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A comparative study to assess the nutritional status and functional capacity of elderly people residing in old age homes & families of selected areas in P.C.M.C

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Abstract

Introduction: 'May the man live for a hundred centenarians with all his senses intact till the end. Living is a process of continual changes. Infants become toddler, pubescent blossom into young men & female, dependent adolescents develop into responsible adult citizen. The continuation, of change into later life is natural & expected. The dream of the people all over the world to live long lives is now becoming a reality due to the socio-economic development of the people and advancement in sciences, particularly medical sciences. In India about 7.5% of the population is above 60 years and the life expectancy is increasing gradually.' Nutrition is the key to staying strong, energetic, and healthy as a person gets older Hence nutritional status can be helpful in assisting older persons to adjust better to these role losses and provide seniors with the opportunity to widen their social networks, to stimulate new friendships, and to acquire positive new roles in their retirement. The past three decades have witnessed the emergence of over nutrition as a problem in developed countries and in affluent elderly in developing countries. Malnutrition is associated with both structural and functional capacity.

Methods Research Approach

Research Approach: Descriptive research approach. Research design used was Comparative survey. The conceptual framework based on health promotion model was used for the study which is developed by Pender. The setting for this study was the selected areas in old age homes and families in PCMC, Pune. Nonprobability Purposive Sampling Technique was used for 100 samples. The tool developed which includes section 1, the demographic variables, SECTION II: a) body mass index b) Mini nutritional assessment scale to assess nutritional status SECTION III: Modified Geriatric Functional capacity Rating Scale. Tool validity was done and tool found reliable. Study found feasible after pilot study.

Results: It has been observed that in this study Comparative Research Design was used. The population for the present study comprised of all elderly people above 60 years residing in old age homes & families at PCMC. Total 100 samples were taken, in that 50 from old age homes & 50 sample from families. Sample was collected through the use of Non Probability Purposive Sampling Technique. To ensure reliability of tool inter-rater reliability method was done on 10 samples. Pearson's correlation coefficient was found to be 0.8, the data was collected through semi structured interview schedule, checklist. The data was analyzed using descriptive & inferential statistics. Researcher applied two sample z test for comparison of nutritional status & functional capacity of elderly. Fisher's Exact Test revealed that the Occupation of the elderly people was found to have significant association with their nutritional status & accommodation of the elderly people was found to have significant association with their functional capacity elderly people residing in old age homes & families in PCMC. On comparison Average nutritional score of those living in old age homes was 9.3 which were 9 for the ones living in families. Z-value for this comparison was 0.6. Corresponding p-value was 0.263. This indicates that there was no significant difference between the nutritional scores of elderly people in old age homes and staying with families. Average functional capacity score of those living in old age homes was 52 which were 39.5 for the ones living in families. Z-value for this comparison was 2.5. Corresponding p-value was 0.007 which was small (less than 0.05). This indicates that the functional capacity of elderly people living in old age homes was significantly better than those staying with their families.

Conclusion: It has been observed that in both comparative study indicates that comparison of nutritional status there is no significant difference between the nutritional scores of elderly people in old age homes and staying with families & comparison of functional capacity. This indicates that the functional capacity of the elderly people living in old age homes is significantly better than those staying with families.

Keywords: Assess, comparative, nutritional status, functional capacity, elderly, old age homes, Families

Introduction

According to ageing and health programs, there are currently 580 million people in the world who are aged 60 years and above. This is expected to rise to 1000 million by 2020 with over 700 million in the developing world. Older people over 60% of them live in the developing

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countries. According to the American Geriatrics Society., (2005) there was one geriatrician for about every 5,000 people over 65. A UN report on the changing age structures of populations and their implications for development has projected that by 2050 the number of elderly - defined as aged 60 or more - would exceed the number of children for the first time in history. By then, there should nearly two billion elderly persons, up from about 705 million this year. Demographic implications of the elderly population in India. In India life expectancy at birth has increased by 20 years to the past 5 decades the average life span today is 66 years. Today there are about 77 million people in India aged above 60 years of age in India. In India, 5.3% belongs to the age group of above 65 years, male were 29,364,920 and female were 32,591,030. The sex ratio is 65-over are 0.90 males/female. Health problems are supposed to be the major concern of a society as older people are more prone to suffer from ill health than younger age groups. It is often claimed that ageing is accompanied by multiple illnesses and physical ailments. Besides physical illnesses, the aged are more likely to be victims of poor mental health, which arises from senility, neurosis and extent of life satisfaction. The size of India's elderly population aged 60 and above is expected to increase from 77 million in 2001 to 179 million in 2031 and further to 301 million. The proportion of the sick and the bedridden among the elderly is found to be increasing with advancing age. Nutrition is the key to staying strong, energetic, and healthy as a person gets older. Hence nutritional status can be helpful in assisting older persons to adjust better to these role losses and provide seniors with the opportunity to widen their social networks, to stimulate new friendships, and to acquire positive new roles in their retirement. The past three decades have witnessed the emergence of over nutrition as a problem in developed countries and in affluent elderly in developing countries. Malnutrition is associated with both structural and functional capacity.

Research Design

The research design selected for the study was a Comparative Survey Research Design

Research Setting

The present study was conducted in the selected area of old age homes at Sant. Baba Moni Saheb Vridha Anand Ashram near Akurdi railway station & Phule Nagar, Pimpri, families.

Population

In the present study sample was selected as age above 60, The Elderly residing in old age homes & families.

Sample

In the present study sample was the elderly people which consisted of selected males & females as age above 60 years.

Sample size

Sample size consisted of 100 elderly people. Where 50 samples were from old age home & 50 samples were from families.

Sample technique

In the present study the sample was collected through Nonprobability Purposive Sampling Technique.

Criteria for selection of sample

Inclusion Criteria

The study included the following participants:-

1. Elderly people between the age group of above 60 years old.
2. Only those Elderly people who were willing to participate.

Exclusion Criteria

The study was excluded those participants who are:-

1. Elderly people between the age group of above 60 years old.
2. Only those Elderly people who were willing to participate.
3. Those were critically ill.

Development of tool

The Semi Structured Interview, Questionnaires and Modified Mini Nutritional Assessment scale & modified geriatric functional rating scale was developed and used for data collection.

Opinions and suggestions were taken from the experts, which helped in determining the important areas to be included.

Description of the tool

In this study the tool consisted of:

Section A: Demographic Performa

Section B

- a) Body Mass Index
- b) Modified Mini Nutritional Assessment Scale to assess Nutritional Status

Section C

Modified GFRS –Modified Geriatric Functional capacity Rating Scale score to assess functional capacity

Section I: Demographic Performa

The Demographic Performa which included Structured Questionnaire to collect sample characteristics like age, gender, education and occupation, monthly income, accommodation & diets

Section II

- a) **Body Mass Index**
- b) **Modified Mini Nutritional Assessment Scale to assess the nutritional status**

Section II, contain

- a) BMI which included weight & height measurement.
- b) Modified Mini Nutritional Assessment scale to assess nutritional status which consists seven points assess food intake decline over the three months due to loss of appetite, digestive problem, chewing or swallowing difficulties. Weight loss during the last 3 months, mobility, has suffered psychological stress, acute disease in the past three months, neurological problems, body mass index.

Section III: Modified GFRS –Modified Geriatric Functional capacity Rating Scale score to assess functional capacity

Section III, contained five points physical condition, mental condition functional abilities, support from the community, living quarters.

Validity

The tools and content were given to 25 experts. These were received with their valuable suggestions & comments on the study tool. The experts belonged to different fields which included professors & lecturers in the field of Medical Surgical Nursing, Community Health Nursing, Physiotherapists, Psychiatric Nursing, Psychologist, Dietitian, Statistician, Surgical, Medical departments Sociologist. They were requested to give their opinion on the appropriateness & relevance of items in the tool.

Instrumental validity

The instrumental validity was done by Biomedical Engineering, Dr. D.Y. Patil Hospital and Research centre, Pimpri Pune, 18. It included weighing machine code no.5751B for weight & BMI & measuring tape to measure the ideal height.

Reliability of the Tools

The reliability was done by Inter-rated Method Calculation tool reliability was done by Cohen's Kappa Formula and the reliability was found to be (0.8) hence the tool was reliable

Ethical consideration

- Researcher had obtained approval from appropriate review boards to conduct the study.
- Researcher had taken formal permission from elderly peoples of old age homes & families to conduct study.
- Only the samples who had signed the consent form are included in the study.
- Confidentiality of the data is maintained strictly.

Plan for data collection

- Ethical committee clearance
- Permission from the corporator and trustees of the selected areas & old age homes.
- Consent from elderly people from old age homes & families
- The investigator approached the elderly people of selected samples, informed them regarding the objectives of the study and obtained their informed consent after assuring the confidentiality of the data.
- The data collection was done among selected sample by using structured questionnaires and mini nutritional score & Modified Geriatric Functional capacity Rating Scale score.
- The duration of the data collection for each sample was 45 minutes.

Pilot study

The pilot study was conducted in Shree Dada Maharaj Natekar Moriya Trust Old Age Home Ajmera Complex Pimpri from 3/10/2014 to 8/10/2014. The informed written consent taken prior to the study from the subjects & objective of the study were informed & assured the subjects about the confidentiality of data. So, the present study was feasible to carry out or an actual study.

Data analysis and interpretation

For the analysis of demographic variable would be analyzed in terms of frequency and percentage was be calculated. The Significance was calculated for nutritional status & functional capacity by using mean, median, standard deviation computed z-test has applied. The Significance was

be calculated for comparison of nutritional status & functional capacity old age elders & families by using Mean, median, standard deviation computed z-test was be applied. For analysis of data related to association of nutrition status & functional capacity of elderly people & families was done using Fisher Exact Test & formulated in tabulation forms.

Result

The major findings of the study were based on the objective of the study.

Description of samples according to personal characteristics in terms frequency and percentage. Majority of the sample in old age home group, 38% of the elderly people was aged 60 to 65 years. The elderly people staying with the families, 42% of them were aged 71 to 75 years. In old age home group, majority of 80% were female. In elderly people staying with their families 76% were male. In old age home group, 54% of them had secondary education. In families group, 44% of them had secondary education. Majority of the sample in old age home group, more than half (52%) of them were doing nothing. In families group, 48% of them were jobless. Majority of the sample in old age home group, 74% of them had monthly income above Rs. 15,000. In families group, 58% of them had a monthly income above Rs. 15,000. In old age home group, 96% of them were vegetarians. In families group, 62% of them were vegetarians.

Section II- Analysis of data related to the Nutritional status of elderly people residing in old age homes & families in selected areas in P.C.M.C.:

Shown that in old age home group, 62% of the elderly people were at risk of malnutrition, 20% of them had normal nutritional status and 18% of them were malnourished. In families group, 60% of the elderly people were at risk of malnutrition, 18% of them had normal nutritional status and 22% of them were malnourished

Section III- Analysis of data related to the Functional capacity of elderly people residing in old age homes & families in selected areas in P.C.M.C.:

Shows that in old age home group, 72% of the elderly people were able to live in their own home setting without need to enter an institution, 16% of them required some supportive care but didn't need to enter an institution and 12% of them had requirement of care in a suitable institution. In families group, 44% of the elderly people were able to live in their own home setting without need to enter an institution, 40% of them required some supportive care but didn't need to enter an institution and 16% of them had requirement of care in a suitable institution

Section IV - Analysis of data related to the comparison of nutritional status & functional capacity of elderly people residing in old age homes & families in selected areas in P.C.M.C. Two sample z-test for comparison of nutritional status of elderly people residing in old age homes & families:

The investigator applied two sample z tests for comparison of nutritional status of elderly people residing in old age homes and families. Average nutritional score of those living in old age homes was 9.3 which were 9 for the ones living in families. Z-value for this comparison was 0.6. Corresponding p-value was 0.263. This indicates

that there is no significant difference between the nutritional scores of elderly people in old age homes and staying with families

The investigator applied two sample z tests for comparison of functional capacity of elderly people residing in old age homes and families. Average functional capacity score of those living in old age homes was 52 which was 39.5 for the ones living in families. Z-value for this comparison was 2.5. Corresponding p-value was 0.007 which is small (less than 0.05). This indicates that the functional capacity of elderly people living in old age homes is significantly better than those staying with families

Analysis of data related to association of nutritional status & functional capacity of elderly people & families with the selected demographic variables.

a) Fisher's exact test for association of nutritional status of the elderly people & families with the selected demographic variables

Since p-value corresponding to occupation was small (less than 0.05). Occupation of the elderly people was found to have significant association with their nutritional status.

b): Fisher's Exact Test for association of nutritional status & functional capacity of elderly people & families with the selected demographic variables. Since p-value corresponding to accommodation was small (less than 0.05). Accommodation of the elderly people was found to have significant association with their functional capacity.

Conclusion

The study was a new learning experience for the Investigator. Analysis of the problem faced by the elderly people due to malnutrition status & poor functional capacity for comparison of nutritional status of elderly people residing in old age homes and families. Average indicates that there is no significant difference between the nutritional scores of elderly people in old age homes and staying with families & comparison of functional capacity of elderly people residing in old age homes and families for the ones living in families indicates that the functional capacity of elderly people living in old age homes is significantly better than those staying with families.

Discussion

The present study shows that there was comparison of nutritional status of elderly people residing in old age homes and families. Average nutritional score of those living in old age homes was 9.3 which were 9 for the ones living in families. Z-value for this comparison was 0.6. Corresponding p-value was 0.263. This indicates that there is no significant difference between the nutritional scores of elderly people in old age homes and staying with families. An also presenting study showed that for comparison of functional capacity of elderly people residing in old age homes and families. Average functional capacity score of those living in old age homes was 52 which were 39.5 for the ones living in families. z-value for this comparison was 2.5. Corresponding p-value was 0.007 which is small (less than 0.05), the null hypothesis is rejected. This indicates that the functional capacity of elderly people living in old age homes is significantly better than those staying with families.

Limitations

- The study was limited only to above 60 years elderly people
- Data collection period was limited to 4 weeks
- Only certain parameters were used to assess the nutritional status & functional capacity for the elderly
- The data was collected only through the baseline data and a Questionnaire.
- The tool used by the Investigator needed a broad & comprehensive validation.

Recommendations

On the basis of the findings of the study, the following recommendations are made for the future research:

- A similar study may be replicated on large samples; there by findings can be generalized.
- A study can be done on association between various demographic variables, which were significant on larger sample.
- A study can be undertaken in different settings and different target population.
- An experimental study can be arranged for the elderly people to improve their nutritional status
- A comparative study may be repeated in the urban and rural areas.
- Similar study to assess nutritional status & functional capacity community dwelling elders.

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