

DISSERTATION
ON
'OLD AGE CARE'

BACHLERS OF ARCHITECTURE
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SUBMITTED BY
MUSKAN AGGARWAL
16GSOA101011
4RD YEAR

GUIDED BY
AR. BUSHRA FATIMA
AR. NAVED ARIYANA



SCHOOL OF ARCHITECTURE
GALGOTIAS UNIVERSITY
GREATER NOIDA 201310

CHAPTER 1 INTRODUCTION

1.1 Old Age Care

An old age home is generally the most commonly referred to option when it comes to considering housing options for senior citizens. A high level of nursing care is available along with an organized, routine of social. A medical practitioner is available to supervise each of the resident's care and nurses are on-site to administer medications and provide general personal care. When doing research to understand care of older people, two main streams can be followed: the macro-level with the emphasis on studying the division of care between the state and the family, and the micro-level where the needs of the older individual are described, as well as who are receiving and providing care. In this dissertation, the micro-level stream will be followed. However, as these levels always influence each other, a dialog between them can hardly be avoided. Old age homes are meant for senior citizens who suffer with a problem in staying with their children at home or are destitute. These homes are for older people who have nowhere to go and no one to depend on. These homes create a friendly and family like atmosphere for the elderly people where they can share their joys and sorrows and live happily. Old Age Homes are pretty developed in United States, United Kingdom and there is recent development seen in the construction of Old Age Homes in India.

These old age homes have special medical facilities for senior citizens such as mobile health care systems, ambulances, nurses and provision of well-balanced meals. So basically, it is a housing project for senior citizens of that country.

Old Age Homes have two main categories:

1. Homes providing free Accommodation
2. Homes working on a payment basis

Apart from food, shelter and medical amenities, old age homes also provide yoga classes to senior citizens. Old age homes also provide access to telephones and other forms of communication so that residents may keep in touch with their loved ones. Some old age homes have day care centres. These centres only take care of senior citizens during the day.

1.2 Aim

To study the architectural requirements for designing old age home.

1.3 Objectives

In order to achieve the aim of this report the following objectives have been set: -

- To study the fundamental needs of old age people.
- To study the psychology of the old age people.

- To study the architectural requirements for old age homes.
- To study the structure and functioning of old age homes.

1.4 Need and Scope

In India about 10% population is above 60 years. In present scenario people don't have time to take care their elders properly. So, they send them in old age homes where the inmates get all the facilities for a routine living, like food, clothing and shelter. For the patients who need special care, pollution free environment, family like atmosphere in modern society. This research would help to design a desired environment to the senior citizens.

1.5 Methodology

Step 1: - Setting up of objectives: Innovation layout design that fosters meaningful community interaction while at the same promoting hygiene and safe living conditions.

Step 2: - Literature review: To study about the old age care from books, internet and some research papers. There are some norms which have to be followed and considered.

Step 3: - Case studies: To select and carry out the series of case studies. The studies were conducted i.e. to find out the purpose of concepts and planning principles, building material used, structure system used to guide the design of shelter.

Step 4: - Discussion: The result from the literature review and the case studies are discussed in relation to the thesis aims and objectives.

Step 5: - Recommendations: Based on the findings of this study recommendations are made on how and where changes can be adopted.

Step 6: - Conclusion: The conclusion addresses the key questions and discusses the key findings.

1.6 About

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1.6.1 Problems faced by seniors

Many people look forward to retirement, viewing it as a time to finally relax, slow down, and peacefully enjoy life.

Some of the most common problems faced by seniors: -

- Physical and mental health
- Health care costs/nursing home care
- Financial security
- Bereavement, social isolation, and loneliness
- Elder abuse

1.6.2 Why old age care?

Why do some people leave their parents in old – age homes? Why they had to struggle all alone there? God has given human beings the quality to take care of their old ones. Hence, we should not ignore almighty's reward. All their necessities are well looked in old age home after but, the much-needed love, and care of loved ones is of course sadly missing; for, how can outsiders provide comfort? In these homes, it is very interesting and even touching to talk to people whether they are men or women.

Some other reasons: -

- Children are working away from home
- Safety is an issue for senior citizens
- A stress-free living
- Medical attention
- A like-minded community

1.6.3 Concept

- Cater for the physiological and psychological needs of the elderly.
- To provide good living environments to the old people, creating a friendly and family like atmosphere where they can share their joys, sorrows and live happily.
- To make the space more comfortable for the users.
- To design a home with peace, pollution free surroundings with all the basic amenities required for the comfortable stay.

Core value: -

- Privacy
- Dignity
- Security
- Independence
- Choice
- Fulfillment

1.6.4 Location of old age care

- Studying the location of the structure is the most important factor. This will help us determine the climatic conditions of the place. Orientation of a building with respect to climatic conditions of the place.
- It could be a part of the urban setting or it could be in a rural area. It depends on the kind of people that are going to stay in it.
- Some people prefer idyllic areas while some would like to live in close proximity to the quick facilities of the city.
- An old age home should be preferably located in a calm, pollution free environment with all the basic necessities that are required for any comfortable housing project.

1.6.5 Design concept

- Design of old age homes depends on the social and economic status of the people who are going to reside in the homes.
- They could be the dormitory type, independent rooms or cottages.
- The rooms should be well-ventilated.
- Designing a ground floor in an old age home is of utmost importance. Possibly all the basic facilities in the home should be provided on the ground floor. If this is not possible and if upper floors have to be built then a sloping ramp has to be provided for facilitating easy passage of wheel chair and make movement of people with crutches easier.
- The toilets and bathrooms should have rough flooring so that the elders do not slip. Suitable railings should be provided for support.
- Recreation rooms and rooms for medical care should be built.

1.6.6 Medical care facilities

- There should be a sterile store room where all medicines and medical accessories that may be needed for treatment of the residents are to store as per the advice of a general physician.
- There are certain instruments that are necessary for the medical treatment such as oxygen cylinders, suction apparatus and intra-venous sets should be readily available. Drugs should be replaced periodically, considering their expiry date.
- Transport facilities such as ambulances or any other vehicle that is similarly equipped as an ambulance should be available in case there is a need to rush them to the hospital for intensive care.

1.6.7 Recreational facilities

- Provision of recreational facilities is must. Old people also need entertainment so that their mind does not remain idle. This will help their life become lively and happy and keep them away from any kind of depressing thoughts.
- Facilities such as small reading area, televisions, video players, newspapers and books should be provided.
- Not all old people like sedentary lifestyle. Depending on the extent of the physical activity of the resident's other facilities for active sports such as: tennis, table tennis, squash can be provided.
- A small computer room could be provided for accessing the internet which is a must in today's world. That will keep the residents mentally active and aware of the world outside.

1.6.8 Requirements

- Common rooms
- Single and double bedrooms
- Pantry in every bedroom
- Main kitchen
- Dining area
- Television area
- Reading room
- Praying room
- Computer room
- Offices for the staff
- Common toilets
- Sports facilities for tennis, badminton etc.
- A landscaped garden with a jogging track

CHAPTER 2 LITERATURE STUDY

Shantidham old age home

2.1 Location-Situated on Kanakapura Road, far from the maddening crowd of Bangalore city.



Figure 1:SHANTIDHAM OLD AGE CARE

2.2 Why shantidham?

Apart from the scenic beauty, convenient and comfortable rooms and nourishing food, the greatest asset and attraction of Shantidham are its residents, most of whom are highly educated and cultured. Why have these eminent people chosen to stay here for the rest of their lives? Is it due to neglect by their children or the fact of their children being abroad? No, most of the residents have filial and loving children who want their parents to stay with them. But the parents want to enjoy the benefits of Vanaprasthashrama combined with modern facilities! The men folk are tired of the responsibility of running a home and the women want to be free from the drudgery of the kitchen. Moreover, the modern and educated senior citizens want their children to run their own homes as they think fit, uninterrupted by their elders' interference.

There is today a widening cultural gap between the elderly and the young generation. Elders too do not feel comfortable living with the young, whose tastes, habits, and even language of speech are different from those to which they have been accustomed in their lives.

Unbelievable but true, at Shanthidham, a joint family comprising of 15 brothers and 31 sisters live happily together and are always ready to help one another. They are mentally and physically active through numerous activities like Library, Gym, special exercises, sports, meditation, prayer, veena and music classes besides vocational activities like tailoring, knitting, crochet, handicrafts etc. They watch old movies, listen to various Kirtans, Bhajans, Shlokas etc being played through music system provided in every room. They are affectionately looked after by a Rotarian Manager and his Ex- Rotarian wife who practice Rotary's century old tradition of "Service Above Self"

2.3 Salient features

- Ideal Natural Environment
- Serene location away from the city
- Spacious living rooms
- Healthy and nourishing food
- Inspiring lectures and discourses on philosophy
- Practice of yoga
- Library & Internet facilities
- Recreation Halls and Meditation centre
- Shaded trees for individual retreat
- Interaction with spiritual persons
- Free exchange of views & opinions about divinity
- Soul fulfilling activities through cumulative participation
- Periodic Health Check ups
- Hospital with attendant facility when needed
- Solar heated water in all blocks
- Lounge for guests outside Rooms
- Celebration of all major festivals
- Cultural Programmes
- Physical Fitness exercise and many more activities

2.4 Surroundings



Figure 2: SURROUNDINGS

Shantidham is a peaceful resort and one of the best senior citizens' homes in Bangalore. The green environment, the clean air, the artistically constructed and convenient rooms, the nutritious food, and above all, the highly educated and cultured residents speak for itself.

Shantidham is situated on Kanakapura Road, far from the maddening crowd of Bangalore city, but quite well within its limits. To be precise, it is 23 km away from Vidhan Soudha, the State Government Secretariat, a prominent landmark of the city.

A short well-maintained private inroad branching out from the Kanakapura highway leads to the main building and the living quarters of Shantidham. The road is lined with trees like silver oak, neem and gulmohar.

A stream runs parallel to it. One is immediately struck by the pleasant environment different from the city's congested and polluted atmosphere and the Home's peaceful and clean Environment. The place looks bright and colourful with tall growing trees, flowering plants, creepers and Mexican grass lawns all around. The Maiden Visitor feels that he has strayed into a garden and not a home for the aged

The Home is set in a beautiful and well-maintained garden which can compete with several city's parks. Shantidham is spread over 2.5 acres of land.

2.5 Construction



FIGURE 3:VIEW

A remarkable feature of the ashram, as it is fondly called by its residents, is that very little wood has been used in its construction, in keeping with green requirements.

The walls are made of rough-hewn granite, the cots and tables are made of granite and Cuddapah stones and the flooring is of terra cotta tiles of an attractive design. The pillars in the dining and common hall are also of granite. The ashram was designed and built by the well-known architect, Renu Mistry of Mistry Architects. She was awarded the prestigious SPECTRUM A + D HABITAT award for this project and is visited by students of architecture for observation and study.

The living accommodation consists of four blocks built on the circumference of a circle, which means that the blocks are within easy reach of each other. Each block has four sets of rooms. The two corner ones are 4-bedded measuring 26½ ft x 13½ ft the two middle rooms are 2-bedded, measuring 14½ ft x 13½ ft Each resident is provided with a cot, bed, wardrobe and table.

All rooms are provided with modem attached bathrooms. Hot water is provided by solar heaters; each block has a solar heater. There are two spacious and airy sit-outs in each block

Shantidham can accommodate 48 persons. In the centre of the blocks circle is the common hall where the residents meet each other. They play indoor games, hold prayers, read and even meditate here. The common hall is octagonal in shape.

CHAPTER 3 DATA COLLECTION

The building should be designed taking into consideration the differential needs, tastes and aspirations of the residents. In particular, it should cater to the physical needs of the residents – sleep, rest, food, pure air, pure water and clean environment. Next comes safety needs: general house safety, avoidance of pollution, accident, abuse. Then comes the psychological needs: contact, experience, privacy, activity, togetherness.

Location of an old age home

Land

The suitability of a site and of its environment for setting up an old age home must be carefully examined before a project is embarked.

The land chosen for housing an OAH should not be in a crowded/congested locality, At the same time, it should not be in a secluded/isolated area either.

It should be well connected by roads. This will enable the residents, workers, visitors and all others to have easy access to and from the home.

Public transport should be easily available.

Good accessibility to local facilities, health services, markets, shops, educational institutions and religious centres should be there Basic amenities such as water, sewage and electricity should preferably exist in the area.

It should be futuristic and be able to incorporate future amenities and needs.

The Home should preferably have a vehicle which will help in emergent situations (having to take a patient to the hospital). If there is no vehicle, arrangement with local transport agencies should be made to make available a vehicle on call. The concerned rules on vehicle hire published by the Government should be adhered in such cases.

The title to the property should be legally approved. It should be an authorized land holding Deed papers should be in order

In case it is on lease, ensure that it is for 99 years.

The size of the land should be large enough to permit the development of adequate outdoor area for both active and passive recreation.

Dimension of the land are important. A rectangular piece of land is ideal as it saves on construction cost and allows effective space utilization.

The quality of soil should be checked for strength. Soft soil requires deeper foundations, It may also add to construction cost.

The land should not be undulated but level. This applies to new sites. Sloping land should be avoided as steep gradient will adversely affect older person's mobility. This will also greatly add to construction cost.

Landscaping

The old age home should look like a living place – a home, not just a public building. It should preferably have enough greenery, flowers and foliage around . There should be convenience for benches to be placed in the shady area for the comfort of the older people.

Walkways

The land should have enough space for walkways as the residents would like to take a stroll during leisure times. In any case, walking should form part of the daily routine of an OAH resident as this would keep him physically fit. The walkways should be clearly marked with hedges. If the area permits, it will be desirable to have a jogging track.

Facilities to be provided in the building

Bedroom

Since an inmate spends a major part of his time in the bedroom it should be maximally convenient to the user. It should have all required furniture and other arrangements.

Single Room

If a single room, the older person will have complete privacy, sufficient storage space, a sense of safety and a “feeling of own”

The disadvantage is that the older person may not like to come out of the room and may generally “withdraw”. In case of emergency there may not be anybody near to attend to him. Further it is an expensive proposition.

Double Occupancy

It has most of the advantages of an individual room and at the same time it is economical. Care should be taken on selection and pairing of room partners.

Dormitory

A dormitory is a big room in which 6 to 10 older persons can be accommodated together. Each older person is provided with a bed space, a storage space and may be some sitting space. Temporary/permanent partitions may be put up between beds to provide privacy to each older person.

Things to be considered in arranging dormitories

- A maximum of only 10 residents should be admitted to a dormitory.
- Each resident should have at least 7.5 sq meters of bed room space. Each person must have a total of 12 sq meters of living space including the bed room space above and including ancillary areas like kitchen, dining hall, recreation room, medical room etc but excluding verandahs, corridors, etc.
- There should be separate dormitories for men and women. For each person, there should be standardized bed, a small cupboard and an arm chair. There should be arrangement for fixing mosquito nets. The doors and window also should have mosquito nets. There should be 5 ft. space between beds. Adjustable beds should be provided to needy

residents. There could be cubicles where two persons could be accommodated. This would provide more privacy to the inmates.

- Each resident should be provided one mattress and a pillow. It will be ideal if the mattress is covered with rexin. Windows should be provided in the dormitory for better light and free flow of air. However, care should be taken to prevent direct sunlight from entering in the room.
- There should be space between beds for movement of wheel chairs, use of walkers and convenience for moving the patient from wheel chair to the bed.
- Under no condition, should the inmates be required to use a common room or staircase for putting cots and permitting the residents to stay.
- There should be emergency light attached to each table and alarm bells at the bedside.
- Electrical switches and sockets should be safe and conveniently located for easy use of residents.
- There should be number board on the entry point on top of the door.
- Soiled clothes should be kept in bin with cover and height adequate for it to go underneath the bed.
- The bed room should not be next the common room or office area. Otherwise passers-by may barge in.
- There should be enough of natural light coming into the rooms. Provision should be made for sufficient artificial light as well.
- There should be some kind of connectivity of individual rooms so that in case of emergency the residents can approach each other.
- Each bed should have an independent cupboard or in-built storage space where the resident can keep his personal belongings.
- The storage space should be within reach.
- There should be a few extra hooks on the wall near the bed for older people to hang their walking sticks, caps etc. A stand for keeping clothes should be provided to each resident
- Each bed should have an emergency call bell switch. The main board should be in the warden's room.
- The night switches and sockets should be conveniently placed.
- As a rule of thumb, each bed should have a view of the window, especially in a dormitory. Ensure that windows have provision to cut off glare of the sun which is sometimes strong for older people to bear.
- Bedrooms should be properly numbered.
- Bathrooms and toilets should be central to the bedroom and not at the end of a long passageway. Ideally a bedroom should contain, in addition to a comfortable bed, a bedside cupboard, a dressing table that can serve as a writing desk, a bedside light, an arm chair, clothing cupboards, and an electric bell for summoning aid that can be operated from the bed or from the armchair.
- There should be one bathroom for every 7 residents
- Where the home consists of more than one storey, it must be equipped with an elevator. Smoking is forbidden as also storage or consumption of alcohol in bedrooms, use of electrical appliances such as kettles, tea or coffee makers and irons and the presence in

the bedroom of another resident of the opposite sex. Residents should notify a person in charge if they intend to be away from the home for a large part of the day

- There should be an isolation ward with a few beds for patients who are bedridden, or are needing end of life care. The ward could also accommodate persons with contagious diseases, and those who need palliative care. These persons should not be accommodated along with healthy and normal residents.

For walker users

At least 1500 mm turning-in space for wheelchairs should be kept near all entry points to the bedrooms.

Bedroom for the wheelchair/walker user needs more floor area to provide for wheelchair circulation. The bedroom layout should be such that the bed should not be in a corner of the wall. At least 900 mm should be provided for wheelchair from the side of the wall for access and should be large enough for transfer by a wheelchair user, or for a helper to assist in the transfer.

The bed should be at a height from the ground that permits wheelchair turning under the bed. A minimum 900 mm width should be kept in front of the bedroom and any other furniture. Night light should be provided in the bed room.

Bath and toilet

The older people have a tendency to go to toilets frequently all through the day. The toilets and bath rooms should be suitable for arthritic legs, obese body, failing vision, et. Badly planned and maintained toilets and bathrooms can become the cause of accidents in the OAH. Moreover, if they are not comfortable for use, the older people may resist going to toilets. This can lead to constipation and other health problems.

- There should be separate bath rooms and toilets for men and women
- In the old age home, the toilets would be used more frequently, so to avoid any stink, they should be planned to be slightly away from the main rooms.
- Bathrooms and toilets should guarantee full privacy and safety to the old persons.
- The bath and toilet should be on the same floor of the dormitory and preferably near the dormitory
- There should be one toilet for 7 residents and one bathroom for 10 persons
- There should be free entrance to the bath and toilet and also for free movement of wheel chairs
- The toilet should be of European type
- The wash basins should have a height where wheelchair could be easily maneuverer.
- The bath and toilet should have non-skid floors/tiles
- They should have free flow of fresh air and light and exhaust for impure air to exit
- There should be free availability of water in the bath and toilet.

Doors and locks

- All bath rooms must be fitted with outward opening doors whose locks can be opened from outside in an emergency

- The door handles should be of contrast colours so as to ease identification. Sliding doors can save on a lot of space and prevent accidents.
- Swing doors may be provided which opens in the direction of egress
- Large, easy to grasp door knobs or lever type handles could be used.
- The approach to bathroom, washbasin, W.C. and shower must be obstacle/barrier-free. It should have enough space for the wheelchair user to enter and exit.
- There should be enough space to accommodate a Helper(s)
- The underside of washbasin should be high enough to clear thighs
- The washbasin should be conveniently accessible by the wheelchair user
- The shelves should be within comfortable use of the old person and the wheelchair user
- The mirror should be so installed as to permit its use by wheelchair users
- The hand basin should be secure enough to withstand the weight of the older person.
- The taps for bath and washbasins must be easy to operate
- Wash basin should be positioned a minimum of 400 mm (16") and a maximum of 450 mm (18") away from the side wall to leave room for a wall grab rail and lavatory roll holder. Shower cubicles should have seats whose width and height facilitate easy gripping by wheel chair users.

Grab rails

Grab rails will generally be required beside the W.C., washbasin and the bath. The grab rails should be able to withstand a pulling and hanging load of 300 pounds

Upward-folding support bars are recommended to allow lateral transfer from a wheelchair.

Other considerations

- The furniture should not have sharp edges.
- The floors of bathrooms and toilets must be non-slip
- There should be nightlights in the toilets
- Proper ventilation should be ensured to prevent any suffocation on part of the residents
- In the absence of running water supply, big water tanks should be provided. This is important because the toilets would be in frequent use.

Corridors and staircases

- The access route to various rooms should be interesting, with natural light wherever possible.
- Plants may be kept on the sides of the corridors to act as guiders
- Steps should not be introduced into corridors. If change in level is unavoidable, then ramp may be provided. For general circulation, the minimum corridor width should be 1200 mm.
- It is essential to provide handrails along the walls on either side of the corridor. The handrails should be at suitable height above the floor level.

- The rise of the steps should not exceed 6” and the tread or going should not be less than 11”
- Hand Staircase should be easy to climb without long flight of steps.
- Rails should be fitted on both sides of stair flights
- The stairway should enjoy natural light and ventilation.
- Handrails should be extended 12” at top and bottom of the staircase and the ramps. The ends of handrails should be rounded
- There should be night-light in the corridors
- The furniture should be light weight, sturdy and without sharp edges
- The home should have sufficient firefighting equipment.
- The equipment should be suitably placed/located and periodically recharged.