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Peculiarities of Emotional Regulation with MVP Patients: A Study of the Effects of Rational-Emotive Therapy

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Abstract

The present study examines the characteristics of the emotional experiences of patients with mitral valve prolapse (MVP) and indicates ways to develop emotional regulation and to reduce clinical implications in MVP patients through the use of rational-emotive psychotherapy. We examined 290 MVP patients and 73 healthy subjects. The data show that MVP patients are distinguished from healthy subjects by increased hypersensibility in emotive situations and by anxiety, low recognition of one’s needs and emotions, and a decline in the ability to regulate emotions. The psychotherapy produced good results: a sound tendency toward the development of personality reflection; improved structuring and recognition of emotional experience; and a reduction in the physical aspects of MVP.

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1. Problem statement and motivation

Mitral valve prolapse (MVP) is a common cardiac pathology. (According to published data, MVP occurs in 30.8\% to 42\% of the population) \cite{1, 2}. Researchers note a considerable dissonance between the numerous subjective complaints of patients and the dramatic scarcity of data from objective medical studies \cite{1, 3, 4}; they also note a high incidence of anxiety disorders among MVP patients. There are some cases of a reduction in the intensity of clinical symptoms after courses of psychotherapy and antidepressant or anxiolytic treatment \cite{2, 4, 5}; there is even some evidence of the complete fadeaway of echocardiographic MVP indications in patients suffering from panic disorders \cite{3}. But the research literature provides conflicting information on the psychological features of MVP patients.

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The aim of the research was to study the characteristics of the emotional experience of MVP patients in comparison with the characteristics of healthy subjects and to indicate ways both to develop personality reflection and the ability to regulate emotions and to reduce clinical implications for MVP patients (through the use of rational-emotive psychotherapy).

The research involved using a methodological complex comprising various methods of psychological and medical diagnostics, statistical data processing, and rational-emotive psychotherapy. Statistical processing of the data was conducted by various methods: calculation of mean values and the average error mean; calculation of the certainty of distinctions between samples (Student t-criterion); exposition of correlations among investigated features in groups of participants (Spearman r-criterion); and the distribution-free Wilcoxon criterion for the analysis of small samples. The psychological study had three consecutive stages, each providing for the performance of independent tasks.

2. Study 1

The first stage fulfilled the task of elaborating the range of psychological phenomena specific for the group of MVP patients.

2.1. Research methods and participants

The present study involved 290 MVP patients aged from 18 to 37 (the average age was 25.6±1.1) and 73 healthy subjects (the average age was 27.5±1.3).

Psychological testing was employed as the basic method of study for this particular stage. We used the Minnesota Multiphasic Personality Inventory (MMPI); and the Sixteen Personality Factor Questionnaire (16 PF).

2.2. Results

The MMPI midrange profile for MVP patients is characterized by certain (p<0.05) differences with a standardization (control) group for F and K scale values and by highly certain (p<0.001) differences with healthy participants for the 1, 2, 3, 6, 7, 8, and 0 scales. Analysis of Cattell test results displayed a divergence between MVP patients and healthy subjects on a number of items. We obtained lower (p<0.05) values for the A, C, E, F, and H factors and higher (p<0.05) values for the O, Q2, and Q4 scales.

The whole data set collected for this stage demonstrated that most MVP patients have a complex of emotional personality features that distinguish them from healthy participants; these features include increased anxiety, emotional lability, self-distrust, a propensity toward self-deprecation, increased sensitivity to one’s failures, and a tendency to lose control over emotions. MVP patients are cautious when analyzing events and pessimistic in their views of reality; they may tend to complicate trivial matters. This set of characteristic features and their peculiar combination testify to an enduring state of emotional tension.

3. Study 2

The second stage was aimed at studying the qualitative characteristics of the emotional experience of MVP patients when they feel frustrated as compared with the characteristics of healthy participants.

3.1. Research methods and participants

The study of emotional experiences employed our modified version of Rosenzweig’s method for studying reactions to frustration; this version includes studying the subjective semantics of emotional experience [6].
Qualitative parameters were evaluated, including the sign, the modality, the depth, the duration, and the stability of emotions; the degree of behavior saturation of emotional expression; and the degree of divergence between verbalized and non-verbalized emotional reactions. We tested 134 patients aged 18 to 35 (the average age was 24.8±1.2) and 73 healthy subjects (the average age was 27.5±1.3).

3.2. Results

MVP patients differ from healthy participants with a greater (p<0.05) number of events that may be regarded as potentially traumatic and with a greater (p<0.05) number of words (descriptors) picked to describe experienced emotions (Table 1).

Table 1. Mean group indices for emotive situations and emotional descriptors, suggested by the participants

<table>
<thead>
<tr>
<th>Index</th>
<th>MVP patients, n=134</th>
<th>Healthy subjects, n = 73</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of chosen situations</td>
<td>7.7±0.41*</td>
<td>5.36±0.5</td>
</tr>
<tr>
<td>Number of descriptors per situation</td>
<td>8.5±1.4*</td>
<td>7.1±1.3</td>
</tr>
</tbody>
</table>

* Differences are certain when compared with the control (standardized) group (p<0.05).

Analysis of the qualitative characteristics of emotional experiences revealed by the participants in emotive situations demonstrated that for all subjects the description of suggested situations involved a predominance (p<0.05) of negative emotions. Nevertheless, a few essential divergences may be noted: in categorial structures of emotional experiences MVP patients revealed “fear,” “rage,” and “contempt” with a higher (p<0.05) frequency; while the category of “anguish” appeared with a lower (p<0.05) frequency.

MVP patients are certain (p<0.05) to more frequently reveal extrapunitive and self-defense reactions (E and ED types of reaction). They dramatized the generic stressful character of the situation, making some external reason for frustration the culprit and directing ill feelings toward somebody or something in the immediate vicinity. Impunity (M-directed reactions) was of no less frequency; patients were prone to describe the situation as being deprived of stress pressures (Table 2). Non-verbalized reactions of the patients (when asked to describe what they would think about in a situation of frustration) revealed even more explicit extra-punitive reactions (E = 60.5%), with a focus on self-defense (ED = 60.8%); these reactions distinguish them from healthy participants (p<0.05). Intropunitive reactions (when a patient admits his/her blame or assumes responsibility for negotiating the situation) appear with no less frequency (I = 31.2) (Table 2). Analysis of the obtained results testifies to the fact that imputation and even unmistakably aggressive reactions to the interlocutor (involving rage and aggressive thoughts) are most common ways dealing with frustration among MVP patients.

Table 2. Frequency analysis of the categorial structure of verbalized and non-verbalized reactions to frustration (%)

<table>
<thead>
<tr>
<th>Index</th>
<th>Verbalized reactions to frustration</th>
<th>Non-verbalized reactions to frustration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MVP, n=134</td>
<td>Healthy subjects, n +73</td>
</tr>
<tr>
<td></td>
<td>Non-verbalized reactions to frustration</td>
<td>Healthy subjects, n+73</td>
</tr>
<tr>
<td></td>
<td>Categories</td>
<td>MVP, n=134</td>
</tr>
<tr>
<td></td>
<td>O-D</td>
<td>20.2</td>
</tr>
<tr>
<td></td>
<td>E-D</td>
<td>55.6*</td>
</tr>
<tr>
<td></td>
<td>N-P</td>
<td>24.2*</td>
</tr>
<tr>
<td></td>
<td>Total number</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>52.9*</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>16.0*</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>31.1*</td>
</tr>
<tr>
<td></td>
<td>Total number</td>
<td>100</td>
</tr>
</tbody>
</table>

* Differences are certain when compared with the control (standardized) group (p<0.05).
A comparative analysis of verbalized and non-verbalized reactions suggested that MVP patients are prone (to a greater extent than healthy subjects) to suppress emotional pains generated by emotive situations. They reveal hardly any self-consistent ambition for problem negotiation.

4. Study 3

The purpose of the third study was to show how to improve and develop personality reflection, regulation of emotions, and “quality of life” indicators, and how to reduce the clinical features of MVP patients (through rational-emotive therapy).

4.1. Research methods and participants

Eighteen of the participants were MVP patients with anxiety and phobic disorders, aged 20 to 35 (the average age was 26.9±1.1). The standardized (control) group comprised 18 MVP patients suffering anxiety and phobic disorders; they were not seeing a therapist and were reexamined within 3 months.

Patients assigned to the main group attended courses about rational-emotive therapy (16 sessions, individual assessments). The topics were the identification and differentiation of emotions and accompanying cognitive processes, an analysis of situations that cause anxiety, and research in the context of one’s life and family.

The program consisted of the following stages: training in emotion recognition; training in mastering emotional states; stimulation of personality reflection; working on traumatic experiences; working on personality problems with the aim of revealing inner resources; and extension of one’s repertory of coping processes.

Psychological and clinical examinations of the patients was made before and after the psychotherapy courses.

Psychological testing embraced the assessment of anxiety indicators (Spilberger Scale); and a “quality of life” indicator was assessed through the Visual Analog Scale (VAS)—the “well-being” dimension—and the Disability Scale (DISS)—the dimensions of “work,” “social life,” and “personal life.” Upon completion of therapy a modified version of the Rosenzweig test of frustration reactions, MMPI, and 16 PF tests were conducted.

The medical part of the study involved a complex of diagnostic procedures aimed at establishing a diagnosis for each patient (all patients had an ultrasonic cardiogram) and at establishing the degree of intensity of clinical symptoms and signs. Blood pressure (BP) was monitored for 24 hours, and 24-hour electro-diagram tracing was also undertaken. An assessment of psychopathological status was conducted using data from a psychiatric examination, in accordance with ICD-10 procedure-coding criteria.

4.2. Results

Analysis of the dynamics in the emotional state of the patients (before and after the therapy) using psychological dimensions revealed a tendency toward the reduction of anxiety level: trait anxiety indices went down from 47.2±2.3 to 46.3±1.8; state anxiety was reduced significantly (p<0.05) (from 45.3±2.8 to 41.4±1.8 on the Spilberger Scale). There was also a significant (p<0.05) increase in self-assessment on the VAS “well-being” dimension—from 58.3±4.3 to 82.4±1.8—and on the “work” dimension of the DISS. A modified Rosenzweig test revealed a decrease (p<0.05) in the number of allegedly stress-generating situations (from 7.7±0.41 to 5.8±0.37), as well as the number of emotional descriptors per situation (from 8.5±1.4 to 7.18±1.2). There was also a tendency toward a decrease in the divergence between verbalized and non-verbalized reactions to frustration and a lowering of the number of emotions constituting the “rage” category (from 30% to 24%), which may testify to development of personality reflection and ability for emotional regulation. MMPI and 16 PF data did not indicate any change in personal or emotional characteristics of the patients in the course of 16 sessions of psychotherapy.

Physical examination of the patients revealed a significant (p<0.05) reduction in the frequency and intensity of panic attacks and in anticipatory anxiety of panic attacks, and the soothing of heartaches (especially those
provoked by emotions) and loops of thermal control. Ultrasonic cardiography testified to a significant (p<0.05) decrease in MVP (from 4.2±0.2 mm to 3.8±0.2 mm). The decrease of prolapse depth was observed in all the patients. The ambulatory BP monitoring showed a reduction (p<0.05) in the maximum indices of systolic BP (from 152.3±3.0 mmHg to 140±3.0 mmHg) and diastolic BP (from 118.6±2.2 mmHg to 116.4±2.2 mmHg). The control group did not reveal significant dynamics in psychological or physical indices during the 3 months.

5. Conclusions

The research produced the following results: MVP patients are distinguished from healthy subjects by increased anxiety and hypersensitivity in emotive situations, an increased number of emotional pains arising from frustration, low recognition of one’s needs and emotions, a reduction in the ability to regulate emotions, and a pronounced motive to avoid failure. These psychological features may presumably result in the emotional tension of MVP patients in many situations of everyday life that they are eventually prone to regard as menacing. This is supported by the data, revealing a high score of anxiety and phobic disorders among MVP patients [3, 4, 5].

A course of psychotherapy attended by MVP patients was aimed at problem solution and the development of personality reflection. The therapy produced good results: a sound tendency toward the development of personality reflection and emotional-state reflection; the structuring and recognition of emotional experience; and a reduction in the physical aspects of MVP, which comes in tune with the published data [2, 3]. However, the effect achieved by the therapy may not be long-lasting. Patients may require a longer course of psychotherapy aimed at working on personality problems. Works published in recent years present the data, which suggest a high-performance effect of the long-term therapy among MVP patients – stimulation of personality reflection and emotional-state reflection; development of coping processes in stress-generic situations [2, 5, 7].

The results of this research not only extend the scientific conceptualization of the nature of MVP—a heart pathology that occurs frequently—but also contribute to the formulation of new questions, which are exceedingly important for the organization of further studies in clinical psychology [7, 8, 9, 10].

References