

Impact of Health Education Interventional Program on Knowledge Regarding Prevention of Cardiovascular Diseases and It's Management Among Nursing Officers in Selected Hospitals of Dharwad District, Karnataka

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ABSTRACT:

Cardiovascular diseases (CVD) represent worldwide healthcare issue and considered to be one of the predominant factors in instigating morbidity and mortality among populations due to malfunctioning of heart valves resulting in heart failure, ischemic heart disease and cerebrovascular complications. There are numerous risk factors that contribute to increase in the incidence of cardiovascular complications. Due to the complexity and severe risk factors associate with this disease, it is imperative to combat the pathologies of CVD with clinical and surgical treatment modalities.

Nursing officers are very important part of the eclectic team of medical professionals. Nursing team play a significant role in assisting the CVD patients. They actively contribute in providing complete care to the patients who underwent cardiovascular surgery. Nurses with cardiovascular speciality play a significant part in combating the increased risk of CVD. Cardiovascular nurses actively participate in the improvement of health and well-being of the individuals.

Regarding effectiveness of health education interventional program, the calculated value of paired 't' value ($t_{cal} = 12.52$) is greater than the tabulated value ($t_{tab} = 2.02$) at 0.05 level of significance which revealed that there was a gain in knowledge after administration of health education interventional program.

KEY WORDS: Cardiovascular diseases, nursing officers, knowledge.

INTRODUCTION:

CVD represents a serious global health concern and nursing professionals from cardiovascular discipline play a crucial role in reducing this worldwide issue and promote positive outcomes in the CVD treatment. These specialized nurses require thorough understanding of the disease treatment and follow up procedures, intensive skills and excellent resources that will permit and qualify them to perform as leaders in the management of CVD. Specific competencies of nurses specialized in cardiology with respect to World Health Organization core proficiencies of twenty first century

healthcare employees in the prevention of CVD are outlined (knowledge, training and approaches) in detail. Development of strategies, leadership capabilities and mentorship are vital and a key approach for endorsing cardiovascular nursing role and promote nurses in the contribution of improvement in healthcare system by decreasing CVD and associated complications.

Nursing team plays a significant role in assisting the CVD patients during and after surgery. They actively contribute providing complete care to the patients who underwent cardiovascular surgery. Several studies have reported that nursing professionals must plan and establish steps involved in the process of treatment and care to the CVD affected patients. For this process to be achieved, the intervention procedures should be directed by a scientific approach. This scientific approach (diagnosis, treatment plan and execution) permits the nurse to recognize and meet the requirements of the person. Nevertheless, to meet patients' requirements, they also must need intensive technical skills, intellectual competence and organizational relationships.

Although with thorough care and support to CVD patients, the incidence of post-operative complications is very common and result in morbidity and mortality. Therefore, there is a need for strategic planning that could alleviate complications and make a patient feel secure irrespective of new lifestyle modifications such as changes in diet and other related orientations that cater to the patient's requirements.

Patients discharge from the hospital is taken care by the members of multi-disciplinary team intermediated by nursing professionals as they are connection between the eclectic medical professionals so that definite requirements of each CVD patient are met. Due to the complexity of cardiovascular disease management, treatment centers must provide expert human and material resources along with highly proficient techno- scientific expert team of "cardiologist, cardiac and vascular surgeons, anesthesiologist, electro physiologist, psychologist and very importantly registered nursing staff". Nurse professionals as well as psychologist are very important part of the eclectic team of medical professionals. This is mainly due to the fact that many patients specifically in their post-operative phase present with signs of anxiety, lack of hope, and negative apprehension about the future and decline in their confidence level.

CVD is one of the major contributors to early mortality worldwide and their prevalence has increased drastically over the past 20 years. According to the information available at the international council of nurses, around twelve million nursing professionals (from largest healthcare) are managing chronic illnesses and CVD complications worldwide.

The American Heart Association along with WHO identify the important aspects that nurses along with multi-disciplinary team members contribute with an aim to reduce the mortality rate by 25% in 2025. Over the past 40 years, nurses are being in-charge on key roles in the management of multiple risk factors associated infections and chronic illnesses such as CVD, coronary artery disease through primary care programmers and cardiac rehabilitation. By playing a key role in the management of CVDs, they demonstrate excellent ability in reducing CVD complications. Furthermore, nurses have also adhered to the protocols and guidelines for CVD treatment and demonstrated positive outcomes in patients with reduced morbidity and mortality worldwide.

Many data and studies support the key role of nurses in cardiovascular and associated diseases prevention. A landmark trial conducted by Stanford Risk Intervention Project results revealed that nurses play a prominent role in reduction of clinical events in CVD which was evident from regression of disease by angiographic procedure. Several attempts were made and have been successful in

elucidating the significance of nursing professionals in the management of CVD by strictly adhering to protocols and guidelines for medical therapies. A trial on atherosclerosis management program results demonstrated that patients with coronary artery disease and received nurse directed care reported with a reduction in the rate of morbidity and mortality to a significant extent post one year follow up than the usual care. This study clearly demonstrated nurse directed recommendations for prevention of CVD and its management. The Global Cardiovascular Nursing Leadership Forum was successful in initiating a global nursing movement for CVD prevention in both developing and developed countries.

MATERIAL AND METHODS:

Approach:

Quantitative Evaluative Research approach was used for this study.

Study Design:

The research design used for the present study was Pre experimental; one group pre-test and post-test design was adopted.

O₁ X O₂

O₁: Assessment of knowledge of nursing officers through structured knowledge questionnaire before the administration of health education interventional program.

X: Administration of health education interventional program on prevention of cardiovascular diseases and its management among nursing officers.

O₂: Post-test for assessing the knowledge of nursing officers through structured knowledge questionnaire.

Variables:

- Independent variable: Health education interventional program.
- Dependent variable: Knowledge regarding prevention of cardiovascular diseases and its management.

Population:

The Population of the study comprises of 50 nursing officers.

Setting and Sample:

In present study, 50 Nursing officers were selected from Hospitals of Dharwad.

Sampling technique:

The researcher in the present study selected the target population through Probability; Simple random sampling technique.

Measurement:

Reliability of the tool: The subjects were given Socio-demographic sheet and the structured knowledge questionnaire. Each correct answer carries 1 mark and incorrect answer carries 0 marks. The tool was validated by experts in the field of Medical Surgical Nursing. The tool was tested for reliability on 10 students by using Split Half Method and applying Karl Pearson's Correlation Coefficient formula. The reliability of Structured Knowledge Questionnaire was $r = 0.78$. Hence, the tools were found to be reliable. Item analysis was done to test the internal consistency.

Data Collection: The research investigator had taken formal permission from the selected hospitals. The investigator introduced her and explained the purpose of the study written consent was obtained from the participants. The collected data was tabulated and analysed.

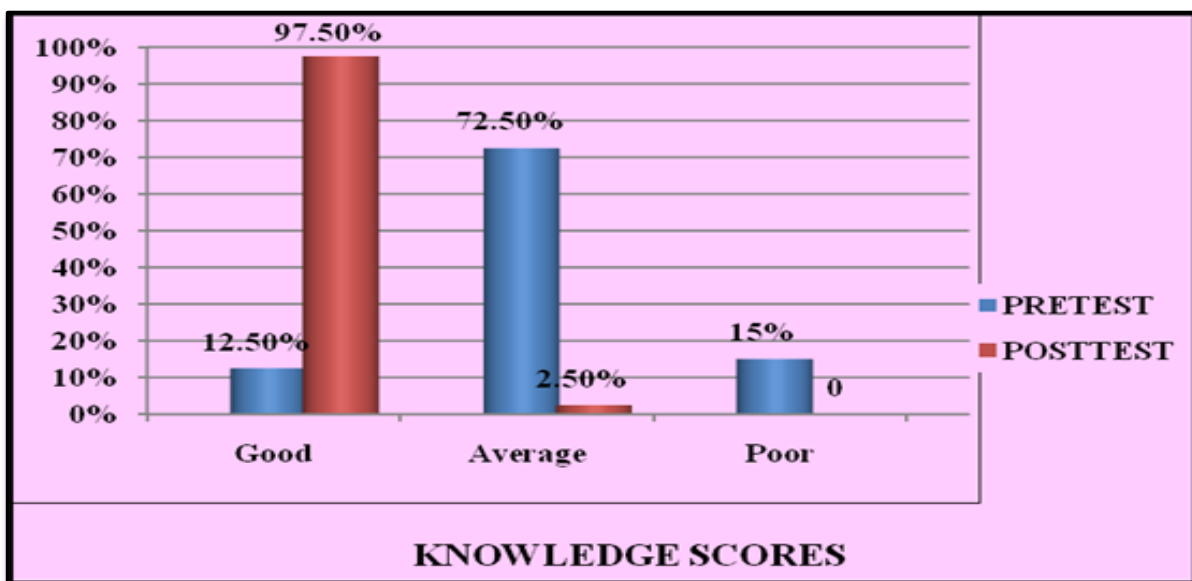
Data Analysis: The data obtained were analysed in terms of the objectives of the study using descriptive and inferential statistics. Tabulation of data in terms of frequency, percentage, mean, median, mode, standard deviation and range to describe the data. Classification of knowledge scores (level of knowledge) were as follows:

- Good Knowledge = $(\bar{X} + SD)$ and above
- Average knowledge = $(\bar{X} - SD)$ to $(\bar{X} + SD)$
- Poor knowledge = $(\bar{X} - SD)$ and below

[Note: \bar{X} =Mean, SD= Standard deviation]

RESULTS:

Level of Knowledge score n=50



Graph 1: The cylinder diagram represents percentage distribution of subjects according to knowledge scores.

The cylinder diagram shows that distribution of level of knowledge of nursing officers regarding prevention of cardiovascular diseases and its management during pre-test and post-test. Most of the subjects in the pre-test 39 (72.5%) had average knowledge, 05 (12.5%) had good knowledge and 06 (15%) had poor knowledge. In post-test, after health education interventional program 49 (97.5%) had good knowledge, 01 (2.5%) had average knowledge regarding prevention of cardiovascular diseases and its management.

DISCUSSION:

The present study has been undertaken with the aim to assess the knowledge regarding prevention of cardiovascular diseases and its management before and after health education interventional program among nursing officers.

CONCLUSION:

Based on the findings of the study, the following conclusions were drawn.

1. The overall pre-test knowledge scores of student nurses were average.
2. The post-test knowledge scores of the subjects after administration of the health education interventional program were significantly higher than the pre-test knowledge scores.
3. The results revealed that there was no statistical association between the knowledge scores and socio-demographic variables.

RECOMMENDATIONS:

Keeping in view the findings of the present study, the following recommendations were made:

1. A similar study can be replicated on a larger sample size thereby findings can be generalised for larger population.
2. A comparative study can be conducted among nursing students.
3. A similar study can be conducted and evaluated using alternative teaching strategies like self - instruction module, video assisted teaching.

CONCLUSION:

Nursing officers are very important part of the eclectic team of medical professionals. Nursing team play a significant role in assisting the CVD patients during and after the surgery. They actively contribute in providing complete care to the patients who underwent cardiovascular surgery. Nurses with cardiovascular specialty play a significant part in combating the increased risk of CVD. Effective cardiovascular nursing officers and tutors are required to contribute to CVD prevention and promote active healthcare delivery system. Development of leadership qualities is a significant part of cardio-specialty nurses with regard to professional growth as well as in all phases of healthcare system.

REFERENCES:

1. George A, Badagabettu S, Berra K, George LS, Kamath V, Thimmappa L. Prevention of cardiovascular disease in India: Barriers and opportunities for nursing. *J Clin PrevCardiol* 2018;7:72-7.
2. World Health Organization. Projections of Mortality and Causes of Death, Age, Sex, by Region, 2015 and 2030: Geneva, Switzerland;2013. Available from: http://www.who.int/healthinfo/global_burden_disease/projections/en/.
3. Berra K, Miller NH, Jennings C. Nurse-based models for cardiovascular disease prevention: From research to clinical practice. *J Cardiovasc Nurs* 2011;26 4 Suppl:S46-55.
4. Lanuza DM, Davidson PM, Dunbar SB, Hughes S, De Geest S. Preparing nurses for leadership roles in cardiovascular disease prevention. *Eur J Cardiovasc Nurs* 2011;10 Suppl 2:S51-7.
5. Chow C, Cardona M, Raju PK, Iyengar S, Sukumar A, Raju R, et al. Cardiovascular disease and risk factors among 345 adults in rural India – The Andhra Pradesh Rural Health Initiative. *Int J Cardiol* 2007;116:180-5.
6. IOM (Institute of Medicine). *The Future of Nursing: Leading Change, Advancing Health*. Washington, DC: The National Academies Press; 2011.
7. Hassmiller SB. The RWJF's investment in nursing to strengthen the health of individuals, families,

- and communities. *Health Aff (Millwood)* 2013;32:2051-5.
8. World Health Organization. *Global Health Estimates 2015: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2015*. Geneva, Switzerland; 2016. Available from: http://www.who.int/healthinfo/global_burden_disease/en/. [Last accessed on 2017 Feb 20].
 9. Hayman LL, Berra K, Fletcher BJ, Houston Miller N. The Role of Nurses in Promoting Cardiovascular Health Worldwide: The Global Cardiovascular Nursing Leadership Forum. *J Am Coll Cardiol*. 2015 Aug 18;66(7):864-866.
 10. Hayman LL, Meininger JC, Daniels SR, et al. Primary prevention of cardiovascular disease in nursing practice: focus on children and youth. *Circulation* 2007;116:344–57.
 11. Bodenheimer T, MacGregor K, Stothart N. Nurses as leaders in chronic care. *BMJ* 2005;330: 612–3
 12. Miller NH, Froelicher ES. Disease management models for cardiovascular care in cardiac nursing. In: Woods SL, Froelicher ES, Motzer SU, Bridges E, editors. *Cardiac Nursing—5th Edition*. Philadelphia: Lippincott, Williams and Wilkins, 2004:986–96.
 13. Berra K, Miller NH, Jennings CJ. Nurse-based models for cardiovascular disease prevention: from research to clinical practice. *J Cardiovasc Nurs* 2011;26 Suppl 4:S46–55.
 14. Berra K, Fletcher B, Hayman LL, et al. Global cardiovascular disease prevention: a call to action for nursing executive summary. *J Cardiovasc Nurs* 2013;28:505–13. 9.
 15. Berra K. Does nurse case management improve implementation of guidelines for cardiovascular disease risk reduction. *J Cardiovasc Nurs* 2011;26: 145–67.
 16. Allen JK, Dennison CR (2010). Randomized trials of nursing interventions for secondary prevention in patients with coronary artery disease and heart failure: systematic review. *J Cardiovasc Nurs*. 25: 207–220.
 17. Barondess JA. On mentoring. *J R Soc Med*. 1997;90(6):347-349.
 18. American Heart Association. International Mentoring Program. <http://www.americanheart.org/presenter.jhtml?identifier=3040709>. Accessed June 22, 2010.
 19. Koskinen L, Tossavainen K. Characteristics of intercultural mentoring—a mentor perspective. *Nurse Educ Today*. 2003;23(4):278-285.
 20. Briz-Ponce, L., Juanes-Méndez, J. A., García-Peñalvo, F. J., & Pereira, A. (2016). Effects of mobile learning in medical education: a counterfactual evaluation. *Journal of medical systems*, 40(6), 136.
 21. Allen JK, Dennison Himmelfarb CR, Szanton SL, Bone L, Hill MN, Levine DM (2011). COACH trial: A randomized controlled trial of nurse practitioner/community health worker cardiovascular disease risk reduction in urban community health centers: Rationale and design. *Contemp Clin Trials*. 32/3: 403–411.
 22. Allen JK, Dennison CR (2010). Randomized trials of nursing interventions for secondary prevention in patients with coronary artery disease and heart failure: systematic review. *J Cardiovasc Nurs*. 25: 207–220.
 23. Fineout-Overholt E, Melnyk BM, Schultz A. Transforming health care from the inside out: advancing evidence-based practice in the 21st century. *J Prof Nurs*.