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THE EFFECTIVENESS OF A COGNITIVE-BEHAVIORAL THERAPEUTIC PROGRAM DELIVERED ONLINE IN REDUCING SOCIAL ANXIETY SYMPTOMS

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Abstract: *Social anxiety is one of the anxiety disorders that strongly interferes with daily life, having a high prevalence rate among the general population. Although it has a vast number of untoward side effects, it is well known that a small percentage of people with anxiety disorder require or benefit from the treatment of this disorder. Cognitive-behavioral therapy managed through the Internet is a modern intervention technique for social phobia. The trial detailed in this work investigates the efficiency of an online intervention for the reduction of social anxiety-related symptoms. After the first evaluation, 76 people were diagnosed with social anxiety and they have been randomly placed in two groups: the experimental group, receiving active treatment and the control group, which was considered as a waiting list, mainly because after the study had been finished, these participants got the active treatment as well. Out of the entire study, in this article we will present only the evolution of the social anxiety level of these participants, after the treatment modules had been applied during the program. Similar studies done in Sweden, Australia and Switzerland support the efficacy of the cognitive-behavioral interventions applied online. Therefore, this study contributes to the consolidation of knowledge, regarding the efficacy of online interventions for the reduction of social anxiety, also forming an additional argument for the growth of online treatment accessibility in Romania.*

Key words: *cognitive-behavioral intervention, social anxiety, online therapeutic program.*

1. Introduction

Anxiety represents an almost inherent component of life in the contemporary society. It is important to realize that there are many everyday situations, in which it is natural and human to react with a dose of anxiety. If we didn't feel any anxiety about the daily

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challenges that involve loss or failure, something would be wrong. But still, why is anxiety so prevalent these days? Is there something in the contemporary society that causes it? Throughout time, people have been exposed to countless extreme events: wars, famines, epidemics, and diseases. However, anxiety seems to be a specific characteristic of the modern age and to explain this, we can mention at least three factors: the pace in which modern life is carried out, the lack of common values and the social alienation favored by the post-industrial society (Barlow, 1988).

We are often aware about the fact that life is full of difficulties and obstacles, that we have to fight with and be charming and assertive, but although we know these things, we are shy, insecure, often surpassed by others and our existence can become devoid of warm and close relationships. These problems are actually masked forms of social phobias and are often difficult to identify accurately, but they can begin to rule and even destroy a person's life.

Therefore, in social anxiety disorder, a person becomes inappropriately anxious in situations where she/he is observed and could be criticized. The subject tends to avoid such situations and when he encounters them, he does not engage fully; for example, he avoids conversations or sits in a place where he attracts less attention. Anxiety is also felt in advance, before entering the respective situations. These include, for example: restaurants, parties, seminars, meetings and other occasions where the person may have to speak in public and occasions where an action, even a minor one, is done in the public view, for example signing a document in face of other people.

The symptoms are those found in the case of anxiety disorders but flushing and tremors are the most common accusations. People with social phobia are preoccupied with the idea that they are viewed critically, although they realize that this idea has no basis. Some patients consume alcohol to relieve anxiety symptoms and so, alcohol abuse is more common in social phobias than in other phobias (Gelder et al., 1994).

Social phobias are almost equally common in women and men. In one study, the 6-month prevalence was estimated to be approximately 1-2% in men aged 18 to 64 and approximately 1-4% in women aged 18 to 64 (Weissman & Merikangas, 1986). Regarding the evolution, the onset is usually between 17 and 30 years. The first episode takes place in a public, for no apparent reason. Later, anxiety reappears in similar places. The severity of the episodes increases gradually, as does the avoidance behaviors.

We must distinguish between social phobia and social inadequacy. The latter consists of a primary deficit of social skills, with secondary anxiety; it is not a phobic disorder, but a type of behavior that appears in personality disorders, in schizophrenia and at people with a low level of intelligence. Among the features of this behaviors are hesitant, monotonous and hard-to-perceive speech, inappropriate facial expressions and gestures and a look that is not directed at the interlocutor.

It is also appropriate to mention that social phobia differs from avoidant personality disorder; the latter is characterized by shyness and lack of self-confidence throughout the entire life, while the phobia has a distinct onset and a much shorter history (Beck & Freeman, 1990).

And unlike panic attacks, where the catastrophe never occurs, in the case of social phobia, the negative events that the subject fears, can actually happen: people can look

at him strangely, he can be humiliated or be considered by others as uninteresting (Clark, 1986). So, the main problem is not that these events take place, because they can happen to other people too, but the meaning that the phobic subject gives to them is important, as well as the negative evolution that he expects, especially regarding self-image.

The cognitive theoretical model for social phobia was developed by Clark and Wells in 1995 and postulates that the condition is maintained by a number of factors:

- The basic beliefs related to the self-evaluation of one's own person: *I am a boring person. Nobody likes me*.
- Conditional assumptions: *If I show to the others how I feel, they will think I am incompetent. If I don't express myself correctly, the others will think I'm stupid.*
- The rigid rules regarding personal performance: *I must always and at all costs appear intelligent. I have to never show any sign of anxiety*.

Thereby, we can conclude the following sequence of events: the social situation activates the dysfunctional beliefs and assumptions related to the possibility of failure; and then the manifestation of the potential performances and the implications of the failure anticipated by the subject generate a strong state of anxiety. This will lead to the perception of the social situation as a threat, which in turn will generate automatic negative thoughts and related anxiety, a state that will automatically cause somatic and cognitive symptoms. These symptoms will also become the object of negative evaluations, being interpreted as signals of failures and humiliations on a social level. The apprehension of the danger is followed by the focus of attention on the person, the phobic begins to self-observe and monitor his sensations, feelings and thoughts.

In many cases, the social situations are avoided, which prevents the subject from refuting his negative evaluations. Anticipatory concerns, as well as those made after the occurrence of the event, contribute in maintaining the problem, because they keep the patient's concerns focused in that direction.

The treatment of social phobia consists in cognitive-behavioral therapy, in which exposure to situations that are the object of fears is combined with anxiety control. The relapse rate is lower after this combined treatment than after exposure treatment alone (Butler et al., 1984). Based on the general cognitive model of social phobia, the therapist together with the patient will create the plan of the concrete case, for which the latter wants to follow a psychotherapy program. Of major importance in the conceptualization of the case is the identification of insurance behaviors, avoidance behaviors, somatic and cognitive components of anxiety, as well as the nature of internal processing related to self-image.

Such a treatment plan was also used in online therapy for the treatment of social phobia, in the program that is the subject of this article.

2. Online therapeutic interventions in the treatment of social anxiety

The study published in the Journal of Consulting and Clinical Psychology in 2006, by Gerhard Andersson and Per Carlbring, from the Department of Behavioral Sciences at Linkoping University from Sweden, was the model for the treatment program presented

in this article. This study (Andersson & Carlbring, 2006) represents a controlled clinical trial, which tests the effectiveness of a psychotherapeutic intervention carried out online, in the treatment of social phobia. However, the participants in the program also benefit from assistance and online feed-backs from some psychotherapists, who follow their progress during the program and also assist them in the exposure procedures. The results are carefully recorded in the sheets of the treatment program.

The Swedish researchers started from the premise that people suffering from social anxiety do not go to therapy because even the process of looking for specialized help is a source of distress for them. Therefore, they proposed to increase the accessibility of these people to "evidence-based" psychological treatments. Also, until the introduction of their therapy program, most computer-mediated psychotherapies did not involve the online intervention of a specialist to guide the participant in the therapy, they were only "self-help" type programs.

Another great advantage for social phobias in participating in such a program is that they were guaranteed anonymity and in addition, specialized studies were beginning to indicate the transition from group therapy to individual therapy, in the case of social anxiety. Also, since there is a lack of empirical support for simple bibliotherapy in the case of social phobia, it was considered that several modules, within the therapeutic program, should be dedicated to the achievement of the in vivo exposure procedures.

Taking into account all these aspects presented above, the participants were randomly distributed in two groups: the group receiving the cognitive-behavioral treatment and the waiting list. The treatment consisted in nine weeks of online intervention, with two in vivo exposure sessions and minimal contact with the therapist via e-mail.

In the period between pretest and posttest, participants in the treatment group showed a significantly higher level of improvement in anxiety symptoms, compared to the control group. The psychological dimensions measured, in order to observe the level of improvement, were: the level of social phobia, the level of general anxiety and associated depression and the quality of life. The benefits obtained from the online intervention were maintained even one year after the treatment; the follow-up results proved this idea. That being said, the results obtained in this study support the premise of continuing and developing online treatment programs, in the case of social anxiety.

Another important study in this field is the one published in 2009 in the Journal of Clinical Psychology, by Berger, Hohl and Caspar from the University of Bern. The study has as its starting point the studies carried out in Sweden, which show that psychotherapeutic interventions with the help of the Internet are in full development, for various mental health problems, including anxiety and other affective disorders (Andersson et al., 2009).

The online treatment program in this study was designed based on the same principles: a minimal contact with the online therapist, carried out by email; self-help guides and work modules, both in text and multimedia versions and based exclusively on "evidence-based" cognitive-behavioral therapy techniques.

The main advantages of the online therapy, such as the high degree of accessibility and the fact that patients can afford it more easily financially (Berger at al., 2009) are of great importance in treating a condition that presents such a high prevalence, as is social

phobia. In addition to all these, we can mention the fact that these patients show a high degree of fear in front of seeking the help of a psychotherapist, to whom they can meet face to face.

The above Swiss researchers also started from the results obtained by the research group from Australia, which also worked on studying the impact of the online therapy. The latter concluded that, compared to the self-application of some self-help techniques, the administration of these techniques, but with the assistance of an online therapist, is more effective and demonstrates significant improvements in symptoms of social phobia (Titov et al., 2008a; Titov et al., 2008b).

Therefore, there are three research groups, focused on the effectiveness of the online therapy in treating social phobia: the one from Sweden, the one from Australia and the one from Switzerland. Although all three started therapy programs based on cognitive-behavioral techniques, the differences between them consist in the presentation methods of the working materials.

For example, the group from Sweden offered an online treatment solution based mostly on written text and bibliotherapy, while the group from Switzerland offered a program made mostly in multimedia format, to increase the interactivity process developed by the Internet world. Moreover, they really wanted to investigate whether in the future it would be advisable to offer even more sophisticated solutions, from a technical point of view.

The results obtained in the Swiss study also demonstrated significant differences between the group that received active treatment and the control group, regarding the improvement of social phobia symptoms, in the disadvantage of the group on the waiting list. Another important point, observed by the researchers, was that such an online treatment program had a high degree of acceptance by patients with social phobia. The results of the study concluded that the therapeutic interventions offered on the Internet, which assume minimal contact with a psychotherapist, represent a very promising treatment modality in the future in the case of social phobia.

As naturally in a research community, after the publication of this study there was also the completion of the Swedish research group, coordinated by Gerhard Andersson and Per Carlbring, who published in 2009 in the Journal of Clinical Psychology the paper Commentary on Berger, Hohl and Caspar's (2009) Internet-Based Treatment for Social Phobia: A Randomized Controlled Trial.

The Swedish researchers started from the idea, that the study published by the Swiss was already the third independent replication of a research project, investigating the effectiveness of an online treatment program, in reducing the symptoms of social anxiety. For this reason, the new article showed future challenges, in the field of investigating psychological treatments delivered online to the patients.

The paper begins by stating that, although medication can be effective in the treatment of social anxiety, a large proportion of patients still prefer psychotherapy; and the cognitive-behavioral approach has the strongest empirical support of all types of psychological treatments. Unfortunately, the need for this type of treatment is very high, the prevalence of social anxiety being approximately 10% (Furmark et al., 1999) and the number of therapists trained in cognitive-behavioral therapy can not cover this

large volume of patients. For this reason, a possible solution to cover this deficit is the delivery of remote treatments, in online electronic format.

Before finding this treatment option, there was also the solution of implementing therapy programs in virtual reality, but these would have been very difficult for patients to use, outside of therapy laboratories. The study by Berger et al. was considered very important in the field, because it showed a similar effect size between online and face-to-face therapy for social anxiety.

And more than that, the fact that the Swiss researchers have made a much more interactive therapy program than the Swedish one, led the Swedish researchers to the conclusion that it is worth investing in such programs in the future, because the size of the effects was similar between the two studies.

The study by Titov, Andrews and Davies entitled Effectiveness Randomized Controlled Trial of Face to Face versus Internet Cognitive Behavior Therapy for Social Phobia and published in 2011, in the Australian and New Zealand Journal of Psychiatry investigated the effectiveness of the online cognitive-behavioral therapy, compared to the one performed face to face with the therapist. The participants were randomly distributed in the two treatment groups and in both cases the therapy was carried out by the same therapist (Andrews, Davies, & Titov, 2011).

Participants in both groups have made a major progress in improving their anxiety symptoms and no significant differences were found in the outcomes of each type of therapy. But regarding the total time, given by the therapist to each patient from the two treatment groups, there were important differences: 18 minutes/patient in online therapy and 240 minutes/patient in face-to-face therapy.

So, the conclusion of the study was very clear: using online therapy, much more patients can be helped, by following some rules of good practice for mental health and some standardized protocols and much more serious cases, that are more difficult to recover, can be supported through the same number of therapists, without the need for additional staff.

This is the way we highlighted, based on specialized studies, the need to introduce such a therapy program in the Romanian language as well. This project was successfully carried out and embodied in the therapeutic program presented below.

3. Cognitive-behavioral Therapy for Social Phobia in Virtual Environment: A Randomized Controlled Clinical Trial

3.1. Research overview

The randomized controlled clinical trial presented in this paper investigates the effectiveness of an online intervention for reducing social anxiety symptoms, in a cultural context where this form of treatment is rarely tested. The interested persons were recruited through advertisements published in the mass media. After the initial evaluation, 76 people were diagnosed with social anxiety, being randomly divided into two groups: the active treatment group and the control group, considered to be a waiting list, because after the study was conducted, these participants also properly benefited from the intervention.

From the entire study carried out, in this work we will only present the evolution of the level of social anxiety of the participants, following the application of the treatment modules within the program. We will present only this part of the project because the author of this article was directly involved here in these working assignments.

The assumption from which we started the research was the following: the participants in the active treatment experimental group will show a significantly lower level of social anxiety, following the online therapeutic interventions, compared to the participants in the control group of the research.

3.2. Method - Research design

The present study represents a controlled clinical trial, in which the participants were randomly assigned into the two experimental conditions: the active treatment group and the control group, which took the form of a waiting list.

3.3. Participants

The study included 76 participants, who were recruited from all over the country. The age range which they belong is between 18 and 54 years, with an average age of 28.81.

The criteria for the inclusion of participants in the study were the following:

- age older than 18 years;
- reaching threshold limit scores for social anxiety on the following scales: Social Phobia Inventory; Social Interaction and Anxiety Scale; Liebowitz Social Anxiety Scale (LSAS) - Self Report version;
- meeting the DSM criteria for social anxiety in completing the Social Phobia Screening Questionnaire;
- the diagnosis of social anxiety should be the primary diagnosis in the evaluation with the Structured Clinical Interview for DSM-IV-TR (SCID);
- the absence of suicidal ideation, investigated with the Beck Depression Inventory II, as well as the absence of parasuicidal behaviors, investigated with the help of the SCID screening questionnaire;
- not following another form of treatment for social anxiety;
- ease of access to a computer connected to the Internet;
- in the situation where a participant takes medication, it must be dosed and taken constantly for at least one month and during the study intervention, the participant must agree not to interrupt the medication;
- the absence of a diagnosis of psychosis or borderline personality disorder, investigated with SCID.

3.4. Intervention

The present intervention was adapted from a manual that was previously tested on participants from Sweden diagnosed with social anxiety. The Romanian version of the treatment manual contains the main elements of the original intervention.

Relevant information about social anxiety is presented in each of the nine treatment modules and at the end of each module, participants are asked to complete the answers to some theoretical questions, to give concrete examples for different types of thoughts that they identify, to build hierarchies of anxious situations, describe exposure exercises, monitor their anxiety states and complete the weekly LSAS social anxiety level questionnaire.

The participants were encouraged to contact their psychotherapist online, if they encountered difficulties in understanding the theoretical text or in the practical implementation of the required applications. Each participant received a weekly feed-back from his therapist and also the online psychotherapist answered the questions asked within a maximum of 48 hours. In order to advance in the intervention, the participants completed their exercises and answered the questions at the end of each module, on a secure online platform. If the participants' answers proved that they correctly understood the main concepts presented and used them in at least one real life context, the online therapist gave them access to the next treatment module. Each treatment module was completed in one week and the entire program lasted nine weeks. The control group received no active treatment during this nine-weeks interval, but these participants were also asked to complete the weekly LSAS social anxiety questionnaire.

3.5. Procedure

The study was briefly described in various local and national newspapers and at the end of each article it was given the address where participants could register for the project. The registration was done online, then an informed consent was presented and the initial screening questionnaires were completed.

People who met the minimum criteria for inclusion in the study: high level of social anxiety, low level of depression, age over 18 years, no psychotic or personality disorder and who were not currently under another form of treatment for social anxiety, were contacted for a telephone interview. The telephone interviews took place for 12 days and were based on the application of the SCID questionnaires. The purpose of these interviews was to provide reassurance to the researchers that the respective participants did indeed meet DSM criteria for social anxiety.

Initially, 291 applications were received, of which 47 were excluded due to high depression scores and 35 due to low social anxiety scores; 33 applicants could not be contacted for the interview, because they did not answer the phone; 21 people had planned a trip longer than 10 days in the next 12 weeks; 10 applicants declared that they no longer wish to participate in the study; 9 people stated that they have other mental illnesses; 8 participants were under 18 years old; 5 did not provide a phone number on the applications and 2 were referred to another intervention for social anxiety. Of the 121 participants who remained and were contacted by telephone for interviews, 45 did not meet DSM criteria for social anxiety disorder and were also excluded from the study.

Therefore, the study included 76 participants, who were randomly assigned into two groups: the intervention group and the waiting list, which was actually the control

group; each of the two groups having 38 participants. The participants from the two groups received an information email, referring to the group they were a part of and there were presented the tasks they had to complete next, depending on the group they belonged to.

The online intervention protocol included nine modules, developed based on the principles of cognitive-behavioral therapy, each module being presented during one week. During the intervention, the participants had the opportunity to better understand their condition, to identify and restructure negative automatic thoughts, but also to do exposure exercises, which proved to be very effective in reducing anxious symptoms.

Both, before and after completing the therapy program, participants were asked to complete a series of online questionnaires that assessed social anxiety, depression and irrational thoughts. To monitor progress in therapy, the Liebowitz Social Anxiety Scale (LSAS) was administered weekly.

Participants in the control group were asked to complete the LSAS social anxiety questionnaire weekly for 9 weeks and were informed that after 10 weeks they would also begin the active treatment.

Participants in the treatment group were given access to the first treatment module and were also asked to complete the weekly LSAS social anxiety questionnaire. Each participant in this group was randomly assigned to an online therapist, who would assist him throughout the psychological intervention process. The online therapist was responsible for monitoring the activity of each participant who had been assigned to him, to send the participants reminder messages of completing the module, if no activity was found on the platform, to provide feedback on the tasks completed by the participants and to answer to all their questions.

All participants were supported throughout treatment and given positive reinforcement for each progress made. When needed, therapists provided participants individualized guidance and brief conceptualizations to increase their adherence to treatment and encourage them to continue.

The post-intervention evaluation consisted of another telephone interview, during which the module from the SCID was again applied for the diagnosis of social anxiety and the participants were asked to complete online once again, the same questionnaires that were applied in the initial phase of screening. After this moment, the participants could no longer get in touch with the online therapist, but they could still access their treatment modules for another 6 months, in case they wanted to review certain information.

3.6. Instruments

Social anxiety, conceptualized as fear and avoidance dimensions, was measured with the help of the following instruments:

- Liebowitz Social Anxiety Scale - Self Report version (Liebowitz, 1987)
- Social Phobia Inventory (Connor et al., 2000)
- Social Interaction and Anxiety Scale (Mattick & Clarke, 1998)

- Social Phobia Screening Questionnaire (Furmark et al., 1999)

In addition to the level of social anxiety, the study also measured:

- depressive symptoms - using Beck Depression Inventory II (Beck & Freeman, 1990)
- rational and irrational thinking patterns - using the Attitudes and Beliefs Scale (David, 2007)
- negative thoughts and the cognitive processes related to them - using the Automatic Thoughts Questionnaire (Hollon & Kendall, 1980).

3.7. Randomization process

Once registered on the online platform, participants received a registration code designated by the program. Participant codes were actually randomly assigned to the two experimental conditions, using a 1-to-1 allocation procedure. After this procedure, online therapists and participants found out the allocation results.

3.8. Clinical impact of the program

The participants who at the final post-intervention interview, conducted with SCID, no longer met the DSM criteria for social anxiety, were considered the true responders of this therapy program, in which case the significant clinical impact of this type of online therapy was demonstrated.

Participants in the two experimental conditions were similar, none were taking any medication for social anxiety at the time of online therapy initiation and also, none had previously participated in any other therapy program, either online or face-to-face to the therapist.

At the end of each module, participants could save their answers on the online platform. Thus, it was possible to demonstrate the increased adherence of the participants to the treatment, because at the end of the program, 662 online pages were completed with answers and exercises resolved during the program. This is also indicated by the fact that in the post-intervention stage, the questionnaires were collected from 68 out of the 76 participants (89%) and the SCID final evaluation interviews were carried out with 72 out of the 76 participants (94 %).

4. Results

We will further illustrate how the level of social anxiety has changed in a favorable direction the condition of the participants being improved. The intervention not only had a statistically significant effect on the participants' social anxiety, but also substantially reduced their symptoms and thus increased their quality of life.

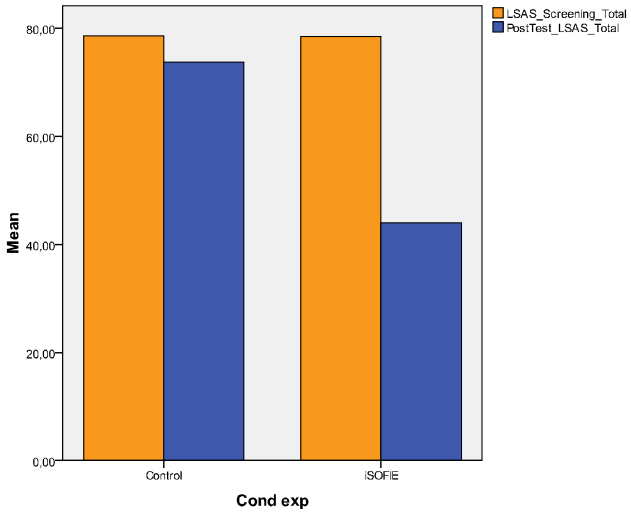

Fig. 1. *Changes in social anxiety symptoms*

For the Liebowitz Social Anxiety Scale (LSAS), in the pretest phase, the means and standard deviations, for the two experimental conditions: the intervention group and the control group are presented in Table 1.

Table 1

Means and standard deviations regarding the level of the social anxiety for the two groups in the pretest phase

LSAS pretest	**Intervention group**		**Control group**	
	Mean	SD	Mean	SD
Social anxiety level	78.47	21.78	78.60	16.14

Regarding the results obtained when applying the LSAS in the post-test phase, means and standard deviations are presented in the following table.

Table 2

Means and standard deviations regarding the level of the social anxiety for the two groups in the post-test phase

LSAS post-test	**Intervention group**		**Control group**	
	Mean	SD	Mean	SD
Social anxiety level	41.79	23.46	75.71	26.62

It can observed the difference between the means for the level of the social anxiety is in the case of the active psychotherapeutic intervention group in the program, namely 36.68 points, compared to 2.89 points in the case of the control group.

By using the t-test for independent samples we tested that the differences are sufficiently distinctive, so that the chances of them occurring randomly are less than 0,05.

For the application of LSAS in the pretest, the result of the t-test for independent samples is: $t(74) = 0.030$, $p > 0.05$. In the pretest there is no significant difference in the level of anxiety between the two experimental groups.

For the application of LSAS in the post-test phase, the result of the t-test for independent samples is the following: $t(67) = 5.608$, $p < 0.01$.

In post-test the statistical significance shows that at the end of the online therapy program, the anxiety level of the participants in the active treatment group decreased significantly more, compared to the anxiety level of the participants from the control group.

All these results support the research hypothesis from which we have started our approach in this paper.

5. Conclusions

Regarding the clinical significance of the program, we can add the fact that 71.2% of the participants, i.e. 27 out of 38 participants in the active treatment group, did not meet the DSM criteria for social anxiety at the end; among these, however, only 13 participants no longer presented symptoms of social anxiety at all, the other 14 still presented certain residual symptoms.

Regarding the satisfaction of the participants with the treatment they have received, we can add that, after the completion of the final questionnaire, the following results were obtained: 46% of the participants were very satisfied with the treatment; 40% were satisfied and only 14% declared themselves to be in the middle situation, i.e. neither satisfied nor dissatisfied with the received treatment. There was no participant who was completely dissatisfied with the treatment. Regarding the usefulness of this type of treatment, 72% of the participants considered the treatment very helpful for them and 28% appreciated it as helpful.

Regarding the presence of the predictors, which help us as therapists to anticipate the better change in the participants' conditions, this study also reinforces the idea, widely circulated in the specialized literature and proves once again, that those participants who initially had a very high level of social anxiety, but were involved in the treatment and have a large number of answer sheets and exposure exercises completed, decreased their anxious symptomatology to a much greater extent than the participants who did not complete their homework and exercises weekly, with the same rigor and involvement.

Also, compared to the participants from the control group, those in the active treatment group recorded significant improvements on all the assessed dimensions: social anxiety, depression, irrational thoughts.

And as a final clarification, we can add that in the future, when we carry out such interventions, we can include in the initial evaluation of the participants a motivational interview, in order to verify the level of the involvement that they declare as being manifested, related to the proposed treatment program.

As we have shown previously, similar research conducted in Sweden, Australia and Switzerland supports the effectiveness of cognitive-behavioral interventions

administered online. Thus, the present study contributes to the consolidation of the effectiveness of the online interventions to reduce also the social anxiety disorder and represents an additional argument for increasing the accessibility of the online treatments in our country.

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