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Ego defense mechanisms in patients with “hypertension at work” and patients with essential hypertension: a comparative analysis

Elena Pervichko\textsuperscript{a}\textsuperscript{*}, Yury Zinchenko\textsuperscript{b}

\textsuperscript{a} Lomonosov Moscow State University, Faculty of Psychology, Moscow, 125009, Russia
\textsuperscript{b} Lomonosov Moscow State University, Faculty of Psychology, Moscow, 125009, Russia

Abstract

The purpose of the study was to perform a comparative analysis of ego defence mechanisms in patients with “hypertension (HTN) at work”, on the one hand, and in patients with essential arterial HTN, on the other. We examined 85 people with HTN at work, and 85 patients with essential HTN. It was shown that emotional processes of the examined patients with HTN is distinctively characterized by predominance of negative experience, which can be projected, denied or repressed by patients. The group of patients with HTN at work are characterized by a wider range of defence mechanisms, predominant use of neurotic level mechanisms, and a more developed ability for reflection upon their feelings.

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1. Problem statement and motivation

Arterial hypertension (AH) is one of the most dangerous and common diseases of cardiovascular system. Intensive increase of AH cases within the last ten years, and low compliance of the patients, demand considerable scientific attention towards investigation of emotional and personal features of AH patients, despite the long-standing research experience in this field (Parati & Molinary, 2010).

\textsuperscript{*} Corresponding author. Tel.: +7-916-672-2454; fax: +7-495-629-5910.
E-mail address: elena_pervichko@mail.ru
Today there are detected more and more patients with AH, whose blood pressure (BP) values at work time appear to be higher than those at leisure. This form of AH is called “HTN at work” (Stork, et al., 1992). Studies of emotional and personality characteristics of patients with HTN at work have shown that they are more competitive than people with essential HTN and they suffer more intensive and long-standing negative emotional experience (Karasek, 1998; O’Donnell, et al., 2008; Chandola, et al., 2008; Pervichko, Zinchenko & Ostroumova, 2013). These findings argue the importance of investigation of such a psychological phenomenon as ego defence mechanisms in patients with HTN at work. However, we had not met an analysis of ego defence mechanisms of patients with HTN at work in published papers.

2. Research hypothesis and research objective

The main hypothesis of this research is the preliminary proposition that a group of patients with HTN at work will differ from patients with essential HTN in personality features and, in the first place, in specifics of ego defence mechanisms. According to the psychoanalytic point of view, normative functioning of ego defences provides for stability and order of personality world-view, and adequate self-regulation at the unfavourable conjuncture of emotional conflict (Freud, 1937; Cramer, 1991; Vaillant, 1992).

The primary aim of this research is to undertake a comparative analysis of ego defence mechanisms in patients with HTN at work and in patients with essential HTN, to reveal peculiarities of each group.

3. Research methods, methodological background and participants

To examine ego defence mechanisms we used the Thematic Apperception Test (TAT) (Murray, 1943/1971) and the Life Style Index (LSI) (Plutchik, Kellerman & Conte, 1979). It should be noted, that TAT as a projective method of personality investigation, provides us with information about unconscious actualization of defence mechanisms, while LSI, furnished in a questionnaire format and constructed in accordance with psychic-evolutional emotions theory by R. Plutchik, gives information about the level of verbal self-concept, presentation of one’s own feelings and behavior.

We supposed, that such combination of research methods in the context of one research project will give us an opportunity to get a more comprehensive idea of peculiar features the patients reveal in use of various defence mechanisms, which may bring us closer to understanding of their personal features.

Statistical processing of the data was conducted with implication of various methods: calculation of mean values and the standard deviation; frequency analysis; certainty computation for distinctions between samples based on indicators of the probability of distinctions between indicators (Mann-Whitney U-test); and revealing correlations among investigated features in groups of participants, employing the method of calculating of Spearman's rank correlation coefficient ($r_s$).

The study involved 170 patients with AH, stage II. 85 patients with HTN at work (mean age is 44.7±4.3 years) were allocated from their number (the first group). This group comprised patients whose BP on working days was statistically higher than their BP on days off (by results of the ambulatory 48-hours BP monitoring). The second group (patients with essential HTN) comprised 85 patients whose BP on working days and BP on days off were equal (mean age is 47.4±4.5 years).

4. Results and discussion

4.1. Assessment of ego defences in patients with AH by Life Style Index questionnaire and their discussion

Analysis of LSI data evinced that patients with HTN at work reveal the following hierarchy of psychological defence system - the most common defence mechanisms suggest “intellectualization” (47.9%), then comes “projection” and “denial” (40.8% and 40.9% respectively). Such defence mechanisms as “reaction formation” and “repression” are also of frequent occurrence. Frequency of answers in these clusters in the group of patients with HTN at work is reliably higher (p <0.05) than in the group of patients with essential HTN (Table 1). In accordance with Plutchik’s model for interpretation of ego defences, we may conclude that particular features of defence
mechanisms’ profile for the patients with HTN at work testify to their intensive experience of negative emotions. It is, in the first place, disgust and contempt, which project outside (Plutchik, Kellerman & Conte, 1979). The patients are able to deny certain aspects of external reality which arouse anxiety, especially negative feelings they may cause in others. They are able to suppress and repress thoughts and feelings which lead to anxiety. Such features are traditionally regarded as important aspects of the mechanism of somatization (Alexander, 1950; Blumenfield & Strain, 2006; Levenson, 2007; Parati & Molinary, 2010).

Table 1. Medium values on Life Style Index questionnaire scales for Patients with HTN (%)

<table>
<thead>
<tr>
<th>Ego defence mechanisms (LSI scales)</th>
<th>Patients with HTN at Work, n=85</th>
<th>Patients with Essential HTN, n=85</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repression</td>
<td>35.8*</td>
<td>26.7</td>
</tr>
<tr>
<td>Regression</td>
<td>13.6*</td>
<td>25.3</td>
</tr>
<tr>
<td>Displacement</td>
<td>9.2</td>
<td>8.3</td>
</tr>
<tr>
<td>Denial</td>
<td>40.9*</td>
<td>27.3</td>
</tr>
<tr>
<td>Projection</td>
<td>40.8</td>
<td>41.6</td>
</tr>
<tr>
<td>Compensation</td>
<td>15.8</td>
<td>16.7</td>
</tr>
<tr>
<td>Reaction formation</td>
<td>38.3*</td>
<td>11.7</td>
</tr>
<tr>
<td>Intellectualization</td>
<td>47.9*</td>
<td>38.9</td>
</tr>
</tbody>
</table>

* Differences between the groups are reliable (p <0.05).

The results of statistical and qualitative analysis allow us to conclude that defence mechanisms’ system comes under intense tension in the group of patients with HTN at work. The state is commonly interpreted as drastically pregnant with emotional conflicts (Freud, 1937; Cramer, 1991; Vaillant, 1992). However, high indices displayed for “reaction formation” and “rationalization” in defence mechanisms’ profile allow us to make an assumption of adequate psychological resource potential of patients from this group in search of methods to cope with arising conflicts (Plutchik, Kellerman and Conte, 1979).

Defence mechanisms’ profile of patients with essential HTN is characterized by a combination of the highest indices for “projection” (41.6%) and “rationalization” (38.9%). That is, one of the most mature (rationalization) and one of the most archaic (projection) mechanisms are both presented with maximal frequency and happily coexist in the structure of defence mechanisms’ profile. We interpret the fact as an indicator of high tension of psychological defence mechanisms’ system, which may indicate immaturity of personality structure and clearly marked deficit of personality reflection. The patients with essential HTN are characterized by high frequency of “regression”. In the context of regression, somatization in patients with essential HTN can be explained conceptually (Vaillant, 1992). Apart from the classical, psychoanalytical understanding of regression, it is interesting to turn to Plutchik’s conception, which implies an interconnection between regression and weakness of emotional and volitional control in situations of emotional conflicts (Plutchik, Kellerman and Conte, 1979).

Finally, one more point which should be analyzed at this stage is minimal presence of “displacement” defence mechanism in both groups. Questions in this cluster of the test were formulated in a way to provoke admission of one’s belligerence and, in a sense, anti-sociality. Hence we may interpret the low frequency of “displacement” as a result of AH patients’ denial of their negative features and aggressiveness, and as willingness to comply with social standards - this comes in tune with data obtained by other researchers (Alexander, 1950; Chandola, at al., 2008; Parati & Molinary, 2010).

4.2. Assessment of ego defences in patients with AH by content analysis of TAT and their discussion

Results of data processing with TAT content analysis manifest that in defence mechanisms' profiles for both groups of patients predominant mechanisms are “projection”, “projective identification” and “denial”, which are known as the most archaic modes of defence (Freud, 1937; Vaillant, 1992), and ego defences of neurotic level – “repression” and “regression” (Table 2).
Table 2. Frequency of ego defences in examined patients with arterial hypertension according to TAT content analysis data (%)

<table>
<thead>
<tr>
<th>Ego defence mechanisms</th>
<th>Patients with HTN at Work, n=50</th>
<th>Patients with Essential HTN, n=50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolation</td>
<td>7.8</td>
<td>8.6</td>
</tr>
<tr>
<td>Denial</td>
<td>15.2</td>
<td>12.3</td>
</tr>
<tr>
<td>Superiority complex</td>
<td>1.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Idealization and devaluation</td>
<td>4.2*</td>
<td>9.6</td>
</tr>
<tr>
<td>Projection and projective identification</td>
<td>14.8*</td>
<td>18.3</td>
</tr>
<tr>
<td>Splitting</td>
<td>1.8*</td>
<td>3.6</td>
</tr>
<tr>
<td>Repression</td>
<td>18.3*</td>
<td>14.5</td>
</tr>
<tr>
<td>Regression</td>
<td>9.1</td>
<td>10.2</td>
</tr>
<tr>
<td>Displacement</td>
<td>7.2</td>
<td>6.1</td>
</tr>
<tr>
<td>Rationalization and intellectualization</td>
<td>14.2*</td>
<td>6.8</td>
</tr>
<tr>
<td>Reaction formation</td>
<td>2.1</td>
<td>4.1</td>
</tr>
<tr>
<td>Sublimation</td>
<td>4.2</td>
<td>4.1</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

* Differences between the groups are reliable (p <0.05).

Intergroup comparison of the results shows that patients with essential HTN reliably more often than patients with HTN at work (p<0.05) use such ego defences as primitive idealization with further devaluation and also projection and projective identification (Table 2). In the group of patients with essential HTN the cluster of mature defence mechanisms is most frequently represented by “repression”. The answers which stand for “intellectualization” and “rationalization” (and may suggest a certain “resource potential” of personality) are reliably rare in this group to compare with the group of patients with HTN at work (Table 2). Moreover, patients with essential HTN are characterized by such phenomena in TAT stories as the use of predicative constructions, nominative sentences, poverty of imagination, and difficulties in feelings expression, i.e. signs of alexithymia (Nemiah, Sifneos, 1970; Taylor, 2000).

Analysis of defence mechanisms’ profile for patients with HTN at work shows that in general this group of patients is characterized by the more frequent use of such ego defences as “repression” and “rationalization”, which are attributed to the cluster of neurotic defences (Vaillant, 1992; Kernberg, 1993). However, “denial” is also manifested with high frequency. Detection of “denial” along with “repression” as one of the most significant mechanisms in defense structure for patients with HTN at work, in our opinion, is an important step towards understanding of the specific character of their emotional experience. Psychotherapeutic assistance to patients with HTN at work in realization of their habitual use of these defence modes, we believe, may have good prospects. This conclusion is well-grounded, since the analysis of defence mechanisms’ general profile allows us to attribute most of the patients with HTN at work to neurotic level of personality organization (Vaillant, 1992; Kernberg, 1993). This is the point where the group of patients with HTN at work in our investigation fundamentally differs from the patients with essential HTN.

According to correlation analysis data, statistically reliable correlations (p<0.01) were found between frequency of such ego defences as “denial”, “projection” and “repression” (in TAT and LSI data) in both groups of patients; and negative correlation (p<0.01) was exposed in frequency analysis of “reaction formation” in compared groups of patients according to data of both methods. Conceptual interpretation of these results confirms our supposition that an important distinctive feature of emotional processes in patients with AH is predominance of negative emotions which are projected, denied or repressed by patients.

For the male part of AH patients sample and for patients below 40 years the regularities mentioned above are indicated even more distinctly.
5. Conclusions

The research showed that an important distinctive feature of emotional processes of examined patients with HTN is predominance of negative emotions which are projected, denied or repressed by patients.

At the same time reliable difference was found between the compared groups. This brings forward the fact that it is practically impossible to describe a “general personality profile” for patients with HTN.

The group of patients with essential HTN differs from patients with HTN at work in use of more primitive ego defences. Defence mechanisms “intellectualization” and “rationalization” are reliably more rare in this group than in the group of patients with HTN at work. Results of defence mechanisms investigation for patients with essential HTN reveal a considerable deficit of personality reflection, weakness of impulse control, though they show willingness to comply with social standards. The group of patients with HTN at work is characterized by wider range of employed ego defences, predominant use of defence modes of neurotic level and more developed ability for reflection over feelings. This shows a possibility of effective psychotherapy of these patients.

Obtained results contribute to general understanding of the role of psychological factors in AH pathogenesis, urge for psychological assessment and psychotherapy of patients with AH, particularly – patients with HTN at work, and reveal prospects for further investigations.

References