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The relationship between coping strategies and life quality in major depressed patients

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Abstract

Background: The present study aimed to explore, for a better understanding, the relationship between dysfunctional coping mechanisms, functionality, and quality of life in patients with major depression, during an acute episode and euthymic phase. 65 patients diagnosed with recurrent major depressive disorder were included in a longitudinal study, during which they were evaluated twice, clinically, for coping mechanisms, and also for different life quality areas. For the first time, all patients were assessed during an acute depressive episode and for the second time after 6 months of euthymia. Coping mechanisms were assessed with the Brief COPE scale, the severity of depression was evaluated by the Hamilton Depression Rating Scale-17 items, the quality of life with the WHOQOL-Bref, and the functionality with GAF.

Results: The coping mechanisms, represented by self-distraction and self-blame, were identified as being significantly correlated with the areas of life quality, mental health, and general environment, for patients having an acute depressive episode. In the euthymic phase of major depression, all dysfunctional coping strategies showed statistically significant associations with the quality-of-life domains and the coping mechanism represented by disengagement was significantly correlated with the global functionality.

Conclusions: Regardless of the current mood state, acute depression or euthymic phase, the dysfunctional coping mechanisms influence the level of life quality domains.

Keywords: Major depressive disorder, Euthymia, Coping mechanisms, Functionality, Quality of life

Background

Coping is considered to be a complex process that people adopt to handle different stressful situations that seem difficult and often exceed the individual's resources [1]. Stressful conditions can determine adaptative responses with great value by using several coping strategies that support the person in developing new ways of how to face surprising, unexpected situations [2]. These coping mechanisms, if they are efficient, give the power to manage, reduce or tolerate the demanding context [3]. Classification of these mechanisms describes the processes

involved and divide them into active or problem-focused coping subtype and passive or emotional-focused coping subtype [4, 5]. A new hypothesis was proposed by Schmidt and Homberg who observed that a favorable effect appears when coping responses were matched with the stress condition, or that they could become dysfunctional when they were mismatched with the environment stress context [6, 7]. Because of this, the use of different coping types needs to be flexible, apart from the characteristic tendency of depressed patients, as some studies show that they maintain certain coping mechanisms despite the evolution of symptom severity [8, 9].

Quality of life is a relatively recent concept in the medical literature, documented as being first used only 40 years ago, then over several decades the interest for this theme stagnated; in the present time, it has returned as being an extremely important aspect of the daily

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living [10]. It includes various domains such as physical health, psychological normality, social contacts, and environmental areas that are reflected through the individual's satisfaction and level of functionality [11]. Studies reported in major depressed patients a decrease in the level of life quality and, because of this, many researchers have tried to find explanations for the negative impact on the global level of life quality [12, 13].

The present study aims to explore the relationship between dysfunctional coping mechanisms, functionality, and quality of life in patients with major depression, during an acute episode and euthymic phase. The study hypotheses were represented by:

- a) The level of quality of life and global functionality are influenced by the use of dysfunctional coping styles for patients diagnosed with recurrent depressive disorder during an acute depressive episode.
- b) The quality of life and global functionality can be influenced by the use of dysfunctional coping mechanisms for patients diagnosed with recurrent depressive disorder during a euthymic phase.

Methods

In the study were included 65 depressed patients, with ages between 18 and 60, and with a minimum educational level of 8 years. Subjects were of both genders and were presenting a major depressive episode. The study group was evaluated twice, clinically, for coping mechanisms and different life quality areas were assessed, for the first time during an acute depressive episode and the second time after 6 months of euthymia. Inclusion criteria for the patients with depression consisted of DSM-IV-TR and ICD-10 diagnosis of Major Depressive Disorder and Hamilton Depression Rating Scale (HAM-D) ≥ 8 . For those that were not depressed when the tests were applied, as they were euthymic, the inclusion criteria were established by a HAM-D score equal to or below 7. Subjects were excluded if they met the criteria for mental retardation, dementia, chronic alcoholism, or any other substance dependence, history of head trauma, or any current medical condition which could interfere with answering the questionnaires. All individuals who were admitted to the study gave written informed consent. Our local university Ethics Committee approved the study; the Ethical Approval Reference Number is 338/07.09.2016.

Demographic and clinical data

Demographic data, including age, gender, and education level were collected through a clinical interview. Initially, the patients were clinically assessed upon admission for

a major depressive episode and the diagnosis was made according to DSM IV-TR and ICD-10 diagnosis criteria for recurrent depressive disorder and a major depressive episode. All patients included were hospitalized in an acute emergency ward; this is the reason why they presented more severe symptoms and episodes in comparison with an outpatient population.

Coping mechanisms assessment

The Brief COPE scale was used for testing the coping styles, a shorter version of the COPE inventory [14]. In our study, we focused on the dysfunctional coping domain, which included behavioral disengagement, denial, self-distraction, self-blame, and substance use [15].

The quality of life assessment

Four quality-of-life domains, physical health, mental health, social relationships, and general environment were evaluated with the WHOQOL-Bref and the functionality of each individual was assessed with GAF [16, 17].

Statistical analysis

In the first stage of the analysis, data were descriptively assessed, based on frequencies and percent for the nominal variables and the most important descriptive statistics for the numerical ones. Means, medians, and standard deviations are provided for these variables throughout the article. To evaluate the relationship between coping mechanisms and quality-of-life domains correlation analysis was conducted (using Pearson's correlation coefficient), for both depressed and euthymic patients. Statistical significance was evaluated at the standard level of 5%. Statistical analysis was performed using IBM Statistical Package for Social Sciences 24 (SPSS) software, Windows version.

Results

For the depressed patients, demographic and clinical information is summarized in Table 1.

During a depressive episode, the correlations between quality-of-life domains, GAF scale values, and dysfunctional coping mechanisms were obtained using Pearson's correlation test. All the results are presented in Table 2.

No statistically significant correlations were identified between GAF values and dysfunctional coping mechanisms at a threshold of 5%.

Among the dysfunctional coping mechanisms, represented by self-distraction, use of substances, self-blame, denial, and disengagement, statistically significant associations were identified ($p < 0.05$) for self-distraction and self-blame strategies. Therefore, following the

Table 1 Demographic and clinical data for the depressed patients (n = 65)

Demographic and clinical aspects	Depressed patients (n = 65) mean/SD
Age (in years)	48.48 (SD = 10.484)
Sex	
1. Male	n = 13 (20.00%)
2. Female	n = 52 (80.00%)
Level of education (years)	11.86 (SD = 3.115)
1. Gymnasium	n = 5 (7.7%)
2. Vocational school	n = 6 (9.2%)
3. High school	n = 34 (52.3%)
4. University education	n = 20 (30.8%)
HAM-D scores (depression)	23.20 (SD = 5.423)
HAM-D scores (euthymia)	3.73 (SD = 1.387)

HAM-D Hamilton Depression Rating Scale, SD standard deviation

correlation analysis, a positive Pearson coefficient was observed = 0.354, between the self-distraction coping style and question G2 of the Brief-WHOQOL scale (How satisfied are you with your health?). Similarly, the Pearson coefficients were positive for the associations between the self-distraction coping style and the field living environment (Pearson coefficient = 0.347) and also with the physical health domain (Pearson coefficient = 0.28). Regarding the self-blame mechanism, it showed a statistically significant association at a threshold of 1% with the mental health domain and for the social relationships, the threshold was 5%. In both cases, the Pearson correlation coefficients were negative (− 0.466; − 0.281), indicating that depressed patients who used the self-blame

coping mechanism reported a lower quality of life in the domains mental health and social relationships.

The correlations between coping mechanisms and the domains of quality of life, as well as the values of the GAF scale, during the euthymia phase, were obtained by applying the Pearson correlation test. The results are presented in Table 3.

For the patients in the euthymic phase, statistically significant correlations ($p < 0.05$) were identified between the overall functionality and the coping mechanisms of denial and disengagement. Regarding the denial coping mechanism, it was negatively correlated with the GAF scale values, identifying a Pearson correlation coefficient of = − 0.356. For the disengagement coping mechanism the Pearson correlation coefficient was negative, with a value of − 0.636, at a threshold of statistical significance of 1%.

In the euthymic group, all dysfunctional coping mechanisms showed statistically significant associations ($p < 0.05$) with the quality-of-life domains that were examined. Therefore, the self-distraction mechanism was negatively correlated with the living environment domain, identifying a Pearson correlation index of = − 0.399. Similarly, for the denial coping strategy, at a significance threshold of 5%, correlations were identified with the mental health domain, social relationships, general environment, and also with the G1 and G2 questions of the Brief-WHOQOL scale (How would you rate your quality of life; How satisfied are you with your health?). For all these correlations the Pearson coefficients were negative. The coping style substance use to cope was negatively significant associated with the domains of physical health, mental health, and social relationships. Negative Pearson coefficients were also identified in the case of the

Table 2 Correlations between the mean values of the coping mechanisms and the domains of the WHOQOL scale—Brief and of the GAF scale, in a depressive episode

		GAF	G1	G2	Physical health	Mental health	Social relationships	General environment
Self-distraction	Pears. Correl.	0.218	0.192	0.354**	0.272*	0.215	0.067	0.347**
	Sig. 2-tailed	0.081	0.126	0.004	0.028	0.086	0.596	0.005
Denial	Pears. Correl.	0.162	0.114	0.130	0.147	0.060	− 0.004	0.150
	Sig. 2-tailed	0.196	0.365	0.302	0.243	0.637	0.977	0.232
Substance use to cope	Pears. Correl.	0.048	− 0.049	− 0.048	− 0.112	− 0.144	− 0.026	− 0.198
	Sig. 2-tailed	0.703	0.700	0.702	0.374	0.253	0.840	0.114
Disengagement	Pears. Correl.	0.071	− 0.069	− 0.208	− 0.089	− 0.107	− 0.012	0.009
	Sig. (2-tailed)	0.574	0.587	0.097	0.480	0.398	0.925	0.944
Self-blame	Pears. Correl.	0.007	0.036	− 0.119	− 0.217	− 0.466**	− 0.281*	− 0.198
	Sig. 2-tailed	0.953	0.777	0.347	0.083	0.000	0.024	0.114

Pears. Correl. Pearson correlation, Sig significance, WHOQOL-Bref World Health Organization Quality-of-Life Scale, GAF Global Assessment of Functioning Scale, G1 How would you rate your quality of life? G2 How satisfied are you with your health?

* point out statistically significant associations between different domains that were evaluated

Table 3 Correlations between the mean values of the coping mechanisms and the domains of the WHOQOL scale—Brief and of the GAF scale, in the euthymia phase

		GAF	G1	G2	Physical health	Mental health	Social relationships	General environment
Self-distraction	Pears. Correl.	− 0.121	− 0.179	− 0.220	− 0.246	− 0.129	− 0.056	− 0.399**
	Sig. 2-tailed	0.399	0.209	0.121	0.082	0.368	0.695	0.004
Denial	Pears. Correl.	− 0.356*	− 0.395**	− 0.283*	− 0.247	− 0.450**	− 0.343*	− 0.323*
	Sig. 2-tailed	0.010	0.004	0.044	0.080	0.001	0.014	0.021
Substance use to cope	Pears. Correl.	− 0.089	− 0.163	− 0.161	− 0.346*	− 0.295*	− 0.412**	− 0.205
	Sig. 2-tailed	0.535	0.252	0.258	0.013	0.036	0.003	0.148
Disengagement	Pears. Correl.	− 0.636**	− 0.524**	− 0.364**	− 0.166	− 0.408**	− 0.449**	− 0.166
	Sig. 2-tailed	0.000	0.000	0.009	0.246	0.003	0.001	0.245
Self-blame	Pears. Correl.	− 0.229	− 0.309*	− 0.253	− 0.394**	− 0.447**	− 0.360**	− 0.302*
	Sig. 2-tailed	0.105	0.027	0.073	0.004	0.001	0.010	0.031

Pears. Correl. Pearson correlation, Sig significance, WHOQOL-Bref World Health Organization Quality-of-Life Scale, GAF Global Assessment of Functioning Scale, G1 How would you rate your quality of life? G2 How satisfied are you with your health?

* point out statistically significant associations between different domains that were evaluated

disengagement strategy. For the domains physical health and general environment no statistically significant associations were identified, but for the mental health, social relationships, and questions G1 and G2 of the Brief-WHOQOL scale, statistically significant associations were found with the disengagement coping mechanism. One statistically significant correlation was identified between GAF values and dysfunctional disengagement coping mechanism at a threshold of 1%. Regarding the dysfunctional mechanism of self-blame, it presented negative correlations with all areas of quality of life that were examined, excluding the G2 question of the Brief-WHOQOL scale (How satisfied are you with your health?).

Discussion

One of the hypotheses raised was that quality of life may be influenced by the use of dysfunctional coping types for patients diagnosed with recurrent depressive disorder during the acute depressive episode. In this regard, the self-blame and self-distraction mechanisms were identified as being inversely correlated with the areas of life quality, like mental health and social relationships domain, so patients during the depressive episode who used mainly this dysfunctional coping mechanism reported a lower quality of life, confirming the proposed hypothesis. On the other hand, we could say that self-blame is a common and characteristic symptom for depressed patients during an acute episode and we could expect this association, but unexpected was the fact that this association remained during the euthymic phase, after the remission of depressive symptoms, suggesting that certain dysfunctional coping mechanisms could represent a trait mark or a vulnerability, putting

the patients at risk for more depressive relapses [18]. Other studies showed that the severity of the symptoms of depression may impact the life quality during an acute depressive episode, but these findings do not explain why the level of life quality remains affected after the symptoms' remission [19, 20]. The explanation could be provided by the use of certain coping mechanisms in the case of depressed patients, who seem to prefer the dysfunctional types which tend to be stable over time, even during euthymic phases and in a broad range of situations [21, 22]. Also, the self-distraction coping style was positive correlated with the global level of health satisfaction, physical health and the general environment domain during the acute depressive episode. In connection to these findings, we can assume that using the self-distraction coping mechanism gives a false impression to the patient regarding the real level of health satisfaction because instead of confronting the symptoms patients rely on other activities to be distracted by. The negative influence of different types of coping strategies was also reported by another study, which assessed the adaptive skills and coping mechanisms in a group of treatment-resistant depressed patients. Associations were observed between patients' ability to initiate conversations, the use of dysfunctional coping mechanisms, such as self-distraction and self-blame, and the overall quality of life, which was reported lower by these subjects [23].

The other hypothesis tested in this study was related to the level of life quality that may be influenced by the use of dysfunctional coping styles in patients diagnosed with recurrent depressive disorder during a euthymic phase. The previously presented data confirm the hypothesis, that for all dysfunctional coping mechanisms statistically

significant associations were obtained, at the threshold of 5%, with the examined domains of quality of life, and in the case of each correlation, Pearson coefficients were negative. So, the euthymic patients who showed greater use of substance use coping style also reported difficulties regarding personal relationships, social support, and sexual activity, all of these areas which are extremely important in preventing the development of a new depressive episode. We can assume that drinking alcohol or abusing different substances as a dysfunctional way to cope could be reflected in the level of impairment in the social support of these patients. Euthymic patients that were using more the disengagement coping mechanism reported lower levels of social relationships, impairment on the mental health domain, represented by negative consequences on the body image and appearance, self-esteem, personal beliefs. Furthermore, the negative correlations between the disengagement coping style and the G1 and G2 questions reflect the low rates over the global impression of how they appreciate their level of life quality and dissatisfaction regarding health quality during a euthymic phase of major depression, from the point of using dysfunctional coping mechanisms. Similar to the results obtained by us, another study tried to identify the underlying mechanisms that could explain the decrease in quality of life in patients known to be diagnosed with depressive disorder but examined during a euthymic phase. More precisely, in the case of these subjects, alterations in the ability to inhibit some responses, deficits in the processing of emotional information, with the use of dysfunctional coping styles and a tendency to recall the negative events of the past were identified [24].

Conclusions

Our work, confirmed by other studies too, suggests that depressed patients, regardless of their current mood state, have a greater tendency towards using dysfunctional coping mechanisms. This effect tends to accumulate like a snowball, determining these patients to become an inherent vulnerability group even after the remission of the depression symptoms, with clear consequences throughout depression recurrency and also, as our results presented, influencing their life quality.

Abbreviations

COPE: Coping Orientation to Problems Experienced Inventory; GAF: Global Assessment of Functioning; WHOQOL: The World Health Organization Quality of Life; DSM-IV-TR: Diagnostic and Statistical Manual of Mental Disorders; ICD-10: International Classification of Diseases; HAM-D: Hamilton Depression Rating Scale; SPSS: Statistical Package for Social Sciences; SD: Standard deviation; Pears. Correl.: Pearson correlation; Sig: Significance.

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Author contributions

IVM and RLP participated in the design of the study, selected the patients and established the clinical diagnosis. BDCS participated in the design of the study, applied the clinical scales and neurocognitive battery tests and drafted the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

All individuals admitted to the study gave written informed consent. "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca Ethics Committee approved the study; the Ethical Approval Reference Number is 338/07.09.2016.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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