Effects of a Brief Motivational Interviewing Intervention on Cardiac Rehabilitation Patient Adherence

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Cardiac rehabilitation produces multiple physical, emotional benefits but not all patients complete the program.

Completion rates vary
Introduction

• Previous research of a brief intervention showed significant differences between number of sessions attended by intervention patients and intervention dropouts.

• No patients who dropped out of the intervention completed rehab
Objectives of This Study

• Describe the effects of a 4 session motivational interviewing/relaxation intervention on retention of patients in cardiac rehab

• Reaffirm predictors of dropout in patients who do not complete rehab
Methods

- Participants were recruited from Phase II cardiac rehabilitation with history of myocardial infarction (MI), coronary artery bypass graft (CABG), stable angina, chronic heart failure (CHF), or STENT/PTCA placement.
- The study was IRB approved and all patients signed the consent form.
## Patient Sample

<table>
<thead>
<tr>
<th></th>
<th>Intervention Group (n = 47)</th>
<th>Control Group (n = 49)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years)</strong></td>
<td>64.1 +/-13.0</td>
<td>63.8 +/-12</td>
</tr>
<tr>
<td><strong>Female Gender</strong></td>
<td>44.4%</td>
<td>54.5%</td>
</tr>
<tr>
<td><strong>Cardiac Diagnosis</strong></td>
<td></td>
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<tr>
<td>Myocardial Infarction</td>
<td>8 (17%)</td>
<td>9 (18%)</td>
</tr>
<tr>
<td>Coronary Artery Bypass Graft</td>
<td>6 (13%)</td>
<td>6 (13%)</td>
</tr>
<tr>
<td>Stable Angina</td>
<td>6 (13%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Chronic Heart Failure</td>
<td>7 (15%)</td>
<td>10 (20%)</td>
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<tr>
<td>Stent/PTCA</td>
<td>14 (30%)</td>
<td>13 (27%)</td>
</tr>
</tbody>
</table>
Methods

- Randomization into control or intervention group
  - Control group: 36 sessions of cardiac rehab
  - Intervention group: 36 sessions of cardiac rehab and 4 sessions of motivational interviewing and relaxation
- Data collected pre and post cardiac rehab:
  - Beck Depression Inventory-II
  - Beck Anxiety Inventory
  - 12 minute walk test
  - Weeks of rehab completed
Intervention

Four 30 minute small group sessions

Motivational interviewing:
- Elicit change talk
- Facilitate cognitive restructuring
- Build self-efficacy
- Set realistic goals

Build basic relaxation skills
## Intervention details

<table>
<thead>
<tr>
<th>Session</th>
<th>Motivational interviewing</th>
<th>Relaxation</th>
</tr>
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<tbody>
<tr>
<td><strong>1</strong></td>
<td>Identify patients personal strengths to support self-efficacy</td>
<td>Mindful breathing</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>Elicit change talk; promote optimism</td>
<td>Progressive relaxation</td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>Manage negative thoughts; address barriers to adherence</td>
<td>Mindful breathing</td>
</tr>
<tr>
<td><strong>4</strong></td>
<td>Create a strategic plan to accomplish rehab goals</td>
<td>Progressive relaxation</td>
</tr>
</tbody>
</table>
Data Analysis

- Chi-square tests for categorical variables
- T-tests or ANOVA tests for continuous variables
- Data were analyzed using SPSS 15.0
Results – baseline comparison

No significant differences between intervention and control groups in

Age
Beck Depression score
Beck Anxiety score
12 minute Walk test
Results – baseline comparison

Significant differences ($p < 0.05$) between rehab completers and non completers in

- **Age** (completers are older; 67 vs 58 yrs)
- **Baseline BDI-II** (depression)
  - (completers lower; 7.3 vs 12.0)
- **Baseline BAI** (anxiety)
  - (completers lower; 7.6 vs 13)
Results post cardiac rehab

• No significant differences between intervention and control completers of cardiac rehab in
  
  – Depression
  – Anxiety
  – Walk test

Reaffirming that patients who complete rehab sustain important benefits
Results post cardiac rehab

Average Number of Sessions Completed

Intervention

Control

p = .03
Results post cardiac rehab

Sessions completed

Percent rehab

Intervention

Control

p = .023
Results post cardiac rehab

Both Intervention and Control Completers finished 36 sessions of cardiac rehab

Intervention dropouts finished 17 sessions of cardiac rehab BUT control dropouts only 7

Difference is significant $p < 0.01$
Discussion

- The intervention was associated with:
  - increased number of cardiac rehab sessions completed
  - lower drop out rate (32% vs 44%)

The most important predictors of drop out are anxiety and depression.
Conclusion

Completion of cardiac rehab is associated with well established physical and emotional benefits

In order to increase completion rates, MI and relaxation are recommended

Future studies will further refine the critical components of the intervention
Limitations

- Post data could not be collected for individuals who dropped out of the rehab program and could not be contacted.
- The study does not adequately account for non-adherence due to worsening of medical status.
Acknowledgements

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Thank you for your attention.
References


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