

A Comparative Study on the Living Conditions and Nutritional Status of Elderly in Paid and Unpaid Homes of Chennai, India

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Abstract: *The transition from the traditional pre-industrial to modern phase of development of society in India has in many ways changed the social context of the adjustment of the aged. In India, the elderly population depends heavily on the family for economic and emotional support. With joint family system, slowly diminishing the elderly are now being placed in 'Homes' and left to the care of such Organizations. This study compares the living conditions and nutritional status of elderly in selected paid and unpaid homes in Chennai, India. The living conditions and physical facilities provided are also assessed and compared. The nutritional status of one hundred and forty elderly from paid and unpaid homes was assessed using subjective, anthropometric and clinical parameters. The BMI of the elderly in unpaid homes was within the normal range of 17.5 to 24.9kg/m². It was found that the women in the age group of 52 to 64 years had higher BMI than their older in both the sexes. The women in the 75+ age group range were malnourished while the rest were normal in paid homes. The clinical signs of nutritional disorders were, in general, not specific and mostly associated with old age. The awareness levels of elderly in nutrition knowledge revealed a mean 36%. Significant differences were observed between homes on their opinion towards food provided, physical facilities available, nutritional knowledge and sanitary conditions. However, individual differences were also observed within the homes in all the criteria assessed.*

Key words: *Elderly, Institutionalization, Nutritional Status, Paid Homes, Unpaid Homes*

I. INTRODUCTION

The population of the aged is on the increase the world over as never before and holds a serious social and economic implication. India is a 'mature' community and with the population above 60 years increasing steadily, by the turn of the century it will become an ageing society.

People over 54 constitute about 12.4% of the Indian population. According to the United Nation's Population Fund (UNPF) and Help Age International, India has around 100 million elderly at present and the number is expected to increase to 323 million constituting 20% of the total population, by 2050^[1]. Irudaya Rajan and Kumar (2003) analyzed the National

Family Health Survey (1992 – 93) data and found that a large majority (88%) of the older persons in India live with their kin^[2]. Despite the belief that children are the security of the aged, institutions for the aged are mushrooming since the 1990's. In 1998, India has 728 old age homes^[3] while the recent statistics reveal that there are 1281 old age homes in India^[4]

These demographic changes has been accompanied with a fast changing family structure due to forces like urbanization and migration which are not quite conducive to the welfare of the elderly^[5]. The institutionalization of the elderly which began as early as 1901 still remains inadequate when compared to the structured institutions of the West^[6].

The trend clearly reveals that ageing has become a major social challenge and vast resources will be required towards support, care and treatment of the older persons^[7].

Many factors are likely to influence the levels of institutionalization among the old. These include the availability of family support for old people who are no longer able to maintain full independence, income, housing, provision of health and welfare services and prevalence of mental and physical disability.

Among the numerous environmental / external factors that modulate ageing, nutrition plays a significant role. The inseparable triad of nutrition, ageing and health is the logical basis for appropriate management of problems that arise and interfere with the interdependent factors.

In India, this section of the population depends on their children for physical, moral and financial support. However, owing to the socio-cultural changes occurring in India and the joint family system slowly diminishing the emergence of institutional homes is on the rise with steady increase in the number of inmates joining institutions.

The elderly taking shelter in old age homes are either willingly or forced to live in such circumstances for varied reasons. With this the elderly may perceive to live in an environment which is either alien to their own and or adapt to the changing environment and circumstances imposed on them. This study focuses on the physical facilities, sanitary conditions, nutritional status and nutritional knowledge of elderly in old age homes and compares the variables between paid and unpaid homes.

II. METHODOLOGY

Study design:

Selection of Homes: Two paid and two unpaid homes in the city of Chennai were selected based on purposive sampling from the list of homes published by “Vishranthi Charitable Trust” under the Help age India, Chennai Region.

Selection of sample: All the inmates aged >52 years willing to respond to the investigator, having no physical disabilities like being stone deaf, dumb, lame and not bedridden were selected from two paid homes (PH1 and PH2) and two unpaid homes (UP1 and UP2). A total of 140 participants formed the study group out of which 68 and 72 inmates were from paid and unpaid homes respectively.

Tools for Data Collection: A pre-tested Interview Schedule; Knowledge Assessment Questionnaire (KAQ); Observation Schedule and Clinical assessment schedule published by NAC ICMR was used to elicit information from the inmates on the a) General information b) Anthropometric measurements which includes Height, Weight, Mid –Arm Circumference c) Nutritional Knowledge and d) sanitation in and around the homes.

Statistical Analysis: The data collected were subjected to a) Arithmetic mean and Standard Deviation b) Multiple Analysis of Variance (MANOVA) and c) Distance matrix.

III. RESULTS AND DISCUSSION

The nutritional status of one hundred and forty elderly from paid and unpaid homes was assessed using subjective, anthropometric and clinical parameters. The sanitary conditions in and around the four homes were also observed.

General Information

Age: The age of the respondents was found to range from 52 to 85 years. 18% belonged to 52-64 years, 37% belonged to 65-74 years and 45 % of them were 72 years and beyond.

Sex: 41% men and 59% women were institutionalized in both paid and unpaid homes.

Life style pattern

Education: A majority (61%) of inmates in unpaid homes were high school dropouts in unpaid followed by illiterates (24%), higher secondary school education (11%) and graduates (4%). A majority (40%) of inmates in paid homes were high school dropouts followed by inmates having higher secondary school education (32%), graduates (18%), and illiterates (10%).

Occupation: 84% in paid homes had been sedentary workers, 15% heavy workers and 1% moderate workers while 64% in unpaid homes had been sedentary workers, 32% heavy workers and the rest moderate workers. One out of every two women in paid homes had been working before being institutionalized and 59% in unpaid homes had been employed.

Family Type: All the respondents had come from nuclear families in unpaid homes while 71% in paid homes had come from nuclear families.

Nutritional parameter

Anthropometry:

The respondent’s height & weight were measured, based on which BMI was calculated for each subject. The mean height of the male inmates in paid and unpaid homes were observed to be 158.6±3.7 and 156.5±1.4 cm respectively. The mean height of the female inmates in paid and unpaid homes were observed to be 151.8±3.0 and 142.0±3.4cm respectively.

The mean weight of the male inmates in paid and unpaid homes were observed to be 55.5±3.3 and 49.9±1.9 cm respectively. The mean weight of the female inmates in paid and unpaid homes were observed to be 58.8±2.1 and 46.4±1.2cm respectively.

The average BMI of males in paid and unpaid homes were 21.9 + 1.6 and 19.4 + 1.9 respectively and the average BMI of females in paid and unpaid homes were 19.9 + 0.8 and 20.6 + 0.3 respectively.

The BMI of all the age groups was well within the normal range except for women in the 75+ age group who were malnourished even extending to the severe malnourished stated of body mass index ≤ 11.5. Maximum deviation was found in men in the 52-64 years age group.

The Mid-arm circumference was found to be higher in men. There was little difference within the age group of both men and women in paid and unpaid homes

Clinical assessment:

The clinical signs of nutritional disorders were, in general, not specific and mostly associated with old age.

Nutritional knowledge

The Knowledge Assessment Questionnaire (KAQ) developed to assess the knowledge levels on food and its functions; balanced diet; nutrients and its sources; role of nutrients in the human body; common nutritional deficiencies revealed a mean score of 22 against a maximum score of 50. 35% of the subjects scored 22, 27.5% scored 16, 22.5% scored 28 and 15% scored 26.

The knowledge levels of the subjects on disorders due to certain nutrients and therapeutic importance of food was the least followed by role of nutrients in the human body.

Table 1: Comparison of Paid Home 1 with Unpaid Homes 1 and 2

S.No.	Variables	PH1 & UH1	PH1 & UH2
		F	F
	Height	7.84	0.07
2	Weight	3.14	1.43
3	MAC	1.81	0.77
4	BMI	0.12	1.40
5	Clinical	1.37	0
6	Family Details	36.57*	12.44**
7	Pathology	3.85	9.71**
8	Opinion on Food	29.35*	17.26**
9	Physical Facilities	130.67*	48.74**
10	Nutritional Knowledge	11.68**	13.21**

S* - Significant at 1% level; S** - Significant at 5% level

The four significant variables found when comparing PH1 and UP1 are the family background, opinion on the food provided, physical facilities and nutritional knowledge. Opinion of food is an additional factor that distinguishes paid homes from unpaid homes. There was a significant difference in opinion concerning food, between these homes. This factor influences the mood of the elderly and in turn the amount of food consumed. Both quality and quantity are important factors in determining the nutritional status of the senior citizens. The clinical signs of nutritional were, in general not specific and mostly associated with old age. The general pathological conditions observed and the administration of drugs do not appear to significantly influence the nutritional status

The five factors that were found to be significant are: family background, pathological problems, opinion on the food provided, physical facilities and nutritional knowledge. The common pathological problems faced by the senior citizens were hypertension, constipation and arthritis. The other problems included loss of memory, hearing, vision, teeth and memory loss.

Table 2: Comparison of Paid Home 2 with Unpaid Homes 1 and 2

S.No.	Variable	PH2 & UP1 F	PH2 & UP2 F
	Height	13.51*	0
2	Weight	9.17**	0.43
3	MAC	6.95	0.25
4	BMI	0.03	0.79
5	Clinical	0	2.58
6	Family Details	33.39*	16.52*
7	Pathology	0.95	4.58
8	Opinion on Food	24.54*	16.51*
9	Physical Facilities	6.38	0.49
10	Nutritional Knowledge	11.97**	13.61*

S* - Significant at 1% level; S** - Significant at 5% level

A significant difference was observed in the weights, family background and opinion on food between senior citizens belonging to PH2 and UP1. There is also a significant difference in the nutritional knowledge between these two homes.

There is a significant difference in the weights of senior citizens belonging to PH2 and UP2. The difference in weights of senior citizens may be contributed by one or more of the factors which are: heredity, socio-economic status, the food and nutritional knowledge. There is significant difference in the opinion on food provided in the homes, family background and nutritional knowledge between these two groups. Hence a significant difference in weight of senior citizens belonging to PH2 and UP2 can be attributed to family background, food provided in the homes, and nutritional knowledge. There is also a significant difference in the physical facilities offered by PH2 and UP2 which reflects the economic factor.

Table 3: Comparison between PH1 and PH2

S.No.	Variable	F	Sig. of F
1	Height	0.11	NS
2	Weight	0.43	NS
3	MAC	0.35	NS
4	BMI	0.26	NS
5	Clinical	2.33	NS
6	Family Details	2.37	S
7	Pathology	0.91	NS
8	Opinion on Food	74.79	S*
9	Physical Facilities	46.88	S*
10	Nutritional Knowledge	0.17	NS

S* - Significant at 1% level; S** - Significant at 5% level

The only two of the ten variables found to be significant between PH1 and PH2 are food provided in the homes and physical facilities. The opinion was studied in terms of quantity, quality, taste, consistency and the menu pattern.

Table 4: Comparison between UP1 and UP2

S.No.	Variable	F	Sig. of F
1	Height	9.91	S**
2	Weight	15.40	S*
3	MAC	7.52	NS
4	BMI	1.04	NS
5	Clinical	1.55	NS
6	Family Details	12.07	S**
7	Pathology	1.64	NS
8	Opinion on Food	0.03	NS
9	Physical Facilities	14.78	S*
10	Nutritional Knowledge	0.08	NS

S* - Significant at 1% level; S** - Significant at 5% level

The differences between the two unpaid homes were observed with reference to physical facilities and family background. The difference in physical facilities may be associated with the funds received from voluntary organizations.

Table 5: Comparison between Paid Homes and Unpaid Homes (PH1 and PH2 with UP1 and UP2)

S.No.	Variable	F	Sig. of F
1	Height	5.71	NS
2	Weight	1.47	NS
3	MAC	0.91	NS
4	BMI	0.51	NS
5	Clinical	0.004	NS
6	Family Details	44.66	S*
7	Pathology	7.29	NS
8	Opinion on Food	0.06	NS
9	Physical Facilities	25.04	S*
10	Nutritional Knowledge	25.23	S*

S* - Significant at 1% level; S** - Significant at 5% level

There is a significant difference in the family background, physical facilities provided in the homes, and the nutritional knowledge of the senior citizens.

Nutritional knowledge is influenced by the family setup which includes type of family, educational qualification and socio-economic status. Since paid homes and unpaid homes differ in terms of the financial constraints, the significance was observed would be largely affected by the above mentioned factors. Physical facilities provided in the homes are again a factor dependent on the economic status of the homes. Hence a significant difference in the physical facilities provided to the senior citizens may be justified.

Table 6: Distance matrix of the observations made on location and sanitation in four homes

	PH1	PH2	UP1	UP2
PH1	0	7.35	10.05	6.39
PH2	7.35	0	3.61	2.65
UP1	10.05	3.61	0	6.29
UP2	6.39	2.65	6.29	0

The two homes which show a close relationship in terms of location and cleanliness are PH2 and UP2 where as PH1 and UP1 show a wide variation. PH2 and UP2 form a cluster and PH1 stands apart from the rest of the homes.

This suggests that sanitation and hygiene maintained in the homes are not dependent on whether the inmates pay for their facilities or not, but rather on the interest and efficiency of the authorities. UP1 scored the highest on cleanliness and all other facilities provided to the inmates.

IV. SUMMARY

The inmates of both paid and unpaid homes had come from varied family background with significant differences among them which reflected on their opinion towards food, physical facilities and nutritional knowledge. The food provided by the homes by itself may not severely affect their anthropometric measures as their mood, appetite, denture problems and other pathological conditions may influence the food intake.

V. CONCLUSION

The care for the elderly should focus more on the physical

facilities provided, the moral support and concern on part of the care giver. The feeling of warmth and 'home away from home' is what is expected by many – which they truly deserve.

ACKNOWLEDGMENT

The authors extend their heartfelt gratitude to the authorities of Help Age India, Chennai Chapter, the authorities of the Old age homes and the respondents for their cooperation and support.

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