independently. In light of this, policymakers face the daunting challenge of balancing the fiscal burden on taxpayers with the need to ensure that all individuals with long-term needs receive proper care. With the changes in the demographic trends, an ageing population is a common phenomenon that can be identified in many countries including Sri Lanka. A rapidly ageing population has emerged as an unavoidable and irreversible issue in Sri Lanka today. In developed countries, ageing occurred gradually over a relatively long period of time, while ageing in developing countries including Sri Lanka, has been more rapid (Weeratunga, 2016; Dissanayake, and Weeratunga, 2016). Therefore, long term care (LTC) is a topic that plays an important role in managing the demands and requirements of an increasing ageing population. According to the WHO World Report in 2015 on Ageing and Health LTC is defined as:

> The activities undertaken by others to ensure that people with or at risk of a significant ongoing loss of intrinsic capacity can maintain a level of functional ability consistent with their basic rights, fundamental freedoms and human dignity (WHO, 2015).

Each country acknowledges the changes in their ageing populations at different levels. While some countries have already passed the phase of commencement of the ageing population, there are many countries which are on the verge of entering this phase. According to the standard population projection, the elderly population will increase in the future in an extraordinary manner (Dissanayake, 2017). In 2012, the number of older persons was 2,520,573 and this number is expected to increase to 5,118,094 in 2037, which is a 103 percent increase over 25 years. Population ageing is a common feature of many developed and developing countries in the world today. This phenomenon is mainly due to a decline in fertility and mortality with a resultant increase in life expectancy which is a result of the socio-economic developments in the country.

In addition, there is a strong association between an increase in life expectancy and increase of non-communicable diseases. However, this is result of shifting age structure towards older age groups. Moreover, this will create more long-term care issues gradually. It is important to note that deaths due to non-communicable diseases accounted for 75% of the total deaths in Sri Lanka in 2012[2].

Most people who need long-term care have health problems that make it difficult or impossible for them to perform the basic activities of daily life, such as dressing, eating, getting around, toileting and personal hygiene. Many are disabled due to injuries or strokes, but increasing numbers have deteriorating chronic diseases and conditions related to aging. In this context, Sri Lanka needs to pay more attention to the long-term care of its elderly population. However, the challenges faced by Sri Lanka include rapidly changing patterns in its ageing population

[2] www.who.int/nmh/countries/lka_en.pdf

and as a developing country, there is a lack of preparation to deal with these issues. This study mainly focuses on the status of long-term care in Sri Lanka with regard to cognitive and physical impairment.

Rapid Ageing of the Sri Lankan Population

The rapid decline of fertility and mortality along with the migration, have reshaped the age-sex structure of the population in Sri Lanka. However, because life expectancy in Sri Lanka is increasing rapidly, older people those who are in oldest old age category can be significant. This is a current phenomenon which may have important socio-economic implications and real challenges for the government and older people. A significant growth in the elderly population is evident when comparing the 1981 census with the 2012 census and this demographic has almost doubled in these 30 years.

Table 1: Sri Lanka: Actual and Projected Total Elderly Population and Percentage of Population Age 60+, 1946-2037

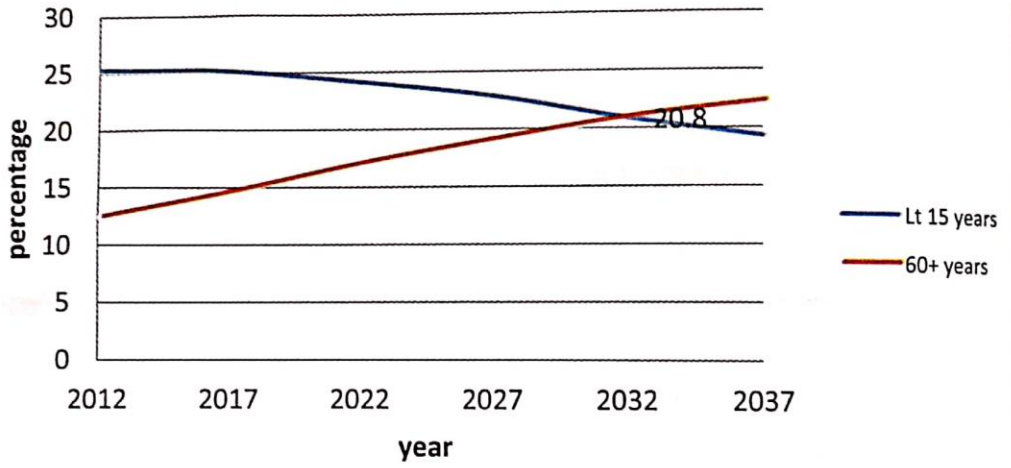
Year	Number of Population Aged 60+	Percentage of Aged 60+
1946	360,000	5.4
1963	621,000	6.0
1981	986,000	6.6
1991	1,399,000	8.1
2001	1,907,000	9.2
2012	2,520,573	12.4
2017	3,130,740	14.6
2022	3,766,743	17.0
2027	4,320,258	19.0
2032	4,775,618	20.8
2037	5,118,094	22.1

Source: Weeratunga 2015 Department of Census and Statistics 1982, 2013

The growth of the older population gives rise to an increase in the dependency ratios of the country. Figure 1 shows that the proportion of children outnumber the proportion of older persons until 2032, and then

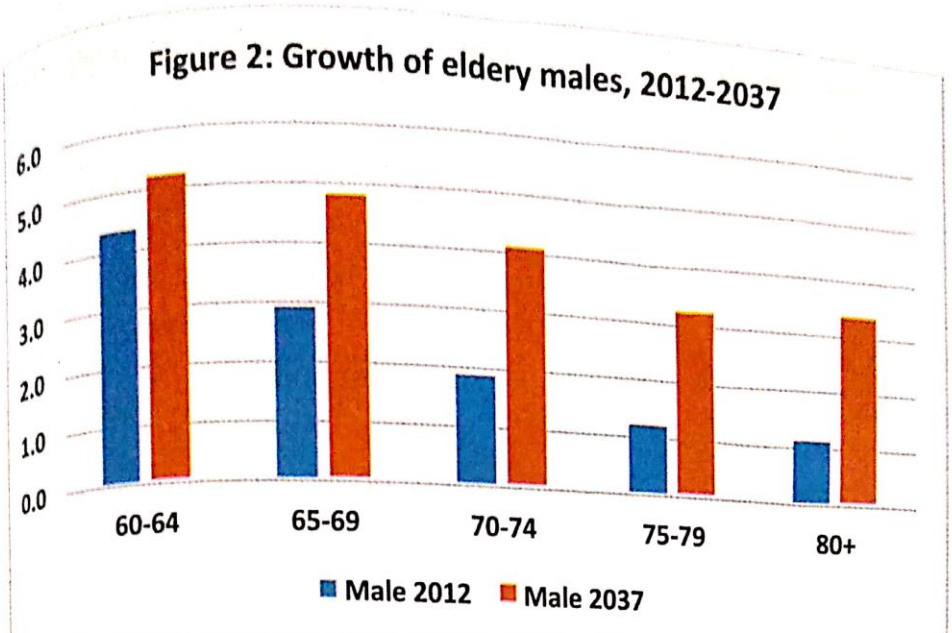
a reverse can be observed. The two proportions equilibrate at 20.8 percent. This suggests that the percentage difference would begin to favour older persons, after 2032.

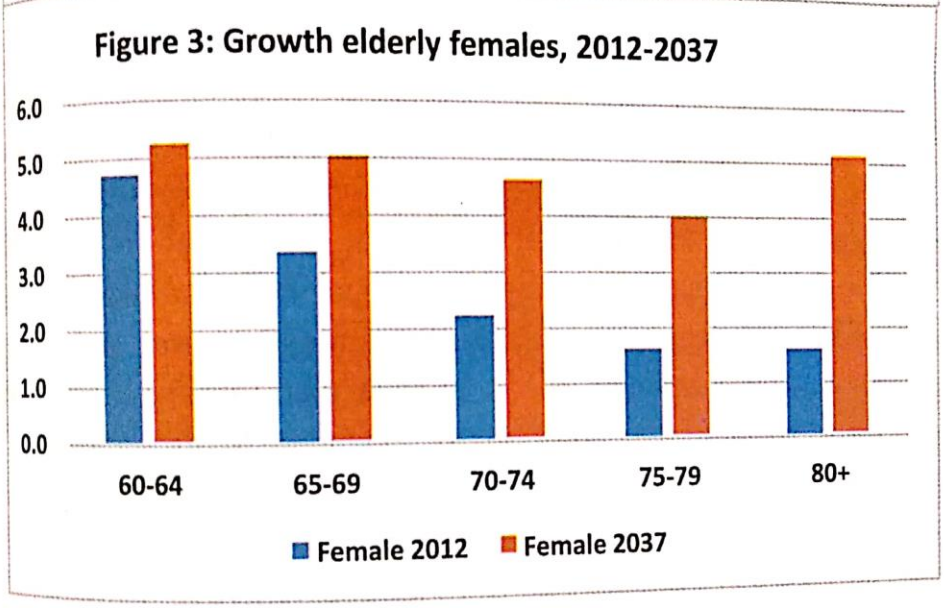
Figure 1: Relative change in the proportion of children (less than 15 years) and older persons (60+ years), 2012 to 2037, Standard Projection



Source: Weeratunga 2015

Although the majority of elderly people are still in the young-old category (60-74 years of age), by 2037, the old-old age category will be dominant, as indicated by Figures 2 and 3. It is also apparent that the number of people who are 80+ years of age shows significant growth. This suggests that there is a great necessity to focus on the long-term care needed for the elderly in Sri Lanka.





Source: Dissanayake 2016; Department of Census and Statistics 2012

Trend of increasing non-communicable diseases among older people

It is obvious that the health of the older population deteriorates as age advances (Weeratunga 2015). The prevalence of non-communicable diseases among the older population shows that the majority of them suffer from at least one non-communicable disease (Dissanayake and Weeratunga, 2016). Therefore, the impairment of the older population's physical and cognitive abilities may definitely create a demand for long-term care, which is still to be developed in Sri Lanka.

Changing Role of the Family

Although it can be claimed that the family has a major responsibility to protect their older members, the rapidly changing patterns of the family also indicate the need for care outside the family. As the key institution of social organization in any society, the family is defined by exchanges of mutual support between its members. The social environment in which people age is changing in Sri Lanka, as a result of the changing size of families, the changing roles of traditional extended families and, most importantly, perceptions of intergenerational support and caring for older persons (Weeratunga, 2015). In particular, this has been a shift from the dominance of the emotionally extended to the emotionally nuclear family (Weeratunga 2015). Therefore, there is a declining trend of family support while increasing demand for institutional support. However, still there is a one percent of older people live in institutions.

Long-Term Care Provision in Sri Lanka

Sri Lankan cultural norms tend to place the burden of long-term care on the family or village. Our colonial rulers founded several modern institutions for long-term care in Sri Lanka including the Leprosy

Institution founded by the Dutch and the Institution for Mental Illness founded by the British. The National Council & National Secretariat for Elders was established under the Protection of Elders Rights Act No. 9 of 2000. The objectives of this institution were: to protect and promote the rights of elders; to identify the problems faced by the elders and make the policies accordingly and implement them; to implement various types of programmes by using their knowledge, skills and experience once again for social development; to conduct pre-retirement awareness programmes; to provide guidance and various types of welfare assistance for the needy elders and to maintain a database relating to elders. Services available for older persons at present include Day Centres for elders, the establishment of divisional level elders committees, the issue of intra-ocular lenses for elderly cataract patients, the registration of organizations and individualsproviding services for elders, the renovation of elders homes, the *"Wedihiti Awarana Kepakaru"* sponsorship scheme Issuing of elders identity cards, home care services for elders, a Maintenance Board for Elders, commemoration of the International Elders Day and the Senior Citizens' Allowance to strengthen the elderly.

The National Population and Reproductive Health Policy (1998) presented the following strategies for the care of the elderly: (a) Encourage the private sector, NGOs, CBOs and the local community to provide community care and services to the elderly; (b) Initiate social security schemes for the elderly not already covered by EPF, ETF, etc; (c) Provide incentives to families to care for the elderly at home; (d) Provide appropriate training for youth awaiting employment to enable them to take care of the elderly at home. In addition, many NGOs, such as HelpAge Sri Lanka and Sarvodaya are involved in assisting the

Social Services Department's Community-Based Rehabilitation programme. Sarvodaya has three elders' homes which offer residential care and protection: the Agnes Gunasekera Memorial Home for the Elders, Ratmalana, the Jayawardene Memorial Home, Gampaha and the Elders Home, Hikkaduwa. These homes provide emotional support and care and basic living necessities to destitute and abandoned elderly people including meditation sessions, recreation and fitness programmes, medical clinics, controlled diets, physiotherapy, handicrafts and sewing classes and advice about proper health and hygiene practices.

Data and Methods

The study is based on the information collected from eight elder's homes in Sri Lanka. The investigation covered three districts: Colombo, Gampaha and Kalutara. A semi-structured survey was employed for 150 elderly people who need long-term care in all eight elder's homes. A semi-structured questionnaire was used to collect information. 50 respondents were selected from each district by using the random sampling method. All the elderly homes selected for the study were the elderly homes which provide long term care assistance. The sample was limited to 150 respondents based on the long duration which was needed to interview one respondent. This study used mixed method approach. During regular visits to these elders' homes, discussions were held at leisure, allowing elderly men and women to talk freely, narrating their personal stories with occasional interruptions to probe into certain areas of importance for the study. However, views were obtained from all those who at times offered to give their opinions on certain aspects.

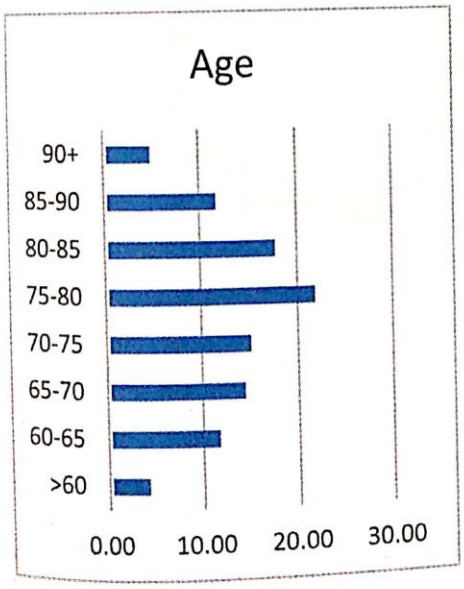
Characteristics of the Sampled Population

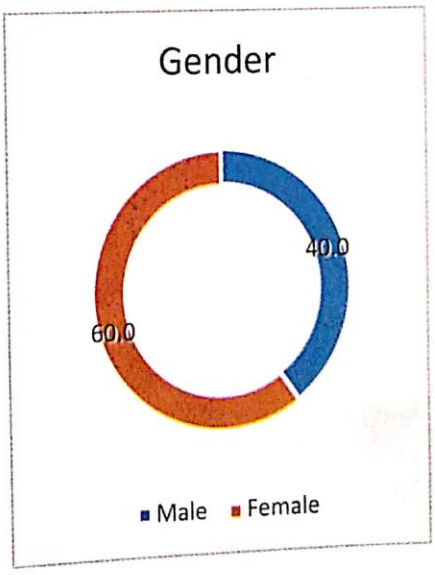
The median age of the sampled elderly population was 80 years. 60 percent of the total elderly people in the homes were women. It is quite interesting to note that the 54 percent of these people have been married, but about 46 percent of the sample consisted of elderly people who had never been married.

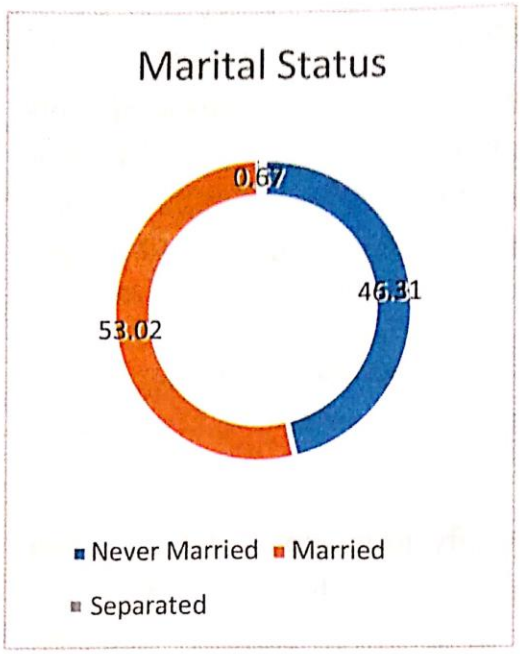
It appears more and more common for single people to have to live in elders' homes in their old age, as they cannot reside with a spouse or other member of the family.

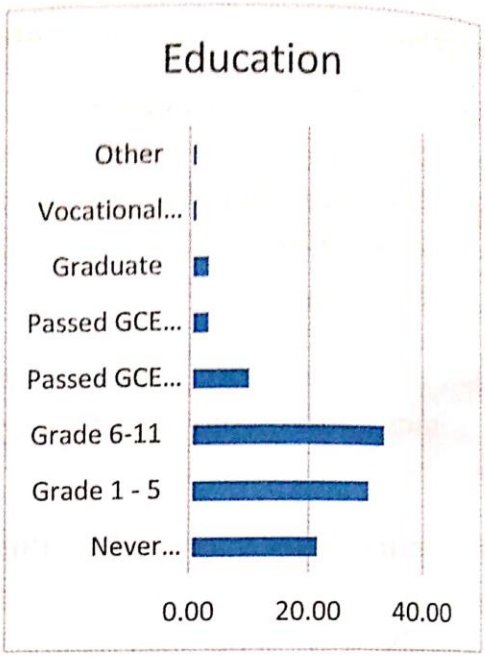
Since the individuals surveyed in this study grew up at a time when enrolment in school was less common, their education levels are comparatively low. This has resulted in a lower earning capacity, mainly among the women. The two districts under investigation were Gampaha and Kalutara and the majority of the respondents were Sinhalese, as this is the majority ethnicity in these areas.

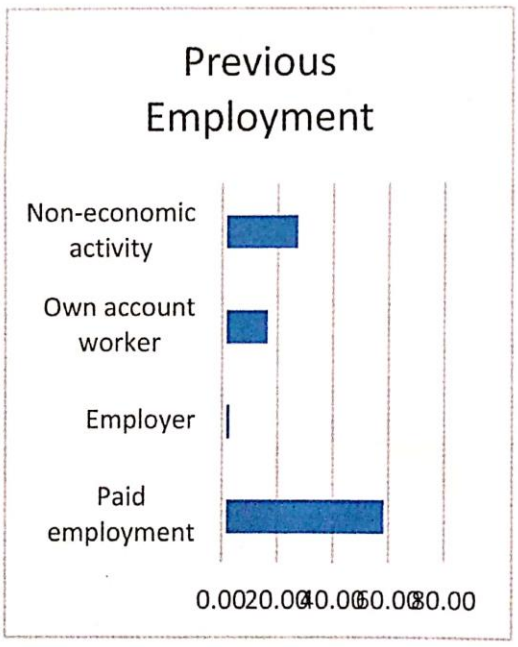
Figure 1: Participants' Characteristics

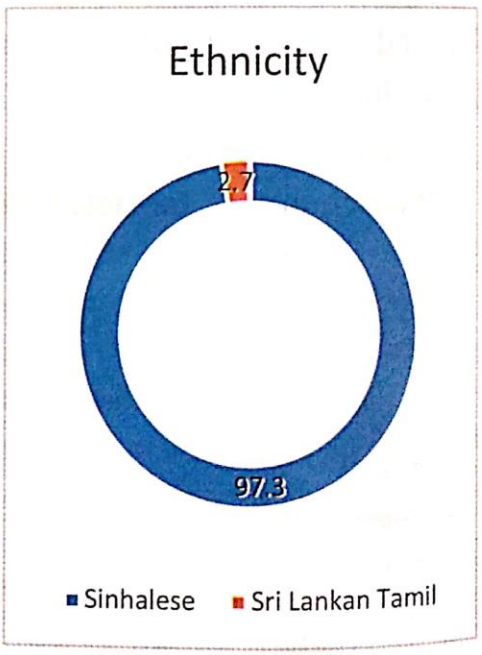










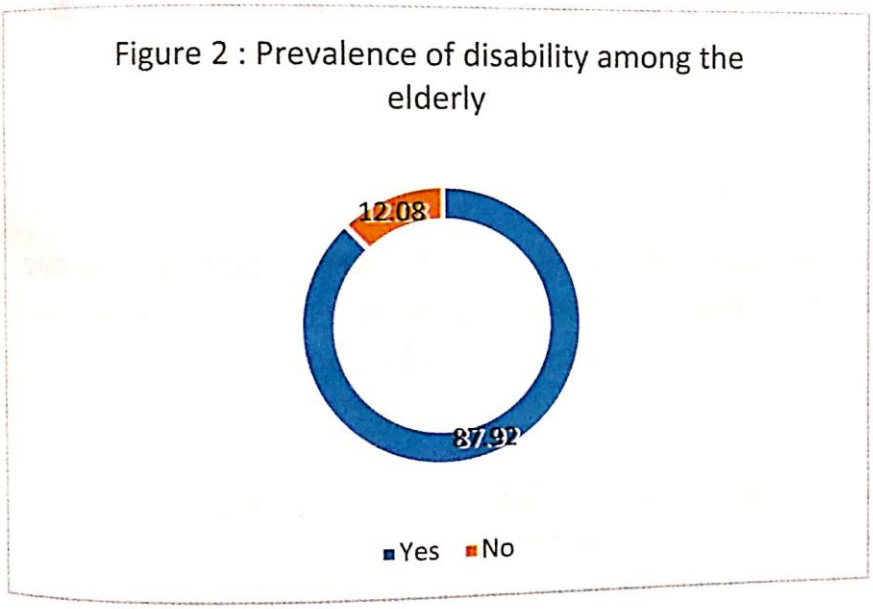


Source: Sample Survey 2017

Demand for Long-term Care

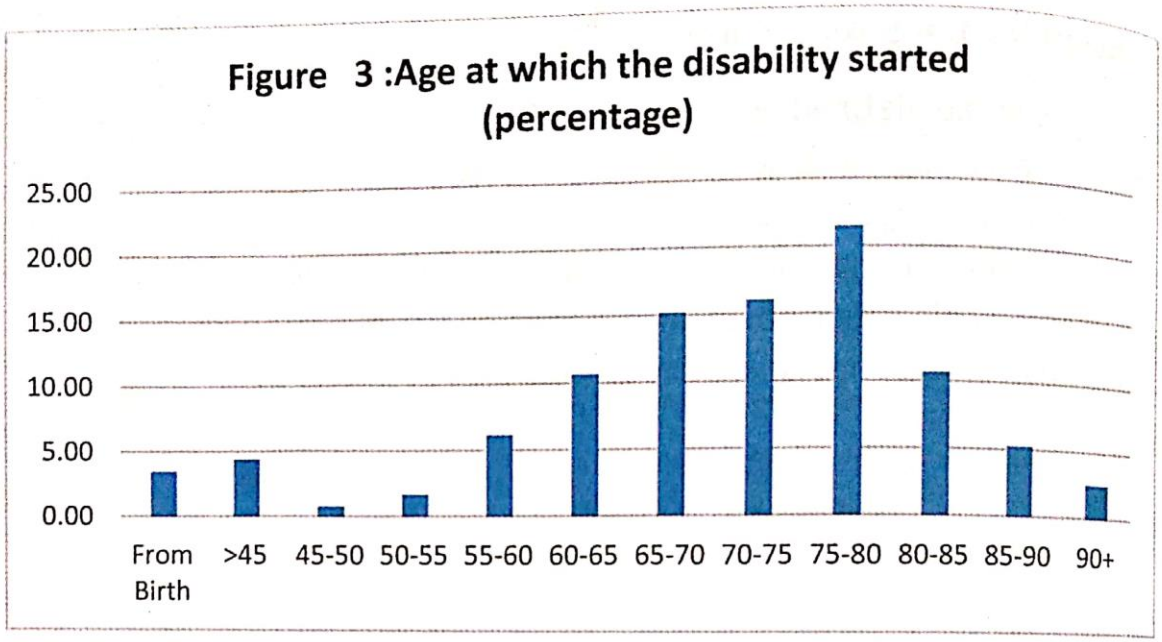
Ageing can be defined as a progressive, generalized impairment of function resulting in a loss of adaptive response to stress and in a growing risk of age-associated disease. It appears that the majority of elderly people living in elders homes' have at least one disability. Findings revealed that about 88 percent of the elderly persons in our sample had at least one disability as indicated in Figure 2.

Figure 2 : Prevalence of disability among the elderly



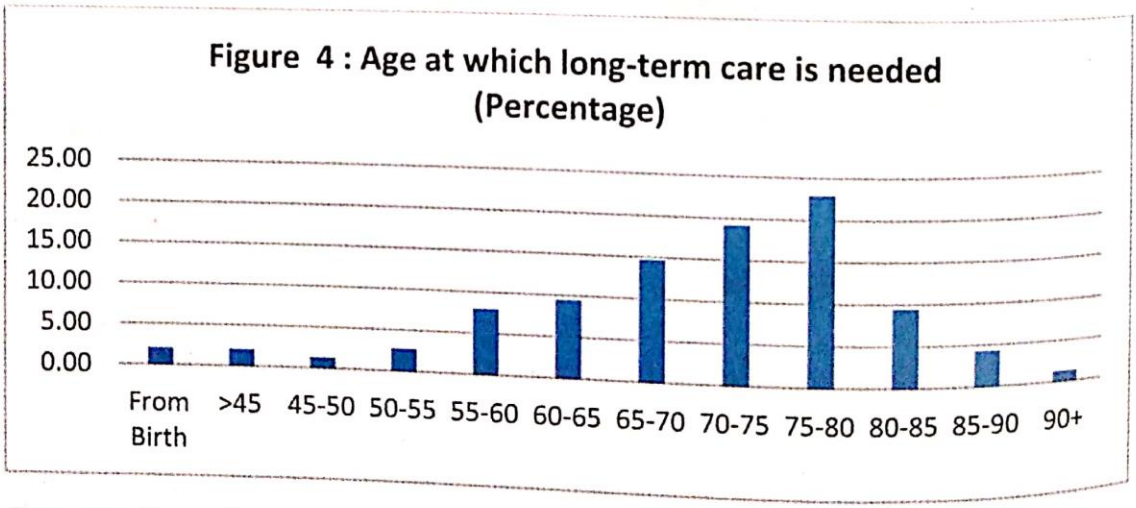
Source: Sample survey 2017

A majority of these persons had developed their disability after the age of 55 while fewer than 5 percent had a disability from birth (Figure 3).



Source: Sample survey 2017

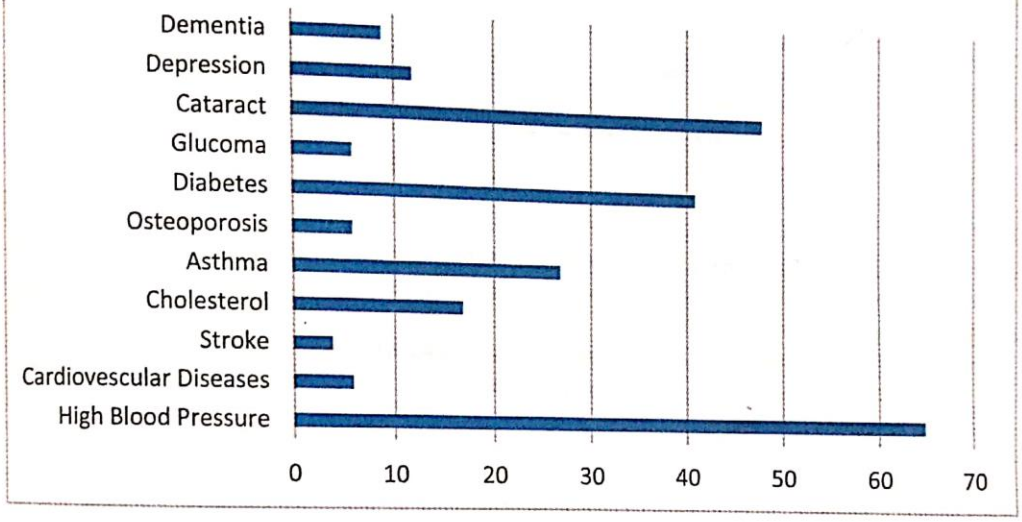
Figures 2 and 3 show that there is a strong relationship between the age at which the disability began and the age at which long-term care was needed. Both figures are very similar and indicate that long-term care should begin from the age of 55.



Source: Sample survey, 2017

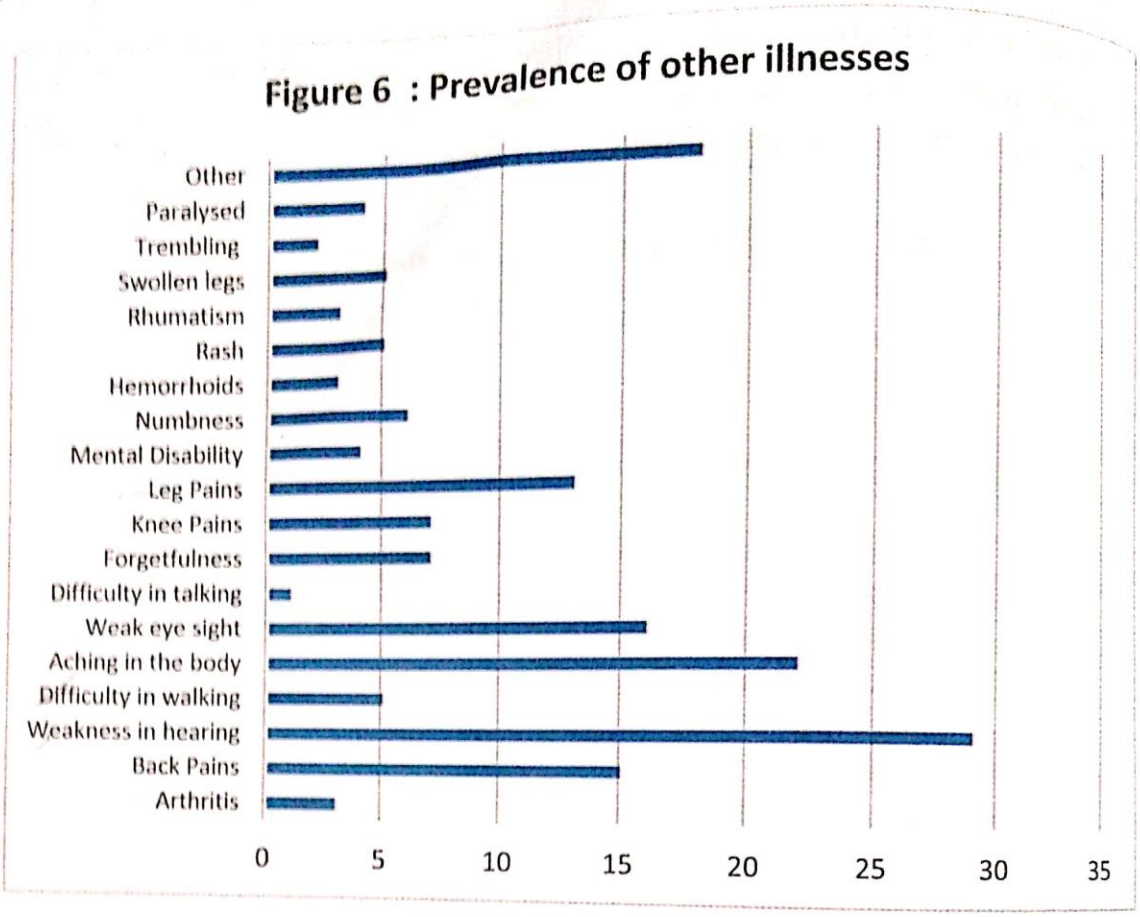
According to Figure 5, the major chronic diseases among the elderly include high blood pressure, cataracts, diabetes, asthma and high cholesterol, all of which need long-term care.

Figure 5: Number of elderly suffering from major chronic diseases



Source: Sample survey 2017

In addition to these however, elderly people also suffer from various other illnesses which are very common in old age but which need constant care.



Source: Sample survey 2017

Impairment Status

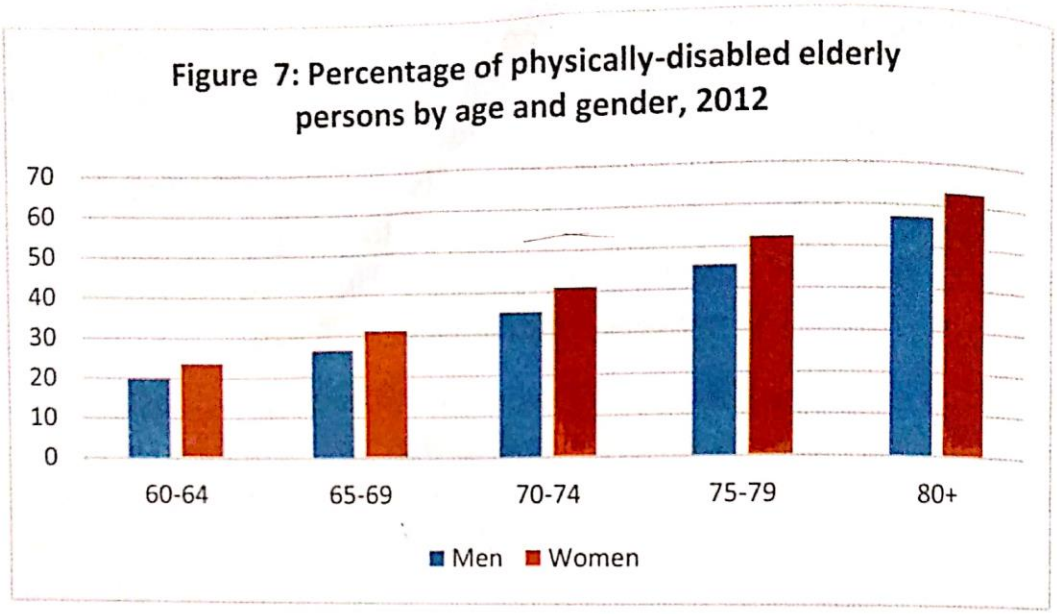
The study found that about 89 percent of the residents in elders' homes could be categorized as impaired elderly. They are dependent, in activities ranging from household tasks to personal care. The former are commonly labeled as the 'instrumental activities of daily living' (IADL's), and these include tasks such as cooking, cleaning, and shopping. Personal care includes bathing, dressing, transferring, toileting, and eating; and these are labeled the 'activities of daily living'

(ADL's). Usually, a smaller proportion of the elderly needing long-term care have limited dependencies and require only IADL assistance. At the other end of the spectrum, some older persons are almost totally dependent, needing assistance in virtually every ADL and IADL. Simply being old does not imply a need for long-term care, as a majority of the elderly are fully independent. However, the prevalence of long-term care needs increases dramatically with age.

There is no single way to identify when or if someone will need long-term care. Every case is different due to the type of illness or injury, who can provide the necessary care, and the financial resources available. Understanding the types of illnesses and injuries that create the need for long-term care is important. A chronically ill individual generally has either a *physical* or *a cognitive impairment.*

Physical Impairment

Activities of Daily Living (ADLs) are the most common measurement for physical ability. When assistance is needed with ADLs, some individuals may simply require that a health care practitioner remain within arm's reach to ensure that the activity completed safely. This is referred to as standby assistance. As the care recipient's needs increase, someone may be needed to physically assist with completing the required activity. This is referred to as 'hands on assistance'. Although family support has been the main support system of elderly in Asia including Sri Lanka, recent changes in the family and a rapidly ageing population have resulted in several issues in relation to family support for elders. Table 7 illustrates the physical disability of the elderly as age advances while showing significant differences by gender, with women having more disabilities.

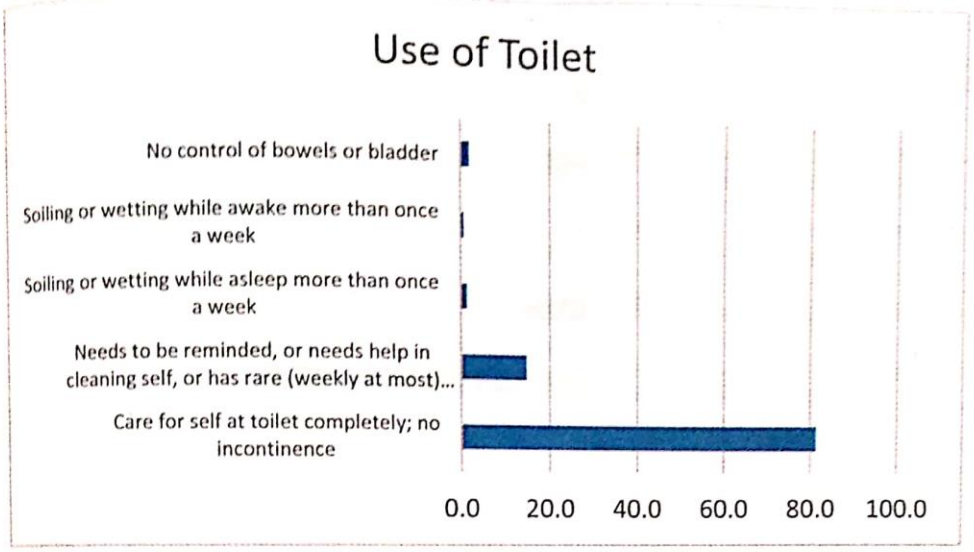


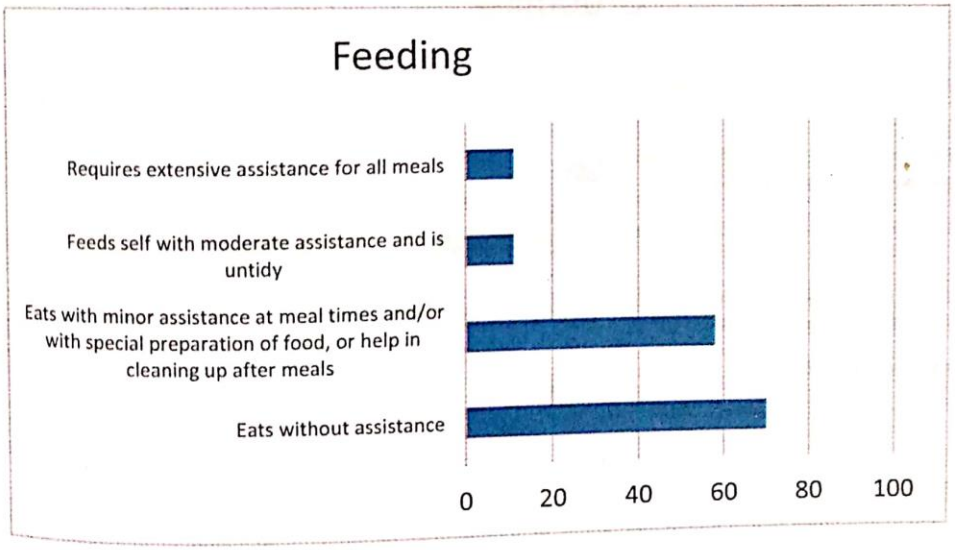
Source: Department of Census and Statistics, 2013

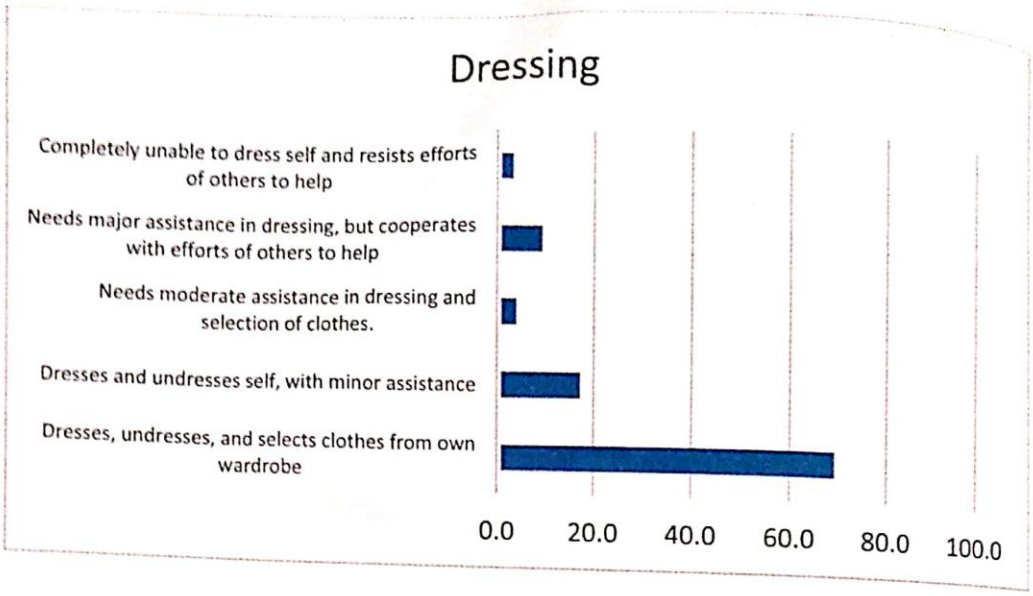
Activities of Daily Living

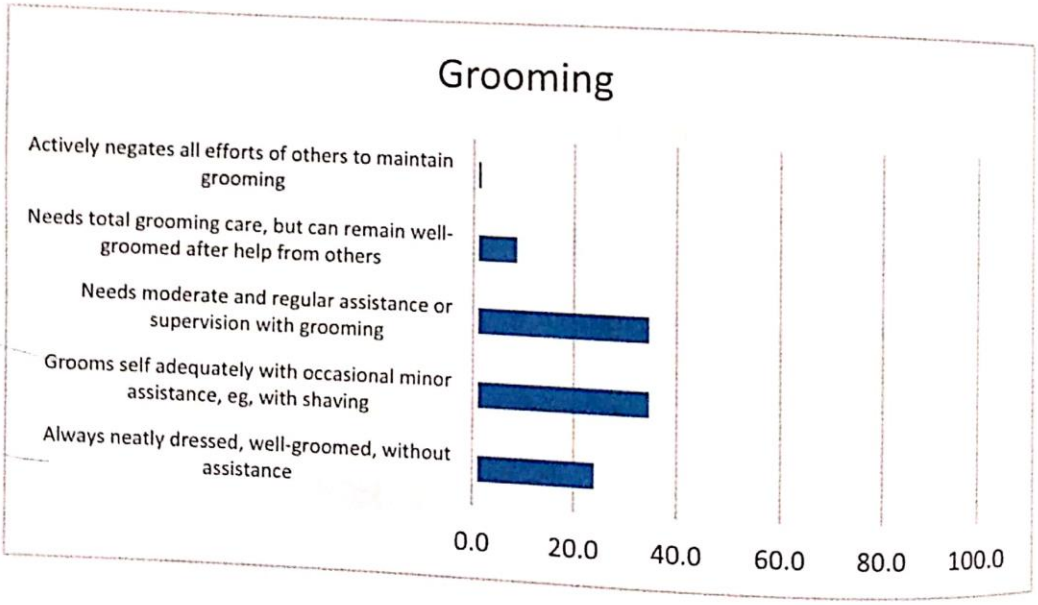
The functional tasks in the daily lives of older seniors are divided into two parts, activities of daily living (ADL's) and instrumental activities of daily living (IADL's). Activities of daily living (**ADL**) are routine activities that people tend do every day without needing assistance. There are six basic **ADLs**: eating, bathing, dressing, toileting, transferring (walking) and continence. The study revealed that ADL support is needed for a minority of the elderly although the majority does need assistance as shown in the Figure 8 below. However, among the ADL supported, a higher proportion require assistance for grooming and physical ambulation compared to other categories of ADL.

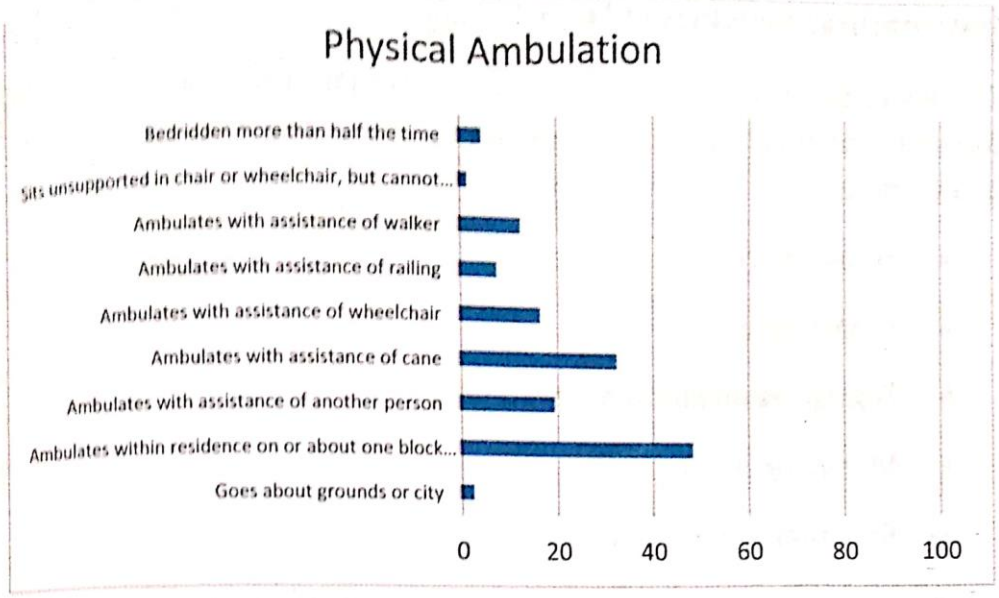
Figure 8 : Activities of Daily Living

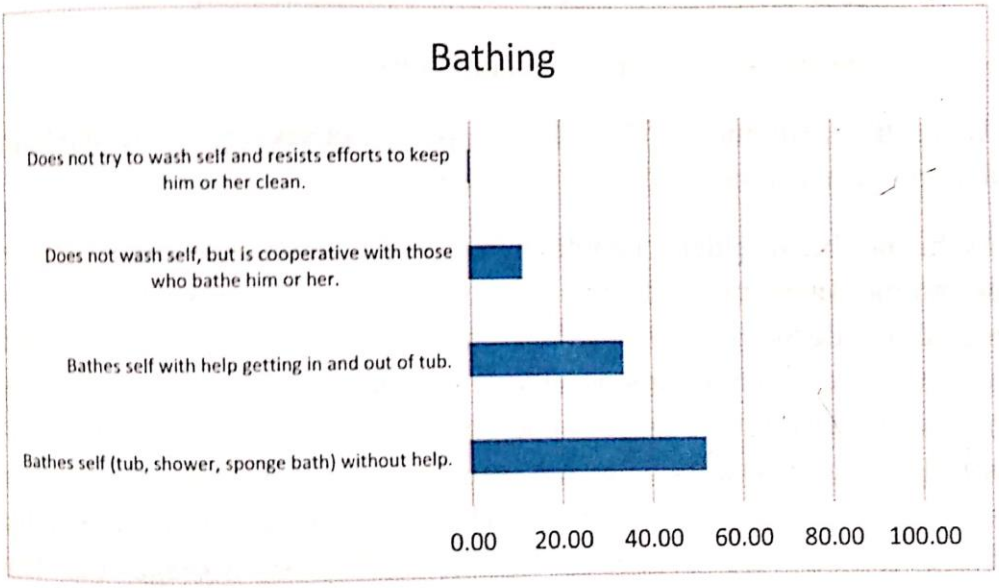





Dressing
Completely unable to dress self and resists efforts of others to help
Needs major assistance in dressing, but cooperates with efforts of others to help
Needs moderate assistance in dressing and selection of clothes.
Dresses and undresses self, with minor assistance
Dresses, undresses, and selects clothes from own wardrobe
0.0
20.0
40.0
60.0
80.0
100.0


Grooming
Actively negates all efforts of others to maintain grooming
Needs total grooming care, but can remain well-groomed after help from others
Needs moderate and regular assistance or supervision with grooming
Grooms self adequately with occasional minor assistance, eg, with shaving
Always neatly dressed, well-groomed, without assistance
0.0
20.0
40.0
60.0
80.0
100.0





Source: Sample survey, 2017

Instrumental Activities of Daily Living

The instrumental activities of daily living (IADLs) are not necessary for fundamental functioning, but they let an individual live independently in a community:

- House work
- Preparing meals
- Taking medications as prescribed
- Managing money
- Shopping for groceries or clothing
- Use of telephone or other form of communication
- Transportation within the community

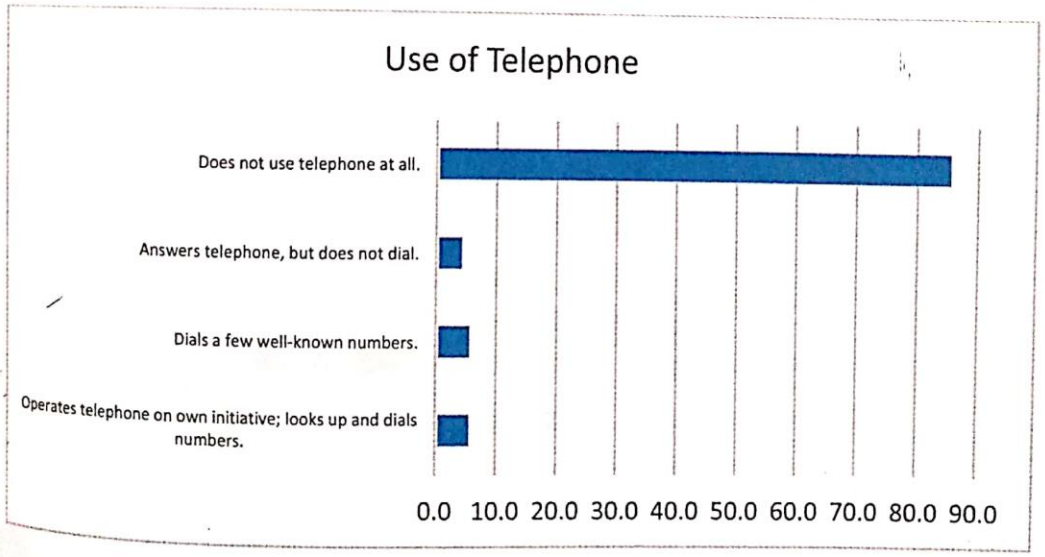
A useful mnemonic is SHAFT: shopping, housekeeping, accounting, food preparation/meds, telephone/transportation.

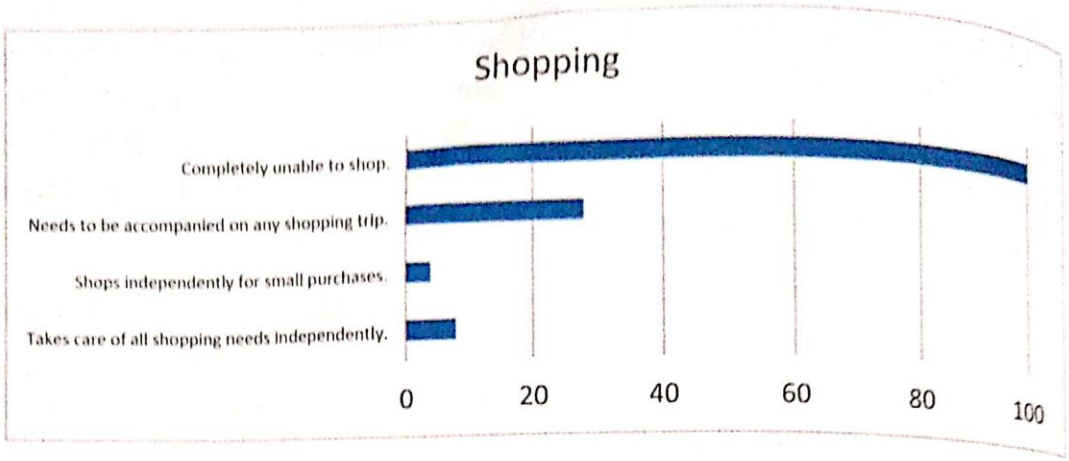
As the number of elderly people increases, the prevalence and incidence of chronic degenerative diseases also significantly increase. Complaints regarding declines in cognition and independence in functional activities are common among elderly people, and a strong association has been observed between cognitive performance and functional abilities. Functional deficits are usually caused by diseases and/or common conditions in the elderly. The instrumental activities of daily living (IADL) are connected to the ability to manage the life environment inside and outside of the home. IADL are activities related to independent living and involve interaction with the physical and social environment, generally more complex than personal ADL. Instrumental activities of daily living (IADLs) measure an individual's

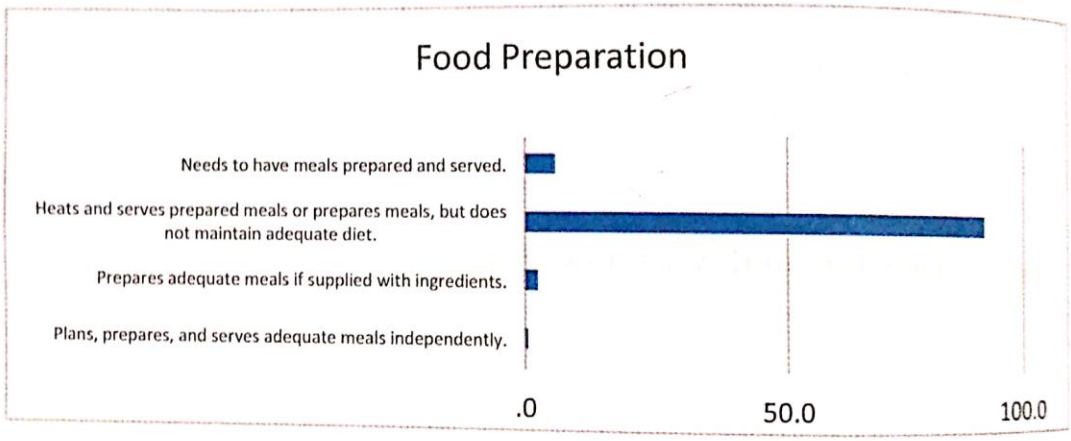
ability to carry out tasks that may not need to be done daily like ADLs, but which nevertheless are important for living independently. Intervention may be required to help an individual adapt to difficulties experienced in performing IADLs. Performance of IADLs requires mental as well as physical capacity.

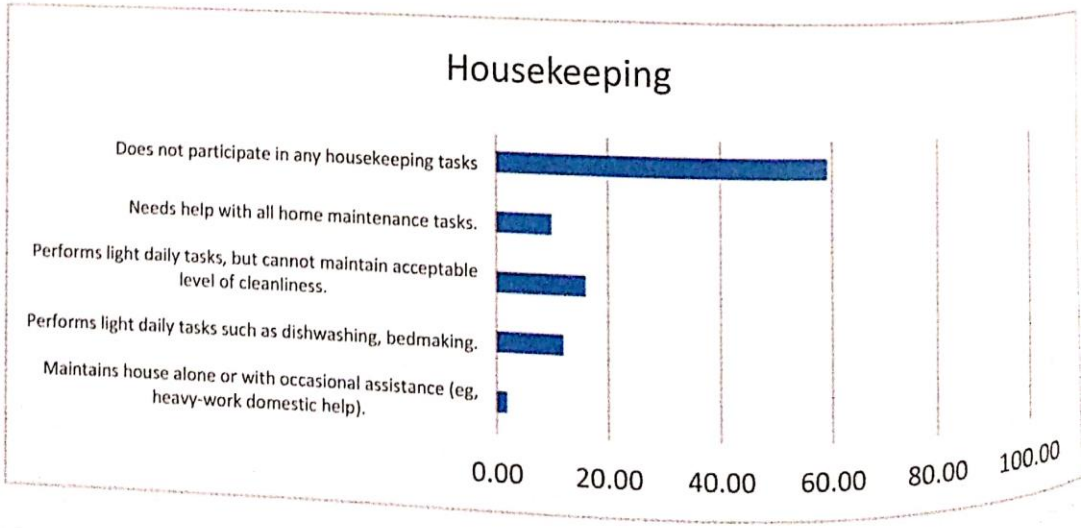
It is quite clear from the present study that a significant proportion of elderly people have difficulties in using the phone, shopping, housekeeping, laundry, food preparation, transportation, responsibility for medication and handling finances. In other words, this suggests that elderly people in care homes experience difficulties in IDALs. This may be due to the fact that the majority of elderly persons living in elders' homes belong to the old-old age group, and have different ailments which prevent them getting involved in IDALs.

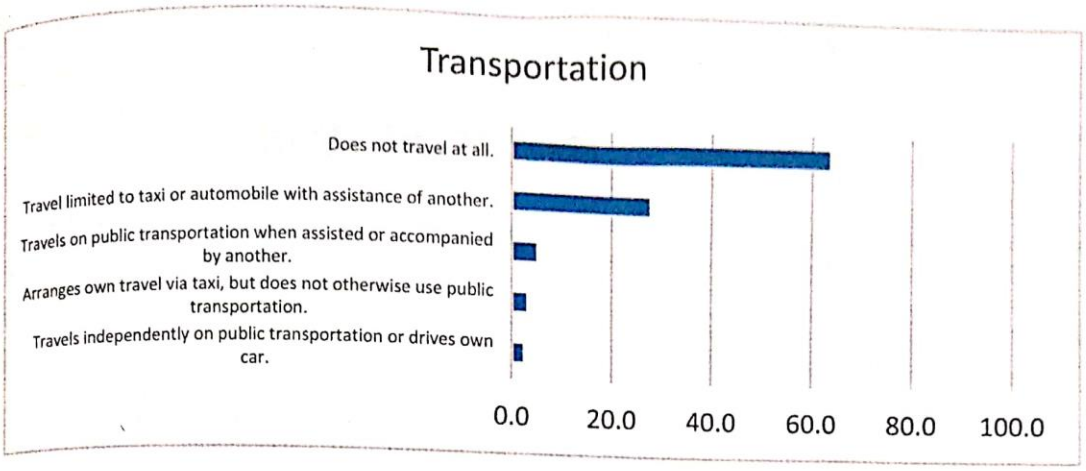
Figure 9: Instrumental Activities of Daily Living

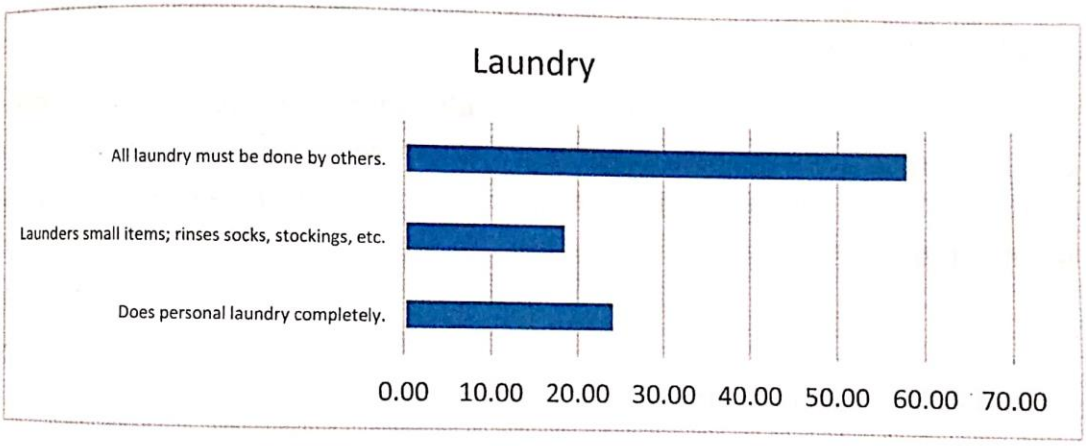


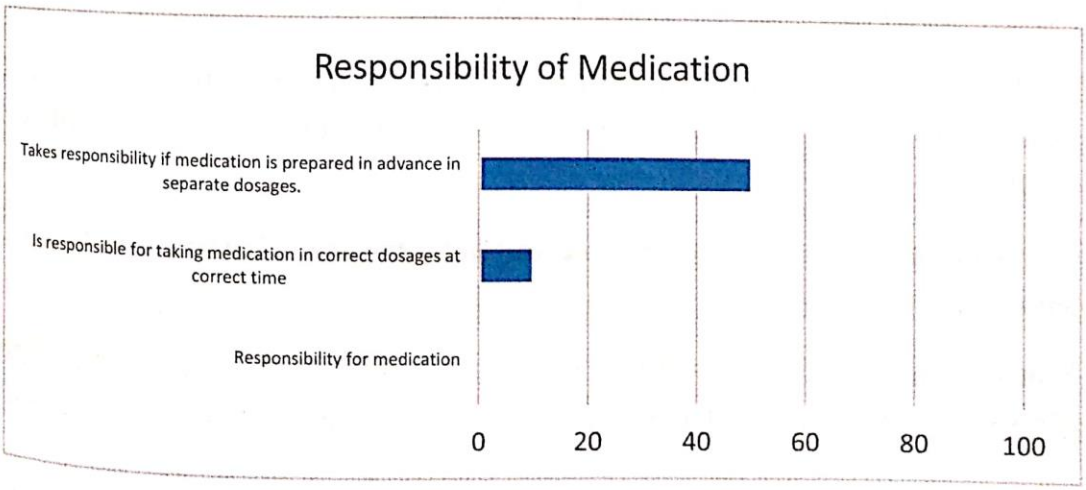

shopping
Completely unable to shop.
Needs to be accompanied on any shopping trip.
Shops independently for small purchases.
Takes care of all shopping needs independently.
0
20
40
60
80
100

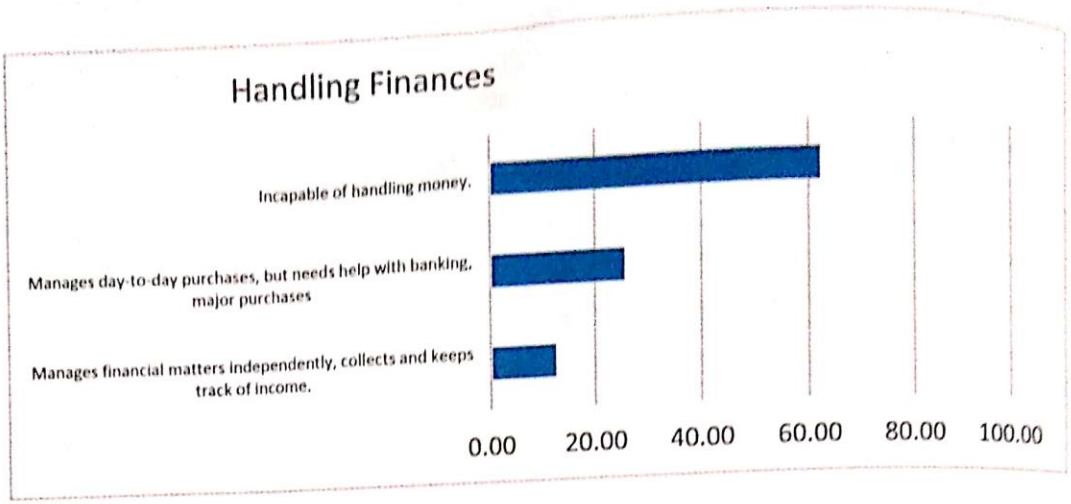

Food Preparation
Needs to have meals prepared and served.
Heats and serves prepared meals or prepares meals, but does not maintain adequate diet.
Prepares adequate meals if supplied with ingredients.
Plans, prepares, and serves adequate meals independently.
.0
50.0
100.0


Housekeeping
Does not participate in any housekeeping tasks
Needs help with all home maintenance tasks.
Performs light daily tasks, but cannot maintain acceptable level of cleanliness.
Performs light daily tasks such as dishwashing, bedmaking.
Maintains house alone or with occasional assistance (eg, heavy-work domestic help).
0.00
20.00
40.00
60.00
80.00
100.00


Transportation
Does not travel at all.
Travel limited to taxi or automobile with assistance of another.
Travels on public transportation when assisted or accompanied by another.
Arranges own travel via taxi, but does not otherwise use public transportation.
Travels independently on public transportation or drives own car.
0.0
20.0
40.0
60.0
80.0
100.0


Laundry
All laundry must be done by others.
Launders small items; rinses socks, stockings, etc.
Does personal laundry completely.
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00


Responsibility of Medication
Takes responsibility if medication is prepared in advance in separate dosages.
Is responsible for taking medication in correct dosages at correct time
Responsibility for medication
0
20
40
60
80
100



Cognitive Impairment

When a cognitive impairment exists, individuals are frequently able to complete physical activities but may not remember how or when to complete them. This level of impairment is usually segmented into three categories:

- Short or long-term memory,
- Orientation as to person, place or time, and
- Deductive or abstract reasoning. This situation tends to require intervention by a third party to ensure that the activities are completed safely.

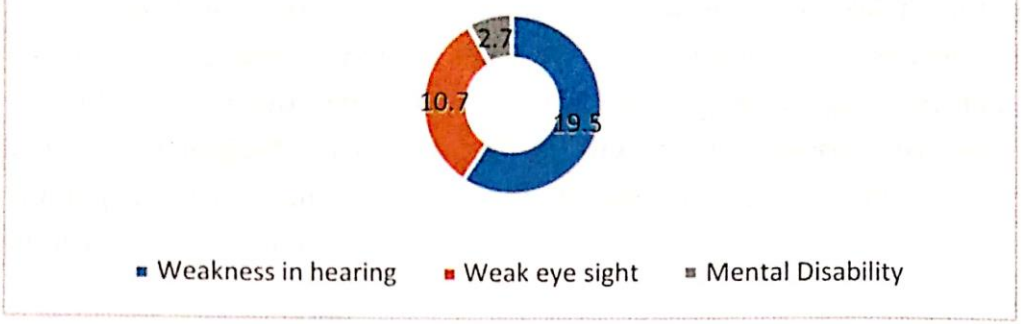
Common examples of a cognitive impairment are Alzheimer's disease, senility, or dementia.

Many elderly persons require long-term care not because they are physically impaired, but because they have impairments in mental and

cognitive functioning. The most prevalent of the diseases which result in cognitive impairments is Alzheimer's disease, but there are also a variety of other conditions, including multi-infarct dementia, Pick's disease, and the dementias associated with Parkinsonism and Huntington's Chorea, to name a few, that affect cognitive abilities. They are all progressively degenerative diseases which ultimately affect not only a person's cognitive abilities but physical capacities as well. Given projections of substantial growth in the number of elderly persons surviving to age 80 and beyond in the decades ahead, one expected outcome is dramatic increases in the number of elderly individuals suffering from dementia. In the present study, we found that only 2.7 percent of the elderly persons had mental disability but 30 percent suffered from vision and hearing impairment. It appears that vision and hearing impairment can lead to cognitive impairment (Mitoku et al., 2016)[3]. A lower rate of mental disability can be due to the fact that the majority of the elderly people are not properly aware about their mental difficulties.

[3] Kazuko Mitoku, Naoko Masaki, Yukiko Ogata, and Kazushi Okamoto, 2016, Vision and hearing impairments, cognitive impairment and mortality among long-term care recipients: a population-based cohort study, *BMC Geriatrics*BMC series_

Figure 10 : Percentage of elderly persons with mental disability and vision and hearing impairment



Source: Sample survey, 2017

Issues Facing Elders in Elders' Homes

There are number of issues were identified by interviewing the elders who can express their views. Majority were trying to understand the situation as they cannot expect the same support like they receive from their own family members. Following are the major issues identified which will definitely affect their long-term care.

No support from families

Mental support is lack compared to other support

Conflict among elders

No proper services

Services are person oriented and some are more vulnerable

Overall 60 percent of the elders are satisfied with the support they receive from the elders' homes. However, main reason for their

satisfaction is that they have realized the limit can a elders' home support them. Interviews carried out with managers of elders' homes mentioned the main difficulties for them to supply the long term care needs are lack of financial support from the government and no enough trained workers who can look after elders' who need long-term care.

Conclusion

On the basis of the preceding sections of this study, it may be stated that functional decline is common among the elderly population under study. The risk factors for functional decline are age as well as the presence of ailments rather than socio-economic status. Compared to their male counterparts, declined functional levels, development of disability and dependence were seen more among the women, owing to their greater longevity and widowhood. Prevention of functional decline of the elderly people need priority and such prevention may be possible by way of detecting the functional decline at first stage followed by rehabilitation and/or quality care by the age of 50 as the commencement of disability starts at the age of 50 years. Major issues encountered by the institutionalized elders include lack of financial support from the government to improve the standards of the elders' homes, a shortage of workers at these homes and unhygienic conditions.

There are negative effects of decline of functional status on health and the concept of "Active Ageing" fully demolishes by decline of functional status. Therefore, this study may be extended further, over a large number of elderly populations across different ethnic groups so that it may be used for future policy planning, execution and service enhancement purposes.

References

Casey, B and A. Yamada, 2002, *Getting Older, Getting Poorer? A Study of the Earnings, Pensions, Assets and Living Arrangements of Older People in Nine Countries*. Labour Market and Social Policy Occasional Papers, No. 60. DEELSA/ELSA/WD (2002) 4. Paris: OECD.

Dissanayake, Lakshman, 2014, *Population Dynamics in Sri Lanka*, Economic Review, People's Bank, Sri Lanka.

Dissanayake, Lakshman, 2016, *Medium-Term Population Projection for Sri Lanka: 2012 to 2037,* UNFPA.

Dissanayake, Lakshman, 2017, *Making the Connection: Population Dynamic and Development in Sri Lanka*, Population Matters, Issue 03, UNFPA

Dissanayake, Lakshman; Weeratunga, Manori K., 2017, *Features, Challenges, and Opportunities of Population Ageing: Sri Lankan Perspective*, UNFPA

Kazuko Mitoku, Naoko Masaki, Yukiko Ogata, and Kazushi Okamoto, 2016, Vision and Hearing Impairments, Cognitive Impairment and Mortality among Long-term Care Recipients: A Population-based Cohort Study, *BMC Geriatrics* BMC series

Weeratunga, Manori K., 2015, *Ageing and the Changing Role of the Family in Sri Lanka*, PhD Thesis, University of Adelaide, Australia.

World Health Organization, 2015, *World Report on Ageing and Health*, WHO