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DOCTORAL THESIS

Summary

TREATMENT OF DEPRESSIVE DISORDER BY INVESTIGATING AND NORMALISING THE RUMINATIVE THEMES

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SUMMARY:

Introduction

Depression is listed in the black international statistics of fatalities, together with cardiovascular and oncologic diseases, due to its major complication, the suicide. At the same time, depression generates important social and economic costs.

Throughout the world, there are numerous public health imperatives targeting depression, with accent on prevention, treatment, and social inclusion. Regaining the wellbeing and functionality of people, reducing the number of avoidable deaths is transposed in international, national programmes, and in integrated clinical, psychiatric, neurological, of clinical psychology and psychotherapy practice guides.

Modern psychotherapy targets both the depressive emotional and cognitive state, as well as the social relationship status (the support network).

Interventions on rumination as central mechanism of depression are newer and less used. That's the reason why this Doctoral Thesis named "*Treatment of depressive disorder by investigating and normalising the ruminative themes*" suggests such an intervention, starting from the problems identified in my own psychotherapeutic practice with regard to the approach of depressive disorder with high ruminative levels.

The thesis brings consistent research proofs for the purpose of decreasing depressive symptoms, associated with decreasing rumination, normalising its ruminative themes, developing some appropriate strategies of cognitive emotional coping, and it forwards a supple protocol of intervention to Romanian professionals, with exhaustive clinical assessment and rigorous psychometric assessment of the effects of psychotherapy.

The first part of the thesis, *"Rumination – depression predictor and regulator"*, is structured in two chapters, namely *"Explanatory and interpretative models of depression"* and *"Bidirectional relationship between rumination and depression"*.

The second part of the thesis, *"Investigation and normalisation of the ruminative themes"*, includes other two chapters: *"Evidence-based research in ruminative depression"* and *"To a psychotherapy based on research proofs on the issue of rumination"*.

The first part of the thesis examines the particularities of rumination as central mechanisms in depressive disorder, based on conceptual, classic, and modern frameworks in the field, and on the research proofs provided by the international studies with impact. Eight explanatory and interpretative models of ruminations are described (as a reaction to

stress and post-event, as a disruptor of executive functions, as maladaptive self-focus, as a stress amplifier, as special type of emotional and cognitive adjustment, as mental habit, and as failure in achieving the objective). At the same time, the relationship between rumination and depression is exhaustively explored. The following are observed: the triggers and stimuli of rumination, differentiating rumination from negative thinking, rumination and depression versus shame and social rank, and the perspective of neurosciences on rumination. In the light of the great theories, and based on research proofs, rumination is outlined as a central mechanism of adjustment during depression, and, at the same time, as a transdiagnostic factor of many psychiatric comorbidities (anxiety, psychosis, addiction, some personality disorders, and so on).

The second part contains three studies:

► First study, *"Adapting the Ruminative Response Scale RRS-22 to Romanian population – individual differences in ruminative responses"* has helped detect the particularities of ruminative-depressive responses of some sublots made up based on criteria of age, gender, marital status, and it has been proven to be a useful tool in assessing the participants to the pilot programme. RRS-22 with high use in international studies was tested on 407 subjects, and it has proved good psychometric characteristics, and a high internal consistency.

► Second study, *"A pilot programme of psychotherapeutic intervention for the reduction of depression by normalising the ruminative themes"*, where the efficiency of proposed psychotherapeutic intervention was tested in the cases of three clients. The common denominator of the cases was the negative psychological impact of these issues in overall functioning – the depressive disposition affected the useful individual efficiency and interpersonal relationships. On average, 15 sessions of 60 minutes each of psychological intervention were conducted with each participant, using a predominantly cognitive approach with psychotherapeutic action focused on rumination. The participants made significant progress and had good compliance with the psychotherapy. These cases were presented in extenso, namely, case 1: Particularities of rumination in depressive anxious disorder induced by alcohol, case 2: Rumination and burnout, and case 3: Ruminative phenomena and depression with hypochondriac ideation. The reassessment of participants in the pilot programme has highlighted significant decrease of depression symptoms, accompanied by considerable decrease of rumination and of maladaptive coping strategies, following the psychotherapeutic action targeting rumination.

► Third study, "*Investigating the factors influencing the normalisation of the ruminative themes",* expanded the client group subjected to psychological intervention to 33. It has succeeded in identifying those cognitive variables and the variables of emotional-cognitive coping variables involved in the depressive disorder, on which psychotherapeutic action can be taken. The total psychotherapy program amounted to 500 hours.

The mentioned studies have applicability in clinical psychology and psychotherapy. They provide a practical approach based on: an initial psychodiagnostic with strong, validated tests; an effective psychotherapeutic protocol in reducing depression, rumination, and maladaptive coping strategies; and a final evaluation, highlighting the evolution of the variables of interest.

FIRST PART. RUMINATION – DEPRESSION PREDICTOR AND REGULATOR

CHAPTER 1. EXPLANATORY AND INTERPRETATIVE MODELS OF RUMINATION

"Response Styles Theory" (Nolen-Hoeksema and Morrow, 1991) remains the most important reference for the substantiation of the rumination concept. According to this, rumination, or repetitive thinking about the causes, consequences, and symptoms of one's own negative affects is a major cognitive vulnerability that triggers, entails, and predicts depression/the frequency of depressive episodes (Smith and Alloy, 2009).

By systemic review of theoretical contributions and of studies on rumination, eight explanatory models about this counterproductive way of thinking were synthesized, namely: rumination as reaction to stress, as post-event reaction, as executive function, as maladaptive self-focus, as obstacle of self-regulation, as emotional and cognitive and emotional adjustment, as mental habit, and as failure in achieving the goal, synthetically summarised below.

► Rumination as reaction to stress

Rumination is often triggered after stressful events, sometimes before negative affects, and it fuels depression (Alloy *et al.*, 2000). It is the central axis of the negative cognitive style, which designates the general tendency of blaming, and negatively inferring on the causes, consequences, and implications of stressful events.

►Post-event rumination

The model of post-event rumination postulates that rumination arises during social interactions, and people with social phobia are prone to developing it. The nucleus of social phobia is the strong will to convey to others a favourable impression on oneself, associated with a prominent insecurity on the personal ability to give that impression (Clark and Wells, 1995). People with social phobia believe that they will behave ineptly in relationships, which will have disastrous consequences for them (rejection). Thus, the symptoms of their anxiety become new sources of perceived peril.

► Rumination as a disruptor of the executive functions

Rumination has been analysed in relation to attention, an important psychic function of self-regulation within the human psychic system. The role of attention as regulator of cognitions has been well fixed in cognitive psychology, and then it has been valued by the practitioners who used the integrative model of information processing in the case of emotional disorders. The theory of Self-Regulatory Executive Function (S-REF), of dysfunctional processing associated with emotional disorders, proposes a cognitive architecture on three levels which interact between one another: a level of processing units automatically and reflexively lead, a level of intentional attention – voluntary processing, and a level of stocked knowledge/beliefs on oneself (Wells and Matthews, 1996).

► Rumination as maladaptive self-focus

Rumination as maladaptive, disadvantageous form of self-focus targets its centring on problems that provoke harm to the individual (Watkins, 2004). Negative self-focus is associated with depression (Ingram, 1990; Pyszczynski and Greenberg, 1987), and the

lengthy duration of self-focus increases the probability, severity, and duration of depression (Spasojevic and Alloy, 2001; Nolen-Hoeksema, 2000; Kuehner and Weber, 1999; Just and Alloy, 1997).

►Rumination as a stress amplifier

Rumination has been described in relation to the stress felt during events which remove the body from homeostasis, as an inefficient strategy to restore this balance. Beckman and Kellman (2004) defined rumination as *obstacle* against the restauration of homeostasis, and even against individual performance. Therefore, rumination promotes persistence in stress (procrastination, susceptibility to intrusion, alienation, passive avoidance, self-discipline), due to the fact that people ruminate on: their failures, unfinalized intentions, unfavourable consequences of future events, obstacles perceived, and so on, without engaging in actions to overcome negative circumstances.

► Rumination as emotional regulation

Rumination has also been approached as a special type of emotional adjustment, important in securing wellbeing, proper mental functioning (Garnefski, Kraaij and Spinhoven, 2001; Cicchetti, Ackerman and Izard, 1995). Some emotional adjustment strategies were more strongly connected with psychopathology than others. Aldao, Nolen-Hoeksema and Schweizer (2010) have evaluated the relationship between six emotional adjustment strategies, and four psychopathology groups. Therefore, maladaptive strategies (rumination, avoidance, suppression) are associated with a higher presence of psychopathology, while adaptive strategies (acceptance, re-evaluation, and problems solving) – with a smaller presence of psychopathology.

►Rumination as mental habit

This model describes rumination as a mental habit, by reproducing in the same context the episodes of repetitive thinking (Watkins and Nolen-Hoeksema, 2014). The habit is created as a result of the process of automatic association between the behavioural response (repetitive thinking) and any context associated with that behaviour (a place, a certain affect) where this is repeated.

►Rumination as failure to achieve the goal

This model deems rumination to be an answer to the failure of satisfyingly progress towards the goal. It arises from the premise that most thoughts are goal oriented. Rumination would represent a manifestation of the tendency of people to persist in goal-oriented actions, until they reach their objectives, or until they give up on them (Smith and Alloy, 2008; Martin and Tesser, 1996).

1.1. Bidirectional relationship rumination-depression

The bidirectional relationship between rumination and depression has already been proven. Rumination, which may fuel or exacerbate depression, is a good predictor of the severity of this disorder and of the installation of new depressive episodes, like an indicator of the duration of depressive episodes (Nolen-Hoeksema, Morrow and Fredrickson, 1993). In a broad sense, rumination may be understood as cognitive process which concerns the way in which one is thinking. However, rumination defines a repetitive and obsessive way of thinking, rather than the specific contents of thinking, while negative automatic thoughts may depict only parts of the conceptual contents which appear recursively (Ciesla and Roberts, 2002).

► Rumination versus negative thinking

Rumination is mostly characterised by a style of thinking (repetitive, obsessive), based on cognitive processualism, rather than by the specific content of certain thoughts. This distinction between *process* and *content* is useful to understand the relation between rumination and negative cognitions. Ciesla and Roberts (2002) have shown that, while rumination may be assimilated to a special type of cognitive process, negative cognitions would address the content of thoughts, that is the way in which one thinks. Researchers have tried to clarify the relationship between rumination and these automatic negative thoughts. According to Nolen-Hoeksema (2004), rumination is different from automatic negative thoughts, although it sometimes takes over some topics specific to these.

►Rumination and depression versus shame and social rank

The association between rumination and depression has also been analysed in relation to shame and social rank. The connection between rumination and depression had already been ruled. There were, on the one hand, research proofs according to which depression associated, on the one hand, with the feeling of shame, and on the other hand, with the low social rank.

► Rumination as transdiagnostic factor of psychiatric comorbidities

There are certain factors common to more psychiatric disorders, partially responsible for the comorbidities between them, and rumination is one of them. Rumination would be, through its negative, repetitive thinking, a transdiagnostic factor relevant to disposition, anxiety, and psychotic disorders (Wolkenstein, Zwick, Hautzinger and Joormann, 2014; Hartley, Harddock, Vasconcelos, Emsley and Barrowclough, 2014; McLaughlin and Nolen-Hoeksema, 2011; Surrence, Miranda, Marroquin and Chan, 2009). Sometimes rumination associates, from the point of view of nosography, with other transdiagnostic factors, such as worry. The involvement of rumination in psychiatry, as transdiagnostic factor, was also studied in relation to the semiology of attention, emotions, and pathological cognitions.

► Perspective of neurosciences on rumination

Research in the field of neurosciences explained, in their turn, the relationship between rumination and depression. The meta-analysis conducted by Hamilton, Farmer, Fogelman and Gotlib (2015) has highlighted increased functional connexions between *the default mode network* and *the subgenual prefrontal cortex*, which anticipated important levels of depressive rumination. Zhu *et al.* (2012) have also found that the predictor of high ruminative responses with major depression was the strong connection between the subgenual prefrontal cortex and the default mode network.

SECOND PART
INVESTIGATION AND NORMALISATION OF THE RUMINATIVE THEMES

CHAPTER 3. EVIDENCE-BASED RESEARCH IN RUMINATIVE DEPRESSION

New research proofs are provided in the second part of the thesis with regard to depression with ruminative themes, as three objective studies, hypothesis, and own participants.

FIRST STUDY. ADAPTING THE RUMINATIVE RESPONSE SCALE RRS-22 TO ROMANIAN POPULATION – INDIVIDUAL DIFFERENCES IN RUMINATIVE RESPONSES

Objectives

The objectives of the second study within the Doctoral Thesis were: developing the version in Romanian of the Ruminative Response Scale RRS-22, thus initiating its validation approach and the exploration of gender, marital status, and age differences in the ruminative-depressive responses, with the help of this instrument.

Materials, methods, and participants

The translation of the RRS-22 Ruminative Response Scale was performed with two English translators. The Romanian to English retroversion was performed and there were no meaning differences compared to the original variant in English. Afterwards, the scale was applied on N = 407 participants, who were divided in sublots based on gender, age, and marital status, for the purpose of exploring the particularities of ruminative responses

of a diverse population sample, and the review of individual differences in the answers, to be reported to the findings of the international studies carried out with the help of RRS-22.

Results

The Romanian version of RRS-22 has proved to have good psychometric properties. The scales associated with the three latent factors, Depression, Reflection and Brooding, showed satisfactory internal consistency, with both alpha and omega indices above 0.7. Convergent validity, discriminant validity, and factorial model invariance were supported by the data set.

The differences between men and women have proved significant ($p<0.05$), both for total rumination scores, and for the *Reflection* and *Brooding* factors.

In the approach of examining the difference between the sublots made up based on marital status, it was assumed that the absence of a relationship is susceptible to increase rumination. Therefore, the level of the rumination of participants in a relationship was compared with that of the single participants. The differences between the two sublots were proved to be significant ($p<0.05$), both for total rumination scores, and for the *Depression* and *Reflection* factors.

The examination of the sublots made up on age criteria (under 35, and respectively over 35) revealed, in its turn, significant differences ($p<0.05$), both for total rumination scores, and for the *Depression, Reflection,* and *Brooding* factors. Study participants aged up to 35 ruminate more.

Comparing people from the Romanian group in a relationship with single people or people who are not in a relationship, significant differences were found in favour of the latter, in terms of total rumination scores and scores of *Depression* and *Reflection* factors.

SECOND STUDY. A PILOT PROGRAMME OF PSYCHOTHERAPEUTIC INTERVENTION FOR THE REDUCTION OF DEPRESSION BY NORMALISING THE RUMINATIVE THEMES

The main goal of the pilot programme was that of *reducing the depression scores by normalising the ruminative themes*, for three clients who consulted a psychologist, due to

the negative psychological impact of depression on their general functioning (affecting the individual useful efficiency and interpersonal relationship).

Participants

Three clients who accessed psychological services were enrolled in the pilot program and gave their written informed consent for participation, after the purpose and therapeutic objectives of the program were presented to them. The inclusion criterion was the presence of a clinical depression score.

Materials, methods and conclusions

The pilot programme included three sections: one of *initial assessment*, one of *psychotherapeutic intervention* based on the therapeutic protocol for the treatment of depression by investigating and normalising the ruminative themes, and *a post-intervention assessment.*

In the *initial assessment* section, each participant was applied three questionnaires for the psychological assessment of depression, rumination, and cognitive and emotional coping style, namely: *the Beck Depression Inventory* – second edition (BDI-II), developed by Aaron T. Beck, Robert A. Steer and Gregory K. Brown (1996), adapted in Romania by Daniel David and Anca Dobrean; *the Ruminative Response Scale (RRS)* with 22 items, created by Nolen-Hoeksema and Morrow (1991), adapted on Romanian population; *the Cognitive Emotion Regulation Questionnaire (CERQ)*, developed by Garnefsky, Kraaij and Spinhoven (2002), adapted on the population in Romania by Perța *et al.*

In the section dedicated to *psychotherapeutic intervention* the approach of more levels of ruminative thinking, with role in maintaining depression, was considered. Clarifying the aspects on rumination frequency and duration, the moment/place of rumination sequences, allowed the performance of adjustments in the behaviour of clients. Acknowledging emotions associated with rumination sequences also proved useful to manage rumination. Investigating the content of ruminative thoughts and their normalisation represented the most important stage of the intervention protocol. The most frequent themes found in rumination were: negative emotional states, circumstances associated with emotions, discrepancies between the current and the wished status, relevant information on oneself, negative themes of uncontrollability and hurt.

Finalising psychotherapy occurred when: the clients observed; that they had obtained a stable autonomy with regard to the symptoms invalidating them; that distress had decreased considerably (in terms of intensity and frequency); that they had acquired self-regulation methods which would help them face, in the future, the difficult circumstances they would encounter; the therapeutic objectives were, to a large extent, achieved.

In the section of *post-intervention assessment*, each participant was re-applied the three questionnaires for the psychological assessment of depression, rumination and cognitive emotional coping styles. The cases had significant progress, a good compliance to psychotherapy, and they were representative with regard to the ruminative level/themes involved in depression: Case 1. Rumination particularities during the depressive-anxiety disorder induced by alcohol; Case 2. Rumination and burnout; and Case 3. Ruminative phenomena during depression with hypochondriac ideation.

Testing the interventions in individual psychotherapeutic frameworks was a useful and necessary stage, methodologically speaking. However, it was not sufficient to prove their efficiency. To ensure the validity of the results, and to establish causal connections between interventions and results, a complementary quantitative research was carried out on the evolutive group of clients.

THIRD STUDY. INVESTIGATION OF FACTORS INFLUENCING THE NORMALISATION OF THE RUMINATIVE THEMES

Objectives and hypothesis

The objective of the third study within the Doctoral Thesis was to investigate the factors that influence the reduction of depression scores and the normalisation of ruminative themes, in the case of the 33 participants in the pilot programme of psychotherapy, examined as an evolutionary group.

The following hypotheses were proposed, corresponding to the objective of the research:

1. The level of depression of clients decreases, by applying the depression treatment protocol by investigating and normalising the ruminative themes.
2. The level of rumination of clients decreases, by applying the depression treatment protocol by investigating and normalising the ruminative themes.

3. Lowering the level of rumination leads to a decrease in the level of depression.
4. Clients' maladaptive cognitive emotional coping styles improve by applying the depression treatment protocol by investigating and normalising the ruminative themes.

Participants

The 33 clients who requested psychological psychotherapy services participated in the study. The research on human subjects had the approval of the Ethics Commission of the "Constantin Rădulescu-Motru" Institute of Philosophy and Psychology.

Materials and methods

The study was conducted between 2018 and 2022. In the *initial assessment* section, participants were given the three licensed questionnaires for the psychological assessment of depression, rumination, and cognitive-emotional coping styles, as described above.

Results that quantified therapeutic progress were examined on several levels of depth, before and after therapy – mean scores, dispersions, proportions, significance of differences between mean scores, etc. This was followed by the analysis of associations between variables and the detection of dynamic factors of group rumination, etc. The hypotheses of the research were tested, and the obtained results were compared to those of some other research studies with similar topics and tools.

Results

For the group of 33 study participants, the results obtained following hypothesis testing showed, in all three tests administered, statistically significant differences between scores obtained after applying the therapeutic protocol and scores at the time of initiation of psychotherapy. The level of depression, measured with the BDI-II test, was significantly reduced ($p<0.01$), both individually and in the whole group, after applying the protocol, from an average score of 25.72 at the start of psychotherapy to an average score of 9.21 at the end of it.

Rumination level, measured with the RRS-22 Scale, was significantly reduced ($p<0.01$), both individually and in the whole group, after applying the psychotherapeutic protocol, from an average score of 55.18 at the beginning of therapy, to an average score of

38.48 at the end of it. Similarly, scores for the *Depression*, *Reflection*, and *Brooding* factors were significantly reduced.

In the case of rumination, the effect size of psychotherapy (Cohen's D) was 1.45.

At the same time, reassessment after the application of psychotherapeutic protocol revealed significant changes in cognitive-emotional coping strategies, measured with the CERQ test. A significant statistical decrease was found in the use of maladaptive cognitive-emotional coping strategies.

The effect size of therapy (Cohen's D) for the *Self-blame* and *Catastrophizing* scales was 0.85 (high) and respectively 0.68 (moderate), indicating good effectiveness of the psychotherapeutic protocol in reducing the use of the two maladaptive cognitive-emotional coping strategies.

After psychotherapy, the correlativity of variables intensified and the total rumination score of the RRS-22 scale, all three factors of the same scale, namely *Depression*, *Reflection* and *Brooding*, as well as *Self-Blame* and *Catastrophizing*, two coping strategies of CERQ, were noted again as reactivity.

Factorial solutions and regression analyses

The results of factorial analysis, before and after psychotherapy, show more common than differentiating aspects in structuring factors.

The regression analyses have shown that decreased rumination is a factor that partially explains the decrease of depression. In the first stage, a simple regression was performed, using the decrease in rumination (test/retest difference) as an independent variable and the decrease of depression level (test/retest difference) as a dependent variable. It was found that there is a significant correlation between decreased rumination, as measured with the RRS-22 scale, and decrease of depression, as measured with BDI-II. The model was statistically significant ($p<0.001$) and explained about 40.6% of the variance in depression. At the same time, it has been found that altering rumination levels can predict changes in depression levels to a significant degree. On average, a one-unit decrease in rumination was associated with a 0.422-unit decrease in depression, with the coefficient being statistically significant ($p<0.001$).

Furthermore, a multiple regression was performed, using rumination factors (test/retest difference) as independent variables, and the decrease of depression levels (test/retest difference), as dependent variable.

The general model of was found to be statistically significant ($p<0.001$) and to have moderate predictive power, explaining about 40.9% of depression. The results also showed that, of the three factors on the RRS scale, only the *Depression* factor is a significant predictor ($p<0.001$) of differences in depression levels (measured with the BDI-II test), indicating that changes in RRS *Depression* factor scores are associated with significant changes in BDI-II scores. On average, a one-unit decrease in the *Depression* factor scores was associated with a 0.470-unit decrease in BDI-II depression, with the coefficient being statistically significant ($p<0.05$).

The *Reflection* and *Brooding* factors did not contribute significantly to the model, indicating that the changes in these areas do not significantly associate with changes in depression scores (BDI-II).

To deepen the factors leading to decreased depression, a multiple regression was performed, including in the model *Rumination* (RRS-22), *Self-blame* (CERQ) and *Catastrophizing* – CERQ (test/retest difference) as independent variables, and the decrease in depression levels measured with BDI-II (test/retest difference) as dependent variable.

The general model was found to be statistically significant ($p<0.001$) and to explain about 49.0% of depression. The results also showed that of the three independent variables considered, only *Rumination* (measured with RRS-22) was a significant predictor ($p<0.05$) for the differences in depression levels (measured with the BDI-II test), therefore indicating that changes in rumination scores are associated with significant changes in depression scores.

On average, a one-unit decrease in rumination scores was associated with a 0.286-unit decrease in depression, with the coefficient being statistically significant ($p<0.05$). *Self-blame* and *Catastrophizing* do not contribute significantly to the model – changes in these factors are not significantly associated with changes in depression scores (BDI-II).

Nevertheless, the overall model was significant, indicating the possibility of a conjugated effect of *Rumination*, along with *Self-blame* and *Catastrophizing*, in predicting changes in depression levels.

Discussions

Levels of depression and rumination decreased in the entire group of 33 clients participating in the psychotherapy program. In the entire group, there were no other cases with a severe depression score post-therapy, although there were ten cases prior to therapy.

All these progresses were reflected by the effect size of psychotherapy (Cohen's D) of 2.11, which indicated a high effectiveness of psychotherapy in reducing depression.

The regression analyses also found a significant decrease in post-therapy depression scores, indicating psychotherapy's effectiveness in reducing the depressive symptoms described by BDI-II.

The positive impact of psychotherapy was also quantified by individual feedback from participants, who reported: obvious improvements in their wellbeing and regaining the pleasure to live, disappearance of persistent sadness, pessimism, thoughts of worthlessness and failure, thoughts of self-blame, psychomotor agitation, eating and sleep problems, increasing the decision-making capacity and daily functioning, the reduction, or even the disappearance of fatigue.

Positive results of psychotherapy, quantified by BDI-II test-retest scores, have also been reported by other researchers, which proves that this instrument is reactive and very sensitive to variations in depressive symptoms.

Asamsama, Dickstei, and Chard (2015) examined the efficacy of treating severe depression through cognitive-behavioral psychotherapy in 757 highly traumatized war veterans using BDI-II as initial assessment and post-therapy. They found clinically significant reduction in PTSD symptoms associated with severe depression and proposed treatment guidelines that include such assessments of psychotherapy's effectiveness.

Bados, García-Grau, Montesano and Feixas (2013) recommended BDI-II as a primary outcome measure, collected at baseline (start of psychotherapy), at the end of psychotherapy, as well as at 3 and 12 months of follow-up, to see which cases evolve in a positive way following psychotherapy or record only partial remission, relapse, and recurrence.

► With the group of 33 clients, psychotherapeutic progress was also found in the reduction of rumination and the decrease/normalisation of ruminative themes, reflected in the average test-retest scores.

If before psychotherapy clients were highly ruminative, after psychotherapy total rumination scores decreased per group by 16.7, which represents a reduction rate of 9%.

For rumination, the effect size of psychotherapy (Cohen's D) was 1.45, which indicated its high efficiency in reducing rumination.

The positive effect of applying the psychotherapeutic protocol to reduce depression, by normalising rumination, was found in almost all ruminative themes of the group. Thus, the

frequency of thoughts related to one's own inefficiencies and helplessness, the state of weariness (expressed by passivity and lack of motivation), personal and professional failure, painful psychic anaesthesia, self-blame, and the solution of withdrawal into solitude decreased.

►Regarding the rumination-depression relationship, the reduction of rumination partially but statistically significantly explained the decrease of depression within the group of participants. In all three regression models analysed, rumination, measured with the RRS-22 Scale, emerged as a consistent and robust predictor of changes in depression scores (BDI-II), indicating its central role in recovery.

However, with the regression analysis the decrease in rumination explained only about 40.6% of the decrease of depression, which indicated the existence of other conjugated factors, with impact on the course of depression. An illustrative example of a fulminant favourable evolution of depression and rumination scores is that of a client who received an inheritance while enrolled in the psychotherapeutic program to reduce depression by normalising rumination themes.

►On the CERQ scales, applied test-retest, statistically significant differences were found in *Rumination*, *Self-blame*, *Refocus on Planning*, *Positive Reassessment* and *Catastrophizing*.

► Analysis of associations of variables, before and after psychotherapy, revealed an intensification of correlativity, both intradimensional (variables of the same instrument, which generally measured a dimension) and interdimensional (distinct variables of different instruments). Some variables, particularly RRS-22 scale factors, but also dysfunctional coping strategies in CERQ, namely *Self-blame* and *Catastrophizing*, became very active post-therapy, establishing more correlations with each other and with the other variables included in the study. Although associations do not imply causality, but only measure the relationship of variables, it could be said that psychotherapy activates differentially some factors related to rumination, depression, and coping strategies, increasing the number of associations in the depression board with ruminative component.

► In a tertiary survey of the results of any research, it is the factorial analysis that allows knowing the most striking characteristics of the studied population, depending on

the variables of the psychometric instruments used. However, although psychotherapy produced consistent decreases in scores of critical factors, it failed to change the essence and identity of ruminative depression factors.

There were, of course, measurable optimizations of depressive symptoms, decreases in the intensity of ruminative themes and even normalisation of these themes, as well as the dynamization of the set of adaptive, resilient strategies but the three factors extracted by factorial analysis had the same identities before and after psychotherapy.

There were: *a factor of depression with ruminative content*, strongly saturated in depression and rumination variables, clearly outlined and with the highest variance, *a strategic factor of depressive resilience*, based on refocus and planning strategies, and *an adaptive factor of favourable prognosis*, based on the strategy of putting into perspective (expressing individual activism) and inversely related to attribution tendencies of causes of depression.

It was expected that group factorial structures, characterized by prognosis and relative stability over time, would not be as reactive after a psychotherapeutic process of several months, as it happened with scores and associations between variables. A retest after another few months would likely reveal substantial changes in the factorial board, but the longitudinal tracking of the lot is difficult.

►The concept of ruminative continuum

The magnitude of the reduction in rumination scores, compared to that of the decrease in depression scores, suggested the existence of a ruminative continuum, more precisely a rumination that remains beyond depression. From this perspective, rumination can be regarded as a residual symptom with depression and, at the same time, as an element of unfavourable clinical prognosis, because it has a high resistance to change.

Thus, although the psychotherapeutic programme produced significant score optimizations, with clients extracted from severe depression and the area of clinical intensity of rumination, there is a much more consistent reduction of depression scores compared to rumination scores. If the depression score (BDI-II) decreased by 63.56% in the analysed group, the total rumination score (RRS-22) decreased only by 30.27%. Also, the *Rumination* score, as a dysfunctional coping strategy (CERQ), was only reduced by 19.43%. Therefore, rumination not only persisted but was active, used in the person's

behaviour as a disadvantageous coping strategy even with a substantial reduction in depressive symptoms.

Therefore, rumination has emerged as a diagnostic factor more resistant to change than the actual depression with which it is associated and which influences, this suggesting obvious applicative openings for practitioners.

Research limitations

One limitation of research is the relatively short duration of therapy. Retesting the group of 33 subjects showed that the tools used, although very sensitive to changes occurred in the emotional and cognitive side of personality, could not fully quantify the benefits of therapeutic progress.

Another limitation of the research concerns the difficulty of designing a methodological montage that captures other factors whose contribution could lead to explaining the reduction of depression.

Conclusions

The results obtained for all analysed variables have confirmed the hypotheses made at the beginning of the study. It has been shown that the levels of depression and rumination decrease by applying the depression treatment protocol, by investigating and normalising the ruminative themes, and that lowering the level of rumination leads to a decrease in the level of depression. On the other hand, clients' maladaptive cognitive emotional coping styles have been shown to improve after psychotherapy.

CHAPTER 4. TOWARDS PSYCHOTHERAPY BASED ON RESEARCH PROOFS ON THE ISSUE OF RUMINATION

Research has an important applicability in clinical psychology and psychotherapy, as it provides research evidence of highly ruminative depression and benchmarks for practical approach to these clients, which is based on: *an initial psychodiagnosis* with strong, validated evidence; *a successful psychotherapeutic protocol*, which ensures the reduction of depression and rumination and on *a rigorous final evaluation*, highlighting temporal variations in the parameters of interest.

Overall, the research was intended to be a provider of evidence for psychotherapy, so that this evidence would serve to professionalize interventions in cases of depressed patients with high rumination.

Starting from the proposed model, psychotherapists can develop their own intervention programs in depressive disorder, based on research evidence and good practice. In the case of this study, an intervention method with its own therapeutic protocol was developed to treat depression by investigating and normalising the ruminative themes. It was an eclectic and versatile method, which retrieved techniques from the most effective psychotherapies for depressive disorder associated with rumination, internationally proven, namely: cognitive-behavioural therapy for depression focused on rumination, rational-emotive and behavioural therapy, metacognitive therapy, short therapy focused on solutions, and coherence therapy.

Psychotherapy based on research evidence applied by Romanian professionals, is only at the beginning, although there is enough specialized literature, psychodiagnostics tools licensed on the Romanian population and international best practice guides that could serve to increase the success of interventions.

In modern approaches, psychotherapeutic interventions are chosen or designed based on how effective they have been proved to be in treating specific mental health problems. Scientifically proven efficiency practically guides the approach to various disorders.

Psychometric evaluation of clients, before and after therapy, is essential to be included in good practice psychotherapeutic procedures. For this end, it is necessary to insist, even during training, on the solid knowledge of clinical psychology that psychotherapists must have and on their continuous education, in the form of refresher scientific courses.

Only by establishing a rigorous method of working, based on research evidence, will it be possible to practice in Romania psychotherapy targeted on disorders that negatively affect the wellbeing of individuals and their economic and social functioning.

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