Effects of a health advocacy, counselling, and activation programme on depressive symptoms in older coronary heart disease patients

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SUMMARY

Objectives To describe the effects of a health advocacy, counselling, and activation programme on depressive symptoms among older coronary heart disease (CHD) patients.

Methods A randomised, controlled intervention study in Lieto, South-western Finland. Older (65 years and older) patients with CHD were randomly divided into an intervention group (IG) (n = 116) and a control group (CG) (n = 106). Outcome measures comprised changes in depressive symptoms (Zung Self-rating Depression Scale, ZSDS).

Results Depressive symptoms tended to decrease in IG and to increase in CG among men scoring 45 ZSDS sum points or more at baseline. The differences of the changes between IG and CG were significant in favour of IG. No similar changes were found among women.

Conclusions A health advocacy, counselling, and activation programme aimed to increase knowledge about CHD, social activities, contacts, roles, support, and exercising was effective in reducing depressive symptoms among male CHD patients suffering from a moderate or high amount of depressive symptoms. Copyright © 2005 John Wiley & Sons, Ltd.

KEY WORDS—aged; depressive disorder; depressive symptoms; counselling; intervention; psychosocial; coronary heart disease (CHD)

INTRODUCTION

Depression is common among older coronary heart disease (CHD) patients (Rudisch and Nemeroff, 2003; Dickens et al., 2004), but many cases are undiagnosed and untreated (Ahto et al., 1997; Strik et al., 2001; Birrer and Vemuri, 2004; Simon et al., 2004). Depressive disorders have been found to be associated with an increased risk of future CHD events and mortality (Strik et al., 2001; Blumenthal et al., 2003; Burg et al., 2003; Kivelä, 2004). There are contradictory results as well (Lane et al., 2000, 2002; Dickens et al., 2004). A chronic disease may lead to a vicious cycle of disempowerment, negative thinking, feelings of helplessness, lowered self-esteem, and depression (Cole and Dendukuri, 2004). According to a systematic review (Cole and Dendukuri, 2004), brief educational interventions have the potential to prevent depression in older
persons with chronic illness (Gilden et al., 1992; Phillips, 2000).

Previous studies have shown psychosocial interventions to be effective in treating mild or moderate depressive disorders in older populations (Scogin and McElreath, 1994; Thompson et al., 2001; Timonen et al., 2002). According to the updated Consensus Statement (Lebowitz et al., 1997), psychosocial treatments deserve greater emphasis, and it is clear from efficacy studies and secondary analyses that they are effective in the treatment of mild or moderate late-life depression.

Reporting is increasing on evidence-base for the treatment of depressive disorders in primary care setting. Interventions in primary care including behavioural treatment, antidepressant medication and counselling to improve medication adherence, education, and care management have been shown to be effective in the care of depression (Katon et al., 2004; Bijl et al., 2003).

Treatment programmes have also shown positive effects in CHD patients suffering from depression. A randomised, controlled, multicentre intervention study, ENRICHD, including behaviour therapy and pharmacotherapy showed improvement of depression (Hamilton Rating Scale for Depression score) among CHD patients with minor or major depression or dysthymia (Writing Committee for the ENRICHD Investigators, 2003). Cognitive behavioural disease management programme, Angina Plan, was effective in reducing depression among patients with newly diagnosed angina from GP practices (Lewin et al., 2002).

The purpose of the present study was to describe the effects of a health advocacy, counselling, and activation programme on depressive symptoms in all older CHD patients and in those with a moderate or high amount of depressive symptoms. The programme was organized to increase knowledge about CHD and to increase social activities, contacts, roles, social support, and exercises, and it was not a specific treatment programme of depression in old age.

METHODS

Participants

The data consisted of older persons participating in the second wave of the longitudinal, epidemiological Lieto study in 1998–1999 (Löppönen et al., 2003), living at home, and suffering from CHD. During the first wave (1990–91), all persons living in the municipality of Lieto and born in or prior to 1926 (n = 1283) were asked to participate, and 1196 (93%) did participate (Isoaho et al., 1994). All inhabitants born in or prior to 1933 (n = 1529) were similarly asked to participate in the second wave (1998–99), and 1260 individuals (82%) did so (Löppönen et al., 2003). Medical records of the Lieto Health Centre and clinical examinations showed that 268 home-dwelling participants in the second wave suffered from CHD. These persons were randomised into an intervention group (IG) (n = 137) and a control group (CG) (n = 131). Two people living as a couple were matched and placed together into the same group. Seventeen persons (seven in IG, ten in CG) did not wish to participate, and 29 persons (14 in IG, 15 in CG) died before the follow-up measurements were completed. Consequently, 222 persons (116 in IG, 106 in CG) participated in both the baseline and follow-up measurements. Baseline measurements were performed in August, 1999 and follow-up measurements between October, 2000 and January, 2001.

Instrument

Depressive symptoms were measured with the Zung Self-rating Depression Scale (ZSDS) (Zung, 1965). Those scoring ≥ 45 ZSDS sum points were classified as suffering from a moderate or high amount of depressive symptoms.

Intervention

Staff members at the Heart District of South-western Finland and physicians and nurses at the Lieto Health Centre implemented the 16-month health advocacy, counselling, and activation programme between August, 1999 and December, 2000. The programme consisted of lectures by professionals of health care and social care (16 occasions), group discussions (eight), light exercises in groups (six), and group social activities (three). The main purpose of the health advocacy and counselling was to give information on risk factors, prevention, treatment, and rehabilitation of CHD. The topics of lectures and group discussions were based on these purposes (Table 1). A public health nurse supervised the discussion sessions, and a physiotherapist supervised the exercise sessions. The control group was treated in usual health care.

Ethics

The study was conducted according to the guidelines of the Declaration of Helsinki. The Ethics Committee of the Hospital District of Varsinais-Suomi approved the protocol. The Ministry of Social Affairs and
RESULTS

All CHD patients

There were no significant differences between IG and CG among men or women in any background variables (Table 2). No significant changes in ZSDDS sum points were found in IG or CG during the follow-up, and the differences of the changes between IG and CG were non-significant.

CHD patients with high or moderate depressive symptoms

At baseline, 17 men (30%) and 18 women (31%) participating in IG and six (12%) and 18 (33%) in CG, respectively, scored 45 ZSDDS sum points or more. There were no significant differences between IG and CG among men or women in any background variables. At follow-up, 11 men (19%) and 11 women (19%) in IG and six (12%) and ten (18%) in CG scored 45 ZSDDS sum points or more.

Depressive symptoms tended to decrease in IG and to increase in CG (Table 3) among men who scored 45 ZSDDS sum points or more at baseline, but changes in either group were non-significant. The difference of changes between IG and CG were significant in favour of IG, however. Depressive symptoms decreased statistically significantly in both IG and CG among women who scored 45 ZSDDS sum points or more at baseline, and the difference of changes between the groups was non-significant.

DISCUSSION

The Zung Self-rating Depression Scale (ZSDDS) was used in defining depressive symptoms. The Zung scale is a sensitive (Agrell and Dehlin, 1989) and adequately specific (Biggs et al., 1978) measure of depression among geriatric medical patients (Zung, 1967) and in epidemiological studies among the aged (Kivelä et al., 1988). Our previous results in the older Finnish population have shown the sensitivity of ZSDDS to be 72% and the specificity to be 83% as compared with the clinical diagnosis of depression according to the DSM-III criteria and by using the cut off point of 44/45 (Rainio, 1991).

In the present study, the degree of seriousness of CHD was somewhat stronger among men than among women. About a half of the men but only a third of the women had experienced a heart attack. Men had experienced more heart operations as well. A large percentage of both men and women experienced symptoms of angina. Shortness of breath was more
<table>
<thead>
<tr>
<th></th>
<th>All patients (n = 222)</th>
<th>Patients with depressive symptoms (n = 59)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>IG (n = 116)</td>
<td>CG (n = 106)</td>
</tr>
<tr>
<td></td>
<td>Men (n = 57)</td>
<td>Women (n = 59)</td>
</tr>
<tr>
<td></td>
<td>Men (n = 51)</td>
<td>Women (n = 55)</td>
</tr>
<tr>
<td>Age [mean (SD)]</td>
<td>72.5 (5.4)</td>
<td>75.5 (6.7)</td>
</tr>
<tr>
<td></td>
<td>72.6 (5.6)</td>
<td>75.3 (6.5)</td>
</tr>
<tr>
<td></td>
<td>73.5 (5.7)</td>
<td>74.1 (6.4)</td>
</tr>
<tr>
<td></td>
<td>75.3 (10.9)</td>
<td>75.4 (6.6)</td>
</tr>
<tr>
<td>Marital status [n (%)]</td>
<td></td>
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<tr>
<td>Married/Living together</td>
<td>43 (75)</td>
<td>22 (37)</td>
</tr>
<tr>
<td>Single</td>
<td>4 (7)</td>
<td>6 (12)</td>
</tr>
<tr>
<td>Widowed</td>
<td>10 (18)</td>
<td>30 (51)</td>
</tr>
<tr>
<td>MMSE [Md (IQR)]²</td>
<td>28.0 (3.0)</td>
<td>28.0 (2.0)</td>
</tr>
<tr>
<td>Dyspnoea³ [n (%)]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>30 (53)</td>
<td>21 (38)</td>
</tr>
<tr>
<td>Moderate</td>
<td>17 (30)</td>
<td>16 (29)</td>
</tr>
<tr>
<td>Severe</td>
<td>10 (18)</td>
<td>19 (34)</td>
</tr>
<tr>
<td>AP⁴ [n (%)]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>9 (16)</td>
<td>5 (8)</td>
</tr>
<tr>
<td>Yes</td>
<td>48 (84)</td>
<td>54 (92)</td>
</tr>
<tr>
<td>MI⁵ [n (%)]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>33 (60)</td>
<td>38 (66)</td>
</tr>
<tr>
<td>Yes</td>
<td>22 (40)</td>
<td>20 (34)</td>
</tr>
<tr>
<td>Heart operation⁶ [n (%)]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>47 (82)</td>
<td>54 (92)</td>
</tr>
<tr>
<td>Yes</td>
<td>10 (18)</td>
<td>5 (8)</td>
</tr>
</tbody>
</table>

¹Zung Self-rating Depression Scale (Zung, 1965).
²Md = Median; IQR = Inter Quartile Range.
³The grades of dyspnoea were defined according to the Medical Research Council criteria (Rose et al., 1982; p. 16), but grade 0 was assigned to those answered ‘no’ to all the dyspnoea questions. The severity of dyspnoea was modified by combining the grades 0 and I (mild) and the grades III and IV (severe). Grade II was interpreted as moderate dyspnoea.
⁴Symptoms of angina pectoris (AP) was measured by asking a question ‘Have you ever had pain or discomfort in your chest?’ (Rose et al., 1982; p. 162).
⁵Myocardial infarction (MI) was measured by asking a question ‘Have you ever had a severe pain across the front of your chest lasting for half an hour or more?’ (Rose et al., 1982; p. 163).
⁶Coronary by-pass surgery, angioplasty, or other heart operation.

There were no statistically significant differences (p-values are not shown in the table) in baseline characteristics between the groups either among all CHD patients by gender or among patients with moderate or high amount of depressive symptoms by gender.

There were no statistically significant differences (p-values are not shown in the table) in baseline characteristics between the groups either among all CHD patients by gender or among patients with moderate or high amount of depressive symptoms by gender.
recognizable among the depressive than the non-depressive CHD patients.

In the main analyses between the groups of the present study, no statistically significant differences were found in the changes of depressive symptoms. In the non-depressive population, no strong depressive symptoms and no change in symptoms were found. Patients with a moderate or high amount of depressive symptoms (≥ 45 ZSDS sum points) at baseline were selected for the subgroup analyses. On the average, patients who are selected because they represent an abnormally high value in a distribution can be expected to have less abnormal values in later measurements. The phenomenon is called regression to the mean (Fletcher et al., 1996). This was evident in the subgroup analyses among women with a moderate or high amount of depressive symptoms, as symptoms decreased in both groups. Among men with a moderate or high amount of depressive symptoms, depressive symptoms decreased in IG, whereas they increased in CG. The difference in changes between the groups was statistically significant.

The intervention consisted of group counselling and guidance and of other group activities. Light exercises were performed in groups. This kind of a secondary prevention of CHD seems to have positive effects on depressive symptoms, at least as far as depressive Finnish men are concerned. Why does it not have an effect on depressive symptoms of depressive Finnish women? We believe that the group activities contributed to an increase in social contacts, roles, and activities of the participants. Older Finnish women are socially more active than older men (Teinonen et al., 2002). An increase in social contacts and changes in the social roles of depressive men may explain the effects of the programme on depressive symptoms among depressive men.

The few existing studies have demonstrated psychosocial interventions to be effective in treating mild or moderate depressive disorders in older populations (Scogin and McElreath, 1994; Lebowitz et al., 1997; Thompson et al., 2001; Timonen et al., 2002). Our results support the idea that even quite unspecific psychosocial interventions may have positive effects on depression among older depressive men.

In conclusion, the present health advocacy, counselling, and activation programme aimed to increase knowledge about CHD and social activities, contacts, roles, support, and performing light exercises reduced depressive symptoms among older Finnish male CHD patients suffering from a moderate or high amount of depressive symptoms. The findings give us a reason to recommend that primary health services, social

<table>
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<th>Table 3. Depressive symptoms (ZSDS1 sum points) at baseline and in follow-up measurements, and changes in symptoms during the follow-up period among all coronary heart disease patients and those with ZSDS ≥ 45 in intervention (IG) and control (CG) groups, by gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>IG</td>
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<tr>
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</tr>
<tr>
<td>All</td>
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<tr>
<td>n</td>
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<td>Md (IQR)</td>
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<td>IQR</td>
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<td>Without</td>
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</table>

Md = Median; IQR = Inter Quartile Range; Zung Self-rating Depression Scale; 2Statistical significance of change during the follow-up; 3Statistical significance of difference in changes between IG and CG during the follow-up.
services, and voluntary organizations should develop and implement interventions including educational, physical, and psychosocial activities for the elderly chronically ill and disabled individuals, particularly for men having CHD. The effects of different psychosocial interventions implemented in primary care should be assessed. These assessments should also be done among the subgroup of the aged with minor depression and even among the depressed aged with different physical diseases in order to get evidence-based data for treating the aged with minor depression in primary care.

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