International Journal of Research in Engineering, Science and Management
Volume-2, Issue-10, October-2019
www.ijresm.com | ISSN (Online): 2581-5792

Effect of Information Booklet on Knowledge and Practices Regarding Nursing Assessment in Cardiac Patients Among Staff Nurses Working in Intensive Care Units of Selected Hospitals

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***Abstract*: Effect of information booklet on knowledge and practices regarding nursing assessment in cardiac patients among staff nurses working in intensive care units of selected hospitals was carried out for partial fulfillment of the requirement for the award of Master of Nursing at Maharashtra University of Health Sciences, Nashik.**

***Keywords*: Information booklet, nursing assessment**

1. Introduction

A. Problem statement

"Effect of information booklet on knowledge and practices regarding nursing assessment in cardiac patients among staff nurses working in intensive care units of selected hospitals."

B. Objectives of the study

1. To assess the knowledge of staff nurses regarding nursing assessment in cardiac patients before and after the administration of information booklet.
2. To assess the practices of staff nurses regarding nursing assessment in cardiac patients before and after the administration of information booklet.
3. To find out association of knowledge and practices with selected demographic variables in performing nursing assessment in cardiac patients among staff nurses working in intensive care units of selected hospitals.

C. Hypothesis

H0-There will be no significant difference in the knowledge and practice scores of the staff nurses regarding nursing assessment in cardiac patients after administration of the information booklet. H01-There will be no significant association between selected demographic variables and knowledge and practice scores of the staff nurses regarding nursing assessment in cardiac patients after administration of the information booklet.

D. Introduction

The cardiovascular system is made up of the heart and blood vessels. Cardiovascular disease are any of the diseases, whether congenital or acquired, of the heart and blood vessels. Cardiovascular disease includes coronary heart disease (CHD), stroke, peripheral vascular disease, congenital heart disease, endocarditis, and many other conditions. Among the most important are atherosclerosis, rheumatic heart disease, and vascular inflammation. Cardiovascular diseases are a major cause of health problems and death worldwide.

Life depends on the functioning of the heart; thus, the heart is involved in all death, but this does not account for its prominence in causing death. To some degree, as medical science advances, more people are saved from other illnesses only to die from one of the unsolved and uncontrolled disorders of the cardiovascular system. Some forms of cardiovascular diseases are becoming less frequent causes of death, and continued research and preventive measures may provide even greater benefits. Cardiac diseases as such was not recognized in non-technological cultures, but the beating heart and its relationship to death have always been appreciated. Sudden death, now usually attributed to heart disease, was recognized as early as the 5th century B.C. by the Greek physician Hippocrates and was noted to be more common in the obese. The role of disease in affecting the heart itself did not become apparent until the 17th century, when examination of the body after death became acceptable [1].

Gradually, the involvement of the heart valves, the blood vessels, and the heart muscle was observed and categorized in an orderly fashion. The circulation of the blood through the heart was described in 1628 by the British physician William Harvey. The recognition of the manifestations of heart failure came later, as did the ability to diagnose heart ailments by physical examination through the techniques of percussion (thumping), auscultation (listening) with the stethoscope, and other means. It was not until early in the 20th century that the determination of arterial blood pressure and the use of X-rays for diagnosis became widespread [1]. In 1912 James Bryan Herrick, a Chicago physician, first described what he called coronary thrombosis. Angina pectoris had been recorded

centuries earlier. Cardiovascular surgery in the modern sense began in the 1930s, and open-heart surgery began in the 1950s.

Nurses play a key role for promotion and prevention of diseases. They are in constant contact with the patients. They care and provide comfort to the patient that aid in their recovery. Nursing assessment is the first and most important step in patient care. Assessment of the cardiovascular system is one of the most important areas of the nurse's daily patient assessment. Effective primary prevention of cardiac diseases requires an assessment to categorize patients for selection of appropriate interventions. Nurses are required to keep their knowledge updated regarding nursing assessment in cardiac patients to achieve the highest level of nursing skill.

2. Background of the Study

Before 1900, very few people died of heart disease. Since then, heart disease has become the number one killer in India. The age of technology has made life easier and made people more prone to heart disease. Before the industrial revolution, most people made their living through some sort of manual labour. Walking was the major means of transportation. Laundry was scrubbed and wrung by hand. Stairs were climbed, carpets were beat, and butter was churned. With the arrival of automation, life became less strenuous. Most manual labour was either replaced or assisted by machinery. Automobiles, washing machines, elevators, and vacuum cleaners became commonplace. Modern conveniences made physical activity unnecessary [3].

Along with the change in lifestyle came a change in diet. Machines were built to homogenize milk, process cheese, churn butter, and make ice cream. Previously, such high-fat treats had to be made by hand. Fried foods, like potato chips, hamburgers, and french fries, became staples in many diets. The combination of a sedentary lifestyle and a rich diet led to an increase in clogged blood vessels, heart attacks, and strokes. Heart disease became commonplace. The rate of heart disease increased so sharply between the 1940 and 1967 that the world health organization called it the world's most serious epidemic [4].

The causes of cardiac diseases are high blood pressure, smoking, diabetes, lack of exercise, obesity, high blood cholesterol, poor diet, and excessive alcohol, and many others. High blood pressure results in 13% of cardiovascular disease deaths, while tobacco results in 9%, diabetes 6%, lack of exercise 6% and obesity 5%. Others such as rheumatic heart disease may follow untreated streptococcal infections of the throat. The prevalence of heart failure in india due to coronary heart disease, hypertension, obesity, diabetes and rheumatic heart disease ranges from 1.3 to 4.6 million, with an annual incidence of 491 600–1.8 million. The epidemiology of heart failure in india by vakil, describing hypertension-coronary (31%), rhd (29%), syphilis (12%), and pulmonary (9%) as the primary causes in 1281 patients hospitalized due to heart failure. The annual incidence of hf for patients with coronary heart disease ranges from 0.4% to 2.3% per year, suggesting that 120 000–690 000 Indians could develop symptomatic heart failure due to coronary heart disease every year [5].

According to a report by published by the associated chambers of commerce and industry of India (assocham), one of the apex trade associations on the cardiovascular disease scenario in India, the country has seen a considerable increase in the number of heart disease cases over the past couple of decades. According to recent data, approximately 30 percent of the urban population and 15 percent of the population living in rural areas of India suffer from high blood pressure and heart attacks. Globally, the number of deaths due to cardiovascular diseases increased by 41%between 1990 and 2013, climbing from 12.3 million deaths to 17.3million deaths. Over the same period, death rates within specific age groups dropped by 39%, according to an analysis of data from 188 countries. Death rates from cardiovascular diseases were steady or fell in every region of the world except western sub-saharan africa, where the rates increased. Central Europe and western Europe have managed to reduce death rates by 5.2% and also the total number of deaths from cardiovascular diseases by 12.8%, between 1990 and 2013 [3].

3. Research methodology

The research approach adopted for the study was descriptive evaluatory approach and the design used was one group pre-test post-test design. The population of the study consisted of 50 staff nurses working in selected hospitals. Non probability convenient sampling was used to select 50 staff nurses working in the selected hospital that fulfilled the required criteria.

The investigator prepared an information booklet for staff nurses working in the selected hospital regarding nursing assessment in cardiac patients. Based on the topic, a structured questionnaire were prepared to assess the knowledge and practices of staff nurses.

The tool was in English, reliability and content validity were established The pilot study was done on 05 samples that fulfilled the inclusion criteria. The actual data collection was done on 50 samples that work in the selected hospital and which fulfils the required criteria. The data collected was analyzed using descriptive and inferential statistics. Interpretation was based on the objectives and hypothesis of the study.

4. Findings of the study

A. Analysis of demographic variables

1. Majority of sample 39 (78.0%) samples were in 21-25 years of age category.
2. Data related to educational status shows that maximum 36 (72.0%) of the sample had completed Basic BSc nursing, 13(26.0%) samples had done GNM. None of the samples were there in Post Basic BSc Nursing and MSC nursing category.
3. Maximum sample 37 (74.0%) samples had 3months-2 years of experience. Then next 13 (26.0%) samples

had 2.1-6years of experience. None of the samples samples were there in above 6.1years of age category.

Assessment of knowledge of staff nurses regarding nursing assessment in cardiac patients before and after administration of information booklet.

In this section question wise analysis was done in terms of frequency and percentage.

- Majority 42(84 %) of the sample knew about a chief complaint which is not common in cardiac disease in the pre-test, which is showing small increased to 48(96%) in post test.
- Also 40(80%) of the sample knew about the history that reveals details pertaining to present admission in pre-test, which is showing small change 45 (90%) sample were aware about it in post test. Shows there is increment.
- In pre test most of the 35(70%) and 38(76%) sample were aware about the non relieving factor of chest pain and the components of nursing assessment in cardiac patients, it shows increment in numbers as46(92%) and 49(98%) in the post test respectively.
- Almost half 28(56%) were aware about the following is a cause of cyanosis in pre-test raised to 43(86%) in post test showing significant difference.
- In pre test very few of the 19(38%) and 18(36%) sample were aware about the pericardial friction rub and S1 heart sound is linked to, it shows drastic changes in numbers as 44(88%) and 46(92%) and in the post test respectively.
- Regarding knowledge about the S2 heart sound is related to, only 12(24%) sample were aware in the pre-test, which is showing high increment in post test values by 43(86%).
- Highest no of sample 37(74%) were aware about the test to evaluate the heart's rhythm and signs of ischemia is in pre-test raised to 46(92%) in post test showing significant difference.
- Regarding knowledge about the Gallops are often used to denote, only 28(56%) sample were aware in the pre-test, which is increased in post test by 44(88%).
- Almost half 24(48%) of the sample knew about in left heart catheterization the catheters are inserted through in the pre-test, which is increased to 35(70%) in post test
- In pre test few 22(44%) sample were aware about heart sound which is louder at the base of heart, heart sound which is louder at the apex of heart and the enzyme involved in contraction of myocardial muscle in same frequency order and the numbers shows significant increment to 43(86%), 32(64%) and 43(86%) in the post test respectively.
- Very few 19(38%) of the sample knew about the test to evaluate the heart's rhythm and signs of ischemia in pre test which shows drastic increase in values as 37(74%) sample were aware about it in post test. shows there is increment
- Minimum 7(14%) of the sample knew about the heart sound which is considered characteristic of left ventricular dysfunction after the age of 30 in pre test which increased in values as 40(80%) sample were aware about it in post test. showing significant raise.

Assessment of practice of staff nurses regarding nursing assessment in cardiac patients before and after administration of information booklet.

- Regarding practice of watching capillary refill is established normally in how many seconds and ST elevation is seen in which cardiac condition shows most 41(82%) sample were aware in the pre-test, which is increased in post test minimally by 46(92%).
- In pre test half 25(50%) sample were aware about the sound best heard at lung bases and the numbers rise to 44(88%) in the post test.
- In pre test 17(34%), 16(32%) and 15(30%) sample were aware about S3 and S4 sound is best heard with, part of the hand is most sensitive at detecting thrills and the significance of the 5th intercostals space and mid-clavicular line is in descending order and the numbers rise to 33(66%) , 41(82%) and 34(68%) in the post test respectively.
- Few no of sample 13(26%) were aware about the chief Right ventricular enlargement can produce an abnormal pulsation called as and Crackles frequently signal in pre-test raised to 35(70%) in post test showing significant difference.
- Minimum 9(18%) were aware of a light gray ring around the iris, possibly caused by cholesterol deposits is called as in the pre-test. In the post test 34(68%) knew of the same. Effectiveness of information booklet on knowledge and practices of staff nurses regarding Nursing assessment in cardiac patients.

- This section consists of two parts

Part-A: Comparison of mean of pre and post scores of overall knowledge

Part-B: Comparison of mean of pre and post scores of overall reported practice

Part-A: The calculated t value was found to be 13.52 for overall knowledge. As the calculated "t" value was statistically greater than the table "t" value of 2.01 at 0.05 level of significance with the degrees of freedom being 49 so null hypothesis (H0) was rejected. As the post test mean is more than the pre test mean, this shows that information booklet is effective in improving the knowledge of staff nurses.

Part-B: The calculated "t" value was found to be 12.49 for overall practice. As the calculated "t" value was statistically greater than the table "t" value of 2.01 at 0.05 level of significance with the degrees of freedom being 49 so null hypothesis (H0) was rejected. As the post test mean is more than

the pre test mean, this shows that information booklet is effective in improving the practice of staff nurses.

Association of demographic variables with pre test knowledge and practice mean.

- ANOVA is used to find out any association exists between the scores of knowledge and practice with pre and post Effect of information booklet and selected demographic variables of the participants.
- Based on the 'F' test for unpaired sample the calculated 'F' value of knowledge score for Age is 5.18, Education is 1.86 and Duration of experience in ICU is 5.48. As the calculated 'F' values is statistically more than their respective 'F' table value at 0.05 levels, hence we reject the null hypothesis (H0) and accept the alternate hypothesis (H1) for Age and Duration of experience. Whereas the calculated 'F' value of knowledge score for Education is 1.86, which is statistically less than the 'F' table value at 0.05 levels, hence we accept the null hypothesis (H0) for education.

Hence we conclude that knowledge is independent of Education, but is dependent of Age and Duration of experience. Based on the 'F' test for unpaired sample the calculated 'F' value of practice score for Age is 0.14, Education is 0.95 and Duration of experience in ICU is 1.79. All the calculated 'F' values are statistically less than their respective 'F' table value at 0.05 levels, hence we accept the null hypothesis (H0) and reject the alternate hypothesis (H1) for Age, education and Duration of experience. Hence we conclude that practice is independent of Age, Education and Duration of experience, therefore there is no association.

5. Summary

Assessments have always been a major part of nursing care. The safe and effective nursing assessment in cardiac patients requires specific knowledge, skill and judgment and is a cornerstone of quality person centered care. Registered nurses attain initial competence in this skill during their basic nursing education and maintain their competence through continuing education and experience. Assessment is a key component of nursing practice, required for planning and provision of patient and family centered care.

Nurses who care for clients experiencing cardiac disorders perform and interpret a variety of assessment procedures. Nursing assessment of a cardiac patient would involve history taking and physical examination which includes inspection, palpation, percussion and auscultation and diagnostic tests. It is important for nurses to appropriately do nursing assessment to improve care outcomes for the acutely ill patients. Moreover, it is recognized that deterioration in physiological status is often not appreciated, nor acted in a timely manner. Evidence suggests that staff nurses may lack the required knowledge and skills to perform a comprehensive nursing assessment which ultimately has a deleterious effect on the potential to minimize adverse patient events. Hence the investigator felt the need to undertake this study.

6. Conclusion

This study has helped to assess the knowledge and practice of staff nurses regarding nursing assessment in cardiac patients in selected hospital. Knowledge and practices of staff nurses regarding nursing assessment was inadequate before the administration of information booklet. The knowledge and practice level of staff nurses in the post-test was significantly higher than the pre-test score. The findings of the study proved that teaching through information booklet source is really effective to increase and improve the knowledge and practice of the staff nurses immense pleasure.

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