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RESEARCH ARTICLE

Effect of Hypnotic Group Treatment on Distress Psychopathology in Mixed-group Outpatients with Depression and Anxiety

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Abstract:

Background:

There is evidence of hypnosis being effective in reducing both emotional distress, anxiety, and depression.

Hypnosis as a technique promotes enhanced mental mastery over the body. This may result in hypnosis being particularly salient in treating distress associated with somatic and psychological symptoms.

Objective:

This research aims at verifying the effectiveness of a group treatment, which provides for the use of hypnosis-related techniques in mixed-group outpatients with anxiety or depression.

Methods:

Participants. 31 outpatients (average age= 49.005; DS =12.1) including 13 with mild-moderate depression (average age= 49.17; DS=12.20) and 18 with mild-moderate anxiety (average age=48.84; DS=13.02).

Procedure. The group treatment comprised 8 sessions, during which a hypnotic state was induced, aimed at generating a sensation of profound wellbeing in the participants. They could share their experience in a penultimate group session, and were provided with individualised recommendations on nutrition and lifestyle in the last individual session. Patients were prescribed to practice self-hypnosis every day at home with the support of a CD-ROM.

Psychopathological symptomatology (SCL-90R), depression (BDI), and anxiety (STAI-Y1, SAS) were assessed at pre, post, and 3-month follow-up.

Statistical analysis. Friedman, Kruskal-Wallis and Mann-Whitey tests were used. The Bonferroni's correction was applied as needed. The effect size (Cohen's d) was also measured.

Results:

For the total sample, for all tests, significant differences were observed in the phases. The effect size was found to vary from "small" at pre to "medium" at post. A "large" effect size was observed when comparing pre and follow-up phases. An overall reduction in the symptoms of distress measured by the SCL-90 R – with the anxiety group showing better outcomes – alongside with an improvement in the symptoms of depression and anxiety were observed in all participants.

Conclusion:

The clinical impact appears to be relevant, as shown by the values for d. The treatment is cost-effective for highly prevalent disorders in outpatients. The outcomes of this study support the effectiveness of hypnotic group treatment.

Keywords: Anxiety, Depression, Distress, Hypnosis, Group treatment, Effectiveness.

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1. INTRODUCTION

Hypnosis is defined as "A state of consciousness involving focused attention and reduced peripheral awareness characterized by an enhanced capacity for response to sugges-tion." [1, 2]. Hypnosis may be distinguished from other states of consciousness such as normal waking state, sleep, deep relaxation or meditation *via* encephalogram (EEG) and imaging methods [3]. Hypnosis has attracted growing interest in cognitive neuroscience; this said the studies of the neural correlates are applying brain-imaging techniques, which can provide refined analyses of both the location and time course of brain activity involved in hypnotic experience [4, 5].

Hypnotic induction is a process to induce the state required for hypnosis to occur. This definition does not however, specify procedures or the context where these can be applied. Thus, it may include procedures involving interaction between a therapist and a patient, self-hypnosis procedures, or other procedures that could be identified in the future thanks to the advances in technology [1].

Hypnosis may have diverse applications according to its objectives. These include the following: medical hypnosis, *e.g*. aimed to relieve somatic symptoms, reducing the stress experienced as a result from medical procedures, and improving physiological parameters; hypnotic communication, with suggestions that do not rely on trance; hypnotherapy aimed at generating behavioural changes and modifying cognitive-affective patterns, restructuring for coping with emotionally stressful events, and for the reintegration of dissociate feelings [6, 3]. Medical hypnosis is characterized by the application of hypnotic techniques, whether or not with the use of induced trance states. The subsequent use of guided imagery, widely used during trance, is apt to re-establish positive ways of perceiving the experience, as well as to reduce automatic dysfunctional thinking loops [7].

Hypnosis may be used alone or integrated with other forms of psychotherapy for therapeutic purposes. In this respect, hypnosis has been integrated with some evidence-base approaches. Such an example is the integration with the Cognitive-Behavioural Therapy (CBT). A number of mutual features, such as the use of images and relaxation, as well as the involvement of common cognitive processes, *e.g*. focused thinking and expectations, facilitate integration. As an example, the Systematic Desensitization (SD) with hypnosis treatment included a hypnotic induction and suggestions that involved coping imagery. The SD without hypnosis included progressive relaxation instead of a hypnotic induction and did not include the suggestions with coping imagery. As described in Forbes' dissertation [8], it has been observed that the subjects receiving SD with hypnosis experienced greater anxiety reduction than the subjects receiving SD with progressive relaxation. The possible addictive effects of hypnotherapy combined with CBT have been discussed by Kirsch *et al*. [9], and Sadat Madani and Tavallaii Zavareh [10].

With respect to the treatment of depression, Alladin has proposed a combination of Beck's cognitive therapy and hypnosis [11, 12]. Cognitive Hypnotherapy has subsequently been extended to patients with anxiety disorders [13].

Nevertheless, a study by Fuhr *et al*. [14] has contributed to assess the importance of hypnotherapy in the treatment of depression, thus verifying the hypothesis that the average improvement in the Montgomery-Åsberg Depression Rating Scale score will not be inferior in hypnotherapy when compared with CBT (non-inferiority hypothesis).

It should also be noted that producing a hypnotic phenomenon does not necessarily require a therapist and a patient to interact: in fact, a hypnotic state can be induced alone (self-hypnosis). A meta-analysis of hypnosis in medical interventions demonstrated no significant differences in efficacy between live hypnosis and suggestions by means of audio files [15]. Alladin and Alibhai [12], Yapko [16], Dobbin *et al*. [17] have highlighted that self-hypnosis allows for developing antidepressive pathways.

A study by Gruzelier [18] presents the positive effects of self-hypnosis on the immune system, mood, and wellbeing in general. More specifically, hypnosis was found capable of counteracting the effects of stress on the immune functions in a group of medicine students, with reduction of viral infections in wintertime.

Brugnoli *et al*. [19] point out that the reduction of pain and anxiety is also confirmed when individual patients practice self-hypnosis at home.

Rutten *et al*. [20] have observed that the long-term effectiveness of treatment with a hypnosis CD is non-inferior to that of hypnotherapy by therapists. It, therefore, seems recommendable to integrate self-hypnosis into daily routine [21]. Besides this, it seems that learning techniques of self-hypnosis empower patients to participate in their own treatment, thus also promoting patients' independence.

Additionally, it is worth noting that hypnotherapy may be performed one-on-one or in a group setting.

Téllez *et al*. [22] have verified the positive effects of group hypnotherapy on anxiety, distress, optimism, and self-esteem in breast cancer patients. Furthermore, Gregoire *et al*. [23] have observed a decrease in anxiety, depression, and fatigue in the hypnosis group in breast cancer patients.

Sahour *et al*. [24] concluded that group hypnotherapy was effective in reducing anxiety and pain during labor. Beevi *et al*. [25] have observed a reduction of stress, anxiety, and depressive symptoms during pregnancy in an experimental group.

In a multicentre randomized controlled trial in patients with irritable-bowel syndrome, Flik *et al*. [26] found that group hypnotherapy was non-inferior to individual hypnotherapy.

Lastly, the results of a prospective randomized, controlled study with patients suffering from anxiety, depression, or anxious-depressive disorder support the efficacy of group hypnotherapy for mitigating anxiety and depression symptoms [27].

Hypnotherapy has support from contemporary clinical

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applications and researches [28, 29]. Number of researches support its efficacy for a wide range of symptoms, including the following: acute [30 - 32] and chronic pain [33], irritable-bowel syndrome [34 - 36], in metastatic breast cancer [37], somatic and psychological symptomatology of stress-related disorders [38], depression [11, 39 - 42], anxiety [43, 44], and for emotional distress reduction [21, 45].

As regards the treatment of depression, as observed by Alladin [46], the use of hypnosis has been inhibited, based on the erroneous belief that hypnosis would exacerbate suicidal behaviors.

It is currently acknowledged that hypnosis has no contraindications for hospitalised patients or outpatients with depression, especially when it is part of a multimodal therapeutic approach [16, 47, 48]. Another reason why hypnosis is seldom used in the treatment of depression can be attributed to the absence of a comprehensive description of hypnotherapy in the literature [49].

Nonetheless, Yapko [16] has presented a series of clinical considerations supporting the use of hypnosis for depression: hypnosis amplifies the subjective experience, helps interrupt symptomatic patterns, promotes experiential learning, promotes the link and conceptualization of responses, provides for different models of inner reality, and helps in focused attention.

As regards effectiveness data, the positive results of hypnosis for treating depression symptoms observed in the meta-analysis by Shih *et al*. [40], have been substantially confirmed by the recent meta-analysis by Milling *et al*. [50].

As regards the treatment of anxious states, there is general evidence of hypnotherapy being also an effective treatment method for anxiety and anxiety-related disorders [44, 51]. Hypnosis has been shown to be as equally helpful in reducing anxiety as alprazolam 1mg [52] in reducing anxiety.

More specifically, several studies have found clinical hypnosis to be useful in the treatment of anxiety in severe chronic diseases [19, 53]. As far as anxious states are concerned, Spiegel [54] argues that hypnosis may be useful, not only for its capacity of inducing relaxation, but also for its typical dissociating element, which facilitates separation of the psychological and somatic components of anxiety.

One of the important goals for utilizing hypnosis is to induce relaxation. The relaxation experience is particularly meaningful for patients with anxiety, or with comorbid disorders (in both community and clinical samples, the average comorbidity rate of major depressive disorder and various anxiety disorders is more than 50%, and the lifetime rate is 76%) [55]. This said, relaxation can also benefit patients struggling with depression: in fact, many depressed patients display a comorbid anxious disorder and they also lack confidence in their abilities to effectively handle life challenges. For these reasons, depressed patients often derive significant benefit from learning to relax.

Distress related to psychological and somatic symptoms is a hallmark feature for all the psychiatric disorders: particularly, Anxiety and Mood Disorders share overlapping features (restlessness, irritability, asthenia, attention deficit, sleep disorders, muscle tension, pain) [56, 57], and both anxiety and depression involve a reciprocating cycle of mental and physical distress. Hypnosis as technique involves enhanced mental mastery over the body and this make the technique especially salient to treatment.

A clinical improvement has been observed in a preliminary study by Truzoli *et al*. [58] on patients diagnosed with anxiety and depression. In this study, a reduction of the symptoms of stress measured according to Symptom Checklist 90 R as well as an improvement in the levels of depression and anxiety for the overall sample had been observed.

In light of the abovementioned scientific evidence, a group hypnotherapy protocol for patients diagnosed with depression or anxiety has been drafted. Halfway through the process, patients were prescribed to practice self-hypnosis with the support of a CD-ROM, with the purpose of reducing psychological and somatic stress and depressive and anxious symptomatology. The aim of this work is therefore to evaluate the impact of a group hypnosis-based treatment on psychological and somatic-related distress, as well as on depression and anxiety in a mixed-group of 31 outpatients with anxiety or depression diagnosis. Besides, the two anxious and depressed subgroups were compared, with the aim of investigating any potential differentiated effect on the levels of distress, depression, and anxiety. When present, the improvement of depression and anxiety levels, and the reduction in distress, were measured *via* the four scales referred to under Materials.

2. MATERIALS AND METHODS

2.1. Participants

Thirty-one outpatients (mean age = 49.005; DS = 12.1) including 13 with mild-moderate depression (mean age = 49.17; DS = 12.20) and 18 with mild-moderate anxiety (mean age = 48.84; DS = 13.02). Diagnosis: among the patients with anxiety disorders, 4 have generalized anxiety disorder, 9 have adjustment disorder with symptoms of anxiety, 5 have Anxiety Disorder Not Otherwise Specified (ADNOS). Among patients with depressive disorders, 5 patients showed anxious-depressive syndrome, 7 patients showed a recurring major depressive disorder, and 1 patient showed a mood-disorder NOS.

In the overall sample, the males were 6, and females 25. The depressed subgroup included one male and 12 female participants; the anxious subgroup included 5 males and 14 females. These data are impacted by the frequency of access to our Centre for the treatment of anxious and depression disorders – it should be noted that it is predominantly accessed by female patients. In any case, our data reflect what is known on the epidemiology of depression and anxiety disorders, with higher prevalence rates in females.

All patients had received at least two cycles of drug treatment with adequate duration and dosage for each cycle as indicated by the guidelines, for a mean of 3 months prior to their referral to the psychological outpatients Unit. All patients had partial response to pharmacological treatment. The

judgment of partial responsiveness was based on previous guidelines [59] and consistent with the guidelines of the I.K. National Institute for Health Care Excellence [60, 61].

2.1.1. Inclusion Criteria

Age between 18 and 65; established diagnosis of Anxiety or Depression; partial response to pharmacological treatment.

2.1.2. Exclusion Criteria

Axis II [62] comorbidities, drug addiction, schizophrenia, and/or medical condition.

2.2. Materials

2.2.1. Symptom Checklist 90 R (SCL-90 R) [63]

A 90-item self-report instrument evaluating a range of psychopathological symptoms: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Somatization subscale reflects distress arising from bodily perceptions. Complaints focused on cardiovascular, gastrointestinal, respiratory, and other systems with autonomic mediation are included. Obsessive-compulsive reflects symptoms typical of obsessive-compulsive disorder, with the focus on thoughts, impulses, and actions that are experienced as irresistible by the individual. Interpersonal sensitivity focuses on feelings of personal inadequacy and inferiority in comparisons with others. In Depression subscale, most of the typical symptoms of depressive syndromes according to current diagnostic criteria are included. Anxiety subscale is composed of symptoms that are associated with manifest anxiety, as nervousness, tension, and trembling as well as some somatic correlates of anxiety are included. In hostility subscale, thoughts, feelings, or actions characteristic of the negative affective state of anger, and qualities such as irritability and resentment are included. In phobic anxiety subscale, the items are actually all manifestations of agoraphobia. Paranoid ideation is represented as a disordered mode of thinking; hostility, suspiciousness, grandiosity, centrality, fear of loss of autonomy are included. Psychoticism is represented as a continuous dimension of human experience. The items include withdrawal, isolation, and schizoid lifestyle as well as first-rank schizophrenia symptoms such as hallucinations and thought disorders. The sum of the scores on the nine subscales produces the Global Severity Index (GSI) for overall psychological distress with an internal reliability (Cronbach α) of 0.97 [64]. Factor analytic studies of the Italian version have suggested that this instrument is optimal as a measure of symptom distress [65].

2.2.2. Beck Depression Inventory (BDI) [66]

A 21-item self-report questionnaire assesses the clinical symptoms of depression over the past week. The score is a sum of the positive answers, ranging from 0 to 63, and it is suggested that scores of 11 or greater reflect the presence of depression. The internal reliability (Cronbach's α of the scale is 0.92 [67], with concurrent validity ranging from 0.55 and 0.73 for non-psychiatric patients.

2.2.3. Self-rating Anxiety Scale (SAS) [68]

A 20 items self-report scale that assesses the complaints (primarily somatic symptoms) associated with anxiety symptoms. The respondent indicates how often he or she has experienced each symptom on a 4-point Likert scale consisting of “none or a little of the time” (coded as 1), “some of the time” (coded as 2), “good part of the time” (coded as 3), and “most or all of the time” (coded as 4). The raw total score range is 0–80. Zung [68, 69] proposed mean z-scores for diagnostic categories (Anxiety Disorders = 58.7; Depression = 50.7) and healthy controls (33.8). In a clinical sample the test-retest reliability range between 0.81 and 0.84 over a period of 1 to 16 weeks [70].

2.2.4. State Trait Anxiety Inventory Y1 (STAI-S) [71]

A 10 item-questionnaire that assesses anxiety states (how do respondents feel at the time). This self-report scale rates the affective, cognitive, and physiological manifestations of anxiety. Scores for each question range from 1 = never, to 4 = almost always, and the total score can range from 20 to 80. A score of greater than 45 is recommended as showing signs of anxiety. The internal reliability of the scale is 0.93, and a concurrent validity of 0.52 to 0.80 [71].

2.3. Procedure

All patients have signed a document for informed consent.

The treatment comprised 8 weekly group sessions for the duration of 45 minutes; a last group session; and an individual closing session (for a total of 10 sessions). The whole duration of the treatment was two and a half months.

The first four group sessions focused on the progressive induction of a hypnotic trance, aimed at allowing patients to experience trance and deep relaxation.

The following four sessions provided for the application of psychotherapeutic techniques during a state of deep relaxation (achieved by means of trance induction). More specifically, a “change generator” (visualizing the future) was used in the fifth session; a timeline with colours individually chosen by participants and aimed at therapeutic purposes was introduced within the sixth session; advanced restructuring techniques for anger and aggressiveness were implemented within the seventh session; the anchoring of the trance state was carried out in the eight session, with the purpose of replicating the trance state itself.

Patients were taught how to practise self-hypnosis. Starting from the fourth sessions, they were encouraged to practise self-hypnosis at least once a day at home for 10 minutes, with the support of an audio CD containing the induction of the trance states reached during the first four sessions.

The last group session focuses on elaborating the group experience, whereas the last individual session was committed to psychoeducation in the fields of lifestyle and nutrition, including customised recommendations.

The data have been collected at pre, post, and three-months follow-up, and analysed by collaborators who have not been involved in the conduction of the therapeutic group.

2.3.1. Statistical Analysis

Friedman test was used for checking the occurrence of any difference between the four scales used (SCL-90 R, BDI, SAS, and STAY 1) with three repeated measures (pre, post and follow-up), for the overall sample. The effect size (Cohen's d) was also calculated. Mann-Whitney test was used for all four scales (SCL-90 R, BDI, SAS, and STAY 1), for verifying any difference between the depression and anxiety groups. The Bonferroni's correction was applied as needed. Kruskal-Wallis test was used for attesting any difference between SCL-R 90 subscales with three repeated measures (pre, post and follow-up) between anxious and depressed subgroups. Therefore, also having considered that, in the two subgroups with depression and anxiety, the mean age was statistically equal, Spearman correlation was used to assess the association of the age and the outcome, as regards all the employed scales (SCL-90 R, BDI, SAS, and STAY 1) at pre-, post- and follow-up for the overall sample. As regards the results broken down by gender, the outcomes observed in the participants have not been subject to comparison, given the small number of male participants available to make a meaningful comparison.

3. RESULTS

Dropout rates equal to zero for all phases.

No correlation was observed between age and SCL-90 R, BDI, SAS, and STAI 1 both at post- and follow up- (always: $p > 0.08$). This being said, the outcome and age are not associated.

Primarily, for the overall sample, we checked for any differences between the four scales used (SCL-90 R, BDI, SAS, and STAY 1) in the phases (pre, post and follow-up).

Table **1** shows means and standard deviations at pre, post and follow up treatment for all the scales for the overall sample; Friedman test, and Cohen's d for dependent data.

As regards the overall sample, significant differences among the phases were observed (with Bonferroni's correction p=0.017) for all tests. The effect size varies from small to intermediate between pre and post, but it appears to be large when comparing pre and follow up.

Subsequently, we compared two subgroups (depressed and anxious) for each of the four scales used in the phases (pre-, post-, and follow-up).

Table **2** shows means and standards deviations for the three phases for all the scales employed, for the group of patients diagnosed with depression and for the group of patients diagnosed with anxiety.

We applied Bonferroni's adjustment, for lowering 0.05 to 0.017. Upon application of this correction and for all scales, no significant difference was observed between the depression and anxiety groups – except for scale SCL-90 R at follow up (Mann-Whitney test: $z = 2.73$, $p = 0.006$). The scale SCL-90 R, as referred to under Materials, includes nine subscales. A subsequent statistical analysis was carried out to assess which subscales contributed to the differences observed at follow-up. Furthermore, when looking at the differences among subscales SCL-90 R (with Bonferroni's correction = 0.0057) between the depression and anxiety groups, significant differences were observed for the following subscales: Interpersonal Sensitivity (feelings of inadequacy towards others), Depression, and Psychoticism (subscale with indirect indicators, *i.e.* "Never feeling close to other people"; Table **3**).

Table **3** shows means and standard deviations for the three SCL-90 R subscales for which significant differences were observed among phases, between the depression and anxiety groups.

Table 1. Means (standard deviations) for overall symptoms (SCL- 90 R), depression (BDI), and anxiety (SAS and STAI Y1) for the overall sample pre, post and follow up treatment, as well as Friedman Test (p) and Cohen's d.

Scales	Pre	Post	Follow up	Friedman $\chi^2_{(2)}$ (p)	d Pre *vs.* Post	d Pre *vs.* Follow
SCL-90 R	87.32(41.90)	57.87(31.80)	48.84(20.74)	11.68 (0.003)	0.79	1.15
BDI Dep.	16.74(9.58)	10.32(7.81)	7.81(5.44)	23.66(< 0.0001)	0.75	1.15
SAS Anx.	43.68(11.08)	38.87(9.19)	33.74(5.88)	17.15 (0.0002)	0.47	1.12
Stay 1 Anx.	49.71(12.75)	42.29(11.77)	35.03(5.50)	20.53 (< 0.0001)	0.6	1.48

Table 2. Means (standard deviations) for overall symptoms (SCL-90 R), depression (BDI), and anxiety (SAS and STAY 1) for the anxious and depressed subgroups at pre, post and follow up treatment.

Scales	Depression			Anxiety		
	Pre	Post	Follow up	Pre	Post	Follow up
SCL-90 R	95.54(46.49)	66.85(26.99)	60.61(19.95)	81.39(38.51)	51.39(34.13)	40.33(17.20)
BDI Dep.	19.54(9.50)	12.69(9.03)	10.77(6.15)	14.72(9.37)	8.61(6.54)	5.67(3.72)
SAS Anx.	47.23(12.73)	40.08(10.49)	34.92(5.09)	41.11(9.26)	38.00(8.33)	32.89(6.39)
Stay 1 Anx.	51.38(14.21)	46.38(11.40)	36.00(4.60)	48.50(11.85)	39.33(11.43)	34.33(6.11)

Table 3. Means (standard deviations) for Interpersonal sensitivity, Depression, and Psychoticism subscales of SCL-R 90 for pre, post and follow up treatment, as well as Kruskal-Wallis Test (p) between anxious and depressed subgroups.

Anxiety				Depression			
Sub scales	**Pre**	**Post**	**Follow up**	**Pre**	**Post**	**Follow up**	**Kruskal-W. $\chi^2_{(1)}$ (p)**
Interp. Sens.	8.00(4.48)	5.00(4.47)	4.39(2.61)	9.46(7.24)	7.00(3.70)	7.00(3.44)	11.74(0.001)
Depression	18.22(9.55)	10.50(8.31)	7.28(3.88)	18.46(9.69)	12.23(7.01)	11.54(4.85)	10.62(0.001)
Psychot.	5.83(2.87)	2.67(2.72)	2.55(2.01)	7.46(6.23)	4.61(3.04)	4.77(2.01)	9.18(0.002)

4. DISCUSSION

A significant reduction of the distress symptoms measured by SCL-90 R, alongside with an improvement in the anxiety and depression symptoms were observed in all participants.

Patients diagnosed with anxiety seem to improve more at follow up for Interpersonal Sensitivity, Depression, and Psychoticism. This indicates an improvement in the feelings of personal inadequacy and inferiority in comparison with others, as well as improved mood, and improved dysfunctional thought content.

The clinical significance of the intervention is sufficiently good: the effect size shows a relatively important clinical impact.

As regards the total sample, the treatment seems effective for different diagnostic categories (depression and anxiety). It can therefore, reasonably be assumed that the intervention acts on symptoms that are common to both diagnostic categories [56] and it could, therefore, be argued that the intervention has impacted factors that are common to the two subgroups of patients. It should be also noted that these are disorders that are often in comorbid: in fact, the depression subgroup exceeds the cut-off values for anxiety at pre-test, while the anxiety subgroup exceeds the cut-off for depression at pre-test.

As regards the anxiety subgroup, a greater improvement is observed on three SCL-90 R subscales. We can, therefore, assume that, as regards anxious patients, acquiring coping skills also positively impacts those anxious states that may be triggered in social contexts. The acquisition of coping skills leads to an improved sense of social adequacy, decreases depressive symptoms (when these are not primary) resulting from anxiety, and improves dysfunctional thought content (*i.e.* "afflicting thoughts about sex"', "the thought of having a severe physical illness", or "the idea of something being wrong in one's mind"), thus reducing negative worry and generating reassurance. Practising these exercises for at least three months seems to be the absolute minimum requirement for stabilizing said improvements. The provision of a self-hypnosis' CD, aimed at promoting the compliance of the research referred to herein, is a strength of this work.

Further studies could focus on the opportunity of providing personalised feedback *via* SMSs to support compliance. In literature, there is evidence supporting the efficacy of this strategy [72] in several fields, both medical and psychological, but the data on treatments based on hypnotherapy are not sufficient.

CONCLUSION

To conclude, notwithstanding the limits shown below, the outcome supports the effectiveness of hypnotic group treatment in a clinical setting with outpatients representing a broad portion of the persons who recourse to mental health services. The programme was successful with patients who had previously demonstrated insufficient change in their symptomatology using pharmacological interventions is encouraging. Thus, the current results suggest that this hypnotic group treatment offers a simple and cost-effective way to augment management for the most common psychiatric disorders claimed in public health settings, as complementary intervention in case of patients less responsive to the drug treatment.

STUDY LIMITATION

This work has some limitations, such as the control group is missing. This said, the treatment has been carried out in a clinical setting, which made it difficult to create a group for comparing the outcomes of the treatment; nevertheless, an index to evaluate clinical significance has been calculated (effect size). Furthermore, the subgroups' data shall be interpreted with caution, given their small sample size. The actual application of the exercises has not been objectively assessed during the three months following the treatment. It has been only assessed based on the feedback collected in a follow-up session. Future researches might help to draw a method to collect data (*i.e.* weekly monitoring sheets, or follow-up by phone).

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study was ethically approved by the Head of the Psychiatry Unit of the "Luigi Sacco" Hospital Milan, Italy.

HUMAN AND ANIMAL RIGHTS

No Animals were used in this research. All human research procedures followed were in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013.

CONSENT FOR PUBLICATION

Standard informed consent was obtained for participation in this research.

AVAILABILITY OF DATA AND MATERIALS

The data that support the findings of this study are

available from the corresponding author (R.T) upon reasonable request.

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None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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Author Contributions: Conceptualization RT, BR; methodology RT; collected data MR; analyzed data RT; writing-first draft RT, IG; writing-editing IG, VP, RT; supervision PR.

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