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Brief communication

Cognitive changes in health locus of control attributions after behavioral analysis in patients with panic disorder and/or agoraphobia

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ABSTRACT

Patients with panic disorder and/or agoraphobia (PD +/– Ag) attribute their mental health more to external factors and less to internal, while after behavior treatment (BT) their external attributions decrease and internal attributions increase. We examined whether these cognitive changes observed at the end of BT, begin earlier. Forty patients with PD +/– Ag were assessed on the Multidimensional Health Locus of Control Scale, before and after the diagnostic and psychoeducational sessions that precede the clinical implementation of BT. Decreased health attributions to significant others ($t=4.22$, $p<0.01$) and an increase trend to self ($t=-0.78$, $p=0.43$) were observed, which are compatible with the active role patients need to adopt in the clinical application of BT.

KEYWORDS: Health locus of control, panic disorder, agoraphobia, behavioral assessment, behavior therapy.

Introduction

It has been observed that certain characteristics of patients with panic disorder and/or agoraphobia (PD+/–Ag), such as the attribution of their health locus of control, are associated with a predisposition to the development and maintenance of the disorder.[1] In particular, patients with PD+/–Ag tend to attribute their mental health locus of control less to themselves and more to external factors, namely significant other people and chance, compared to healthy controls.[2] This particular cognitive profile enhances avoidant behavior, while at the same time it seems to share many symptoms with learned helplessness.[3] The devaluation of one's abilities leads to a catastrophizing interpretation of bodily sensations and to the avoidance of situations and behaviors that may cause them.[4]

The attribution of health locus of control was initially considered a stable personality trait, but is now indicated to be modifiable through life experiences, education and treatment.[5] In a retrospective clinical study conducted in our country, 250 patients with anxiety disorder, obsessive compulsive disorder and post-traumatic stress disorder who completed their BT, showed a decrease in the attribution of their mental health locus of control to external factors, while at the same time showed a significant increase in attributing their health-related behaviors to internal factors like their own efforts.[6] In a subsequent study Greek patients with PD+/–Ag who completed BT reported decreased health attributions to significant others and increased health attributions to self, a change that was maintained in the one-year follow-up, in contrast to those who refused or discontinued.[2]

The question of whether these cognitive changes are solely due to the successful completion of the BT or can be achieved at earlier points by improving the patient's cooperation is crucial, due to the active participation that the BT requires. In the present study, the mental health locus of control attributions of patients with PD+/–Ag were assessed before the clinical initiation of the BT and after the first preparatory sessions, so that any changes observed are not related to experiential/therapeutic experiences.

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Material and Method

Participants and process

The study involved 40 patients with PD+/–Ag who requested treatment at the Behavior Treatment Unit (BTU) of the Hellenic Center of Mental Health and Research in Athens. Their age ranged from 19 to 73 years with a mean age of 36.43 years (SD=12.1). All patients signed an inform consent before entry and were assigned to treatment, with the sole criterion of the availability of each therapist. The sessions were conducted by five different therapists with many years of clinical experience, while diagnosis was confirmed by the clinical team and the supervising psychiatrist.

The design of this preliminary study was one group pre-post- test design. The Multidimensional Health Locus of Control (MHLC) Scale[7] was administered at two different time points, the same for all participants, before the first assessment session and immediately after the completion of the assessment (before the fourth session). In these preparatory sessions, were performed: (a) completion of psychiatric history, (b) behavioral analysis, including patient's feedback on the factors of maintenance of the disorder, c) psychoeducation for pathological anxiety and (d) explanation of the BT rationale, which clarified the active participation of the patient as a necessary condition for the achievement of his/her therapeutic goals.

Multidimensional Health Locus of Control (MHLC) Scale

The questionnaire consists of three subscales which include 18 items: six to evaluate the attribution of mental health locus of control to self, that is one's own behavior (internal health locus of control, IHLC), six to evaluate the attribution of mental health to significant others, such as healthcare professionals, family, friends (powerful others health locus of control, POHLC) and six to evaluate the attribution of mental health to chance, e.g. fate, luck (chance health locus of control, CHLC). The degree of agreement or disagreement with each item is evaluated on a six-point Likert scale (from 1=strongly disagree to 6= totally agree). The three subscales are calculated independently and the proposed scoring range is: 25+/–5 in the IHLC, 20+/–5 in the POHLC and 15+/–5 in the CHLC subscale.[7] The validity and reliability of the Greek version of the Multidimensional Health Locus of Control Scale has been tested[6,8] and in our sample, the internal consistency was a=0.72 for the self-dimension, a=0.80 for significant others and a=0.83 for chance.

Statistical analysis

The data collected were analyzed with the SPSS statistical package, version 25. The distribution of the data was normal (Shapiro-Wilk test) and parametric tests were used.

Results

Table 1 presents the demographic and clinical characteristics of the sample in detail.

In the dependent samples paired t-test analyses, a decrease in mental health locus of control attributions to significant others was observed ($t=4.22$, $p<0.01$). The dimension of internal control (attribution to self) showed an increase trend between the two time points, which was not yet significant ($t=-0.78$, $p=0.43$), while in the chance dimension ($t=1,63$, $p=0.11$) no change was observed (table 2).

Discussion

Immediately after their first three preparatory sessions our patients with PD+/–Ag showed a decrease in the external mental health locus of control attribution to significant others and an increase trend in the self-dimension, cognitive changes that are consistent with BT rationale. Psychoeducation and explanation of the BT have been shown to foster the development of a different psychological way of thinking with emphasis on self-management and the adoption of responsibility of oneself. This may be a first form of cognitive exposure to the avoidant and depressive established thoughts and habits of patients with PD+/–Ag.

Table 1. Demographic and clinical characteristics of the 40 participants at the time of their admission to the study.

Sex	n (%)
Men	13 (32.5%)
Women	27 (67.5%)
Marital status	
Single	17 (42.5%)
Married/In a relationship	23 (57.5%)
Education Level	
Primary	5 (12.5%)
Secondary	23 (57.5%)
Higher	12 (30%)
Profession	
Employed	24 (60%)
Unemployed	16 (40%)
Diagnosis	
Panic Disorder	16 (40%)
Panic Disorder and Agoraphobia	19 (47.5 %)
Agoraphobia	5 (12.5%)
Treatments they have tried in the past	
Other psychotherapeutic interventions	10 (25%)
Pharmacotherapy	14 (35%)
Psychotherapeutic interventions and pharmacotherapy	7 (17.5%)
Initiation of BT with medication	22 (55%)

Table 2. Comparison of mental health locus of control attributions before and after the assessment.

	Before	After		
Dimensions	M (SD)	M (SD)	t	p
Internal control attribution (self)	27.94 (4.72)	28.54 (4.38)	–0.78	0.43
External control attribution (significant others)	26.00 (6.21)	23.,57 (5.43)	4.22	0.00**
External control attribution (luck)	16.97 (7.09)	15.31 (7.85)	1.63	0.11

M=Mean, SD=standard deviation, ** p<0.01

A qualitative study that examined the experiences of patients with PD+/–Ag, suggested that understanding the individual factors that maintain the disorder during the first BT sessions, is a key component for patients' subsequent therapeutic involvement.[9] The successful manualized exposure-based BT of patients with PD+/–Ag in a single session, accompanied by personalized self-help manual,[10] has confirmed the usefulness of active participation in the treatment outcome. Moreover, their emotional and functional gains and reduced relapses in long-term evaluations, may be due to this experiential training and empirical feedback, which seems to significantly modify the attribution of mental health locus of control.[10,11]

Studies in other psychiatric disorders have similar results. In postpartum depression and bipolar disorder, the content of psychoeducation seems to modify pre-existing mental health locus of control attributions, changes that are predictive and positively correlated with increased patients' cooperation in treatment and reduced prevalence of psychiatric morbidity.[12,13]

The lack of change in mental health locus of control attribution to luck in this study may be due to the fact that the vast majority of participants had previously tried other psychotherapeutic or pharmaceutical interventions (77.5%), or were already on medication (55%) when they requested treatment at the BTU, so they knew in part that their mental health or illness could not be attributed to random factors. Further study with people without any prior familiarity with psychiatric care services, e.g., patients visiting a mental health specialist for the first time, may clarify how pre-existing control attributions are formed after the first informational contact.

The results of this study, although innovative, are preliminary. The size of the sample limits their generalization and the design of the study cannot explore cause-and-effect relationships. Verification is required on the basis of methodologically improved experimental research.

In conclusion, the findings are compatible with the active role that the patient with PD +/– Ag is called to adopt from the beginning of the clinical application of BT, reducing his/her dependence on external factors and focusing on his/her self-management. The emphasis on self-management may contribute to the empowerment of patients,[14] a continuous process that involves the concept of health control attributions, which is necessary not only in anxiety disorders but also in other chronic illnesses, such as diabetes and hypertension, where self-regulation is required.[15]

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Σύντομο άρθρο

Γνωσιακές αλλαγές της απόδοσης ελέγχου υγείας μετά την ανάλυση συμπεριφοράς σε ασθενείς με διαταραχή πανικού ή/και αγοραφοβία

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ΠΕΡΙΛΗΨΗ

Οι ασθενείς με διαταραχή πανικού και/ή αγοραφοβία (ΔΠ+/–Αγ.) αποδίδουν τον έλεγχο της ψυχικής τους υγείας περισσότερο σε εξωτερικούς παράγοντες και λιγότερο σε εσωτερικούς, ενώ μετά από θεραπεία συμπεριφοράς (ΘΣ) παρατηρείται αύξηση της απόδοσης ελέγχου στον εαυτό και μείωση σε εξωτερικούς παράγοντες. Ερευνήσαμε εάν οι γνωσιακές αυτές μεταβολές που παρατηρούνται στη λήξη της ΘΣ ξεκινούν σε πρωθύστερα χρονικά σημεία, προς όφελος της συνεργασιμότητας στη θεραπεία. Σαράντα ασθενείς με ΔΠ+/–Αγ. που προσήλθαν στη Μονάδα Θεραπείας Συμπεριφοράς του Ελληνικού Κέντρου Ψυχικής Υγιεινής και Ερευνών αξιολογήθηκαν στο Πολυδιάστατο Ερωτηματολόγιο Απόδοσης Ελέγχου Υγείας, μετά τις διαγνωστικές και ψυχοεκπαιδευτικές συνεδρίες που προηγούνται της κλινικής έναρξης της ΘΣ. Η αξιολόγηση και η ενημερωμένη συμμετοχή στη ΘΣ, πριν την κλινική εφαρμογή οποιασδήποτε παρέμβασης, τροποποίησε τις αποδόσεις ελέγχου των ασθενών μας, με μείωση στην απόδοση ελέγχου ψυχικής υγείας στους σημαντικούς άλλους ανθρώπους ($t=4{,}22$, $p<0{,}01$) και μία τάση αύξησης στην απόδοση ελέγχου στον εαυτό ($t=-0{,}78$, $p=0{,}43$). Τα ευρήματα είναι συμβατά με τον ενεργητικό ρόλο που καλείται να υιοθετήσει ο ασθενής στην κλινική εφαρμογή της ΘΣ.

ΛΕΞΕΙΣ ΕΥΡΕΤΗΡΙΟΥ: Απόδοση ελέγχου ψυχικής υγείας, διαταραχή πανικού, αγοραφοβία, ανάλυση συμπεριφοράς, θεραπεία συμπεριφοράς.

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