Depression and Anxiety in the Post Operative Coronary Artery Bypass Graft Patient

Sheila Hanvey ADN, RN, PCCN, Clinical Research Scholar
Michelle Hansen BSN, RN-BC, ANM
Ellen Sorensen MSN, RN, CNS, CORN
Meridian Health
Jersey Shore University Medical Center
Northwest Pavilion 2 - Surgical Step Down Unit
Mentor: Dr. Christine Hedges PhD, RN

Background:
- Coronary artery bypass graft (CABG) patients often exhibit symptoms of depression and anxiety post operatively.
- Post operative patients who are anxious or depressed are less likely to adhere to medical recommendations such as exercise, proper nutrition, and self management practices.
- More than 600,000 coronary artery bypass graft procedures are performed annually in the United States. (Rafanelli & Barnett 2005)
- Relief of angina and improvement in quality of life are expected. (Rafanelli, et al 2006)
- Depression in this setting is currently inadequately diagnosed.

Inadequate diagnosis of depression and anxiety, however, has been shown to reduce quality of life, increase mortality and morbidity, and increase costs. (Barnett 2005)

Recuperation after CABG may be further hindered by inadequate diagnosis of depression and anxiety, however there was not a clinical significance due to low score levels.

Furthermore depression in this setting is currently inadequately diagnosed.

Purpose:
1) Identify depression and anxiety in post CABG.
2) Identify patient characteristics that may be associated with the development of depression and anxiety.

Research Question:
1) What is the level of depression and anxiety after CABG?
2) What are the patient characteristics associated with the occurrence of anxiety and depression in the post operative CABG patient?

Methods:

Design:
> Quantitative, survey design.
> Descriptive, comparative.

Instruments:
> A socio-demographic questionnaire with a total of 6 questions and a medical and surgical indices with a total of 8 questions was developed.
> The Hospital Anxiety and Depression Scale (Snaith and Zigmond 1983) The HADS is a Likert scale, that has demonstrated validity and reliability in detecting depression and anxiety in medical and surgical patients.

HAD Scale:
> 14 questions with a 4 point (0-3) response range addressing anxiety, and 7 address depression.
> Reliability of Total Cronbach's alpha for HADS subscale for Anxiety ranged .80 to .83, and HADS subscale for Depression ranged .49 to .83.

Sample:
> The sample was taken from a target population of post operative CABG patients.
> 254 participants were screened, 98 met inclusion criteria, of which 15 participated.

Procedure:
> Identified patients who met inclusion criteria.
> Consent was obtained once the participant agreed to participate in the study.
> A socio-demographic questionnaire with a total of 6 questions was administered while the participant was hospitalized on Northwest Pavilion 2.
> A medical and surgical indices with a total of 8 questions was completed via chart review.
> The HADS was administered to 15 participants two times. Time 1(T1) was administered during the hospital stay post operatively. Time 2(T2) was administered via telephone interview 4 weeks post discharge.
> Human Subjects Protection: The study was reviewed and approved by the Meridian Health IRB.

Demographics:
> Fifteen subjects participated in all aspects of data collection of the study.
> The sample was primarily male (60%, n = 9), married (73.3%, n = 12), and living with their spouse (73.3%, n = 12).
> All subjects were white/Caucasian.
> The majority of the participants (n = 12) were retired (73.3%, 20% were employed (n=3).
> The mean age of the participants was 68, with the youngest patient at 59 and the oldest at 81. Male participants were older (mean age 69).

Results:
> Paired samples (dependent) t-tests comparing T1 and T2 were performed for both the anxiety and depression scores.
> T1 = Pre-discharge; T2 = 4 weeks post discharge

HAD Anxiety Result

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<th>t</th>
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HAD Depression Result

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<td>T2</td>
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Study Limitations:
- Sample size was too small to yield variability in socio-demographic characteristics. Therefore, predictors of anxiety and depression could not be addressed.
- Challenge recruiting patients to complete questionnaires about depression and anxiety, because only 25 (10%) of those meeting inclusion criteria agreed to participate.

Conclusions:
- Depression and anxiety scores were highest immediately after surgery and decreased significantly at 4 weeks. However overall scores for both depression and anxiety were low, with most patients exhibiting minimal or no anxiety or depression.
- There was a statistically significant decrease in depression and anxiety, however there was not a clinical significance due to low score levels.
- The study should be repeated with a larger sample size.

We recommend conducting an evidence-based review of screening tools appropriate for the cardiac surgical population.

Selected References