The Role of Cognitive Coping Mechanisms in the Psychotherapeutic Approach of the Major Depressive Disorder

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ABSTRACT: The depressive disorder represents nowadays an important global health problem, with severe effects for the affected person and for the society as a whole. The psycho-social factors are a major risk element in the onset of depression, overlapping both on the individual vulnerabilities of the affected person, and on the coping mechanisms, especially the disadaptive one. Our study aims were the comparative evaluation of the cognitive coping mechanisms in the evolution of depression and in determining the quality of the therapeutic response in two samples of depressive patients benefiting from pharmacologic treatment, respectively pharmacologic therapy and cognitive-behavioral psychotherapy. The most frequently used cognitive coping strategies in the depressive patients from the two samples in the study were predominantly maladaptive, more precisely ruminating, catastrophizing, self-culpability, respectively putting into perspective. It was evident though that the adaptive coping mechanisms, such as accepting the current situation, positive refocus and positive re-evaluation, are protective factors contributing to reaching psycho-social rehabilitation and granting support to the combined therapeutic intervention. Consequently, the identification of coping mechanisms dominant in each individual with major depression is required in order to increase the efficiency of cognitive behavior therapy as enhancer for pharmaco-therapy.

KEYWORDS: Cognitive coping, cognitive behavioral psychotherapy, major depression.

Introduction

Already labeled as the disease of the 21st century, the depressive disorder is now considered a very important global public health problem, partly due to the impressive incidence and prevalence rates, but mainly due to the severe impact it has both on the affected person, as well as on society in its entirety, given the important social and economic costs it imposes and the burden it poses on the health systems.

Given this context, depression has become one of the major targets of the health policies and strategies elaborated nationally and internationally by the organizations responsible for maintaining the health status of population.

It was estimated that at worldwide level, 4.4% of the population have depression, more frequently women (5.1%), compared with men (3.6%), with a maximum prevalence in the age group 55-74 years [1].

At European level, previous epidemiological studies estimated a prevalence between 5% and 10%.

A recent study highlighted a general prevalence of depression of 6.38%, recording important variations among countries, significantly higher in women (7.74%) compared with men (4.89%).

The same study estimated for Romania a general prevalence rate for depression of 4.38%, with a value of 4.91% for women, respectively 3.82% for men [2].

Among the complex etiopathogenic mechanisms of the depressive disorder, the psycho-social one has its own role, the specificity of the disorder allowing for frequent interpretation as an emotional reaction to an adverse psychosocial context.

The majority of such etiologic models are related to the stress-diathesis model, where the diathesis represents the risk factor or the individual vulnerability determining the answer to psycho-stressing factors, the most important categories being events with acute psycho-traumatic potential, chronic stressful conditions and exposure to psycho-trauma during childhood.

The acute psycho-traumatic events are known for their triggering potential regarding the depressive disorder [3,4], considered by two and half times more frequent in the recent history of persons diagnosed with depression compared with general population, as 80% of...
the cases of depression are preceded by such negative episodes [5].

If initially it was considered that the pathogenic effect of such events is placed about three to six months prior to the onset of depressive symptomatology, further studies reduced this interval down to a month, underlying a direct correlation between the severity and number of psycho-traumatic episodes and the onset of the depressive disorder [6].

According to the stress diathesis model, this association is also influenced by the individual characteristics of the affected person and by the level of perception and significance that the psychological trauma has for the respective subject, as the more frequent identified situations in case of depression are related to an important loss for the individual self, of some relationships or competencies related to self-esteem [7].

Thus, the major differences regarding the incidence of depression in women compared with man can also be explained, as the first ones are not only more inclined to psycho-traumatic events [8], but they have also an amplified emotional response by psycho-traumas of similar severity compared with those that male subjects are exposed to [8-10].

These gender differences are generated also by vulnerability factors specific to women, such as neuroticism, predisposition to ruminative thinking, a more powerful significance they place on interpersonal relations and a heightened experience of the effect of stressful environmental factors [11,12].

A second category of psychosocial factors playing a role in the etiopathogenesis of depression is represented by long-term exposure to stress, a condition less studied, that proved to be of major importance.

In the case of chronic stress, an interdependence with the depressive disorder was also identified, the two elements influencing each other, the action of stress leading to depression, while the latter affects in its turn the individual coping abilities.

Chronic stress is also influence by a series of socio-demographic factors, such as marital status, low educational level, poor socio-economic status or presence of physical disabilities [13,14].

The psycho-social factors leading to the onset of depression include also those related to life environment, such as residence environment [15] or working conditions [16], that represent risk factors both independently, as well as in correlation with previously mentioned stressors [17,18].

All these factors contribute both to cognitive dysfunctionalities and disabilities in the coping mechanisms, thus increasing the vulnerability for depression [19].

Among the individual psychological factors leading to the onset and development of depression, the cognitive models play an important role, being centered specifically on three forms of this disorder: the classic cognitive model including the negative visions of self, world and future [20], the cognitive styles specific to despondency [21] and the information processing perspectives [22].

Thus, during the depressive episode, the thinking process suffers from negative stressors [23], leading to continued and amplified symptoms [24,25], especially under stressing conditions [26,27].

The methods for information processing in the context of cognitive vulnerability refer to cognitive dysfunctionalities, such as attention and memory deficits or over-generalized way of thinking [22,28] that may only lead to selection of negative information to the disadvantage of the positive ones, with amplified dysphoric reactions to traumatic events.

At the same time, the individual vulnerability for depression is determined by the types of personality, as the most frequent are neuroticism and ruminative response.

Characterized by negative emotionality and reactivity amplified by stress factors, the neuroticism represents a strong predictive factor for depression [29,30].

The ruminative response style is more frequent in the feminine gender and it refers to cognitive and behavioral strategies used as response to negative emotions, strategies based on rumination and excessive focus on self and own emotions and over-analysis of stress source, while men used coping mechanisms based on diverting attention from the problem or solving it [31].

Therefore, this ruminative response style actually leads to intensification of negative thinking and consequently to amplified severity and duration of depressive symptoms [32,33].
Material and Method

The objective of the study was a comparative evaluation of the importance of the cognitive coping mechanisms in the evolution of depression, respectively in determining the quality of the therapeutic response.

In this respect, the research looked at two samples of depressed patients according to the ICD-10 diagnostics criteria, without any other psychiatric comorbidities, hospitalized in the 1st Psychiatry Clinic-Clinical Neuropsychiatry Hospital Craiova for a two years period (1st January 2017-31st December 2019):

- M-sample=136 subjects benefiting from pharmacologic treatment as established by the national guides and protocols;
- P-sample=137 subjects that received medication and cognitive behavioral psychotherapy from the psychologist-psychotherapist in the clinic.

The research monitored socio-demographic, clinical and psychological indicators. For this purpose, the following work instruments were used:

- For evaluating the severity of depressive symptoms initially (on admission) and at the end (after 12 weeks)-Hamilton Depression Rating Scale (HAM-D);
- For identifying the cognitive emotional coping strategies-the cognitive emotional regulation questionnaire (CERQ).

The recorded data were stored in secured Microsoft Excel files and were subsequently processed by using Microsoft Excel software, respectively Statistical Package for the Social Sciences (SPSS v.20).

The study was approved by the Ethics Commission from the University of Medicine and Pharmacy of Craiova and was realized in respect with the Helsinki Declaration.

All subjects recruited in the study were volunteers, and they were included after signing the informed consent.

Results

The two study samples have approximately similar demographic characteristics and, based on this aspect, the comparative assessment of the clinical and psychological results was more accurate from a statistically point of view.

It was noticed that for both samples the 50-54 years age group was the most predominant one, while according to the sex of the subjects, the women were three times more frequent than men.

It was also observed the predominance of the urban environment as the subjects’ residence (M-sample: 93.38%; P-sample 90.51%), as well as the involvement in a couple relationship (marriage, open relationship etc.) (M-sample: 83.82%; P-sample: 86.13%).

From the educational and professional point of view, we could observe that the most frequent educational level graduated was the medium one (M-sample: 70.59%; P-sample: 60.59%), and only around 10% of the subjects from the both study samples being professionally active (Table 1).

<table>
<thead>
<tr>
<th>Table 1. Socio-demographic data from the two study samples.</th>
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<tbody>
<tr>
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<tr>
<td>M-Sample</td>
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The evaluation of the severity of depressive symptoms with HAM-D scales on admission highlighted the predominance of moderate symptomatology (M-sample-50.74%; P-sample-48.91%), while on the evaluation after 12 weeks, following the therapeutic management process, the severity decreased significantly, recording prevalence of light symptomatology (M-sample-72.06%; P-sample-88.32%) (p χ2=0.003336489, p<0.01).

The coping mechanisms of the subjects in the study samples were evaluated with CERQ, instrument identifying the extent to which a person uses adaptive or maladaptive coping strategies, when faced with events that negatively influence the individual’s psychological status. CERQ represents a multidimensional questionnaire that could identify the types of cognitive coping strategies developed by an individual based on 36 items.

According to the study’s methodology, we grouped the test’s results in two degrees (high and low) referring to the frequency in which each coping strategy was used by the individuals involved in the research process (Table 3).

<table>
<thead>
<tr>
<th>CERQ Item</th>
<th>High</th>
<th>Low</th>
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<tbody>
<tr>
<td>Self-culpability</td>
<td></td>
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<tr>
<td>M-Sample</td>
<td>41 (30.15%)</td>
<td>95 (69.85%)</td>
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<tr>
<td>P-Sample</td>
<td>46 (33.58%)</td>
<td>91 (66.42%)</td>
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<tr>
<td>Acceptance</td>
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<tr>
<td>M-Sample</td>
<td>22 (16.18%)</td>
<td>114 (83.82%)</td>
</tr>
<tr>
<td>P-Sample</td>
<td>24 (17.52%)</td>
<td>113 (82.48%)</td>
</tr>
<tr>
<td>Ruminatiom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-Sample</td>
<td>56 (41.18%)</td>
<td>80 (58.82%)</td>
</tr>
<tr>
<td>P-Sample</td>
<td>57 (41.61%)</td>
<td>80 (58.39%)</td>
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<tr>
<td>Positive refocus</td>
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<tr>
<td>M-Sample</td>
<td>31 (22.79%)</td>
<td>105 (77.21%)</td>
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<tr>
<td>P-Sample</td>
<td>31 (22.63%)</td>
<td>106 (77.37%)</td>
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<tr>
<td>Refocus on planning</td>
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<td></td>
</tr>
<tr>
<td>M-Sample</td>
<td>36 (26.47%)</td>
<td>100 (73.53%)</td>
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<tr>
<td>P-Sample</td>
<td>34 (24.82%)</td>
<td>103 (75.18%)</td>
</tr>
<tr>
<td>Positive re-evaluation</td>
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<td></td>
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<tr>
<td>M-Sample</td>
<td>37 (27.21%)</td>
<td>99 (72.79%)</td>
</tr>
<tr>
<td>P-Sample</td>
<td>31 (22.63%)</td>
<td>106 (77.37%)</td>
</tr>
<tr>
<td>Putting in perspective</td>
<td></td>
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<tr>
<td>M-Sample</td>
<td>42 (30.88%)</td>
<td>94 (69.12%)</td>
</tr>
<tr>
<td>P-Sample</td>
<td>39 (28.47%)</td>
<td>98 (71.53%)</td>
</tr>
<tr>
<td>Catastrophizing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-Sample</td>
<td>45 (33.09%)</td>
<td>91 (66.91%)</td>
</tr>
<tr>
<td>P-Sample</td>
<td>44 (32.12%)</td>
<td>93 (67.88%)</td>
</tr>
<tr>
<td>Culpability of others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-Sample</td>
<td>19 (13.97%)</td>
<td>117 (86.03%)</td>
</tr>
<tr>
<td>P-Sample</td>
<td>35 (25.55%)</td>
<td>102 (74.45%)</td>
</tr>
</tbody>
</table>

The interpretation of the results from this probability calculation showed that the OR values close to 1 demonstrate a low influence between the two factors, while the values high above 1 proved a causal correlation tendency between factors, and the values high below 1 showed a protective correlation.

Regarding the first CERQ item, self-culpability, it was present at a high level in 26.53% from the subjects in M-sample who presented in the final evaluation a good quality therapeutic response, respectively in 32.23% of their counterparts in P-sample, without showing statistically significant correlations (M-sample: pχ2=0.139969834, p>0.05; P-sample: pχ2=0.139969834, p>0.05).

A relative protection offered by this mechanism was identified (M-sample-OR=0.553703704; P-sample-OR=0.614498258), respectively a reverse causality situation for acceptance in the case of subjects from P-sample (M-sample: pχ2=0.658020113, p>0.05;
An even lower influence in the research subjects was calculated regarding their tendency for rumination in the psychologic process to interpret negative events especially in the case of subjects in P-sample, thus underlining the efficiency of the psychotherapeutic intervention for modifying the tendency for cognitive processing of the psychological impact produced by the disorder and triggering stressors (M-sample: $\chi^2=0.192937427$, $p>0.05$; OR=0.606557377; P-sample: $\chi^2=0.85311161$, $p>0.05$; OR=0.905432596).

Positive refocus as coping method used by the participants in the study also showed a probability rate with a causal tendency for the patients receiving only medication treatment (M-sample: $\chi^2=0.763062723$, $p>0.05$; OR=1.15; P-sample: $\chi^2=0.809314064$, $p>0.05$; OR=0.861702128).

Focusing thinking on the measures to be taken to face the negative event, refocus on planning, represented on of the items with a possible causal influence in the patients from M-sample ($\chi^2=0.646489726$, $p>0.05$; OR=1.225352113), while for P-sample these values didn’t show close correlations between factors ($\chi^2=0.211421185$, $p>0.05$; OR=0.501792115).

A different situation, probably also as effect of psychotherapy in P-sample, was evident in the case of assigning positive significance to the traumatic event, this strategy determining the modification in the severity level of the symptomatology (M-sample: $\chi^2=0.884516699$, $p>0.05$; OR=1.064788732; P-sample: $\chi^2=0.693248304$, $p>0.05$; OR=1.304659498), to an extent approximately similar for putting into perspective (M-sample: $\chi^2=0.912813035$, $p>0.05$; OR=0.955882353; P-sample: $\chi^2=0.743651879$, $p>0.05$; OR=1.220930233).

If the strategy based on ruminative thoughts regarding negative events showed low degrees of association with improvement of symptoms, also for catastrophizing we obtained similar association degrees (M-sample: $\chi^2=0.324384128$, $p>0.05$; OR=0.676470588; P-sample: $\chi^2=0.623634056$, $p>0.05$; OR=0.763052209).

For the subjects in both study samples that used culpability of others we identified a potential causal link between this coping mechanism, the evolution of depression and the response to therapeutic intervention, even though from statistical point of view the correlation level is not a significant one (M-sample: $\chi^2=0.864826769$, $p>0.05$; OR=1.1; P-sample: $\chi^2=0.957392285$, $p>0.05$; OR=1.033333333) (Table 4).

### Table 4. Correlations between severity of depression and coping strategies.

<table>
<thead>
<tr>
<th>Study sample</th>
<th>HAM-D scores-final evaluation</th>
<th>CERQ Self-culpability</th>
<th>CERQ Acceptance</th>
<th>CERQ Ruminiation</th>
<th>CERQ Positive refocus</th>
<th>CERQ Refocus on planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-Sample</td>
<td>HAMD&lt;14</td>
<td>26 (26.53%)</td>
<td>72 (73.47%)</td>
<td>61 (62.24%)</td>
<td>23 (23.47%)</td>
<td>27 (23.55%)</td>
</tr>
<tr>
<td></td>
<td>HAMD 14-17</td>
<td>15 (39.47%)</td>
<td>23 (60.53%)</td>
<td>19 (50.00%)</td>
<td>8 (21.05%)</td>
<td>9 (23.68%)</td>
</tr>
<tr>
<td>P-Sample</td>
<td>HAMD&lt;14</td>
<td>39 (32.23%)</td>
<td>82 (67.77%)</td>
<td>50 (41.32%)</td>
<td>27 (22.31%)</td>
<td>28 (23.14%)</td>
</tr>
<tr>
<td></td>
<td>HAMD 14-17</td>
<td>7 (43.75%)</td>
<td>9 (56.25%)</td>
<td>7 (43.75%)</td>
<td>4 (25.00%)</td>
<td>6 (37.50%)</td>
</tr>
</tbody>
</table>

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OR=0.800344234; P-sample: $\chi^2=0.574187312$, $p>0.05$; OR=1.555555556.
Discussions

Similar to any disease, somatic of mental health, the depressive disorder requires from the affected individual to develop adjustment abilities that will help him regain initial balance [34].

Frequently the psychiatric diagnosis intervenes suddenly, or at most following a process of denying the illness evidence, involving beyond specific symptomatology also a psychological overstraining, especially in the specter of emotions and value judgements, leading to an association of the disease with exhaustion of individual resources.

For that purpose, the affected person tends to develop strategy to help in the management of the disease and the amplified emotional stress, coping mechanisms that are correlated with the individual’s psychological traits and the extremely personal way of perceiving the disease condition [35,36].

In the case of the samples studied in the current research, we identified initially the frequency of using the nine cognitive coping strategies (self-culpability, acceptance, rumination, positive refocus, refocus on planning, positive re-evaluation, putting into perspective, catastrophizing, respectively culpability of others) with the cognitive emotional regulation questionnaire (CERQ), in order to put these into relation with the severity of symptomatology, quality of global functionality and cognition level.

Also we started based on the premise that identification of these adaptative or maladaptive cognitive strategies represents the foundation for the typology of the psychotherapeutic intervention, as well as the domains were it will act primarily for solving the psychologic conflict generating the onset of the depressive disorder.

Analyzing the level of correlations and association probabilities, we could underline the mechanisms to be targeted in the cognitive behavioral psychotherapy.

Based on this statistically confirmed evidence we can establish the categories of coping mechanism that should represent the main objectives of a cognitive behavioral psychotherapeutic approach of the depressive disorder, taking also into account the personality profile of the affected individual.

Furthermore, besides the need for positive modification of such cognitive models, it is also necessary to aim the rehabilitation of social relation function [37] and relearn the methods to solve problems and inner conflicts identified as triggers for the emotional processes leading to the onset of depression [38].

The cognitive behavioral intervention can thus be considered an efficient therapeutic means, easy to customize for each patient, especially when there is an initial psychological profile of the beneficiary, as well as identifying the adaptative strategies used by the individual.

These arguments are underlined also by the results from other researches that also highlighted the role of cognitive behavioral therapies both as unique therapeutic approach in the case of light forms of unipolar depression [39-42] or as complement to the medication therapy in the case of patients with severe or chronic depressive disorder, in a manner similar to the subjects in P-sample from our research [43,44].
Emphasizing with the supplied evidence the positive effects of cognitive behavioral therapy in the therapeutic management of depression, as amplifier of pharmaco-therapy, we must also consider the limitations this method has, firstly regarding the profile of recommendations and side-effects, based on previous studies that evaluated both the efficacy and the possible side effects determined mostly by the incompatibility of the subject with this method.

Therefore, according to international therapeutic guides, the cognitive behavioral therapy must be integrated in the therapeutic management process, thus requiring a multidisciplinary approach based on communication and mutual information between patient, attending physician (psychiatrist or general practitioner) and psychotherapist [45].

Conclusions

In the context where most frequent cognitive coping strategies of depressive patients included in the study were rumination, catastrophizing, self-culpabilities, respectively putting in perspective, the study also showed that acceptance of the current situation, positive refocus and positive re-evaluation represent protective factors for the psycho-social rehabilitation that represent the support for the combined therapeutic intervention.

Consequently, we can advocate that identification of the dominant cognitive mechanisms become a necessity prior to the start of the therapeutic management process of the major depression, thus underlining the efficiency of the cognitive behavioral therapy as complement of pharmaco-therapy.

Conflict of interests

None to declare.

References