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Effectiveness of Comprehensive Nursing Intervention Programme (CNIP) on Anxiety, Fatigue, Self- Efficacy and Quality of Life among patients undergoing Coronary Artery bypass graft surgery in a tertiary care hospital- A randomized controlled trial.

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ABSTRACT

Title of the study

Effectiveness of Comprehensive Nursing Intervention Programme (CNIP) on anxiety, fatigue, self-efficacy and quality of life among patients undergoing coronary artery bypass graft surgery in a tertiary care hospital - A randomized controlled trial.

Background

World Health Organization (WHO) reported that cardiovascular diseases (CVD) are one of the most important reasons for death worldwide, leading more than 17.3 million deaths annually, by 2030 the figure that is anticipated to grow to more than 23.6 million (WHO, 2016). Coronary artery disease (CAD) is the most common among all cardiovascular diseases. Coronary Artery Bypass Graft (CABG) surgery is the most common type of cardiac surgery and an effective and established standard intervention to combat the consequences of CAD. CABG surgical procedure is performed to increase quality of life and reduce cardiac-related mortality among the patients with CAD.

Undergoing cardiac surgery may be a stressful experience for the patients physically and psychologically. While waiting for major heart surgery physical and psychological stressors, including higher anxiety, uncertainties, depression, and worries regarding outcomes of the surgery are typically experienced by the patients. These factors may aggravate the symptoms of existing disease and can have adverse effect on physiological parameters during anaesthesia, before and after surgery, and also can lead to disturbed recovery after the surgery.

Therefore, a present trial was conducted to evaluate the effectiveness of Comprehensive Nursing Intervention Programme (CNIP) on anxiety, fatigue, self-efficacy and quality of life among the patients undergoing CABG surgery. CNIP comprised of three components such as preoperative education through video, foot massage and self-care booklet. The objectives were mainly categorized into three areas. Firstly, to assess anxiety among patients undergoing CABG surgery. Secondly, to measure the bio-physiological parameters among patients who underwent CABG surgery. The last objective was to evaluate the effectiveness of CNIP on anxiety, pain, fatigue, self-efficacy and quality of life among the patients who underwent CABG surgery.

Methods

A quantitative approach was used as the aim of study was to determine the effectiveness of CNIP. A randomized controlled trial design and sample size of 130 patients was adopted. Block randomization was done to allocate the samples equally in the experimental group (n=65) and control group (n=65). The patients in the experimental group received CNIP and routine care of the hospital was received by the control group.

Preoperative educational video was shown before the surgery, foot massage was provided from 2nd postoperative day to fifth day and self-care booklet were given before the discharge. Control group did not receive these interventions and follow up was done for both the groups respectively during the first, third and sixth month at Out Patient Department. Baseline measures, pre-test and post-tests were carried out before and after the intervention in both the groups. Data were analysed using descriptive and inferential statistics.

Results

The patient's baseline characteristics were similar in both the experimental group and the control group. Level of state anxiety among patients undergoing CABG surgery revealed that, most of them had medium level of anxiety in the experimental group i.e. 81.5% and 87.7% in the control group. In the experimental group 16.9% of the patients and 9.2% in the control group showed high level of anxiety. The repeated measures ANOVA on anxiety scores between the groups revealed a higher statistical significance, $F_{(1,128)} = 157.17$, $p = .001$, partial $\eta_p^2 = .551$ and within the experimental group analysis had shown a statistical significance $F_{(2.86,366.24)} = 314.85$, $p < .001$, partial $\eta_p^2 = .711$.

There was a significant reduction of pain and fatigue among the patients in the experimental group. Analysis of repeated measures ANOVA on pain scores between the groups proved a statistical significance, $F_{(1,128)} = 68.5$, $p = .001$, partial $\eta_p^2 = .349$ and within the experimental group analysis revealed a higher statistical significance $F_{(1,128)} = 2423.78$, $p < .001$, partial $\eta_p^2 = .950$. Repeated measures ANOVA on fatigue scores between the groups showed a statistical significance, $F_{(1,128)} = 27.62$, $p = .001$, partial $\eta_p^2 = .200$ and within the experimental group analysis proved a higher statistical significance $F_{(1,128)} = 306.83$, $p < .001$, partial $\eta_p^2 = .706$.

There was a significant improvement in the self-efficacy and quality of life scores among the patients in the experimental group. Analysis of repeated measures ANOVA on self-efficacy scores between the groups proved a statistical significance, $F_{(1,128)} = 389.19$, $p = .001$, partial $\eta_p^2 = .753$ and within the experimental group analysis revealed a strong

statistical significance $F_{(1,990,254.74)} = 580.87$, $p < .001$, partial $\eta_p^2 = .819$. Repeated measures ANOVA on quality of life scores between the groups showed a higher statistical significance, $F_{(1,128)} = 299.41$, $p = .001$, partial $\eta_p^2 = .701$ and within the experimental group analysis revealed a high statistical significance $F_{(1,993,255.07)} = 102.88$, $p < .001$, partial $\eta_p^2 = .576$.

Conclusion

The focus of this trial was to formulate a comprehensive nursing intervention programme (CNIP) for the patients undergoing coronary artery bypass graft surgery and check the effectiveness of the interventions on decreasing anxiety, pain, and fatigue and enhancing self-efficacy and the quality of life. The comprehensive nursing intervention programme (CNIP) provided for the experimental group proved its effectiveness on improving the patients on selected postoperative outcomes among patients who underwent CABG surgery.