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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 who experienced 25% (p=.001). A meta-analysis performed by Beltman, Voshaar and Speckens (2010) evaluated CBT for depression patients with somatic disease. Cognitive behavioral 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) = .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.

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 (Malik et al., 2000). “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 symptoms 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 Rate in 1-Year Follow-Up after Coronary Artery Bypass Graft Surgery among Patients with Major Depression

<table>
<thead>
<tr>
<th>Follow-up 1 month</th>
<th>CBT</th>
<th>Traditional Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 months</td>
<td>29 (73)</td>
<td>24 (57)</td>
</tr>
<tr>
<td>3 months</td>
<td>20 (41)</td>
<td>20 (41)</td>
</tr>
<tr>
<td>6 months</td>
<td>30 (78)</td>
<td>24 (57)</td>
</tr>
<tr>
<td>9 months</td>
<td>23 (54)</td>
<td>17 (41)</td>
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</tbody>
</table>

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<tr>
<th>Follow-up 1 year</th>
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<th>Traditional Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 years</td>
<td>19 (42)</td>
<td>20 (41)</td>
</tr>
<tr>
<td>3 years</td>
<td>20 (41)</td>
<td>20 (41)</td>
</tr>
<tr>
<td>6 years</td>
<td>27 (64)</td>
<td>20 (41)</td>
</tr>
<tr>
<td>9 years</td>
<td>21 (55)</td>
<td>16 (32)</td>
</tr>
</tbody>
</table>

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 at 1 year compared to the traditional care group (β = 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 behavioral 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) = .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 mortality and morbidity. Depression is common in postoperative CABG 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 therefore 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).

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 be integrated as 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.

References

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