Psicothema

Factors associated with prolonging psychological treatment for anxiety disorders

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Abstract

Background: Anxiety disorders are one of the disorders most frequently requested for psychological attention. The purpose of this study is to identify the factors that can explain a longer duration of psychological treatment for anxiety disorders. **Method:** 202 patients from the University Psychology Clinic of the Complutense University of Madrid were analyzed. **Results:** Multivariate regression analysis showed that the presence of obsessive-compulsive disorder and the application of arousal control techniques followed by modeling and other specific techniques were the best predictors of treatment duration. **Conclusion:** Reducing as much as possible the number of techniques applied without reducing intervention efficacy is suggested. In some disorders that produce a greater life disorganization, it may be useful to try to organize the patient´s life either as a first goal or at the same time as the intervention program, so as to increase its effectiveness and reduce the number of sessions.

Keywords: anxiety disorders, empirically supported treatments, duration treatment.

Resumen

Factores asociados a la prolongación del tratamiento psicológico en los trastornos de ansiedad. **Antecedentes:** uno de los motivos más frecuentes de atención psicológica son los trastornos de ansiedad. El objetivo de este trabajo es identificar los factores que pueden explicar una mayor duración del tratamiento psicológico en los problemas de ansiedad. **Método:** se analizaron los datos de 202 pacientes de la Clínica Universitaria de Psicología de la Universidad Complutense de Madrid. **Resultados:** el análisis de regresión multivariado mostró que los mayores predictores de la duración del tratamiento eran la presencia de un diagnóstico principal de Trastorno Obsesivo-Compulsivo y la aplicación de técnicas para el control de la activación seguidas de modelado y otras técnicas específicas. **Conclusiones:** se recomienda reducir en la medida de lo posible el número de técnicas aplicadas sin que se reduzca la eficacia de la intervención. En algunos trastornos que producen una mayor desestructuración puede ser conveniente intentar organizar la vida del paciente antes o durante el programa de intervención para incrementar la efectividad y reducir el número de sesiones.

Palabras clave: trastornos de ansiedad, tratamientos empíricamente apoyados, duración del tratamiento.

Anxiety disorders (ADs) are one of the disorders most frequently requested for psychological attention. Somers, Goldner, Waraich, and Hsu's review (2006) reports AD rates of 12-month- and lifetime-prevalence between 10.6 and 16.6%, respectively. In Spain, the ESEMeD study (Haro et al., 2006), which assessed the epidemiology of mental disorders in a sample of general Spanish adult population, found AD rates of 12-month-prevalence of 6.2%, higher than those of depressive disorders (4.3%). As a consequence, the development of efficacious treatments for these problems is particularly relevant for Clinical Psychology.

Since the 1990s, the study of the empirically supported efficacy of psychological treatments has increased, identifying the treatments that have been shown to be efficacious for each specific psychological disorder. Nevertheless, the greatest effort has focused more on assessing the efficacy of the interventions, rather than their effectiveness or efficiency (Clark, 2013; Kazdin, 2008).

However, the diverse treatment conditions in studies of efficacy (research sphere) and of effectiveness and efficiency (applied sphere), specifically, flexibility in treatment duration and in the choice of intervention techniques (Sadock, Auerbach, Rybarczyk, & Aggarwal, 2014), type of treatments and therapists (Gyani, Shafran, Myles, & Rose, 2014), or the presence of comorbidity (McAleavey, Castonguay, & Goldfried, 2014; Szkodny, Newman, & Goldfried, 2014; Wolf & Goldfried, 2014), can impair the generalization of the results of research to the applied sphere. In recent meta-analysis of effectiveness studies on cognitive behavioral therapy (CBT) for anxiety disorders, it was found that CBT was effective in routine practice settings, although it is still necessary to improve the methodological quality of nonrandomized effectiveness studies of CBT for anxiety disorders (Hans & Hiller, 2013; Stewart & Chambless, 2009). CBT seems to be an effective treatment but it does not achieve such good results as in research trials (Westbrook & Kirk, 2005).

From the ethical viewpoint as a professional, it is the psychologist's responsibility to develop and apply procedures that achieve the best results with the lowest cost in time and effort. Therefore, it is important to investigate whether efficacious treatments are also effective in the professional practice and, if there are differences between efficacy and effectiveness, to what factors they are due and to find methods to address these barriers (Barlow, Bullis, Comer, Ametaj, & NolenHoeksema, 2013). Two aspects seem to be of particular relevance in this sense: (a) treatment duration, and (b) the percentages of discharges.

In the specific case of ADs, the American Psychological Association Division 12 (APA, 2006) recommends using cognitive-behavioral-type therapies, with a duration of 12-16 sessions for most disorders, somewhat longer in the case of generalized anxiety disorder (GAD) (between 16-20 sessions), and shorter in the case of specific phobias, in some cases, even one prolonged exposure session, or 3-8 shorter sessions.

These important variations in treatment duration show that although, in general, treatments are short, in some cases, they are considerably prolonged, so it is important to identify which factors may underlie this prolongation. There are few studies of this topic and most of the existing ones focus on analyzing the influence of clinical variables, such as type of disorder and the presence of comorbidity.

Regarding *type of disorder*, in a systematic review of patient-related predictors of inpatient treatment duration for mental disorders (Melchior et al., 2010), longer treatment durations were found for obsessive-compulsive, eating and personality disorders rather than for depressive, anxiety, somatoform, and adjustment disorders.

Comorbidity is one of the most frequently mentioned variables as a cause of prolonging psychological treatments. Both epidemiological (Alonso et al., 2004) and clinical studies (Brown, Campbell, Lehman, Grisham, & Mancill, 2001) report high rates of comorbidity in patients diagnosed with AD. Very common comorbid disorders for individuals with an anxiety disorder are mood disorders or another anxiety disorder (Lamers et al., 2011). Wagner et al. (2005) find 23% of comorbidity, and Gaston, Abbot, Rapee, and Neary (2006) report a lower rate of comorbidity in private practice than in research studies, with a mean of 0.5 versus 1.1, but they did not perform comparative analyses because the diagnoses were not made by means of structured interview in private practice. Morrison, Bradley, and Western (2003) report that when anxiety and depression concur, treatment duration increases substantially. Deveney and Otto (2010) underline that comorbid depression and AD are associated with an increase in clinical severity and usually require more sessions and/or treatment strategies.

In previous studies carried on by our research team with a wide range of psychological disorders, *the number of techniques applied* during the intervention has been shown to be a relevant factor to prolonging psychological treatments (Labrador, Bernaldo-de-Quirós, & Estupiñá, 2011; Bernaldo-de-Quirós, Labrador, Estupiñá, & Fernández-Arias., 2013). Hence, it would be important to determine what happens specifically in the case of ADs and whether the presence of some specific technique can be associated with an increase of therapy duration. Among the techniques with greater empirical support of efficacy and effectiveness most frequently used, are the techniques of psychoeducation, exposure, cognitive restructuring, or relaxation techniques (Donegan &

Dugas, 2012; Hoyer, Beesdo, Gloster, Runge, Höfler, & Becker, 2009; Öst, Svensson, Hellström, & Lindwall, 2001). Therefore, it is important to study the value of these techniques with regard to treatment duration.

The aim of the present study is to identify the factors that are responsible for prolonging treatment for ADs in assistential practice. Specifically, we wish to determine whether: (a) some specific techniques are related to more prolonged treatment; (b) clinical variables such as type of main diagnosis and comorbidity are related to therapy duration.

Method

Participants

Participants were 202 patients who requested psychological assistance in the Complutense University Psychology Clinic (UPC-UCM), who presented at least one diagnosis of anxiety according to the criteria of the *Diagnostic and Statistical Manual of Mental Disorders-IV-TR* (American Psychiatric Association (2013), and who had completed the treatment successfully.

Table 1 shows that most of the participants were women (77.8%), single (70.8%) mean age 29.2 years (*SD* = 13.1). Most of them had a high educational level, with university (57.2%) or secondary studies (31.8%). Of them, 48% were students and 39% were working.

Procedure

Out of the total of people who requested psychological assistance in the UPC-UCM between 1999 and 2010, we selected those over 18 years of age, who presented at least one anxiety problem according to the diagnostic criteria of the DSM-IV-TR, and who had been discharged, that is, they had successfully completed the treatment.

The main diagnosis and, when applicable, comorbid diagnosis, were established by the therapist in charge of each case by the adequate instruments (clinical interview, validated questionnaires,

Table 1 Sociodemographic characteristics of the sample (n = 202)	
Age *M* (*SD*)	29.18 (13.1)
Sex (%)	
Males	55 (27.2)
Females	147 (77.8)
Civil status (%)	
Single	143 (70.8)
Married	74 (26.7)
Separated/Divorced/Widowed	5 (2.5)
Educational level (%)	
Incomplete Primary	8 (4.0)
Complete Primary	14 (7.0)
Secondary	64 (31.8)
University diploma	38 (18.9)
University Degree	77 (38.3)
Profession /Work situation (%)	
Student	97 (48.0)
Active work situation	79 (39.0)
Non-active work situation	26 (13.0)

observation and self-observation, psychophysiological recordings, etc.). The same therapist established the treatment program—focused on empirically supported techniques—and proceeded to apply it, individually and self-correctively, according to the patient's evolution.

Discharge was set by the therapist after the preestablished goals had been achieved, and also taking into account the results of the instruments administered after completing the treatment.

Instruments and variables

Sociodemographic variables: sex, age, civil status, profession, work situation, and educational level were obtained with an ad hoc questionnaire applied at the beginning of the intervention.

Clinical characteristics: diagnosis and comorbidity (according to the DSM-IV-TR criteria were established by the therapists through semi-structured interview and validated instruments for the assessment depending on the disorder under consideration; for instance: Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996), Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988; Sanz & Navarro, 2003), Mobility Inventory for Agoraphobia (Chambless, Caputo, Jasin, Gracely, & Williams, 1985), the Penn State Worry Questionnaire (Meyer, Miller, Metzger, & Borkovec, 1990), the Fear of Negative Evaluation Scale (Watson & Friend, 1969), The Maudsley Obsessive-Compulsive Inventory (Hodgson, 1977), or the Fear Questionnaire (Mathews, Gelder, & Johnston, 1986).

Treatment characteristics: techniques applied during the intervention including psychoeducation, arousal control techniques (progressive relaxation, autogenic training and/or breathing control), cognitive restructuring techniques, techniques to control internal dialogue, exposure techniques (systematic desensitization, gradual exposure and/or flooding), distracter techniques (self-instructions and/or thought stopping), social skill training, operant techniques to acquire behaviors (shaping, modeling, chaining, stimulus control, and/or reinforcement schedules), operant techniques to reduce behavior (extinction, differential reinforcement, response cost, time out of reinforcement and/or overcorrection), behavioral contracts, biofeedback techniques, token economy programs, covert conditioning techniques, aversive techniques, problem solving, and other specific techniques (activities planning, sleep hygiene, paradoxical intention and/or specific techniques for the self-esteem).

Treatment prolongation: number of treatment sessions, excluding assessment follow-up sessions.

Data analysis

The correlations between the predictor variable and the dependent variables were analyzed, using Pearson's correlation coefficient for quantitative variables and the point-biserial correlation coefficient for dichotomic variables. Qualitative variables with more than two possible values were dichotomized (comorbidity, main diagnosis, and techniques used). The variables with correlations with $p<.01$ were entered in a stepwise multiple regression analysis. To prevent multicolinearity problems, the variables with intercorrelations higher than .80 were excluded from the analysis, and the condition indexes were taken into account. We also applied the Durbin-Watson test.

Results

Clinical characteristics

Table 2 shows AD Not Otherwise Specified (NOS), Social phobia, Panic Disorder (PD) with and without agoraphobia, and obsessive-compulsive disorder (OCD), in this order, account for more than one half of the sample (52%). Most of the patients do not present a comorbid diagnosis (80.7%).

The number of treatment sessions ranged between 1 and 66, with a mean of 14.46 ($SD = 10.56$). The most frequently applied intervention techniques were, in order of frequency: psychoeducation, arousal control techniques, cognitive restructuring techniques, techniques to control internal dialogue, exposure techniques, and distracter techniques.

Factors associated with longer treatment duration

The number of treatment sessions were correlated with clinical (main diagnosis and presence of comorbidity), and treatment variables (type of techniques applied during the intervention). All the correlations are presented in Table 3.

The main diagnoses that presented significant correlations with treatment duration were: AD NOS, OCD, and agoraphobia. In view of the scarce number of patients in the categories Agoraphobia (2)

Table 2 Clinical and treatment characteristics of the sample (n = 202)	
	n (%)
Diagnosis (%)	
Anxiety disorder not otherwise specified	39 (13.2)
Social phobia	37 (12.5)
Panic disorder with agoraphobia	32 (10.8)
Panic disorder without agoraphobia	27 (9.1)
Obsessive-compulsive disorder	19 (6.4)
Specific phobia	17 (5.7)
Generalized anxiety disorder	14 (4.7)
Posttraumatic stress disorder	11 (3.7)
Acute stress disorder	4 (1.4)
Agoraphobia	2 (0.7)
Comorbidity (%)	
No	163 (80.7)
Yes	39 (19.3)
Use of intervention techniques (%)	
Psychoeducation	194 (96.0)
Relaxation techniques	181 (89.6)
Cognitive restructuring techniques	177 (87.6)
Techniques to control internal dialogue	167 (88.2)
Exposure techniques	156 (77.2)
Distracter techniques	134 (66.6)
Other specific techniques	126 (62.4)
Solving problem	111 (55.0)
Social skills training	83 (41.1)
Operant techniques to acquire behaviors	57 (28.2)
Modeling techniques	38 (18.8)
Operant techniques to reduce behaviors	35 (17.3)
Behavioral contracts	27 (13.4)
Biofeedback techniques	6 (3.0)
Token economy programs	5 (2.5)
Covert conditioning techniques	2 (1.0)
Aversive techniques	1 (0.5)
Number of treatment sessions M (SD) (range)	14.46 (10.56) (0-66)

and Acute stress disorder (4), these diagnoses were not taken into account. The patients who presented an AD NOS needed fewer treatment sessions, whereas the patients with an OCD required longer treatment duration. No significant correlation with having a comorbid diagnosis was observed.

Intervention techniques that correlated positively with treatment were duration: exposure techniques, cognitive restructuring techniques, arousal control techniques, other specific techniques, techniques to control internal dialogue, behavioral contracts, modeling techniques, psychoeducation, social skills training and distracter techniques.

The results of the multiple linear regression analysis are presented in Table 4. The presence of an OCD diagnosis and the application of arousal control techniques were the factors that explained a larger percentage of variance (7% and 6%, respectively), followed by modeling techniques (3%) and other specific techniques (2%). Conjointly, they explained 18% of the variance, with a good condition index and a value approaching 2 in the Durbin-Watson test (1.91), and good generalizability, because the adjusted R^2 only showed a small difference (.017) with R^2. No variable was excluded from the regression analysis because of a high intercorrelation.

Table 5 includes the mean number of sessions as a function of type of main diagnosis. The diagnoses that required a larger average number of sessions were OCD (23.4). It is also noteworthy that OCD presented a larger range (a difference of 60 sessions) and the highest absolute number of sessions (66), followed by social phobia (46).

Table 4
Stepwise multiple regression analysis (n = 202)

Duration of psychological treatments	B	ΔR^2	T	P
Obsessive-compulsive disorder	.295	0.07	4.586	<.001
Arousal control techniques	.181	0.06	2.727	0.007
Modeling techniques	.181	0.03	2.767	0.006
Other specific techniques	.167	0.02	2,545	0.012

$F = 11.926$, $df = 4,195$, $p<.001$
Adjusted $R^2 = .18$

Total of explained variance: 18%

Table 5
Mean number of sessions per main diagnosis (n = 202)

	Mean (SD) (Min-Max)
Anxiety disorder not otherwise specified	10.2 (8.7) (1-34)
Social phobia	17.1 (11.3) (1-46)
Panic disorder with agoraphobia	15.1 (8.6) (1-36)
Panic disorder without agoraphobia	12.6 (9.4) (1-44)
Obsessive-compulsive disorder	23.4 (14.4) (6-66)
Specific phobia	11.4 (6.7) (1-25)
Generalized anxiety disorder	16.3 (11.1) (1-46)
Posttraumatic stress disorder	13.1 (7.1) (1-22)
Acute stress disorder	2.7 (2.1) (1- 5)
Agoraphobia	19.0 (12.7) (10-28)

Table 3
Correlations between number of sessions, sociodemographic, clinical and treatment variables

Variables	R	p
Prior treatments	.069	.334
Comorbidity	.090	.203
Main diagnosis		
Nonspecific anxiety disorder	-.198	.005
Social phobia	.122	.084
Panic disorder with agoraphobia	-.026	.710
Panic disorder without agoraphobia	-.068	.336
Obsessive-compulsive disorder	.274	<.001
Specific phobia	-.088	.215
Generalized anxiety disorder	.050	.486
Posttraumatic stress disorder	-.028	.697
Acute stress disorder	-.159	.025
Agoraphobia	.041	.491
Techniques applied		
Psychoeducation	.195	.006
Arousal control techniques	.228	.001
Cognitive restructuring techniques	.263	<.001
Techniques to control internal dialogue	.206	.003
Exposure techniques	.277	<.001
Distracter techniques	.153	.030
Other specific techniques	.222	.002
Social skills training	.146	.039
Operant techniques to acquire behaviors	.126	.075
Modeling techniques	.205	.004
Operant techniques to reduce behaviors	.117	.198
Behavioral contracts	.206	.003
Biofeedback techniques	.059	.405
Token economy programs	-.071	.320
Covert conditioning techniques	.067	.305
Aversive techniques	-.017	.817
Problem-solving	.089	.210

Discussion

This study sought to explore which factors may be associated with the duration of treatment in anxiety problems, beyond the number of techniques applied during the intervention program, and whether there is a specific technique that could be responsible for lengthening the intervention.

Obsessive-compulsive disorder was the only main diagnosis that predicted treatment prolongation. It is logical to think, even as a hypothesis, that this disorder causes more total alteration in a person's life than an AD NOS. The mean number of sessions revealed in our OCD treatment is higher than the number of sessions recommended by APA 12 Division (2006), whereas in the remaining disorders, it is within the recommended mean. However, the broad range of sessions used (6-66) may indicate either a higher variability in the number and type of techniques used, or perhaps lower precision of the intervention protocols. This fact may indicate that the intervention protocols and guidelines are less precise and less effective than they should be, and this would explain the use of more techniques with a broader approach by psychologists. Alternatively, and according to the former hypothesis, the greater disorganization caused by OCD in patients' habitual functioning reduces the utility of the techniques considered more adequate, or with a greater level of empirical support. Moreover, in a recent study it was found that unemployment and being single were related to worse OCD treatment outcome in adults (Knopp, Kmowles, Bee, Lovell, & Bower, 2013). This may indicate the importance of trying to organize the patient's life prior to or in parallel to the application of the intervention program in order to increase either its effectiveness or to reduce the number of sessions.

Moreover, it seems that the techniques generally more used (psychoeducation, relaxation, cognitive restructuring techniques

and techniques for controlling the internal dialogue) that are applied uniformly in different ADs might suggest similar underlying processes and common strategies treatment for different diagnoses, which can make it more relevant to focus on the principles of treatment rather than on specific techniques (Carey, 2011). However, it is noteworthy that the techniques considered the most adequate for ADs, the exposure techniques, had only been used in 77.2% of the cases.

In this regard, although for some anxiety disorders, the use of exposure techniques is recommended (Abramowitz, 2014), it seems that, in some cases, exclusively cognitive techniques are being used. There are no precise data on the use of exposure techniques by clinical psychologists, although some of them indicate a negative attitude to using them (Olatunji, Deacon, & Abramowitz, 2009), considering that can they cause distress for the patient. Perhaps this could explain its lower use compared with cognitive restructuring techniques and relaxation (Brown, Gaudiano, & Miller, 2011).

Regarding the relationship between the application of certain intervention techniques and prolonging treatment, arousal control techniques predicted a longer duration of treatment, followed by modelling and specific techniques. Reducing arousal levels is usually a frequent therapeutic goal in ADs, including relaxation techniques for this purpose. Such techniques can even be used without having to address a specific patient deficit, because they allow patients to improve their quality of life or to enjoy life more fully, although they may prolong treatment. Thus, in some cases, more techniques than those strictly needed may be used as a procedure to "guarantee" the intervention. For instance, Hoyer et al. (2009) showed that the exposure technique by itself is efficacious for GAD without having to resort to relaxation.

In the same vein, modeling is a technique that can be applied in cases where anxiety inhibits approach behaviors to feared situations, to desinhibit them and extinguish fear (Cruzado, 2008). However, one might wonder whether it would be necessary to use modeling techniques in these cases or would the application of the exposure technique have been sufficient. Moreover, the application of other specific techniques (planning activities, paradoxical intention, sleep hygiene, specific procedures to improve self-esteem, etc.) could be linked to greater complexity of the case, and undoubtedly, as the number of techniques increase, the duration of the therapy

is prolonged. It would be interesting to be able to establish the differential effect of these techniques, as well as the precise conditions for their use. This would guide clinical psychologists in this goal of reducing the number of techniques, showing the real value of each one, in order not to add on more techniques than those that are strictly necessary.

The presence of a comorbid diagnosis or a prior treatment was not associated with treatment duration. The rate of comorbidity was low in comparison to other clinical studies, but it was similar to findings by other studies carried out in private practice (Gaston et al., 2006; Wagner et al., 2003), probably due to the less frequent use of structured interviews (Rettew, Lynch, Achenbach, Dumenci, & Ivanova, 2009).

In a previous work, in which a broader disorder spectrum was considered, a relationship between comorbidity and prolonging treatment was found. However, in this work, the disorders responsible for a longer duration of treatment were mood and eating disorders (Labrador et al., 2011).

This study also has some limitations. We note the low percentage of explained variance, which may be due to between-subject variability. As it is a study of effectiveness, there are many variables concerning the possible generalization of the results that are beyond our control. Another possible limitation derives from the type of clinic in which the study was carried out, although its characteristics are similar to those of a private clinic.

In conclusion, the present findings show that the presence of a main diagnosis of obsessive-compulsive disorder and the application of arousal control techniques, conjointly with modeling and other specific techniques were the best predictors of treatment duration in ADs. The results obtained in previous studies lead us to recommend not adding more techniques during the treatment and considering whether it is really necessary to introduce relaxation techniques or modeling for exposure. In some disorders that produce greater life disorganization, it may be useful to try to organize the patient's life either beforehand or at the same time as the intervention program.

Acknowledgements

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