Pergamon

Behav. Res. Ther. Vol. 34, No. 5/6, pp. 403–411, 1996

S0005-7967(96)00004-6
0005-7967/96 $15.00 + 0.00

PREDICTION OF OUTCOME IN THE TREATMENT OF SPECIFIC PHOBIA. A CROSS VALIDATION STUDY

KERSTIN HELLSTRÖM[1] and LARS-GÖRAN ÖST[2]*

[1]Department of Psychiatry, University of Uppsala and [2]Department of Psychology, Stockholm University, S-106 91 Stockholm, Sweden

(Received 4 December 1995)

Summary—The purpose of this study was to investigate possible predictors of treatment outcome in specific phobia at 1 week after treatment, and at 1 year follow-up. The subjects (n = 138) came from four studies (two on spider phobia, one on blood phobia and one on injection phobia), and all had been diagnosed with simple phobia according to DSM-III-R. The dependent variable was clinically significant improvement in three different factors; avoidance behavior in a behavior test, self-rated anxiety during the test, assessor rating of phobic severity or fainting behavior. Fourteen variables covering self-report, demographic and physiological variables, and data from the behavior test were used as prognostic variables. Multiple regression analyses were used in a cross validation procedure. The results showed that diastolic blood pressure at pretest was a predictor at post-treatment for one sample and credibility was found as a predictor for the other sample both at post-treatment and at 1 year follow-up. Analyses were made for the diagnoses and the treatments but the results were inconclusive. Despite the large sample size and the cross validation procedure no stable predictors were found for short- and long-term outcome. The few significant predictors should be considered as chance findings. Copyright © 1996 Elsevier Science Ltd.

INTRODUCTION

Specific phobia is the most common of the anxiety disorders with an estimated lifetime prevalence of 10–11.3% (DSM-IV, American Psychiatric Association: APA, 1994). The therapy proven to be most successful for phobias is exposure *in vivo* (Chambless, 1990; Marks, 1987). Recent research has shown that a short intensive treatment produces just as good results as a more spaced program does, and could be considered the treatment of choice for specific phobias (Hellström, Fellenius & Öst, 1996; Hellström & Öst, 1995; Öst, 1989; Öst, Hellström & Kåver, 1992; Öst, Salkovskis & Hellström, 1991).

The effectiveness of the treatments in phobias raises curiosity for prognostic factors, so that more recommendations for clinical applications can be made. No prognostic study has been done in specific phobias that we are aware of but several studies have been done in panic disorder with and without agoraphobia, in social phobia, and in obsessive–compulsive disorder.

The predictors of treatment in panic disorder with and without agoraphobia have yielded inconsistent results. Basoglu, Marks, Swinson, Noshirvani, O'Sullivan and Kuch (1994) found that older age predicted poorer outcome, but de Beurs (1993) found the opposite. A long duration of the problem predicted a poorer outcome (Basoglu *et al.*, 1994; de Beurs, 1993; Mathews, Johnston, Shaw & Gelder, 1974), but Emmelkamp and Kuipers (1979) and Lelliot, Marks, Monteiro, Tsakiris and Noshirvani (1987) found that duration was unrelated to outcome. Emmelkamp and Kuipers (1979), Fisher, Hand, Angenendt, Buttner-Westphal and Manecke (1988), Hafner and Ross (1983) and Lelliot *et al.* (1987) agreed that high anxiety in the beginning of the treatment is a negative predictor. The same was found regarding high depression (Keijsers, Hoogduin & Schaap, 1994; Mathews *et al.*, 1974). However, Chambless and Gracely (1988), Emmelkamp and Kuipers (1979), Favarelli and Albanesi (1987), and Fisher *et al.* (1988) found that high depression did not relate to outcome at all. Severity of phobia targets was found to have a negative influence on outcome by Basoglu *et al.* (1994), but was unrelated to outcome in the Mathews *et al.* (1974) study. Basoglu *et al.* (1994), de Beurs (1993), Chambless and Gracely (1988), Favarelli and Albanesi (1987), Fisher

*Author for correspondence.

et al. (1988), Hafner and Ross (1983), Keijser *et al.* (1994), Mavissakalian and Michelson (1986), and Stern and Marks (1973) agree that the more severe the phobia the more negative the outcome. But Mathews *et al.* (1974), Thomas-Peters, Jones, Sinnott and Scott-Fordham (1983) found that initial severity had no effect on outcome at all. Expectancy from treatment was not associated with outcome in one study (Basoglu *et al.*, 1994), but motivation for treatment had a positive effect on outcome in Keijsers *et al.* (1994), and in three studies there was a nonsignificant association (de Beurs, 1993; Mathews *et al.*, 1974; Mathews, Johnston, Lancashire, Munby, Shaw & Gelder, 1976). Marital dissatisfaction is a commonly investigated prognostic factor. Some studies found that it was not related to treatment outcome (de Beurs, 1993; Hafner & Ross, 1983; Keijsers *et al.*, 1994; Thomas-Peters *et al.*, 1983), and some found that it could have a relation but a very weak one (Jansson, Öst & Jerremalm, 1987). The quality of the therapeutic relationship has also been investigated as a potential predictor. Some found it significant (Chambless & Gracely, 1988; Keijsers *et al.*, 1994) and some did not (de Beurs, 1993). Catastrophic agoraphobic cognitions were related to outcome according to Chambless and Gracely (1988), and patient's personality psychopathology had a negative effect on outcome in the study by Mavissakalian and Michelson (1986).

In social phobia a predictor for good outcome was if the phobia had an onset after 11 (Davidson, Hughes, George & Blazer, 1993). In obsessive–compulsive disorder authors have looked at overvalued ideation; Hoogduin and Duivenvoorden (1988) found no effect on outcome but Basoglu, Lax, Kasvikis and Marks (1988) did. Foa, Grayson, Steketee, Doppelt, Turner and Latimer (1983) found that initial level of depression had a negative relation to outcome, while Basoglu *et al.* (1988) and Hoogduin and Duivenvoorden (1988) found no relation to outcome. Age and duration of illness was found to have no influence on outcome by Basoglu *et al.* (1988), but Foa *et al.* (1983) found that early onset had a positive effect on outcome. Lax, Basoglu and Marks (1992) investigated expectations from psychological and from drug treatment. They found that it correlated moderately but significantly with outcome and the same relation was found by Hoogduin and Duivenvoorden (1988). Initial severity has also been investigated in obsessive–compulsive disorder. Basoglu *et al.* (1988) found a negative relation to outcome, but Foa *et al.* (1983) found no relation at all. However, Foa *et al.* (1983) found that initial anxiety had a negative effect on outcome, while Basoglu *et al.* (1988) and Hoogduin and Duivenvoorden (1988) found no association to outcome.

Thus, there is no consensus from the results in the above studies and it is very difficult to draw any conclusions if there are any consistent prognostic factors in the treatment of anxiety disorders. One possible explanation for this could be that the outcome is measured in a lot of different ways, most of them with different kinds of questionnaires. Another explanation could be that there are frequently too few *S*s and too many variables in the studies to provide enough power for the statistical tests used. Tabachnick and Fidell (1989) say that if there are too many variables relative to sample size the results do not generalize the population. In a multiple regression analysis they recommend 20 times more cases than the predictor variables, or at least five times as many. There are only a few studies that fulfil this recommendation (Basoglu *et al.*, 1994; de Beurs, 1993; Chambless & Gracely, 1988). None of the studies have used cross validation. This procedure is important because it enables the researcher to draw conclusions that may not only be chance findings, providing that the significant results from a sample can be replicated in an equal sample in the same study.

To summarize, there are a lot of studies that focused on prognostic variables in panic disorder with and without agoraphobia and also in obsessive–compulsive disorder but the results are mostly very conflicting. Nothing has been done in specific phobias that we are aware of. So the primary purpose of the present study was to investigate if there are any variables that predict treatment outcome in specific phobias. For this study we chose a large sample and a limited number of variables as recommended by Tabachnick and Fidell (1989). The variables are firstly chosen from what other researchers found could be of prognostic value (age, onset, duration, initial level of anxiety and depression, overall phobia, initial level of complaints, credibility and expections from treatment), and secondly some that have not been examined before but could be of prognostic value (way of acquisition, family prevalence of the same phobia, heart rate, systolic blood pressure and diastolic blood pressure at pre-treatment behavior test). The aims of this study were to examine