NURSES ROLE IN CORONARY HEART DISEASES, A REVIEW

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ABSTRACT

Coronary heart disease also called coronary artery disease or atherosclerotic heart disease is caused when there is obstruction of blood supply to heart muscles, this reduction in blood supply to heart cells through coronary arteries leads to coronary heart disease.

CAD can cause various manifestations and various life threatening conditions which are fetal like angina pectoris, myocardial infection or sudden death as cardiac muscles are sensitive to continuous supply of oxygen which is managed by adequate amount of blood supply so for normal working of heart this process is to be maintained.CAD is most prevalent type of cardiovascular disease in adults and the major cause of death globally. There is growing impact of lifestyle, environmental factors for occurrence of disease , so nurses working from community to tertiary level for this reason is to become very much educated with various clinical manifestations, diagnosis and treatment modalities associated with their disease.

Keyword : - *Coronary artery disease, nurses role..*

1. INTRODUCTION

Cardio vascular diseases is the accumulation of fatty substances and fibrous tissues in the arterial blood vessels or coronary arteries. The continuous accumulation of these lipids leads to the narrowing the lumen of these blood vessels which in turn leads to the myocardial layers once the lipids are accumulated there is continuous injury to artery walls by different structural changes and biochemical changes in arterial walls which than leads to physiological changes as well. The coronary artery disease is the potentially life threatening process.

2. PATHOPHYSIOLOGY:

1. **Step Ist :**

Diposition of fatty streaks of lipids on inner layers of arterial wall

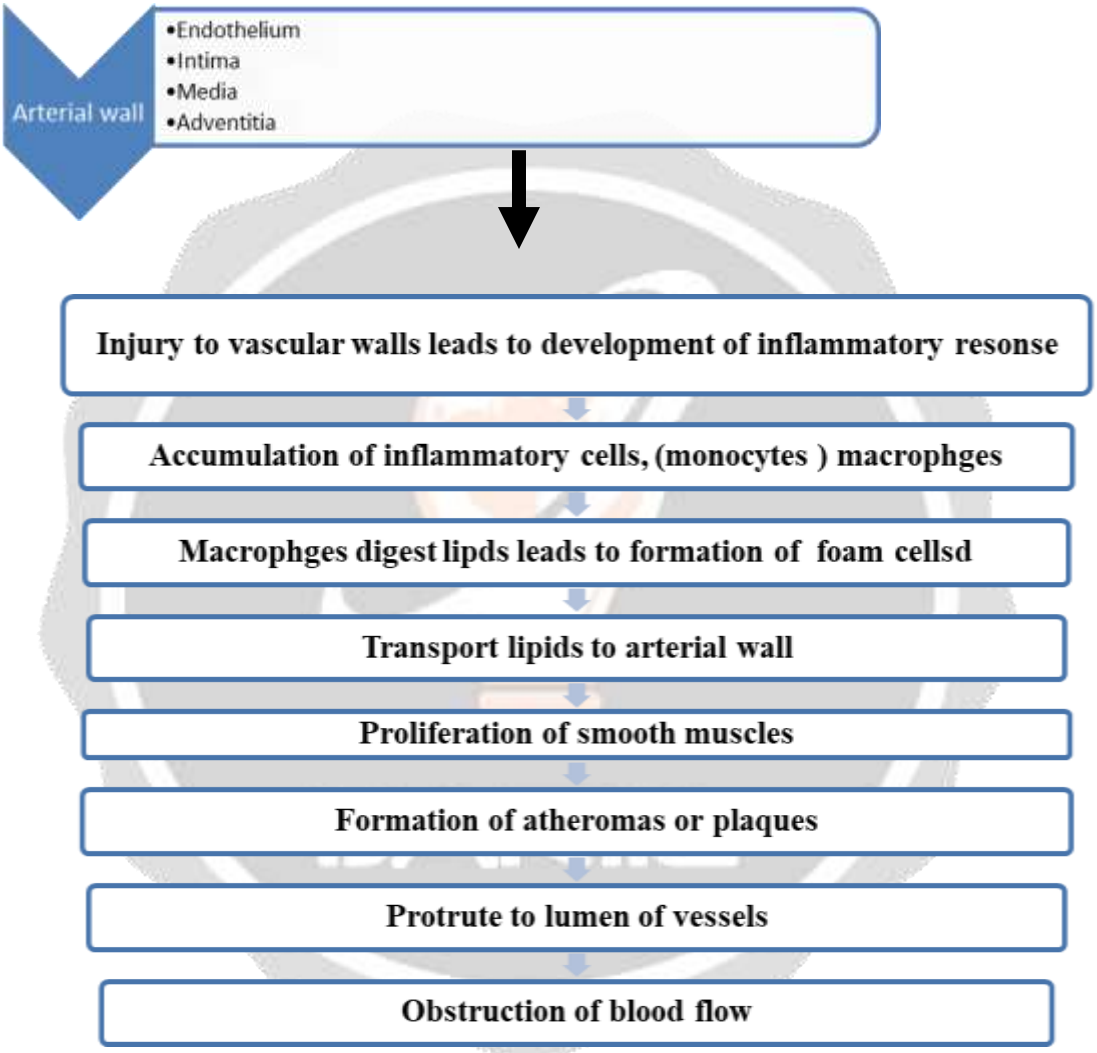

Fig -1: Pathophysiology

2.1 NURSES ROLE 1

A study nurses role in cardiovascular risk assessment and communication found that their were seven key themes which are crucial to nurses involvement in CVD risk assessment and management i.e

1. Use of WHO/ISH charts in routine nursing practices
2. Lack of contact with patients.
3. Time
4. Lack of appraisal and performance based appraisal.
5. Increasing the scope of risk shifting
6. Infrastructure
7. Training facilities for nurses
8. Teams member support

Nurses directed care management has shown very much effectiveness and helped to lower the risk factors and also in treating young and older population with co morbidities.

Nurses success in attempting to change large population having multiple risk factors mostly depends on education and counseling to the people who lack motivation.

- In meta-analysis of secondary CVD prevention program, clarks and colleages they found reduction in mortality & acute MI. in which 45% of studies included in analysis were either led by nurses or managed by nurses.
- In 2004 cardiac hospitalization atherosclerosis management program on initiation of guidelines based therapies for CVD risk reduction it demonstrated reduction in both mortality and morbidity in patients who received nurses directed care management.
- There are more than10 million nurses across world the represent health care provider team with requisite education and position who can take role of care management for CVD risk reduction.
- A study in which role of community based nursing intervention in improving outcomes for individuals for cardiovascular disease vowed community based nursing interventions improved outcomes in four key areas self-care, health, healthcare utilization & quality of care. This also showed barriers to intervention success included limitations in nurses time and skill.
- In 2020 A study was conducted " Task shifting of cardiovascular risk assessment and communication by nurses for primary and secondary prevention of cardiovascular diseases in a tertiary health care setting of Northern India" The results revealed high level of agreement ($k = 0.84$) between the risk scores generated by nurses with that of investigator. In the primary prevention group, there were significantly higher proportion of participants in the low risk category (70%) as compared to baseline assessment (60.6%) at 1 year follow up. Whereas in secondary prevention group the mean medication adherence score among intervention group participants (7.60) was significantly higher than that of the comparison group (5.96) with a large effect size of 1.1.($p < 0.01$).
- A study was conducted in which cardiovascular disease prevention via a nurse- facilitated intervention clinic was conducted and was observed there were clinically significant changes in participants which included blood pressure ,weight, cholesterol level, BMI.
- In 2019 A study was conducted on Coronary artery disease (CAD) remains the leading cause of morbidity and mortality worldwide. Previous systematic reviews and meta-analysis of randomized controlled trials concluded that nursing caring interventions (NCIs) are beneficial for coronary artery patients. Results of this study were expected to alert nurses to consider such risk factors when caring for coronary artery patients as well as appraising their caring efforts in improving the patient's wellbeing for the reduction of morbidity and mortality from a CAD sequel. NCIs such as "administer coronary artery medication and their instructions" was mostly delivered to 291 (97%) patients. The delivery of three out of eight gathered NCIs were significantly influenced by three or all of these CAD risk factors (age, smoking, hypertension, and diabetes) ($p < 0.05$ and/or < 0.01) with an adjusted odds ratio (95% CI) within their significant ranges. Patients with diabetes mellitus were five times more likely to influence the delivery of "administer medication and their instructions" than the rest of patients with coronary artery risk factors ($p < 0.01$; AOR (95% CI) 5.02(2.059-7.207).

- A study was conducted in 2011 The worldwide personal and societal costs related to diseases of the vascular system are enormous. International research efforts have focused on discovering ways to implement prevention strategies shown to be both effective and cost-efficient. Teams comprising health care professionals with expertise in nursing, dietetics, physical activity, and behavioral skills have shown high levels of success in preventive efforts, particularly in high-risk and vulnerable populations. Used appropriately, team-based, nurse-directed case management has the potential to effect positive change in both primary and secondary prevention of cardiac and other vascular diseases.
- In 2018 A Review Article reviews that Coronary artery disease (CAD) is one of the major cardiovascular diseases affecting the global human population. This disease has been proved to be the major cause of death in both the developed and developing countries. Lifestyle, environmental factors, and genetic factors pose as risk factors for the development of cardiovascular disease. The prevalence of risk factors among healthy individuals elucidates the probable occurrence of CAD in near future. Genome-wide association studies have suggested the association of chromosome 9p21.3 in the premature onset of CAD. The risk factors of CAD include diabetes mellitus, hypertension, smoking, hyperlipidemia, obesity, homocystinuria, and psychosocial stress. The eradication and management of CAD has been established through extensive studies and trials. Antiplatelet agents, nitrates, β-blockers, calcium antagonists, and ranolazine are some of the few therapeutic agents used for the relief of symptomatic angina associated with CAD.
- Cardiovascular disease (CVD) is a major cause of morbidity and premature mortality in women and men worldwide.. Twelve million nurses form the largest health care discipline managing CVD risk factors and chronic disease globally (3). The American Heart Association (AHA) and the World Health Organization recognize the key role that nurses and other team members play in supporting the goal to reduce death and disability from CVD by 25% in 2025 (4,5). For more than 4 decades, nurses and advanced practice nurses have taken on key roles in managing single and multiple risk factors, including hypertension, smoking, lipids, and diabetes; the sequelae of chronic conditions,
- Cardiovascular disease (CVD) is the number one killer in the United States. Although the causes of CVD are multi-factorial, including genetic and environmental influences, it is largely a preventable disease. The cornerstone of CVD prevention is accuracy in risk prediction to identify patients who will benefit from interventions aimed at reducing risk. Nurse practitioners commonly perform CVD risk assessments and are well positioned to impact preventive therapy. Cardiovascular disease risk scoring systems currently in use substantially underestimate risk in large part because these do not include family history of premature CVD as a high-risk factor.
- Current guidelines on secondary prevention of cardiovascular disease recommend nurse-coordinated care (NCC) as an effective intervention. However, NCC programmes differ widely and the efficacy of NCC components has not been studied. To investigate the efficacy of NCC and its components in secondary prevention of coronary heart disease by means of a systematic review and meta-analysis of randomised controlled trials. 18 randomised trials (11 195 patients in total) using 15 components of NCC met the predefined inclusion criteria. These components were placed into three main intervention strategies: (1) risk factor management (13 studies); (2) multidisciplinary consultation (11 studies) and (3) shared decision making (10 studies). Six trials combined NCC components from all three strategies. In total, 30 outcomes were observed. We summarised observed outcomes in four outcome categories: (1) risk factor levels (16 studies); (2) clinical events (7 studies); (3) patient-perceived health (7 studies) and (4) guideline adherence (3 studies). Compared with usual care, NCC lowered systolic blood pressure (weighted mean difference (WMD) 2.96 mm Hg; 95% CI 1.53 to 4.40 mm Hg) and low-density lipoprotein cholesterol (WMD 0.23 mmol/L; 95% CI 0.10 to 0.36 mmol/L). NCC also improved smoking cessation rates by 25% (risk ratio 1.25; 95% CI 1.08 to 1.43). NCC demonstrated to have an effect on a small number of outcomes. NCC that incorporated blood pressure monitoring, cholesterol control and smoking cessation has an impact on the improvement of secondary prevention. Additionally, NCC is a heterogeneous concept. A shared definition of NCC may facilitate better comparisons of NCC content and outcomes
- In 2016 Virna Ribeiro Feitosa CestariI at al publish a review that Objective : to identify nurse's competencies related to health promotion of individuals with chronic cardiac disease, in the light of the Galway consensus. findings: all domains of competence were included in the nursing interventions in health promotion of chronic cardiac patients, and the Planning and Evaluation were the most evident competences. Conclusion: the results of this research highlighted the nurse as an agent capable of operating care management, in order to improve coordination of the latter with work and education and, thus, the health care of the population.

- The Framingham Heart Study has provided the richest source of data on predictors of heart and vascular disease. were recruited to participate in examinations every 2 years.. Several decades ago, the Framingham studies were criticized for under representing minorities, a reflection of the population of the town where recruitment began. Therefore, the Omni study was added in 1994 with 506 new subjects of African-American, Hispanic, Asian, and Native American decent. In 2003, the Omni Second Generation Study recruited an additional 410 minority offspring. Over the years, the Framingham study has provided the best source for identifying risk factors for heart and vascular disease. The studies have resulting in scoring mechanisms for predicting the occurrence of future disease and are now widely used in clinical practice. In recent years the American Heart Association has issued guidelines, based on the current research findings, for evaluating potential risk factors that provide a basis for when population screening should be done. This information guides practice protocols and community education.
- A study was conducted to examine the role of community-based nursing interventions in improving outcomes for community-dwelling individuals exhibiting risk factors of cardiovascular disease (CVD)46 studies met the eligibility criteria. Community nursing interventions were found to be effective in improving clinical outcomes of symptom control, symptom awareness, symptom management, and social outcomes. Effective interventions were found to be facilitated by a community-centric approach, participant empowerment, reinforcement strategies, a targeted approach towards underserved populations, and home visits. These resulted in positive outcomes such as significant reductions in HbA1c for diabetic patients, attainment of blood pressure targets for hypertensive patients and greater improvement in self-reported dietary intake for patients with hyperlipidaemia.
- A Study "The role of nursing education after a cardiac event" After a major cardiovascular event, patients experience many problems regarding the outcome of the disease or rehabilitation including concern about return in their previous life. Recovering from a cardiac event is a complex procedure that presents psychological and physical needs that continue after discharge from hospital. The purpose of this review was to explore the role of nursing education after a cardiac event or procedure. Material and Results: Many studies have highlighted the value of nursing support in cardiac rehabilitation programs. In particular, there is an amount of evidence that a nurse- led educational program is closely associated with reduce rate of complications, of anxiety following cardiac events and readmissions to hospital. Moreover, the therapeutic lifestyle-change intervention into a nursing program effectively modifies cardiac risk factors and may improve prognosis.
- Kilonzo, Brid & Hughes, Michèle & O'Connell, Rhona. (2011). Health literacy and coronary heart disease: Health literacy is an issue that can have considerable impact on patients with self-management regimes that require medication adherence and lifestyle changes. Patients with lower levels of health literacy ask fewer questions and consequently are more prone to errors. This can have major consequences for the patient, family and health-care providers. This article provides a review of the key issues related to health literacy: how it is defined; the impact of health literacy on health outcomes; why it is a useful concept for cardiac nurses to be aware of and strategies nurses should consider to enhance patients' health literacy. It is known that low levels of health literacy affect people's perception of their health. Poor health literacy affects all sectors of society. The tips included here could enhance cardiac nurses' educative efforts, making each client ultimately more health-literate and efficient at self-care.

3. CONCULSION

CAD is found to be major cause of mortality and morbidity in human population and also is found to be associated with various fetal co-morbidities. There are various different causes for occurrence of disease apart from life style and environment, genetics aspect also plays a major role for lack of education among people for early detection & finding risk factors of CAD nurses have an effective role in education to treatment and management of CAD. Increasing evidence based nursing has found to be effective to crib CAD.

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BIOGRAPHIES

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