

Prevalence and Management of Geriatric Diseases in Elderly Homes: A Case Study in Kathmandu



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Prevalence and Management of Geriatric Diseases in Elderly Homes: A Case Study in Kathmandu

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Abstract

Concerns over the health of elders are increasing in Nepal along with the unprecedented growth of this population. Yet there is little baseline information on the prevalence of geriatric diseases among the elderly which is an obstacle for health care planning and management. This case study explores the prevalence of chronic diseases and the management system in three old age homes in Kathmandu. The data were collected by reviewing medical records, interviewing managers and direct observations. It was found that over 50% of the residents were diagnosed with at least one health problem. Gastritis, hypertension, arthritis and infections were the most common diseases. Females suffered more compared to male in general. Prevalence of diseases was common mostly among the residents aged 70-79 years. All old age homes faced a lack of trained human resources and financial constraints. Some basic facilities such as sick room, routine investigations, and geriatric rehabilitation were also not available. Recreational activities were infrequent and meals were not served according to the health condition of residents.

8. Introduction

The increase of elderly population inevitably leads to an increase in age related diseases and serious constraints on their quality of life. A research published in the journal of the American Geriatrics Society revealed that 56% of the adults had at least one of the chronic diseases. The research was conducted among more than 11,000 people aged 65 and older (Yoshikawa, 2009). Similarly Naughton et al. found that over 86% of Irish elderly population experienced chronic conditions associated with ageing. The main diseases were related to cardiovascular, central nervous, musculoskeletal, respiratory systems, gastrointestinal disorders, diabetes and cancer (Naughton et al, 2004).

In South Asia, prevalence of chronic diseases differs greatly across the nations. In a study undertaken in five countries, almost 23% of men and 32 % of women aged 25-64 had at least one of the chronic health conditions such as joint problems, heart diseases, diabetes, pulmonary diseases and hypertension (Minh et al,2005).

Nepal is a developing country that is experiencing fast increase of elderly population. Total population of the country in 2010 is estimated to be about 28 million of which almost 8% people are aged 60 and over. The percentage of elders is estimated to double by 2017. The annual growth rate of seniors is higher (3.4%) compared to that of total population (2.1%) in the country (USAID 2009, Dahal, 2007, Chalise HN, 2006).

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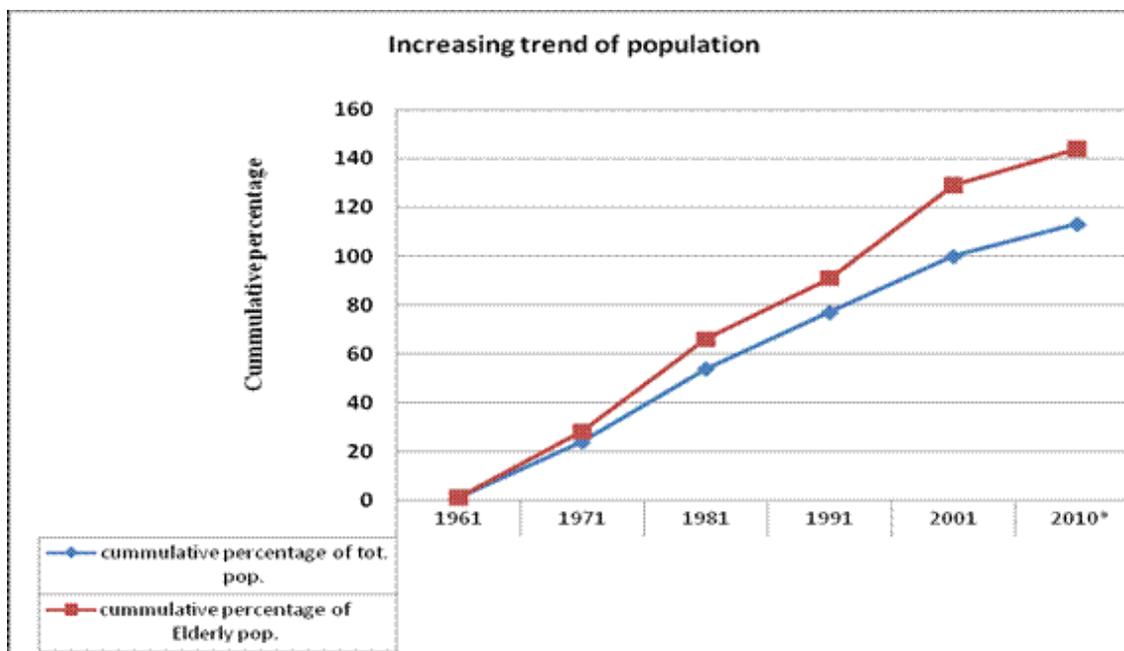


Fig.1.

Population trend of Nepal (1961-2010) *Source:* Central Bureau of Statistics, 2002

The cumulative growth of elderly population in Nepal remained above 140 percentages in the period 1961 and 2010. In this period, the increasing trend always remained higher than the total population. This trend has increased the burden of diseases, demand for health care, social assistance, care homes and other managerial issues. However, the challenges have not been well realized in Nepal which is evident by the absence of any specialized organization, coherent plans and programs to address the concerns of seniors. The Senior Citizen Act formulated by the government in 2006 does not comprehensively spell out the physical, emotional, social and spiritual health needs of ever growing elderly population.

Official data of Social Welfare Council shows that the total number of old age homes (OAHs) registered as of 2005 was 153. However, most of these homes either do not exist today or operate in very poor condition. Only about twenty homes are currently functional through out the country. A recent study has shown that most of them fall far below the standards set by the government. Their space per resident, sanitation condition, staff and health care facilities do not meet the government prescribed criteria. Even the only one government run elderly home established 34 years ago is in poor condition. None beds and facilities have been added to this OAH since its establishment (Lions Club, 2009; Tiwari, 2010).

Majority of the elderly homes in Nepal are concentrated around urban centers mostly in the capital city of Kathmandu. Presently, about 1500 seniors are being catered in different elderly homes covering less than 1 % of the actual need. OAHs in Nepal are meant for seniors who are unable to stay with their family or are destitute. These people are one of the most vulnerable groups suffering from geriatric diseases.

There is no baseline information available on the prevalence of chronic diseases among elderly residing in OAHs. Hence, the focus of this case study was to generate reliable

information on common health problems and to gain better understanding of disease management system in the three OAHs located in Kathmandu. These homes are selected purposefully as they are among the largest elderly homes in the country in terms of capacity and occupancy. It is expected that it could be synthesized and generalized with some degree of confidence to represent the situation in other OAHs across the country. The three homes selected for the study were as follows:

- a. **Pashupati OAH:** It is the only one OAH run by the government. It was established in 1976. Its location near the famous shrine of Pashupati Temple in Kathmandu is its main attraction. The government provides limited budget to run the home. Donation from generous people is another source of income.
- b. **Nishahaya Sewa Sadan:** This is a non-governmental organization established in 1991. It is the centre for neglected and helpless people. The main sources of fund are seed money received from its founding members together with donations from individuals and institutions. The residents from well off family pay for their living cost whereas poor can get free services.
- c. **Amako Ghar:** It is a charitable trust established in 1997 by a Nepalese woman named Dilshova Shrestha on her own. In the beginning, she started to serve a few abandoned old women who had no means of living. The trust is being run with the personal fund. Some costs are met by donations from individuals and organizations. All services in this home are free of cost.

9. Justification and objectives

There are limited literatures available that give comprehensive information on general health condition of seniors in elderly homes. Some studies (Acharya 2007, Tiwari 2010) have reported unhealthy conditions of almost half of the residents in various old age homes in Nepal. However, the information was limited to self reported illness by the residents. The study lacked specific information on the prevalence of specific diseases and their management system.

Accurate and reliable disease prevalence data are required both from an epidemiological and strategic health care planning perspective. No any study has ever attempted to look into the prevalence of diseases and their management based on health records. In addition, there is absence of data management system in the OAHs. The government of Nepal annually compiles information on major diseases among the general population based on statistics of hospitals and health service outlets across the nation. However, the information is not properly managed that could give general understanding of geriatric diseases (GCN, 2009).

In this backdrop, this research study was carried out to identify the geriatric health problems using medical records in the three selected elderly homes. Disease management system was also examined. It is expected that this study will provide a general understanding of health issues of seniors and will provide benchmark information for planners, managers and academia.

The overall objective of the study was to assess common geriatric health problems and their management system in elderly homes. The specific objectives included:

- To find out prevalence of diseases among the residents.

- To examine health facilities and disease management system in OAHs.
- To identify human resource available for care.
- To suggest intervention for improvements.

10. Methods

Prevalence of a disease is defined as the total number of cases of the disease in the population at a given time. A cross-sectional study was conducted using primary and secondary data from three OAHs. Both male and female residents aged 60 and above (total 267) and whose medical information was available were included in the study. Some adults below 60 years old and those whose medical records were not available were excluded from the study. Following three techniques were used for information collection.

- Medical records review:** The medical files available in three OAHs were collected and reviewed. The doctors' prescriptions and investigation reports of individuals within a year (Nov. 2009 to Oct. 2010) were studied to get information on diagnosis and prescribed treatment.
- Interviewing the key persons:** Primary information on treatment facilities, referral system, cost bearing and available human resource were obtained by interviewing health professionals, caregivers and OAH managers.
- Direct observation:** Existing health facilities in the three OAHs such as first aid box, oxygen cylinder, sick room, yoga room and drug store were inspected using a carefully designed check-list.

Data were analyzed using basic statistical tools in Microsoft Excess and are presented in frequency tables and figures.

11. Limitations

This study covers only three OAHs in urban setting, therefore generalization to other OAHs in different parts of the country needs caution.

12. Findings and discussion

5.1. Profile of OAH

Table 1 show that the three OAHs significantly vary in type, capacity and occupancy.

S.N	Name of OAH	Type	Capacity (N= 295)	Occupancy (N= 282)
1	Pashupati OAH	Government	230	225 (98%)
2	Nishahaya Sewa Sadan	NGO	35	32 (91%)
3	Aamako Ghar	NGO	30	25 (83%)

Table 1. Type, capacity and occupancy

The occupancy rate in two OAHs was above 90% except in Aamako Ghar where only 83% seats were fulfilled. The vacant seats were due to the recent death of residents. The process of admitting other people was ongoing in the study period.

Table 2 shows the number of residents in each elderly home and sample size of the study. Out of total 282 residents, 267 people were included in the study.

S.N	Name of OAH	Number of Residents (N= 282)	Included in the study (N=267)
1	Pashupati OAH	225	217 (96%)
2	Nishahaya Sewa Sadan	32	32 (100%)
3	Aamako Ghar	25	18 (72%)

Table2. Study population and sample size

In Nishahaya Sewa Sadan, all residents were aged 60 and above and their medical files were also available (100%). In rest of the homes, medical records of 9 residents were not maintained. Similarly, 6 of the residents were not included in the study as they were below 60 years of age. It is worth noting that in Pashupati and Nishahaya Sewa Sadan, the minimum age for entry was set 65 years. However, there was no any age limit in Aamako Ghar.

5.2. Demographic information

Residents' Age

It is seen in Table 3 that a majority of residents (54 %) belong to age group 70-79. Residents aged 80-89 were in second majority (26%).

SN	Age Group	Number of residents (N= 267)
1	60-69	49 (18%)
2	70-79	144 (54 %)
3	80-89	66 (25%)
4	90 and above	8 (3 %)

Table 3. Age Distribution of residents

Only a handful of residents (3%) were aged 90 and above. It is interesting to note that the most senior women in Aamako Ghar was 102 years old.

Gender Distribution

The study revealed that females were occupying a large majority compared to males (64% and 36 % respectively). This finding is consistent with the study of Acharya (2007) that also reports a large number of female occupants in seven elderly homes.

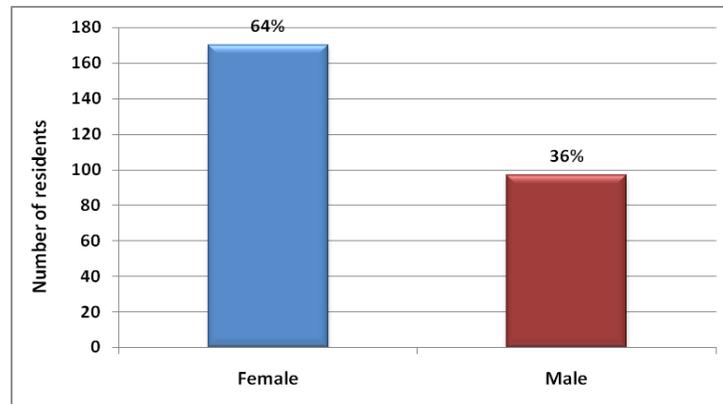


Fig. 2. Residents by gender

Nepal is predominantly a patriarchal society. This factor may also have contributed to higher number of women in OAHs. Usually females are economically dependent and are often neglected by their family. Many of such neglected, poor and destitute old women resort to shelter in charitable old age homes.

Caste/ Ethnicity

In Nepal, there are more than 100 caste/ethnic groups with distinct language and culture. This variation is also reflected in resident population as shown in table 4. Among all, Bramin/Chhetri and Newar were in majority occupying 53% and 25%, respectively.

SN	Caste/Ethnicity	Number of Residents (N= 267)
1	Bramin/Chhetri	142 (53%)
2	Newar	67 (25%)
3	Tamang	16 (6%)
4	Gurung	8 (3%)
5	Lama	5 (2%)
6	Magar	5 (2%)
7	Others	22 (8%)
8	Not Known	2 (1%)

Table 4. Caste/ ethnicity

Brahmin and Chhetri have been the dominant caste group for a long time comprising almost 29% of the population (The Great Himalaya Trial 2009). The study found some residents from Bhujel, Damai, Gharti, Majhi, and Mali caste/ethnic groups. These caste/ethnicity are traditionally considered a lower social class in Nepal. Information could not be obtained for two seniors who were deaf and dumb.

Birthplace of Residents

The birth place of the residents is shown in table 5. Most of the residents were originally from Bagmati zone (84%). This zone is located in the central part of Nepal with 16 districts including Kathmandu. A large majority of the elders were from Kathmandu city. Rest of the residents

came from diverse places such as Janakpur, Narayani, Gandaki, Mechi and Seti. One woman in Aamako Ghar was from India.

S.N	Birthplace by Zone	Number of Residents (N= 267)
1	Bagmati	224 (84%)
2	Lumbini	4 (1.5%)
3	Koshi	4 (1.5%)
4	Other	35 (13%)

Table 5. Birth place of the residents

Similar finding was reported by Nakarmi (2009). These studies support the fact that elders tend to seek shelter in the OAH closer to their birth place.

Residents’ Duration of Stay

Fig. 3 reveals that majority of the seniors had been staying in OAH for 1-10 years (71%). It is interesting to note that some occupants of Pashupati OAH were residing for more than 30 years.

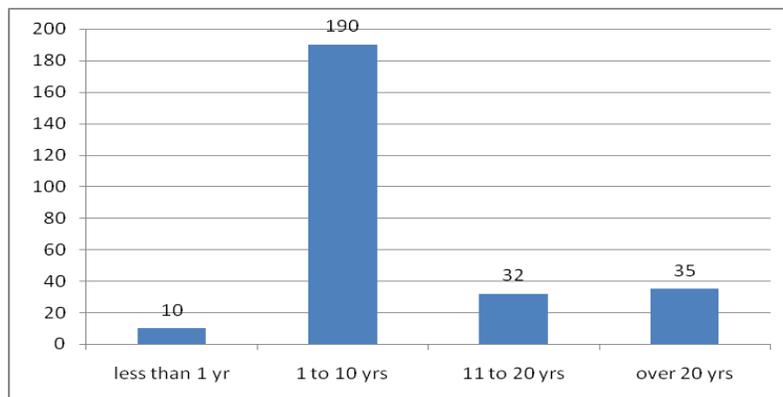


Fig.3. Duration of stay in OAH

This finding agrees with the findings of other similar studies by Acharya 2007 and Surya 2010. All such findings leads to conclude that that once the occupants enter into an OAH, they tend to stay there for the rest of life.

5.3. Health Information

Health Status

Residents were divided into two categories based on whether or not they had to consult a doctor for the health problem experienced in the last one year. Fig. 4 illustrate that 53 % of the elderly population had experienced at least one disease condition.

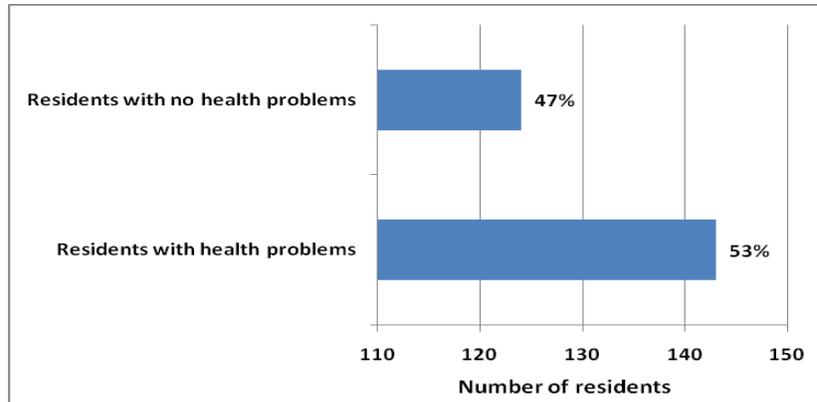


Fig.4. Health status of the residents

The higher number of ill people might also be due to the general trend that they come to live in OAH once they already suffer chronic illness and become unable to continue to live on their own.

Prevalence of Geriatric Diseases/Disorders

The study covered a period of Nov. 2009 and Oct. 2010. Table 6 demonstrates the prevalence of various geriatric diseases/disorders among the residents by gender.

SN	Disease	Prevalence Among Residents (N=267)	Prevalence Among Males (N= 97)	Percentage Among Females (N= 170)
1	Gastritis	38 (14.%)	3 (3 %)	35 (21%)
2	Hypertension	35 (13.%)	8 (8%)	27 (16 %)
3	Arthritis	25 (9.%)	10 (10%)	15 (9%)
4	Infections	24 (9.%)	5 (5%)	19 (12%)
5	COPD	12 (4.5%)	4 (4%)	8 (5%)
6	Eye problems	11 (4.%)	7 (7%)	4 (2%)
7	Back pain	8 (3.%)	4 (4%)	4 (2%)
8	Headache	8 (3.%)	3 (3%)	5 (3%)
9	Mental illness	7 (2.5 %)	3 (3%)	4 (2%)
10	Diabetes	7 (2.5%)	1 (1%)	6 (4%)
11	Asthma	5 (2%)	1 (1%)	4 (2%)
12	Paralysis	5 (2%)	2 (2%)	3 (2 %)
13	Heart disease	3 (1%)	1 (1%)	2 (1%)
14	Other problems	33 (12%)	14 (14 %)	19 (12%)

Table 6. Prevalence of disease/disorders among the residents by gender

The table reveals that among 14 categories of diseases, gastritis and hypertension were found to be the most common diseases (14% and 13% respectively). The prevalence was more common among females.

Arthritis was also one of a leading chronic disease among the residents (10%). Males had slightly higher prevalence than females; 10% and 9% respectively. Almost 9% of the residents suffered

from various infections that included eye, chest, urinary tract, cellulites and fungal infection. Other infectious diseases prevalent among them were Leprosy (4 cases under treatment), a TB case (cured) and a Typhoid (under treatment). It is interesting to note that one of the residents in Pashupati developed maggots in infected wound on his leg but was subsequently cured. Women suffered more from various infections than males (12% and 5% respectively). Similarly, COPD was slightly higher for females (5%) than for males (4%). In contrast, eye problems were prevalent more significantly among males (7%). It includes eye infection, dryness, cataract and myopia.

The prevalence of rheumatic heart diseases is very high in developing nations which ranges from 1/1000 to 5/1000 (Koju 2004). Our study finds that less than 1% of the seniors experienced heart diseases like ischemic heart disease and rheumatic heart disease.

The other general problems that were observed in elderly homes include hernia, uterine prolapsed, fracture, prostate enlargement, indigestion, fever, body-ache, joint pain, stomach pain, constipation, cough, cold allergy, pulmonary cancer, piles and varicose vein.

Single/ Multiple Disease Conditions by Gender

Fig 5 shows the status of geriatric diseases/disorders by gender. It can be seen that compared to men, more females suffered from single and multiple diseases in general.

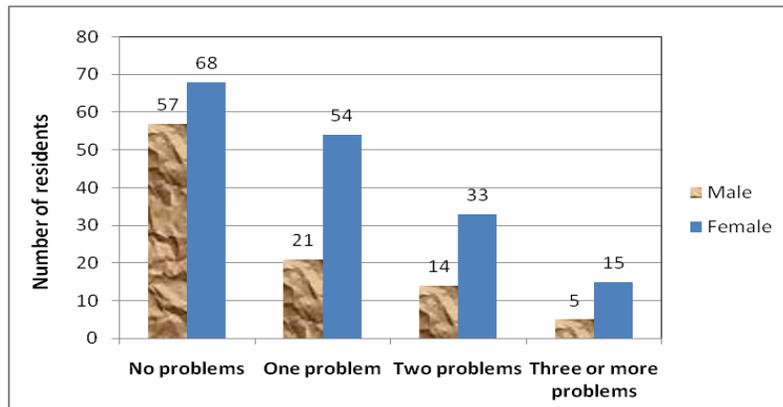


Fig.5. Diseases/ disorders by gender

A study conducted in five countries of South East Asia, chronic conditions were commonly reported among adult women. That study revealed that 22.7% of men and 31.6% of women had at least one of the chronic health conditions such as joint problems, heart disease, diabetes, pulmonary disease and hypertension. Some of them (13%) suffered from multiple diseases (Minh et. al 2005).

Disease / Disorders by Age group

Diseases/disorders were analyzed in four different age groups of the residents (Table 7). Most of the diseases were common among the residents of 70-79 year of age.

S.N	Problems	Age	60-69 yrs	70-79 yrs	80-89 yrs	90 yrs and over	Total
1	Gastritis		10	15	11	2	38
2	Hypertension		6	17	10	2	35
3	Arthritis		4	13	5	3	25
4	Infection		4	11	9	0	24
5	COPD		1	9	2	0	12
6	Eye Problem		2	7	1	1	11
7	Back Pain		2	3	2	1	8
8	Headache		0	5	2	1	8
9	Mental illness		0	6	1	0	7
10	Diabetes		2	3	1	1	7
11	Asthma		2	1	2	0	5
12	Paralysis		2	2	1	0	5
13	Heart		1	2	0	0	3
14	Other problems		7	16	7	3	33

Table 7. Diseases/disorders by age group

13. Management of Geriatric Diseases in OAHs

Information on management of diseases was obtained in the following areas by interviewing managers and health staff. The study team also observed health facilities in each of the three elderly homes.

a. Medical consultation

It was found that doctors voluntarily visit each OAH on a regular basis. Usually all of them visit the premises 2-3 days a week. They examine patients, prescribe medicines and refer to appropriate health facilities. The doctors were available on call as well. It was disclosed that in Pashupati OAH, the same doctor had been serving the occupants for a long time. Similarly in Nishahaya Sewa Sadan, a doctor had been running his clinic for several years where the ill residents could have medical consultation. In Aamako Ghar, an Aurvedic doctor had been working for the last five years. In exception to other OAH, Nishahaya Sewa Sadan had deposited 25000 rupees in Kathmandu Medical College and Teaching Hospital at Sinamangal to use medical services where the residents could get 25 percent discount in total cost.

b. Health professionals

All of the studied elderly homes were found understaffed. Only the OAH at Pashupati had a permanent position for Senior Auxiliary Health Worker. A volunteer Auxiliary Nurse Midwife was also found serving in OAH. The government standard for an OAH is to have at least one health professional for every 10 residents (Tiwari, 2010). However, the ratio of

health professionals and residents in government-run home was found to be 1 in 112 residents. In this OAH, Sisters belonging to the Missionaries of Charity were providing assistance. Volunteers from variety of background also helped occasionally.

It is interesting to note that the other two OAHs were not staffed with skilled health professionals. Only two caregivers in Aamako Ghar and one in Nishahaya Sewa Sadan were found serving the residents but they lacked professional training. It is clear to see that all these OAHs were far below the standard criteria set by the government in terms of human resources. It was also found that the health professionals and caregivers were responsible to provide medicines, first aid treatment and other medical help as necessary. They also report the patients' complaints and their conditions to the doctor regularly.

c. Health facilities

The study team inspected existing medical facilities in OAHs using a pre-tested check-list. First Aid Box, Oxygen cylinder and a drug store were available only in Pashupati OAH. However, none of the premises had any ambulance service and sick room for isolation. It suggests that there was a high probability of disease transmission among the residents.

d. Recreational facilities

Recreational activities are needed to uplift mental health and social needs of people. Health conscious activities such as Yoga were regular in Nishahaya Sewa Sadan by a volunteer yoga teacher. Places for entertainment and religious activities were available in the two OAHs; Pashupati and Nishahaya. However, recreational activities and religious ceremonies were organized irregularly. The managers were unaware of this insufficiency. Some of the female residents were found to be engaged in making cotton thread (Baati) as per their hobby which they often sell for their pocket money. One of the occupants in Aamako Ghar had the skill to use cover papers of chocolate and biscuits to make household mats.

e. Geriatric rehabilitation

Practice of geriatric rehabilitation in OAHs was assessed considering its need for seniors to lessen the risk of diseases. However, no such practice could be traced in any homes studied.

f. Provision of meal according to disease

It is important that food should be provided to the residents according to their health conditions. Patients with hypertension should be supported with low salt diet and diabetes cases needs low calories. Such management was observed only in Nishahaya Sewa Sadan. In rest of the OAHs, all residents shared the same meal from same cooking utensils with out considering the specific health need of an individual.

g. Regular investigations

Patients with some specific diseases such as diabetes needed regular investigation. However, there was no any such provision in any OAH.

h. Personal hygiene

Each of the OAH had a routine for giving wash or shower to the residents. They also had laundry services once in a week. Those who were relatively capable of helping themselves

were encouraged to independently maintain their own hygiene. Sufficient water supply was available except in Aamako Ghar.

i. Health budget:

All OAHs had to pay for medical costs for the residents. Only Pashupati OAH received government budget in the range of 400,000 rupees annually for medical expenses. Other two OAHs had to manage the costs from charity and donations. Their annual budget could not be traced.

j. Medical record keeping system

All OAHs had medical files of each resident. However, the records were not maintained efficiently. In addition, there was no computerized record keeping system. It is an obstacle for the planners, managers and academia to have easy access to information.

14. Conclusion

This study revealed that more than half of the residents in OAHs were suffering from at least one of the chronic illnesses (54%). Among all, hypertension, gastritis and arthritis were the leading diseases where females were found more vulnerable..

The physical, mental, social and spiritual needs of the elders were not well recognized in OAHs in general. All of them were facing lack of trained human resources and financial constraints. The disease management system was ineffective. For instance, sick room, recreational facilities, provision for regular health check-up, routine investigations, food according to specific diseases and geriatric rehabilitation were not available in all homes. The study also revealed a severe understaffing condition. Even Pahupati OAH run by the government had only two health staff and a doctor serving for 225 residents. Rest of the two had no any health staff except a doctor. None of the elderly homes had any computerized health records. Following recommendations are made based on the above analysis and synthesis.

1. There is an urgent need for the development of computerized health records that may help in the design of new prevention strategies in elderly homes.
2. Government should establish some basic criteria for health facilities to be set up as model. Each OAH should meet the ratio of health professional and residents as per the standard set by the government. Health investigations should be made more regular.
3. A separate sick room should be made compulsory criteria to prevent cross infections.
4. Clinical services should be made available for 24 hours in all OAHs.
5. Considering the benefit of health activities like yoga and other recreational programs, provision for such services should be made compulsory in every OAH.
6. Health professionals and caregivers need to be trained through in-service training about the growing geriatric diseases so that they could improve their skills.
7. A study with comparative survey will be useful to generate more reliable information on prevalence and management of geriatric diseases in all OAHs in Nepal.

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Study Team

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Krishna M. Gautam Founder Chairperson, Ageing Nepal, Study Team Member	<ul style="list-style-type: none"> - Master of Economics from UNE, Australia (1986); BSc. Agri. (Hons) from PAU, India (1977); - Formal Training on agriculture and rural development project planning, implementation support, and M&E; alternative energy technologies (Solar: Florida, USA; Biogas: China) - Started career as Assistant Lecturer in 1978, 30 years professional career in agri. And rural development as institutional development specialist, program planner, trainer and socio-economic researcher. - Founder of various professional, philanthropic and literary institutions in Nepal, - Worked in India, Nepal and China as consultant to irrigation projects with USAID, Asian Dev Bank, UNDP and WB. - A national literary figure with pen-name “Chatyang Master”, authored six books - Winners of various literary and academic awards.
Sakila Neupane Data Manager	<ul style="list-style-type: none"> - Undergraduate of Sociology - More than six years experience in social marketing research - Trained in basic computer application and data processing
Kushal Gautam Research Assistant	<ul style="list-style-type: none"> - Undergraduate student of science; experience with social service in philanthropic organizations; skill in radio program production.