



A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING PREVENTION OF FOOT RELATED PROBLEMS AMONG THE OLDER PEOPLE IN SELECTED OLD AGE HOME AT HASSAN, KARNATAKA

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ARTICLE INFO ABSTRACT

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Older adults are highly vulnerable to foot-related problems such as cracks, calluses, infections, deformities, and poor circulation, which often go unnoticed due to limited awareness and inadequate self-care practices. Preventive education is an important nursing intervention to reduce complications and promote healthy ageing. This study aimed to evaluate the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding prevention of foot-related problems among older people residing in selected old age home. A pre-experimental one-group pre-test post-test design was used and participants aged 60 years and above were selected through purposive sampling. Data were collected using a structured knowledge questionnaire covering foot problems, risk factors, and preventive strategies. Following the pre-test, the STP was administered and a post-test was conducted on the seventh day. The results showed a significant increase in post-test knowledge scores compared to pre-test scores, indicating that the STP was effective in enhancing knowledge on foot-care prevention. The calculated *t*-value demonstrated statistically significant improvement at $p < 0.05$. Associations were observed between pre-test knowledge and selected demographic variables such as education all over and prior exposure to health information.

INTRODUCTION-

The proportion of elderly females (8.9%) continued to be slightly higher than that of males (8.2%). Recent estimates from the Report of the Technical Group on Population Projections (2020) indicate that India's elderly population is expected to reach 14.9% by 2036, showing a rapid demographic transition. Elderly individuals are particularly vulnerable to foot-related problems due to age-associated changes such as widening of feet, flattening of arches, and loss of plantar fat padding, reduced skin elasticity, and diminished peripheral circulation. Conditions such as osteoarthritis, diabetes, peripheral vascular disease, neuropathy, and circulatory insufficiency often manifest early through foot pain or deformity. Poor lower-limb circulation, which is common in older adults, increases the risk of ulcers, infections, slow wound healing, and mobility limitations. These factors make routine foot assessment

and preventive education essential components of healthy ageing and geriatric nursing care.¹ According to official Indian statistics, the share of older adults (aged 60 years or above) has steadily increased over the past decades. In 2021, seniors comprised about 7.4% of the total population (7.1% males, 7.8% females). By 2021, this share rose to 8.57% (8.20% for males and 8.97% for females).² Projections suggest that by 2031, approximately 13.2% of India's population will be aged 60 or older. More recently, 2023 data from India's Sample Registration System indicate that seniors already make up about 9.7% of the population.³ Alongside this demographic shift, the old-age dependency ratio. This demographic transition means a steadily increasing number of older adults who are at high risk for foot-related problems.⁴

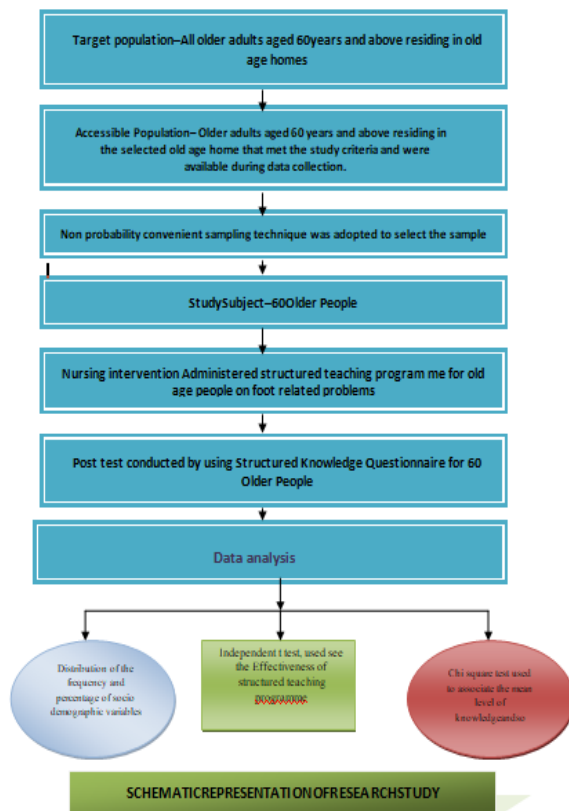
METHODOLOGY

Research methodology is a way of systematically solving the research problems. It explains the steps that are generally adopted by a researcher in studying the research problem along with the logic behind them. It includes steps, procedures and strategies for gathering and analyzing the data in research investigation. Quantitative research approach is adopted for the present study Based on the geographical proximity, feasibility of conducting the study and availability of the samples. The present study was conducted in Kama dhenusahakari vidyashrama Chaitanya mandira, Gavenahalli, Hassan geographical proximity, feasibility of conducting the study and availability of the samples.

OBJECTIVES OF THE STUDY

To assess the knowledge of older people in selected old age home regarding prevention of foot related problems before the administration of structured teaching programme. To assess the knowledge of older people in selected old age home regarding prevention of foot related problems after

Administration of structured teaching programme. To evaluate the effectiveness of structured teaching programme by comparing pretest and post-test knowledge scores regarding prevention of foot related problems among older people in selected old age home, Hassan. To associate the pre-test knowledge scores with socio demographic variables regarding the prevention of foot related problems among older people in selected old age home, Hassan.



RESEARCH HYPOTHESIS

H1: There will be a significant difference between pre-test and post-test knowledge regarding prevention of foot related problems among older people.

H2: There will be significant association between the demographic variables and pre- test knowledge scores of older people in old age home Hassan.

Setting

The study was conducted in a selected old age home Kamdhenu vidyashrama in Hassan, providing residential care for older adults aged 60 years and above.

RESEARCH DESIGN

A **pre-experimental one-group pre-test post-test design** was adopted to evaluate the effectiveness of a Structured Teaching Program me (STP) on knowledge regarding prevention of foot-related problems among older adults. This design was selected because it enables comparison of participants' knowledge before and after the intervention without the use of a control group.

POPULATION

Target Population

All older adults aged 60years and above residing in old age homes.

Accessible Population

Older adults aged 60 years and above residing in the selected old age home who met they were available during data collection study criteria and

Sample and Sampling Technique

A total of 60 older adults were selected using convenience sampling, based on their availability and willingness to participate.

Sample size

The sample used for this study was 60 older people those who fulfill the inclusion and

Exclusion criteria

Criteria for sample selection

1. Inclusion criteria

- Were aged 60 years and above
- Were willing to participate and gave informed consent
- Were able to communicate in kannada
- Had no acute medical illness at the time of data collection

2. Exclusive criteria

- Had severe visual or hearing impairments that could interfere with understanding the teaching program me
- Were bedridden or had major cognitive impairment

Justification:

The study required participants to watch demonstrations, view charts, and listen to verbal instructions during the STP. Therefore, individuals with significant visual or hearing impairments were excluded to ensure that the teaching content was clearly understood and the knowledge test results were valid.

Description of the Tool

A structured knowledge questionnaire was used to assess participants' knowledge regarding prevention of foot-related problems.

Tool Components

- **Total number of items:** items (insert number, 34)
- **Question format:** Multiple-choice
- **Maximum score:** (e.g., 25)
- **Scoring Pattern:**
 - 1 point for each correct response
 - 0 points for incorrect responses
- **Knowledge Interpretation:**
 - 0 ---: Poor knowledge
 - 15 ---: Average knowledge
 - 30 ---: Good knowledge

Validity and Reliability

- **Content validity:** The tool was validated by a panel of 5–7 experts in community health nursing, medical-surgical nursing, and geriatrics. Necessary modifications were incorporated.
- **Reliability:** The tool's reliability was tested using **Cronbach's alpha / test-retest** method (choose one). Reliability coefficient obtained was **r = 0.86** indicating acceptable internal consistency.

Nursing Intervention: Structured Teaching programme (STP) Intervention Details

- **Duration:** Approximately 45–60 minutes
 - **Mode of delivery:** Group teaching session
 - **Teaching methods:** Lecture, discussion, charts, flip cards, and demonstration of foot-care practices
 - **Instructional materials:** Charts, posters, foot models, printed handouts
- Time spent per participant: Each participant received individualized clarification and feedback for 5–10 minutes after the session

Content of STP

The STP covered:

- Anatomy and physiology of the foot
- Common foot problems in older adults
- Causes and risk factors
- Daily foot-care practices
- Nailcare, hygiene, and skincare
- Footwear selection
- When to seek medical help

Data Collection Procedure

1. **Pre-test:** Knowledge about prevention of foot-related problems was assessed using the structured questionnaire.
2. **Intervention:** The Structured Teaching Programme was administered on the same day.
3. **Post-test:** Conducted on the 7th day using the same tool to assess improvement in knowledge.

Results: - SECTION 1:

A: Pre-test Level of foot related problems

Table 1: pre test level of foot related problems score among older people residing at old age home.

Level of food related problem	No. of older people	%
Inadequate	49	81.70%
Moderate	11	18.30%
Adequate	0	0.00%
Total	60	100%

Table 1- In general 81.7% of the older people are having inadequate knowledge shows pretest level of foot related problem score among older people residing at old age home. Score, 18.3% of them are having moderate knowledge score and none of them are having adequate score.

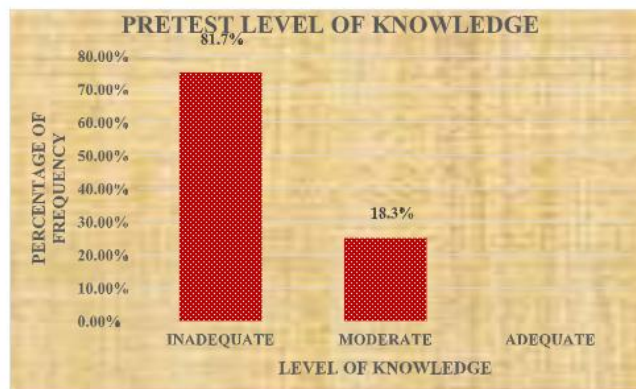


Figure 1: Classification of old age people based on their pre-test knowledge level regarding foot related problems. (N=60)

Table-2: Aspect wise and overall mean, mean %, SD, and cv of pre-test knowledge scores regarding prevention of foot related problems among older people (n=60)

Foot related problems score	No. of questions	Min–Max score	Mean	SD	% of mean score
Aspect1 Anatomy and physiology of foot related problems	5	0-5	1.85	1.66	37.0%
Aspect2 Foot related problems and its prevention among older people	29	0-34	10.35	3.76	35.7%
OVERALL	34	0-34	12.20	3.82	35.9%

INTERPRETATION

The table no 2 shows each domain wise assessment of knowledge among older people in terms of pre-test scores regarding various aspects of prevention of foot related problems. Nanatomy and physiology of foot related problems the mean score is 1.85 with a mean percentage 37.0% and a standard deviation of 1.66. Foot related problems and its prevention among older people the mean score is 10.35 with a mean percentage 35.7% and a standard deviation of 3.76%. over all older people are having mean score 12.20 with a mean percentage of 35.9% and standard deviation of 3.82.

B: Post Test Level of Foot related Problems

Table 3-: post-test level of knowledge regarding prevention of foot related problems among old age people (N=60).

Level of food related problem	No. of older people	%
Inadequate	0	0.00%
Moderate	19	31.60%
Adequate	41	68.40%
Total	60	100%

Table 3 shows posttest level of foot related problem score among older people residing at old age home. None of the older people are having in adequate knowledge score, 31.6% of them are having moderate knowledge score and 68.4% of them are having adequate score.

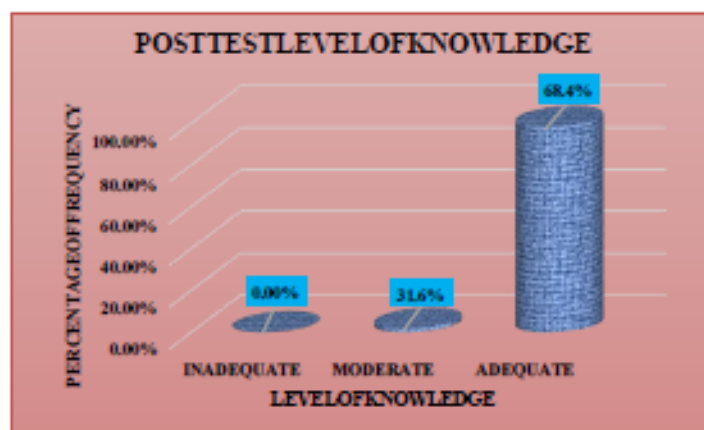


Figure 2: Cylinder diagram showing distribution of old age people according to their post-test level of knowledge regarding foot related problems.

Table 4-Aspect wise and overall mean, mean %, SD, and CV of post-test knowledge scores regarding prevention of foot related problems among older people (n=60)

Foot related problems score	No. of questions	Min–Max score	Mean	SD	% of mean score
Aspect1 Anatomy and physiology of foot related problems	5	0-5	4.07	1.13	81.40%
Aspect2 Foot related problems and its prevention among older people	29	0-34	21.85	3.26	75.30%
Overall	34	0-34	25.92	3.83	76.20%

Table 4 shows each domain wise assessment of prevention of foot related problems after the administration of structured teaching programme. Older people are having more score in Anatomy and physiology of foot related problems (81.4%) and minimum score in Foot related problems and its prevention among older people (75.3%) Overall, they are having 76.2% of knowledge score.

SECTION: 2

Table-5. Comparison of pre and Posttest Knowledge Score Overall Foot Related Problems

	Pretest		Posttest		Chi square test
	No. Of	%	No. Of	%	
	Old age people		Old age people		
Inadequate	49	81.70%	0	0.00%	2=77.35 P=0.001*** Significant
Moderate	11	18.30%	19	31.60%	
Adequate	0	0.00%	41	68.40%	
Total	60	100%	60	100%	

*significant at P≤0.05**highly significant at P≤0.01***very high significant at P≤0.001

Table no.5 assesses the pretest and posttest level of score. Before STP, 81.7% of the older people are having inadequate knowledge score.

18.3% of them are having moderate knowledge score and none of them are having adequate score. After the STP, none of the older people are having in adequate knowledge score, 31.6% of them are having moderate knowledge score and 68.4% of them are having adequate score. Chi-square test was used to test the statistical significance.

SECTION: 3 Table 6: assessment knowledge scores regarding foot related problems among old age people (N=60)

	Foot related knowledge score				Mean Difference	Student's paired t-test
	Pretest		Posttest			
	Mean	SD	Mean	SD		
Anatomy and physiology of foot related problems	1.85	1.66	4.07	1.13	2.22±1.05	t=8.40 P=0.001*** significant
Foot related problems and its prevention among older people	10.35	3.76	21.85	3.26	11.50±4.83	t=18.41, P=0.001*** significant

* Significant at P≤0.05** highly significant at P≤0.01*** very high significant at P≤0.001

Table no.6 compares pretest and posttest mean foot related knowledge score. Considering Anatomy and physiology of foot related problems aspects, in pretest, older people are having 1.85 score where as in posttest they are having 4.07score, so the difference is 2.22.

The difference between the pretest and posttest scores is large and statistically significant. Considering aspects of foot-related problems and their prevention among older people, in the pretest, children had a mean score of 10.35, whereas in the posttest, they had a mean score of 21.85, resulting in a difference of 11.50. Statistical significance was calculated using Student's paired t-test.

Table7: Effectiveness of Structured teaching programme

Domains	Pretest	Posttest	% of foot related knowledge Gain score
Anatomy and physiology of foot related problems	37.0%	81.4%	44.4%
Foot related problems and its prevent on among Older people	35.7%	75.3%	39.6%
Overall	35.9%	76.2%	40.3%

Table7showseachdomainwisefoot related knowledge score gain

In **Anatomy and physiology of foot related problems** aspects, older people are gained 44.4%of knowledge score. In **Foot related problems and its prevention among older people** aspect, older people are gained 39.6%% of knowledge score. Overall older people are gained 40.3% knowledge when comparing pretest and posttest knowledge score.

SECTION: -4

Table8: Association between Pretest eve of knowledge score and Older People Demographic Variables (N=60)

Demographic variables		Pretest Level of knowledge				Total	Chi-square test
		Inadequate		Moderate			
		N	%	N	%		
Age	50-55yrs	2	33.30%	4	66.70%	6	$\chi^2=12.29$ $p=0.01^{**}$
	56-60yrs	14	77.80%	4	22.20%	18	
	61-65yrs	14	87.50%	2	12.50%	16	
	>65yrs	19	95.00%	1	5.00%	20	
Gender	Male	23	76.70%	7	23.30%	30	$2=1.00$ $p=0.37$
	Female	26	86.70%	4	13.30%	30	
Marital status	Married	31	77.50%	9	22.50%	40	$2=1.83$ $p=0.61$
	Unmarried	9	90.00%	1	10.00%	10	
	Separated	5	83.30%	1	16.70%	6	
	Divorced	4	100.00%			4	
Religion	Hindu	29	82.80%	6	17.20%	35	$2=1.09$ $p=0.77$
	Muslim	4	80.00%	1	20.00%	5	
	Christian	12	85.70%	2	14.30%	14	
	Others	4	66.70%	2	33.30%	6	
Residence	Urban Rural	17	68.00%	8	32.00%	25	$\chi^2=6.24$ $p=0.05^*$
	Sub urban	12	100.00%	0	0.00%	12	
		20	86.90%	3	13.10%	23	
Education	SSLC	10	62.50%	6	37.50%	16	$\chi^2=9.99$ $p=0.01^{**}$
	PUC	5	62.50%	3	37.50%	8	
	Graduate	9	90.00%	1	10.00%	10	
	Illiterate	25	96.10%	1	3.90%	26	
Source of information regarding food problems	Mass media	15	75.00%	5	25.00%	20	$2=0.92$ $p=0.63$
	Past experience	10	83.30%	2	16.70%	12	
	Family and friends	24	85.70%	4	14.30%	28	
Type of family	Nuclear family	41	78.80%	11	21.20%	52	$2=2.07$ $p=0.15$
	Joint family	8	100.00%			8	
Previous experience with foot related problems	Yes	43	82.70%	9	17.30%	52	$2=0.27$ $p=0.60$
	No	6	75.00%	2	25.00%	8	

Table no 8 shows the association between pre test level of knowledge and their demographic variables. Younger, urban and more educated older people are having more score than others. Statistical significance was calculated using chi square test

The appropriate choice of footwear is crucial for foot health, yet its impact on different populations and medical conditions remains understudied. This review explores the effect of shoe fit on the prevention of podiatric disorders and overall well-being. A scoping review was conducted following the Joanna Briggs Institute methodology, encompassing studies on shoe fit across diverse populations and conditions. Medical databases and grey literature were also included. Five studies were included, covering topics such as footwear advice for women over 50, the effect of shoes in preventing calluses under the metatarsals, the effectiveness of a shoe- related intervention for gout patients, and the impact of custom-fitted shoes on physical activity in children with Down syndrome. Results showed that well-fitting shoes can prevent callus formation, but the efficacy of custom-fitted shoes for increasing physical activity requires further research. The choice of appropriate footwear should not be solely based on aesthetic considerations but rather on the specific needs of each individual. Physicians should consider providing advice on appropriate shoe characteristics as a primary intervention⁵.

CONCLUSION

The study concludes that structured educational interventions are effective in increasing awareness and preventing foot-related problems among older adults in institutional settings, emphasizing the need for regular foot-care education as part of geriatric nursing practice. From the data analysis and findings of the present study, it is concluded that there were significant differences between the pretest and posttest knowledge scores.

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