A Study to Assess The Effectiveness of STP on Knowledge Regarding Leadership Roles in Cardiovascular Disease Prevention, Among Nursing Staff Working at Selected Hospitals, Bengaluru

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Abstract:

Cardiovascular disease persists as a crucial global issue, underscoring the importance of proactive prevention. Nurse leaders drive community education, promoting heart-healthy habits. Systemic changes, mentorship, leadership skills, and evidence-based practices help curb disease, fostering a healthier society. 50 staff nurses were selected using convenient sampling technique. A quasi-experimental design with pre-test and post-test control groups was employed. A self-administered pretest assessed knowledge on day one, followed by STP for the experimental group. Post-tests occurred on day eight for both groups. Data were analyzed using descriptive and inferential statistics. Insufficient pretest knowledge scores for both groups improved significantly in the experimental group after the STP, with 20% having moderate knowledge and 80% adequate. The control group saw no improvement. A significant difference in pretest-posttest knowledge was observed in the experimental group (t=28.196, p<0.05), highlighting STP efficacy in CVD prevention leadership roles. A comparison with the control group also emphasized the substantial knowledge gain in the experimental group (t=23.821, p<0.05). The study found most nurses lacked prior knowledge, with insufficient initial scores in both groups. After the STP, 20% of the experimental group had moderate knowledge, 80% adequate, while the control group saw no improvement. In the experimental group, mean pretest-posttest scores increased from inadequate (10.56, 35.2%) to adequate (25.2, 84%). The control group's knowledge remained inadequate. Statistical analysis confirmed the STP's effectiveness in enhancing CVD prevention leadership in the experimental group, and no significant associations were found between posttest scores and demographic variables.

KEYWORDS: Structured teaching programme, Knowledge, Leadership, Cardiovascular disease

INTRODUCTION

Cardiovascular disease refers to any disease that affects the cardiovascular system, the causes of which are diverse but atherosclerosis and hypertension are the most common.3It has been estimated that, India has one of the highest burdens of cardiovascular disease (CVD) worldwide. The annual number of deaths from cardiovascular disease is projected to rise from 22.6 lakhs to 47.7 lakhs (2020). Recent trends indicate that the disease has escalated to younger age groups (20 - 49yrs) also.6 Mentorship is

proposed as a powerful strategy for promoting the cardiovascular nursing role to contribute meaningfully to CVD risk reduction.

The establishment Visionary leadership is one of the roles expected in direct patient care.15 Nonetheless, of a healthy work environment requires strong nursing leadership at all levels of the organization.12 Education, training and strategies are needed to prepare nurses for leadership roles in preventing and managing the disease condition.

Cardiovascular disease (CVD) is a major health problem across the world. Of the 58 million deaths from all causes worldwide, it was estimated that deaths due to CVD were three times more than the deaths that were caused by infectious diseases including HIV/AIDS, tuberculosis and malaria combined.[8]

Supportive nursing leadership is important for the successful introduction and implementation of advanced practice nursing roles in healthcare settings.13 There is a leadership crisis of the nursing workforce across India, strengthening nursing as a profession and facilitating nurses role at the policy level, delegating more powers and autonomy needs to the nurses enables them to assist in strengthening the health care delivery and strategies for improving health and preventing disease.

OBJECTIVES OF THE STUDY:

1. To assess the knowledge of nurses regarding leadership roles in cardiovascular disease prevention before intervention.

2. To assess the knowledge of nurses regarding leadership roles in cardiovascular disease prevention after intervention.

3. To assess the effectiveness of Structured Teaching Programme by comparing the post-test knowledge scores between the Experimental group and Control group.

4. To find the association between the posttest knowledge scores of nurses in the Experimental group and Control group with the selected demographic variables.

RESEARCH HYPOTHESIS:

H1: There will be a significant difference between the pre-test and post-testknowledge scores of nurses regarding leadership roles in the prevention of cardiovascular disease among the Experimental group and Control group.

H2: There will be significant association between the post- test knowledge scores of nurses regarding leadership roles in cardiovascular disease prevention and the selected demographic variables among the Experimental group and Control group.

MATERIALS AND METHODS:

Research Approach: An evaluative approach was adopted for the study.

Research Design: A quasi- experimental design with pre-test and post-test control group was adopted

VARIABLES:

1. Independent variable: A structured teaching programme on knowledge regarding leadership roles in cardiovascular disease prevention.

2. Dependent variable: knowledge of nursing staff regarding leadership roles in cardiovascular disease prevention.

3. Extraneous variable: Age, gender, professional qualification, years of clinical experience, exposure to in-service education / programme and source of information regarding leadership roles in cardiovascular disease prevention.

SETTING OF THE STUDY

In this study the setting was MS Ramaiah Narayana Heart Centre, Bengaluru.

POPULATION

In the present study population comprised of nursing staffs working at MS Ramaiah Narayana Heart Centre, Bengaluru.

SAMPLING TECHNIQUE

Convenient sampling technique was used in the present study.

SAMPLE SIZE

50 nursing staff, 25 for experimental group and 25 for control group who met the inclusion criteria formed the sample of the study.

SAMPLING CRITERIA

1. **Inclusion criteria:**

   The study includes nursing staffs who are:

   • Willing to participate in the study.

   • Available at the time of data collection.

2. **Exclusion criteria:**

   The study excludes nursing staff who are:

   • Designated as nursing superintendent.

   • Not willing to participate in the study.

   • Not available at the time of study.

Literature Review

In order to achieve the goal in the present study, an attempt has been made to review and discuss the related literature in 3 steps:

1. Reviews related to the incidence and prevalence of cardiovascular disease.

2. Reviews related to the knowledge of nursing staff regarding leadership roles in the prevention of cardiovascular disease.

3. Reviews related to Structured Teaching Programme as a method of education.

A systematic search strategy was employed to identify relevant studies. Literature searches were conducted for articles from 2000 to June 2012 using databases such as Pub Med, Medline, Academic search, Cochrane and Science Direct. Additionally, an internet search was performed via Google. The search strategy involved using specific keywords, integrating primary Medical Subject Headings and Boolean terms to combine keywords. Supplementary efforts included analyzing the reference lists of identified studies, reaching out to library physically for additional data not included in the published reports, and obtaining full research contents. Key journals were also searched for relevant reports. The keywords used included the following: heart disease, coronary artery disease, cardiovascular disease, cardiovascular risk assessment, cardiovascular disease prevention, incidence and prevalence of heart disease, leadership, nurses' leadership roles, leadership and cardiovascular disease prevention, education, teaching programme, Structured Teaching Programme, and algorithms.

RESULTS

SECTION I: DEMOGRAPHIC CHARACTERISTICS OF STAFF NURSES

TABLE 1: Frequency and percentage distribution of demographic variables of staff nurses in Experimental and control group.   N = 50 (E = 25, C = 25)

S.no.	Demographic variables	Experimental Group		Control Group	
		Frequency n	Percentage %	Frequency n	Percentage %
1.	**Age (in years)** 21-30	12	48.0	18	72.0
	31-40	11	44.0	7	28.0
	41-50	2	8.0	0	0.0
	51-60	0	0.0	0	0.0
2.	**Gender** Male	0	0.0	0	0.0
	Female	25	100.0	25	100.0
3.	**Professional qualification** GNM	10	40.0	9	36.0
	B.Sc. Nursing	11	44.0	12	48.0
	PB BSc. Nursing	4	16.0	3	12.0
	MSC. Nursing	0	0.0	1	4.0
4.	**Clinical Experience** < 5Years	25	100.0	20	80.0
	6-10Years	0	0.0	5	20.0
5.	**Position held in Department Staff** Nurse	21	84.0	21	84.0
	Team Leader	2	8.0	2	8.0
	Nursing In-charge	2	8.0	2	8.0
	Nursing Supervisor	0	0.0	0	0.0
6.	**Area of working Cardiology** OPD	11	44.0	11	44.0
	Cardiology Ward	7	28.0	7	28.0
	CCU	5	20.0	5	20.0
	Cath Lab	2	8.0	2	8.0
7.	**Previous knowledge** Yes				
	i. Journals	4	16.0	1	4.0
	ii. others sources No	0 21	0.0 84.0	0 24	0.0 96.0

SECTION II: COMPARISON OF PRETEST AND POSTTEST KNOWLEDGE SCORES OF STAFF NURSES IN EXPERIMENTAL AND CONTROL GROUP

TABLE 2: Overall pretest and posttest knowledge scores of the nurses N = 50 (E = 25, C = 25)

Knowledge	Experimental group				Control group			
	Pre test		Post test		Post test		Post test	
	F	%	F	%	F	%	F	%
Inadequate	25	100.0	0	0.0	25	100.0	25	100.0
Moderate	0	0.0	5	20.0	0	0.0	0	0.0
Adequate	0	0.0	20	80.0	0	0.0	0	0.0
Total	25	100	25	100	25	100	25	100

The table indicates the distribution of pretest and posttest knowledge scores. Both groups had inadequate pretest knowledge, with the experimental group showing improvement post-STP (20% moderate, 80% adequate), while the control group saw no change.

SECTION III: COMPARISON OF MEAN PRETEST & POSTTEST KNOWLEDGE SCORES OF THE STAFF NURSES IN EXPERIMENTAL GROUP & CONTROL GROUP

TABLE – 3: Aspect wise analysis of mean pretest and posttest knowledge scores of staff nurses in Experimental group   **N = 25**

Knowledge aspects	No. of Items	Maximum Score	Pre Test				Post Test			
			Mean	Mean %	Median	SD	Mean	Mean %	Median	SD
Cardiovascular disease, risk factors and preventive measures	10	10	5.12	51.2	5	0.66	9.48	94.8	9	0.51
Leadership roles of nurses in cardiovascular disease prevention	20	20	5.44	27.2	5	0.961	15.72	78.6	16	2.993
Overall	30	30	10.56	35.2	10	1.083	25.20	84	26	2.828

The table shows the staff nurses' mean pretest and posttest knowledge scores. The experimental group's pretest score was 10.56 (35.2%) with a standard deviation of 1.083, indicating inadequate knowledge. Post STP, the mean score rose to 25.2 (84%) with a standard deviation of 2.828, indicating adequate knowledge in cardiovascular disease prevention leadership roles.

TABLE – 04: **Aspect wise analysis of mean pretest and posttest knowledge scores of Control Group**

N = 25

Knowledge aspects	No. of Items	Maximum Score	Pre Test				Post Test			
			Mean	Mean %	Median	SD	Mean	Mean %	Median	SD
Cardiovascular disease, risk factors and preventive measures	10	10	4.96	49.6	5	0.735	4.96	49.6	5	0.735
Leadership roles of nurses in cardiovascular disease prevention	20	20	5.68	28.4	6	1.030	5.68	28.4	6	1.030
Overall	30	30	10.64	35.46	11	0.995	10.64	35.46	11	0.995

The table shows the mean pretest and posttest knowledge scores of the control group. Pretest score: 10.64 (35.46%) with a standard deviation of 0.995, indicating insufficient knowledge. Post STP: 10.64 (35.46%) with a standard deviation of 0.995, indicating no improvement in nursing staff knowledge regarding leadership roles in cardiovascular disease prevention in the control group.

The chi-square test for association between demographic variables and posttest knowledge scores in the experimental group. None of the variables, including age, gender, education, years of experience, position, area of work, and previous knowledge, showed significance at 0.05 level. Thus, the hypothesis of a significant association between posttest knowledge and demographic variables in the experimental group is rejected.

The table illustrates the chi-square test for association between posttest knowledge scores and demographic variables in the control group. None of the variables, including age, gender, education, years of experience, position, area of work, and previous knowledge, demonstrated significance at the 0.05 level. Therefore, the hypothesis regarding significant associations between posttest knowledge levels and demographic variables in the control group is rejected.

DISCUSSION:

In this study it was observed that, pretest knowledge was inadequate for both the experimental and control groups. After the STP, the experimental group improved, with 20% showing moderate knowledge and 80% having adequate knowledge. However, the control group's knowledge did not improve. The experimental group's knowledge improved significantly ($t=28.196$, $p<0.05$) from pretest mean 10.56 (35.2%) to posttest mean 25.2 (84%) with standard deviations $\sigma_1=1.083$ and $\sigma_2=2.828$. In contrast, the control group showed no significant change from pretest mean 10.64 (35.46%) to posttest mean 10.64 (35.46%) with standard deviations $\sigma_3=0.995$ and $\sigma_4=0.995$. No remarkable correlations were found between posttest knowledge levels and demographic variables, underscoring the program's broad efficacy in enhancing staff nurses' knowledge.

CONCLUSION

The researcher concluded that the Structured Teaching Program (STP) on leadership roles in cardiovascular disease prevention significantly enhanced the knowledge levels of the staff nurses, underscoring its effectiveness. Strategy for improving the knowledge of nurses regarding leadership roles in CVD prevention should be in such a way that all nurses are to be encouraged to study, upgrade their skills,

knowledge, ability and practice to become knowledgeable and strive towards achieving vision, attitude, accountability and responsibility thus improving the standards of nursing profession, improve client outcomes, implement evidence-based practice and deliver optimal and cost-effective care. Therefore, it is advisable to implement these intervention methods for the improvement of nurses and the profession overall.

CONFLICT OF INTEREST

The author declares no potential conflicts of interest including financial, institutional and other relationships that might lead to bias.

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