



2016

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Recommended Citation

Allen, Derryk, "A Comparison of Traditional Care and Cognitive Behavioral Therapy for Treating Depression Following Open Heart Surgery" (2016). *Physician Assistant Scholarly Project Posters*. 60.
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A Comparison of Traditional Care and Cognitive Behavioral Therapy for Treating Depression Following Open Heart Surgery

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Abstract

Depression occurs shortly after open heart surgery in many patients. When depression is identified, traditional treatment consists of antidepressant medications along with cardiac rehabilitation and follow up care but these visits may not address depression. The purpose of this study compares traditional care with cognitive behavioral therapy. Does cognitive behavioral therapy more effectively manage depression than traditional care among male and female patients that have undergone open-heart surgery and acquired depressive symptoms? An article search of the following databases was conducted: PubMed and The Cochran Library. The review of literature explored studies that compare treatment between traditional care and CBT within the past eight years in male and female patients age 18 to 80. Freedland et al. (2009) found 73% remission rates at 9 months utilizing cognitive behavioral therapy whereas traditional care resulted in 36% remission of depressive symptoms at 9 months (p=.03). Doering et al. (2013) determined, utilizing the Beck Depression Inventory (BDI), that CBT patients experienced a 63% remission of depressive symptoms compared to traditional care patients that experienced 25% (p<.001). A meta-analysis performed by Beltman, Voshaar and Speckens (2010) evaluated CBT for depression in patients with somatic disease. Cognitive behavior therapy was found to be superior to traditional care and indicated larger effects in studies with patients diagnosed with depressive disorder [standardized mean difference (SMD) = -0.83, 95% CI -1.36 to -0.31, p< .001]. Cognitive behavioral therapy provides healthcare practitioners an effective option that will provide improved outcomes for patients with depression.

Introduction

Following open heart surgery depression can become a factor negatively impacting recovery from open heart surgery (OHS) by increasing morbidity and mortality. The main focus of this review was to compare traditional care for treating depression and emerging therapies that include cognitive behavioral therapy (CBT) for treating depressive symptoms following open heart surgery. A search for articles was performed within the following electronic databases: PubMed, the Cochran Library and MEDLINE. Only full articles were retrieved and considered for further review if: included patients that had undergone open-heart surgery which was followed by depression, treatment of patients with depression, patients that had received treatment for depression of the traditional type and emerging treatment options post-open heart surgery.

Statement of the Problem

Depression has been associated with OHS. Depressive symptoms predict poor outcomes including readmission to the hospital and adverse cardiac events. Some patients following OHS that acquire depression continue to have depressive symptoms even with traditional treatments (Mallik et al., 2005). "Following cardiac surgery the effects of depression are the number one cause of mortality and have long lasting effects of up to ten years postoperatively" (Doering et al., 2013, p. 370).

Research Question

How does CBT compare to traditional care in providing a remission of depressive symptoms in depressed patients following open heart surgery (OHS)?

Literature Review

"Estimates are that 408,000 CABG surgeries performed in the USA annually" (Tully & Baker, 2012, p. 197). Estimates of depression prevalence within the population of patients requiring open-heart surgery range from 23%-47% which is nearly twice as high as the general population which is 8%-12% (Horne et al., 2013).

Freedland et al. (2009) conducted a randomized control study that found a "remission of depressive symptom rates were significantly higher in the CBT group than in the traditional care group at both three and six month follow up evaluations". The CBT group at three months had a remission rate of 71% as compared to the traditional care group at three months being 33% (p=.002). The nine month results for CBT were 73% and usual care was 35% (p=.003). See Table 1.

Table 1. Depression Remission at 3, 6 and 9 months after Coronary Artery Bypass Surgery
% of Patients Scoring Below Cutoff for Remission

Depression Scale	CBT (n=41)	SSM (n=40)	TC (n=40)	P value
HAM-D				
3 months	29 (71)	24 (57)	13 (23)	.002
6 months	28 (68)	20 (48)	21 (63)	.14
9 months	30 (73)	24 (57)	14 (36)	.003
Sustained	23 (56)	17 (41)	9 (23)	.009
BIDI				
3 months	29 (71)	22 (52)	11 (28)	<.001
6 months	28 (68)	20 (48)	17 (43)	.047
9 months	27 (66)	20 (48)	12 (30)	.006
Sustained	21 (51)	14 (33)	6 (15)	.003

Abbreviations: BDI, Beck Depression Inventory; CBT, cognitive behavior therapy; HAM-D, Hamilton rating Scale for Depression; SSM, supportive stress management; TC, traditional care. (Patron, Benvenuti, & Favretto, 2014, p. 391)

Doering et al. (2013) conducted a randomized control study of individuals that met inclusion criteria for major and minor depression following OHS utilizing the Beck Depression Inventory (BDI). BDI scores decreased over time with patients in the CBT group and increased over time in the traditional care group ($\beta = 1.14$; 95% confidence interval [CI], 0.81-2.02). The traditional care group 25% experienced a remission of depressive symptoms compared with 63% from the CBT group (p < .001). (Doering et al.)

A meta-analysis performed by Beltman, Voshaar and Speckens (2010) evaluated CBT for treating depression in patients compared to traditional care. Cognitive behavior therapy was found to be superior to control conditions and indicated larger effects in studies with patients diagnosed with depressive disorder [standardized mean difference (SMD) = -0.83, 95% CI -1.36 to -0.31, p< .001].

CBT has achieved a class IIa score by the American Heart Association indicating that the weight of evidence is in favor of its usefulness for the treatment of depression (American Heart Association, 2006).

Discussion

Depression among CABG patients has been identified as an association of an increased risk of morbidity in the short and long term following open heart surgery (Tully & Baker, 2012). Depression has been identified as a reversible factor affecting morbidity and mortality. Depression is common in postoperative patients following OHS. Cognitive behavioral therapy has been compared to traditional care to determine how useful CBT may be among patients that have recently undergone OHS thereafter becoming depressed. Cognitive behavioral therapy has been found to be more effective in providing a remission of depressive symptoms in patients following OHS than traditional care alone. Depression is a behavior that can be managed by patients who have been effectively taught how to use CBT. As patients participate in their own self-care by utilizing CBT for depression following OHS they are more likely to have a remission of depressive symptoms (Fredricks et al., 2012).

Table 1 indicates the efficacy of the study comparing traditional care to CBT. Very little difference is recognized in reducing depressive symptoms at six months between CBT (68%) and UC (63%; p = .14). At three months CBT is 71% while traditional care is seen at 23% of remission of depressive symptoms (p = .002). Nine months shows that CBT is up to 73% remission while traditional care is down to 36% (p = .003). Sustained remission of depressive symptoms increased with CBT over traditional care, (56%, 23% respectively; p = .009).

Freedland et al. (2009), Doering et al. (2013) and Beltman, Voshaar and Speckens found that CBT is superior to traditional care alone in reducing and remitting depression in patients that have undergone open heart surgery and developed depression. Conclusion, CBT is a valuable component that should be utilized in depressed patients following OHS as it is more effective than traditional care alone.

Applicability to Clinical Practice

The application of the results of this study are contingent upon the education being received by practicing physicians and Advanced Practice providers. The AHA has recognized that only half of cardiologists are treating their patients for depression. The AHA made a robust recommendation that suitable follow-up and referral for psychosocial intervention pathways are in place prior to inauguration of routine screening of patients for CABG surgery (American Heart Association, 2006). By utilizing depression screening tools such as the PHQ-2 and PHQ-9 providers can quickly monitor each of their patients that are at risk for depression following OHS. A referral to a psychologist trained in administering CBT should become an integral part of treating depression following OHS along with traditional care. The research herein supports the need to improve detection and treatment of depressive symptoms among postoperative OHS patients. CBT along with traditional care has been found to be more efficacious than traditional care alone.

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Acknowledgements

The author expresses sincere appreciation to Dr. Vikki McCleary who served as the faculty advisor and mentor to the author for this project. She provided the encouragement that motivated the author to complete this project.