

EFFECT OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE ABOUT MANAGEMENT OF FUNCTIONAL MOBILITY PROBLEMS AMONG ELDERLY

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Abstract

Ageing, being a natural process, the decline in organ function is unstoppable. This process results in increased chronic illness and disability can lead to a decline in the ability to perform day to day tasks necessary to live independently. The present study aimed to study the effect of structured teaching programme (STP) on knowledge about management of functional mobility problems among 70 elderly residing at old age homes of Puducherry. Pre-test data was collected followed by STP was given to the elderly people. The post-test data were collected after two weeks of intervention. The results showed that in the pre-test, all the subjects 70(100%) had inadequate knowledge, whereas, in the post-test, 60 %, 40% had adequate and moderately adequate knowledge about the management of functional mobility problems. The Paired 't' test was applied to evaluate the effectiveness of STP by comparing the pre-test and post-test mean knowledge scores. A significant improvement in the knowledge was found after the STP ($p < 0.001$). The education status of the elderly had shown a significant association with knowledge ($p = 0.001$). These findings indicated that teaching was effective in improving knowledge about the management of functional mobility problems among the elderly.

Keywords: *Elderly, knowledge, functional ability, mobility problems, structured teaching programme.*

INTRODUCTION

Aging is a universal process, in the words of Seneca "old age is incurable disease", but more recently, Sir James Sterling Ross commented: "you do not heal old age" you protect it: you promote it; you extend it. The world's population is aging. The most rapid growth of older people is seen in the developing world and has drawn attention to the health conditions of the elderly since this phenomenon is accompanied by higher rates of morbidity. These changes and their consequent functional limitations can compromise the autonomy and independence among old age.

According to World Population Prospects: the 2019 Revision, stated that one in six people in the world will be over 65 years (16%), rising from one in 11 in 2019 (9%). Globally, the number of persons aged 80 or over is projected to triple by 2050, from 143 million in 2019 to 426 million in 2050.

The 'Elderly in India 2016' report by the Ministry of Statistics and Programme Implementation said that urinary problems were more common among aged men while more aged women reported suffering from the problem of joints.

Ageing, being a natural process, the decline in the organ function is unstoppable. This process results in increased chronic illness and disability can lead to a decline in the ability to perform day to day tasks necessary to live independently. Muscle weakness, joint problems, pain, disease, and neurological (brain and nervous system) difficulties common conditions in older people can all contribute to mobility problems.

Advanced age, medication, fear of falling, depression, physical activity, single-leg standing time, and functional reach test distance were found to be significant predictors of mobility limitation (S-I. Linaet al (2017)). Good mobility necessitates at least adequate walking speed, muscle strength, and balance. The maintenance of outdoor physical activity, walking in particular, plays an important role.

Panchal S, Batra N. (2018) evaluated the effectiveness of STP regarding early detection and prevention of visual impairment among 100 older adults in the Meerut district. The study revealed that the mean post-test knowledge and attitude scores ($29.98 \pm 2.81 / 89.22 \pm 5.96$) of the experimental group were higher than the mean post-test knowledge and attitude scores control group ($17.88 \pm 3.12 / 74.74 \pm 9.28$). The study showed a positive impact of STP in improving older adults' knowledge about the visual impairment.

Sharon S. Laing et al (2011) assessed the knowledge, attitude, and practice of fall prevention (FP) among 101 elders in Washington State. Only 38% of subjects felt "very knowledgeable" about FP. Increased awareness and availability of FP services might help engage older adults in FP practices and reduce the adverse effects of falls.

A descriptive study was conducted by Thakur M, Kalia R, Kaur M, Sharma S (2018) to assess the awareness and usage of assistive devices for mobility and self-care among 200 rural elderly of Punjab. Around 77% and 23% had good and average awareness regarding the use of assistive devices. The study found that 42%, 32%, and 26% of the subject used assistive devices for sometimes, frequently, and always while performing ADL respectively.

Knowing the different factors that restrict physical mobility in this advanced age will help to identify approaches for the planning of impactful actions. Creating an awareness

regarding the management of functional mobility limitation is essential to promote functional mobility and improve the quality of life of aged people.

NEED FOR THE STUDY

According to the Situation Analysis of The Elderly in India (2011) report, the proportion of physical mobility decline for the elderly from 94 % (60 – 64 years) to 72% for men and 63 to 65% for women (80 or more). About 64 and 55 /1000 of rural and urban elderly persons suffer from one or more disabilities.

Chetna Sen (2020) found a significant difference between the mean knowledge scores of psycho-social problems and its management among older people before (14.14±2.286) and after education (24.72±1.796).

Gundurao c, Chetan P, Suvarna S P (2018) studied the effect of teaching programme on knowledge about the care of old age health problems. The study included 80 family members of Simikeri Village, Bagalkot. Out of 80 subjects 52.50%, 38.75%, and 8.75% had inadequate, satisfactory, and adequate knowledge in the posttest.

Shaila Panchal, Namita Batra(2018) reported that the mean post-test knowledge (29.98±2.81) of early detection and prevention of visual impairment in the experimental group was higher than the control group means score (17.88±3.12).

Chronic diseases especially arthritis in old age frequently restrict mobility, causes pain, and lower the quality of life (Shafrin J et al (2017). Higher levels of mobility limitations were significantly associated with poor health. The finding highlights the importance of simple physical activity sessions to reduce the rising burden of mobility limitations among older people (Musich S et al (2017).

Rantanen T (2013) reported that physical activity, counseling, education aiming to increase physical activity and also prevent mobility decline among older people. Poor vision and hearing increase the risk of mobility decline. Consequently, rehabilitation of sensory functions may prevent falls and a decline in mobility.

The main goal of prevention of mobility problems among older adults is to live a healthy, productive long life and it is achieved by regular exercise. Adequate knowledge regarding prevention of mobility problems may decrease risk of poor clinical outcomes and mortality among older adults. A self management and educational intervention has shown to be effective in reducing mobility problems. These factors have given impetus for the

investigator to select and conduct the study related to knowledge about management of functional mobility limitations among elderly.

OBJECTIVES

- To assess the pretest level of knowledge about the management of functional mobility problems among the elderly.
- To evaluate the effect of structured teaching programme on knowledge about management of functional mobility problems among elderly.
- To associate the pretest level of knowledge score with selected demographical variables.

MATERIALS AND METHODS

The research design selected for the present study was quasi-experimental. The study population includes elderly people aged between 60 to 75 years who fulfill Sampling Criteria. The study was conducted in a selected cluster of old age homes, 70 samples was selected by simple random sampling technique. The study was conducted from 16.03.2017 to 15.04.2017. Formal written permission was obtained from concern authority to conduct the study. All participants were informed about the purpose of the study to ensure their co-operation and written and informed consent was also obtained. The baseline measurement like demographic variables, physical assessment, and pretest knowledge was assessed. After the pre test, structured teaching programme on knowledge about management of functional mobility problems was taught to them. The duration of the teaching programme was around 20 minutes. The posttest was conducted using the same knowledge questionnaire after two weeks of intervention. The collected data were compiled and analyzed by using descriptive statistics and inferential statistics.

RESULTS

Distribution of demographic variables among elderly

The study revealed that the majority of the elderly included in the study were in the age group of 66-70 years (43.5%) followed by 71-75years (33.3%) and most of them were females (68.1%). Fifty-six elderly (81.2%) were Hindu, nine (13%) were Christian and four (5.8%) were Muslim. As per literacy status, it was observed that 28(40.6%) had no formal education, 23 (33.3%) had completed primary education. Most of the elderly were married

(49.3%) and widowed (43.5%). Thirty-four elderly (49.3%) were staying at old age home for 1 – 5 years, 65(94.2%) were non-vegetarian, and 37.7%, 27.5%, 21.7 %,7.2 & 5.8% of elderly reported that household work, walking, watching TV, yoga and chatting with others as their leisure time activities respectively. The results are shown in the diagrammatic representation in figure 1.

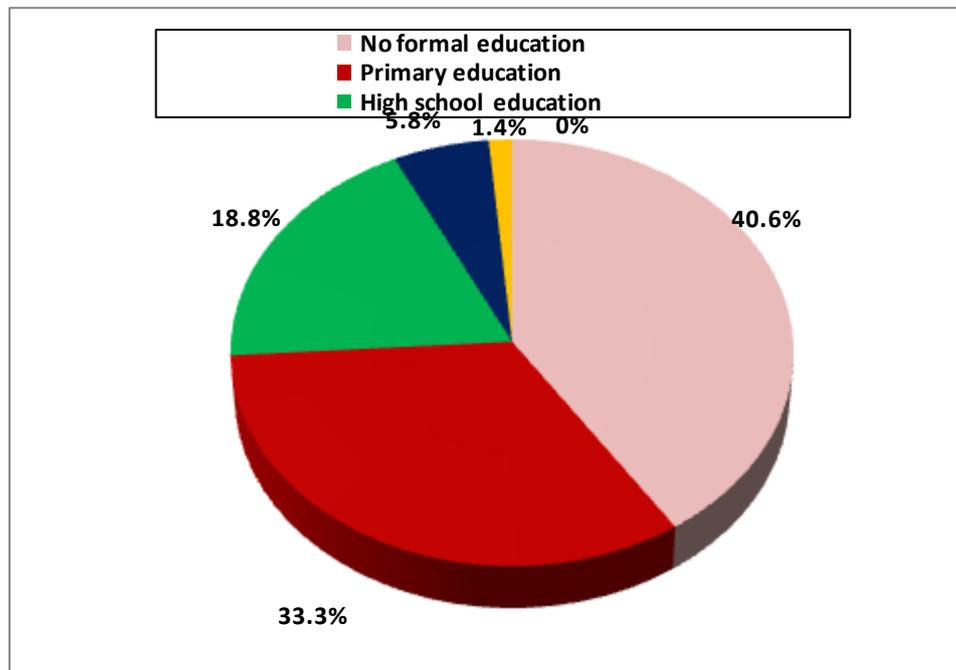


Figure 1: Percentage distribution of elderly by educational status

Distribution of Physical Assessment findings of elderly

The study revealed that 37(53.6%), 32(46.4%) subjects had the BMI of 18.5 – 24.9 kg/m² and 25.0 – 29.9 kg/m² respectively. Thirty-five subjects (50.7%) had a normal body built, 24(34.8%) had a vision score of 6/8, 48(69.6%) were able to respond well to whisper hearing tests. Fifty-two subjects (75.4%) had no weight loss and 8(11.6%) had lost 1 kg of weight, 19(27.5%) had 10 – 20 nos. of teeth, 49(71.0%) had no caries, 62(89.9%) had no denture, and 52(75.4%) were able to recall three objects in 5 minutes. Regards to the range of motion, 34 subjects (49.3%) had limited movement of the lower limb, 30(43.5%) subjects found climbing 10 steps or walking one-quarter of a mile with much difficulty, and also observed that 15(21.7%) subjects were unable to walk one-quarter of a mile or climbing 10 steps. Thirteen subjects (18.8%) had musculoskeletal problems (Osteoarthritis & Osteoporosis), 34(49.3%) had taken Tab. Calcium and Multivitamin as supplementation.

Table 1. Distribution of level of knowledge about management of functional mobility problems among elderly in the pretest **N=70**

Level of Knowledge	Inadequate		Moderately Adequate		Adequate	
	N	%	N	%	N	%
Functional problems						
Eye	67	95.71	3	4.29	0	0
Ear	61	87.14	0	0	9	12.86
Nutrition	66	94.28	0	0	4	4.72
Bowel	46	65.71	0	0	24	34.28
Bladder	61	87.14	0	0	9	12.86
Mood/memory	70	100.0	0	0	0	0
Mobility problems						
General mobility	67	95.71	0	0	3	4.29
Osteoporosis	67	95.71	3	4.29	0	0
Arthritis	58	82.85	10	14.29	2	2.86
Falls	64	91.43	6	8.57	0	0
Low backache	64	91.43	0	0	6	8.57
Exercise	68	97.14	0	0	2	2.86
Total	70	100.0	0	0	0	0

Table 1 shows that majority of subjects had inadequate knowledge on problems of eye 95.71%, ear 87.14%, nutrition 94.28%, bowel 65.71%, bladder 87.14%, mood/memory 100%, general mobility problems 95.71%, osteoporosis 95.71%, arthritis 82.85%, falls 91.43%, low backache 91.43%, and exercise 97.14% . All the subjects (100%) had inadequate knowledge about management of functional mobility problems.

Table 2. Distribution of level of knowledge about management of functional mobility problems among elderly in the posttest **N=70**

Level of Knowledge	Inadequate		Moderately Adequate		Adequate	
	N	%	N	%	N	%
Functional problems						
Eye	5	7.14	44	62.85	21	30.01
Ear	29	41.42	1	1.44	40	57.97
Nutrition	26	37.14	0	0	44	62.86
Bowel	14	20.01	0	0	56	79.99
Bladder	23	32.86	0	0	47	67.14
Mood/memory	30	42.85	31	44.29	9	12.86
Mobility problems						
General mobility	39	55.71	0	0	31	44.29
Osteoporosis	22	31.42	38	54.30	10	14.28
Arthritis	7	10.00	27	38.58	36	51.42
Falls	10	14.28	37	52.87	23	32.85
Low backache	7	10.00	0	0	63	90.00
Exercise	34	48.57	0	0	36	51.43
Total	0	0	28	40	42	60

Table 2 shows that majority of subjects had moderately adequate knowledge in the problems of eye 62.85%, mood/memory 44.29%, osteoporosis 54.30%, falls 52.87%, and 38.58%. Adequate knowledge was found in the problems of ear 57.97%, nutritional 62.86%, bowel 79.99%, bladder 79.99%, arthritis 51.42%, low backache 90.00%, and exercise 51.43%. The study results revealed that 60%, 40% of them had adequate and had moderately adequate knowledge about the management of functional mobility problems.

Table 3. Comparison of Mean knowledge score of elderly between pretest and post test
N=70

Level of knowledge	Mean	SD	Mean difference	Paired 't'	'P' value
Pre test	9.06	2.04	13.51	51.782	p=0.0001 S****
Post test	22.57	1.87			

* ** - Statistically significant at 0.001 level

Table 3 shows that the average mean knowledge score of the elderly at pre test was 9.06 with an SD of 2.04 whereas, in the posttest, it was found to be 22.57 with an SD of 1.87. The Paired 't' test was applied to compare the pre test and post test mean knowledge scores and overall knowledge was found to be statistically significant at $p < 0.001$. This result inferred that there was a significant increase in the posttest level of knowledge which indicated that structured teaching was effective. The results were shown in the diagrammatic representation in figure 2.

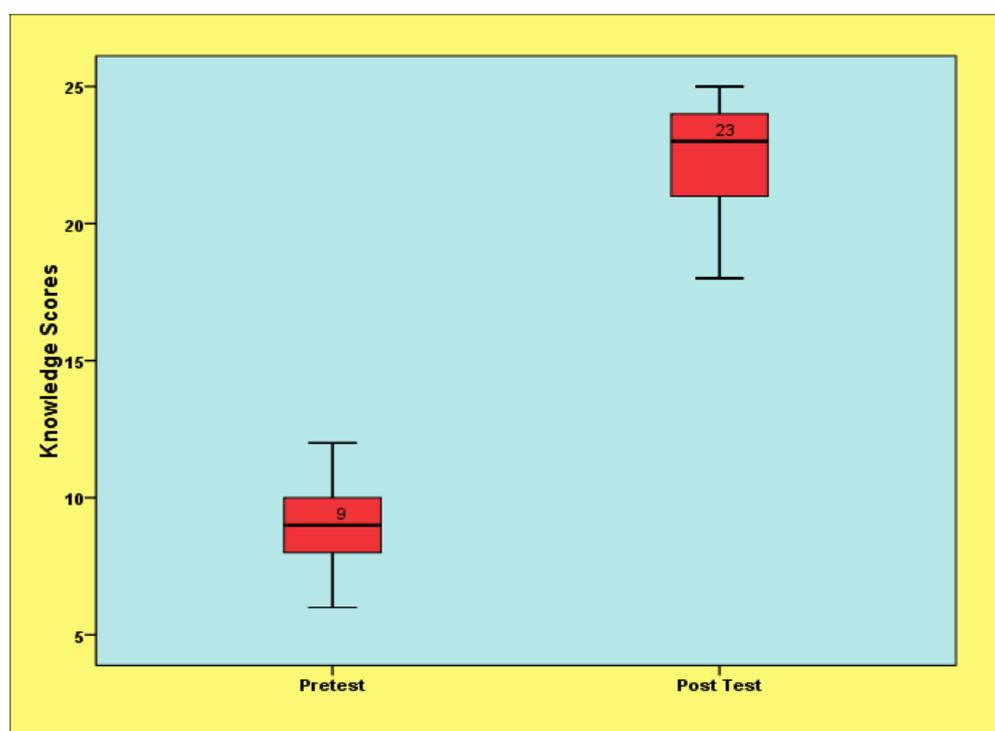


Figure 2: Box plot showing the Mean knowledge score of elderly between pretest and post test

Association between pre test knowledge score and their demographic variables

The study results revealed that educational status had shown a statistically significant association with the pre test level of knowledge at $p \leq 0.001$. The other demographic variables and physical assessment had not shown a statistically significant association with pretest knowledge.

DISCUSSION

The first objective was to assess the level of knowledge about the management of functional mobility problems among the elderly.

The present study revealed that all the subjects (100%) had inadequate knowledge about the management of functional mobility problems. This result was similar to the study findings of Gundurao C, Chetan P, Suvarna S P (2018) reported that out of 80 subjects 52.50%, 38.75%, and 8.75% had inadequate, satisfactory, and adequate knowledge on the care of old age health problems respectively.

The second objective was to evaluate the effectiveness of structured teaching programme on knowledge about management of functional mobility problems among elderly.

The study result found that 60 %, and 40 % of the subjects had adequate and had moderately adequate knowledge about management of functional mobility problems. The mean score of the pre test was 9.06 with an SD of 2.04 whereas, in the posttest, it was found to be 22.57 with an SD of 1.87. The study findings were similar to Shaila Panchal, Namita Batra (2018) found that the STP was effective for improving knowledge of older people regarding early detection and prevention of visual impairment. Chetna sen (2020) stated that STP had a positive impact on increasing the knowledge of older people regarding psychosocial problems its management, Gundurao c, Chetan P, Suvarna S p (2018) found that after teaching program 26.25%,46.25% and 27.50% of subjects had adequate, satisfactory and inadequate knowledge regarding care of selected old age health problem respectively.

The third objective was to associate the pretest level of knowledge score with selected demographical variables

The result indicated that there was no statistically significant association between pre test knowledge and their demographic variables, except educational status ($p = 0.001$). The

physical assessment had not shown any statistically significant association with pre test knowledge. The study findings were similar to Lubrano E (2012) reported a significant association between knowledge level of arthritis and education of the subjects.

CONCLUSION

The study concluded that knowledge about the management of functional mobility problems was increased after structured teaching programme. Only educational status of the elderly had shown a statistically significant association with pre test knowledge.

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Conflicts of interest

There are no conflicts of interest.

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