

The Effect of an Early Rehabilitation on Alexithymia among First Ever Depressive Occupational Health Care Clients

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Abstract

Objectives: Depression is a common psychiatric disorder. Alexithymia and depression are highly associated. We explored the impact of an early vocationally orientated, eclectic rehabilitative intervention on alexithymia among clients with first ever diagnosed depressive episode.

Methods: Clients from occupational health care units were screened for depression with the Beck Depression Inventory (BDI) and diagnosed with the Structured Clinical Interview for DSM-IV. The participants were randomized into intervention and control groups. The intervention group received eclectic early rehabilitative intervention and the control group was treated as usual. The intervention (N=134) and control groups (N=100) were compared using the Toronto Alexithymia Scale (TAS-20) at the baseline and after one year follow-up.

Results: The prevalence of alexithymia decreased both in the intervention group (from 20.1% to 18.9%) and in the control group (from 16.0% to 7.1%). The prevalence of alexithymia was significantly lower at the follow up in the control group than in the intervention group ($p=0.010$). The changes in the mean scores of the four alexithymia variables between the groups were not statistically significant after adjusting for confounding factors.

Conclusions: The findings were against our hypothesis that alexithymia would diminish in the intervention group more than in the control group. There are several explanations for this unexpected result. We believe that the reasons were that the intervention was too short and that the group-shaped method was too demanding for the subjects with alexithymia.

Keywords: Alexithymia; Depression; Rehabilitation; Intervention

Introduction

Depression is a common psychiatric disorder characterized by a high rate of relapse and recurrence [1]. Alexithymia is a multidimensional personality trait characterized by deficits in regulating, experiencing, identifying feelings and verbalizing emotions [2,3]. Alexithymia and depression are highly associated [4-6], and alexithymia may increase vulnerability to depressive symptoms [7,8]. The alexithymia construct has assumed to be a stable personality trait rather than a state-dependent phenomenon [9-12]. According to Tolmunen et al. [7], both the absolute and relative stability of alexithymia in the general population are high, even for a long follow-up period.

Several studies have stressed the importance of psychiatric vocational rehabilitation programs, including supported employment

models with high levels of integration of psychiatric and vocational services, and also of different psychosocial interventions in preventing prolonged working disability [13-15]. The effect of rehabilitative interventions in subjects with alexithymia has mainly been studied with somatic diseases [16-18]. The concept of the early eclectic rehabilitative intervention program (EERIP) is relatively new and is used in helping working age people with various levels of depression [19]. This intervention comprises a psychologically orientated vocational rehabilitation program, which addresses the specific needs of people in employment. The aim of the present study was to examine the effect of a rehabilitative intervention on alexithymia in subjects among occupational health care clients with first episode depression, because of the high association between alexithymia and depression. Our hypothesis was that alexithymia would diminish after one year of follow up time more in the intervention group than among the controls who received treatment as usual.

Materials and Methods

Design

The present study forms a part of a rehabilitation intervention study project, designed to measure the effectiveness of an EERIP on first ever depressive diagnosed disorders among employed persons (18-64 years) in Finland. The study design, recruitment and methods have been described in detail previously [20]. The participants were recruited from 18 occupational health care units in Northern Finland between the years 2004-2009 (Figure 1). Eligible subjects were randomized into an intervention and a control group. A two phase rehabilitation program was used for the intervention group; the controls received treatment as usual (TAU). This study investigates the impact of rehabilitative intervention on alexithymia in subjects with first episode depression among occupational health care clients.

Inclusion and exclusion criteria

The inclusion criterion was a lifetime first diagnosed episode of major depression. Occupational health care physicians and nurses were asked to recruit patients for the project. Participants were screened using the Finnish version of the Beck Depression Inventory (BDI) [21,22] with the cut-off point of >9. For the current depressive episode, antidepressive drug use for less than six months and/or sick leave for less than one month were allowed. Exclusion criteria included: schizophrenia and other psychotic disorders, organic mental disorders or substance abuse disorders, mental retardation and depression that could not be treated in occupational health care services (psychotic symptoms or high suicide risk), or that required hospitalization. After being given a description of the study, all participants provided written informed consent. The ethical committee of the Northern Ostrobothnia Hospital District, Oulu, Finland approved the study in 2004.

Methods

The Structured Clinical Interview for DSM-IV (SCID I-II), [23,24] was used as a diagnostic tool. The interview consists of two parts: SCID I, for axis I-disorders and SCID II, for personality disorders. SCID-interviews were conducted by trained and experienced interviewers (mainly TR and SB). All cases were reviewed together with a senior researcher (KL), who has a long experience of using the SCID. The severity of depression at baseline was defined in the SCID I interviews as mild, moderate or severe, and using the Finnish version of the BDI [21,22].

The 20-item version of the Toronto Alexithymia Scale (TAS-20) was used as the measure of alexithymia. Of the different methods for measuring alexithymia, the TAS-20 is the most widely used and presumably the most carefully validated one. Its internal consistency, test-retest reliability, convergent, discriminant, and concurrent validity have been demonstrated to be good [25-28]. The psychometric properties of the Finnish version of the TAS-20 have been shown to be satisfactory [29]. The items are rated on a 5-point scale ranging from "strongly disagree" to "strongly agree". According to the recommendation by the developers of the scale, the cut point of alexithymia was also used: TAS-20 total scores >60 are defined as alexithymic [3,30]. The TAS-20 has a three-factor structure; TASfactor1 assesses difficulty in identifying feelings (=DIF), TASfactor 2 concerns itself with difficulty in describing feelings (=DDF) and TASfactor 3 reflects externally-oriented thinking (=EOT), [30].

The primary outcome measure was the change in mean total TAS score between the baseline and one year follow up phase. The secondary outcome measure was the change in prevalence of alexithymia during the one year follow up time. Comparison of change both in primary and secondary outcome measures between the intervention and control groups formed the main result of the analysis.

Participants were asked to complete questionnaires, including basic socio-demographic information, details of their current work situation, and use of antidepressive medication. Marital status was dichotomized: married or cohabiting vs. single. Basic education was categorized into three groups according to the length of education, less than nine years, nine years (comprehensive school) and more than nine years. Vocational education was categorized into three groups according to the level and length of education: lowest or without any vocational education / polytechnic education / a degree from university or university of applied sciences. Social class was defined on a nine-level Finnish classification based on the social appreciation of professions [31] and categorized into three groups.

Early eclectic rehabilitative intervention program (EERIP)

The rehabilitation process was implemented by a multi professional working group consisting of a psychologist, social worker, psychiatrist, physician and physiotherapist in a rehabilitation institute. The working group remained the same during 2004-2009. The intervention consisted of two types of courses, of which the first and second were research courses and third and fourth were rehabilitation courses. The entire rehabilitation process took 6 months and included 31 active days. The Research Courses focused on individual predictors of depression, which varied from work-related and family-related stressors to person-related stressors. Based on individual stressors, each participant received tasks to be completed during the rehabilitation process. The courses were arranged for groups including 3-5 participants, and they consisted of two 5-day-long periods with 3-4 weeks intervals. During the interval, participants focused on their individual tasks [19]. The Rehabilitation Courses were scheduled 3-4 months after the research courses. They consisted of one 14-day-long and one 7-day-long course with a 3-4 week interval and were performed in groups including 5-8 participants, not necessarily the same group as in the Research Courses. The group working methods were based on eclectic practice including both cognitive behavioral and psychodynamic principles [19]. During the courses, participants were resident at the ODL rehabilitation institute that is, staying outside from their normal circumstances.

The aims of both the Research and Rehabilitation courses were to increase self-knowledge of depressive symptoms, and to provide peer and social support. In the case of work-related stressors, collaboration with employers and occupational health care services was included in the process. This involved rehabilitation personnel visiting the participants' work places in order to identify possible recommendations for changes in the working conditions to reduce work related strain. In the case of subjects with family related stressors, the family members or other close intimates were included in the process. Spouses were asked to participate in family counseling sessions when required. A psychophysical physiotherapeutic approach to depression was adopted, emphasizing the interaction between mind and body. The aim was that the depressed participants could, through physical and body training and the use of relaxation technics, recognize the importance of body reactions [32-34]. Alexithymia per

se was not in focus in the rehabilitation program and the staff did not know if the participants were alexithymic or not.

A comparison of differences in the management of depression, using either EERIP or conventional treatments that followed the Finnish treatment guide lines [35] for treatment as usual, is described in Table 1.

Components	EERIP	FGL
Antidepressive medication	Yes	Yes
Cognitive or other individual therapy	Yes	Yes
Work orientation	Yes	Yes/No
Family orientation	Yes	Yes/No
Group therapy methods	Yes	No
Duration of intensive interventions	6 months	No recommendation

Table 1: Comparison of recommendations by the Early Eclectic Rehabilitative Intervention Program (EERIP) and by the Finnish Guide lines^a (FGL)

^aThe Finnish Guide Lines of managing depression (Isometsä et al., 2009)

Subjects

The participants were recruited from occupational health care units with about 120,840 clients (Figure 1). A total of 355 subjects were referred to the project, and 283 of them were randomized into the intervention (N=142) and control groups (N=141). Eight of the subjects were excluded at the baseline, so the number of participants was 275; in the intervention group 141 and in the control group 134. After one year of follow up the intervention group consisted of 134 participants, 79.1% females and the control group of 100 participants, 92.0% females. The mean age for males was 44.6 years (standard deviation, SD 10.0) and 45.3 years for females (SD 8.1), (p=0.639).

Attrition analysis

We conducted an attrition analysis, comparing subjects who were included at the baseline and randomized into intervention and control groups, but did not participate at the follow-up phase (N=41) to those who did participate at the one year follow-up phase (N=234). The drop outs did not differ from the participants in terms of age, gender, the severity of depression measured by BDI, or SCID I, or alexithymia at the baseline. Most of the drop outs (82.9%) were from the control group (p<0.001), of whom 11 (26.8%) were males, eight with alexithymia (72.7%), and 30 females (73.2%), three with alexithymia (p< 0.001).

Statistical methods

For the comparison of categorical values, Chi-square and Fischer's exact tests were used, when appropriate, in bivariate comparisons and Student's t-test for continuous variables. Linear regression models adjusted for sex, social group and BDI score at the baseline were used for multivariate analyses. All statistical analyses were performed with PASW Statistic 18 [36].

Results

The groups did not differ statistically regarding socio-demographic background (Table 2). One fifth of the participants in the intervention group and eight percent in the control group were males. Almost three-fourths were married or cohabiting and over half were 40-50 years of age. Four-fifths had basic education more than the obligatory low level. Over fifty percent of the participants had vocational education higher than the lowest level. Two-thirds belonged to the middle social class. The proportion of the subjects in the highest social class in the intervention group was higher compared to the control group. More than half worked in the public sector. Less than every third used antidepressive medication at the base line situation.

Variable	Intervention group		Control group		All		Difference
	N	%	N	%	N	%	
Gender							
Male	28	20.9	8	8.0	36	15.4	0.007
Female	106	79.1	92	92.0	198	84.6	
Marital status							
Cohabiting	96	71.6	73	73.0	169	72.2	0.819
Other	38	28.4	27	27.0	65	27.8	
Age groups							
<40 years	33	24.6	21	21.0	54	8.2	0.781
40-50 years	62	46.3	50	50.0	112	57.1	
>50 years	39	29.1	29	29.0	68	34.7	
Basic education							0.893
High	53	39.5	37	37.0	90	38.5	
Medium	51	38.1	41	41.0	92	39.3	
Low	30	22.4	22	22.0	52	22.2	
Vocational education							0.059
High	30	22.4	20	20.0	50	21.4	
Medium	57	42.5	30	30.0	87	37.2	
Low	47	35.1	50	50.0	97	41.4	
Status of employer^{a,b}							0.635
Public	74	56.1	57	57.5	131	56.7	
Private	52	39.4	35	39.4	87	37.7	
Other	6	4.5	7	7.1	13	5.6	
Social class							
High	24	17.9	10	10.0	34	14.5	0.030
Medium	83	61.9	56	56.0	139	59.4	
Low	27	20.2	34	34.0	61	26.1	

Antidepressive medication ^b							0.885
Yes	38	28.4	29	29.3	67	28.8	
No	96	71.6	70	70.7	166	71.2	
The classification of depression (SCID) ^c							
Mild	39	29.1	42	42.0	81	34.6	0.157
Moderate	79	59.0	45	45.0	124	53.0	
Severe	9	6.7	6	6.0	15	6.4	
Other	7	5.2	7	7.0	14	6.0	
The classification of depression at the baseline (BDI) ^d							
Mild	39	29.8	41	44.1	80	35.7	0.073
Moderate	74	56.5	44	47.3	118	52.7	
Severe	18	13.7	8	8.6	26	11.6	

Table 2: Socio-demographic and clinical characteristics of the participants

^atwo missing cases in the intervention group

^bone missing case in the control group

^cStructured Clinical Interview for DSM-IV

^dBeck Depression Inventory, four cases missing

The prevalence of alexithymia at the baseline was 20.1% in the intervention group and 16.0% (p=0.418) in the control group. Respective figures at the follow-up were 18.9% and 7.1% (p=0.010). The decrease in the prevalence of alexithymia was statistically significant in the control group (p=0.012), but was not in the intervention group (p=0.848). The prevalence of alexithymia was significantly lower at the follow up in the control group than in the intervention group (p=0.010), (Table 3). The mean scores of alexithymia decreased in both groups (Table 3). The changes in the mean scores between the groups were not statistically significant after adjusting for confounding factors (Table 4). There was no difference between the groups in the severity of depression according to SCID I-interviews and BDI – scores at the baseline (Table 2). The mean BDI scores at the beginning of the study were 20.8 (SD 7.3) in the intervention group and 19.3 (SD 7.4), (p=0.136) in the control group, and after the follow up, 9.1 (SD 9.1) and 8.8 (SD 8.1), (p=0.858), respectively. The mean decrease in BDI scores in the intervention group was 11.6 (SD 10.0) and in the control group 10.8 (SD 9.8). The decrease was statistically significant within both of the groups (p<0.001), but no difference was found between the groups. Change in BDI scores correlated positively with change in total alexithymia scores both in the intervention group and in the control groups (r2=0.22 and r2=0.12, respectively).

Variable	Intervention group		Control group		Difference
	N	%	N	%	
Alexithymia at the baseline					
No	107	79.9	84	84.0	0.418
Yes	27	20.1	16	16.0	
Alexithymia at follow up ^{a,b}					
No	107	81.1	92	92.9	0.010
Yes ^b	25	18.9	7	7.1	
	N	Mean (SD)	N	Mean (SD)	T-test, P
Alexithymia mean scores					
at the baseline (TAS)					
Total score ^b	132	50.4(12.1)	100	48.7(11.6)	0.305
DIF subscale score ^b	132	17.4(5.5)	100	17.1(6.1)	0.650
DDF subscale score ^b	132	13.1(4.6)	100	13.1(4.1)	0.279
EOT subscale score ^b	132	19.9(4.8)	100	19.3(4.7)	0.305
at the follow up					
Total score ^{a,b}	132	46.9(13.5)	99	44.0(11.6)	0.087
DIF subscale score ^{a,b}	132	15.3(6.7)	99	13.9(5.8)	0.097

DDF subscale score ^{a,b}	132	12.5(4.6)	99	11.4(4.1)	0.081
EOT subscale score ^{a,b}	132	19.4(4.6)	99	18.7(4.9)	0.448

Table 3: The prevalence and mean scores of alexithymia at the baseline and at the follow up of the study and the changes in alexithymia scores during the follow up time in intervention and control groups

^aone missing case in the control group

^btwo missing cases in the intervention group

Variable	Intervention group (SD)	Control group (SD)	Unadjusted P-value ^c	Adjusted P-valued
Change in total TAS score ^{a,b}	-3.23(11.6)	-4.79(9.1)	0.269	0.140
Change in DIF TAS subscale score ^{a,b}	-2.1(5.9)	-3.1(4.9)	0.153	0.090
Change in DDF TAS subscale score ^{a,b}	-0.49(4.0)	-1.0(3.7)	0.297	0.190
Change in EOT TAS subscale score ^{a,b}	-0.67(4.4)	-0.65(3.8)	0.960	0.750

Table 4: Change between baseline and one year follow up of the TAS mean scores in the intervention and control groups

^aone missing in the control group

^btwo missing in the intervention group

^cindependent samples T-test

^dlinear regression analysis adjusted for sex, social group and BDI score at the baseline

In a separate analysis, in subjects with alexithymia at the baseline, the decline in BDI scores between baseline and follow up was 10.59 (SD 10.9) in the intervention group and 7.71 (SD 14.2) in the control group. The difference in the decline of BDI scores between intervention and control groups was not statistically significant in crude analysis ($p=0.474$) nor after adjusting for age, sex and social class ($p=0.228$).

Discussion

The main finding of this study was that the rehabilitation program EERIP among employed people with first ever diagnosed episode of depression did not have a decreasing effect on alexithymia in the intervention group as hypothesized. This finding was evident both in the analysis of primary (change in total TAS mean score) and secondary (change in prevalence of alexithymia) outcome measures. Instead, alexithymia was less common in the control group after one year of follow up time. The finding was opposite to our hypothesis. To the best of our knowledge, no earlier similar studies exist exploring the effectiveness of an eclectic rehabilitative intervention on alexithymia in working age persons experiencing first-episode depression.

Alexithymia is quite common among working age people. The prevalence has been shown to be about 9%–17% for men and 5%–10% for women [37-39]. The prevalence of alexithymia in our subjects was in line with these figures. This is surprising because all the subjects

were diagnosed with depression and the prevalence of alexithymia among depressive people has shown to be much higher than among general population [40,41].

Recovery from depression has shown to be associated with decrease in alexithymic features [4,40]. In the present study the BDI scores decreased in both intervention and control groups, while the TAS-20 total and the subscale scores did not change significantly. However, recovery from depression assessed with the change in BDI scores associated with change in total alexithymia scores in both groups. Hence, recovery from depression was associated with decrease in alexithymic features. The prevalence of alexithymia decreased more in the control group. An interesting question is why the subjects in the intervention group did not benefit from the intervention in the terms of alexithymia?

Sifneos, in his paper year 1975 [42], emphasized that careful evaluation is needed for the recommendations of psychotherapy in the presence of alexithymic features. Subsequent studies have shown that subjects with alexithymia may benefit from different therapies or interventions: multimodal cognitive behavioral therapy in Obsessive Compulsive Disorder [43], multimodal psychodynamic treatment [44,45], comprehensive integrated group therapy [46-49], intensive Short Term psychotherapy [50], mentalization based therapy [51], cognitive behavior therapy [52], Affect School-Intervention [53] among others. In the EERIP the group working methods were based on eclectic practice including both cognitive behavioral and psychodynamic principles. The EERIP gave the possibility for the subjects to obtain peer support and the opportunity to reduce individual stigma as well to better understand the features of depression and increase the insight of illness [19]. From this point of view, the EERIP would have been a tool in alleviating alexithymia too, but we could not show it. According to our hypothesis, the amount of alexithymia was expected to decrease when the depression alleviated, but this was not the case when the intervention and control groups were compared. In this study the subjects in the intervention group did not benefit from these methods in terms of alexithymia. This may be due to the relatively short intervention or the group-type method being too demanding for the subjects with alexithymia.

Limitations

This study had several limitations. Of the subjects only 8% were males in the control group and 21% in the EERIP group, which may limit the generalizability of the results to both sexes. The small number of males is probably due to characteristics of the population from which the sample was drawn. In many of the occupational health care units involved in the study, most clients were working in social and health care and education professions in which most employees use to be females. Moreover, a high number of the drop outs in the control group were males. Nevertheless, there were no differences in the outcome measures between males and females.

One limitation may be that most of the drop outs were from the control group. In the EERIP group, there were more subjects belonging to the highest social group than in the lower social groups. A follow up period of one year may be too short to evaluate the long term effect of the rehabilitative intervention, especially in case of relative stable strait like alexithymia. More time would be needed to implement cognitive tools and to establish new behaviors [54]. The EERIP took 6 months and included 31 active days. The primary focus was the rehabilitation of depression, not of alexithymia. We had no detailed information of the resources and practices in the occupational health care units concerning the management of depression, and we did not know to what extent the good guide lines for the treatment of depression were being followed [35]. The use of a self-report inquiry, like BDI, may be not as reliable as using rating scales or standardized psychiatric interview techniques in evaluating severity of depression. However, the BDI is widely used in depression treatment studies [55]. The TAS-20, one of the most commonly used measures of alexithymia, is a self-report scale too.

Strengths

The strengths of this study include the use of a control group in a randomized design. Due to the inclusion and exclusion criteria, the subjects represent working age people with first episode of depression who did not have notable treatment for depression or alexithymia previously. The group was suffering from depression without other mental disorders, such as substance abuse or psychotic disorders. The diagnoses were made by using an appropriate interview technique. The psychometric properties of the Finnish version of the TAS-20 have been shown to be satisfactory [29]. A notable factor in the intervention process was the multi professional working group; and the fact that the working group remained the same during the entire process from 2004–2009 ensuring quality and consistency in the intervention process. The eclectic intervention method itself is thus also strength. To our knowledge, comparative studies focusing on this kind of rehabilitative intervention among employed people have not been conducted previously.

Conclusions

The early eclectic intervention program may represent a useful addition in the management of the complex and multifactorial syndrome of depression, improving the ability of occupational care units to help and treat employees presenting with first ever episode of depression. However, the intervention program had no decreasing effect on the amount of alexithymia after one year of follow up time in the intervention group in subjects with first episode of depression. Indeed, alexithymia alleviated in subjects in the control group with conventional treatment.

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