

Effect of hypnotherapy in alcohol use disorder compared to motivational interviewing. A randomised controlled trial.

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Abstract

Background: Hypnotherapy has proved to be effective for the treatment of several medical and psychiatric conditions. It has been used in the treatment of alcohol use disorder (AUD), but only two randomized controlled trials have been conducted for this disorder.

Methods: This study was carried out at an inpatient clinic in Norway. A six-week long treatment programme included intensive group therapy, but also five hours of individual therapy, given as motivational interviewing (MI). Thirty-one patients were randomized either to receive five individual sessions of hypnotherapy instead of MI (N=16) or to be in the control group (N=15). The treatment method for the hypnotherapy group was Erickson's (permissive) hypnosis. At baseline all the participants were diagnosed using a psychiatric interview and filled in the Alcohol Use Identification Test (AUDIT), Timeline FollowBack (TLFB) for alcohol use, Hopkins Symptoms Check List (HSCL-25) for monitoring mental distress and Traumatic Life Events Questionnaire. AUDIT, TLFB and HSCL-25 were re-administered at follow-up after one year.

Results: There were no differences between groups at baseline. One year later more women were lost to follow-up in the MI group. Both the intervention and control groups had reduced their alcohol consumption significantly. The change in AUDIT score was, however, largest for the hypnotherapy group, albeit only on a trend level ($p=0.088$).

Conclusion: Those receiving hypnotherapy did marginally better concerning alcohol use at one-year follow-up. This small advantage for hypnotherapy could indicate an effect, rendered non-significant by an underpowered study. It could also be that neither MI nor hypnotherapy gave an additional effect on top of the substantial group therapy. Lastly the findings could indicate that hypnotherapy is at least as effective as MI.

Key words: alcohol use disorder, hypnotherapy, motivational interviewing, randomized controlled trial

1. Background

Alcohol use causes around three percent of potential years of life lost and the same proportion of all deaths worldwide (Rehm and Shield, 2013). It was behind 85 million disability-adjusted years of life in 2015 (GBD 2015 Risk Factors Collaborators, 2016). The annual toll of alcohol use disorders (AUD) is high worldwide (Welton and Higginson, 2012).

There are effective psychological (Morgenstern and Longabaugh, 2000) and pharmacological (Anton et al., 2014) treatments for AUD. The measurable effects of these are, however, often small (Cutler and Fishbain, 2005, Jonas et al., 2014). No significant differences have been found between different psychological treatments (Cutler and Fishbain, 2005), but adding psychological treatment to a pharmacological intervention may have some advantages (Moyers et al., 2016). There is a debate about the importance of longer duration of counselling. On one hand, it has only been shown to provide a small additional effect (Kaner et al., 2018), but on the other hand, it has been demonstrated that the stability of remission is positively correlated with the length and intensity of treatment (Mertens et al., 2012). Recent studies demonstrated that mindfulness-based treatments can improve the stability of remission (Cavicchioli et al., 2018). Research into AUD treatment is difficult to evaluate because, despite its chronic course with frequent relapses, AUD can also have spontaneous remissions (Trim et al., 2013, Vaillant, 1996, Vaillant, 2003). The cumulative lifelong chance of experiencing a spontaneous remission of AUD is 90%, but as many as 50% of these remissions may end in a relapse (Lopez-Quintero et al., 2011).

Hypnotherapy entails using hypnosis for therapeutic purposes. Hypnosis may involve changes in subjective experience, for example, reduction in self-orientation and an illusion of automaticity (Rainville and Price, 2003). These phenomena may be connected to changes in focused attention, changes that can even be demonstrated objectively either by EEG (Rainville and Price, 2003) or fMRI (Walsh et al., 2017). There are two styles of hypnotherapy: an authoritative style, where the patients passively receive hypnotic suggestions, and a permissive style, where the patients participate more actively in the therapeutic process (Erickson, 1998). The two styles may be combined.

Hypnotherapy has proved to be effective in the treatment of chronic pain (Adachi et al., 2014), in adults undergoing medical or surgical procedure (Tefikow et al., 2013), in chronic headaches (Melis et al., 1991, Kohen, 2010), migraine (Anderson et al., 1975), fibromyalgia (Zech et al., 2017, Picard et al., 2013), Irritable Bowel Syndrome (IBS) (Webb et al., 2007), in recurrent abdominal pain in childhood (Abbott et al., 2017) and several other conditions. Impressive results were achieved by abreactive ego state therapy, a 5-6 hour long manualised hypnotherapy, in the treatment of PTSD (Barabasz et al., 2013). A single intervention resulted in an immediate significant reduction in PTSD check list (PCL) score. The patients maintained the treatment effect 18 weeks later.

Many hynotherapists, including Milton Erickson himself, used hypnotherapy in treatment of AUD. Some publications describe the treatment without empirical data (Tramontana, 2009, Muezzinoglu, 2009), but scientific publications are rare. We have identified only six scientific publications, based on empirical data. A case report for the treatment of AUD also reported success (Orman, 1991). Two open, non-controlled studies using so-called hypnoanalysis (Hartman, 1976) and Erikson's hypnosis (Potter, 2004) reported 90% and 67% abstinence rate at follow-up, respectively. Two studies have been published on so-called hypno-aversion. The goal of this treatment was to make patients find alcohol repulsive. An open, non-controlled study found an abstinence rate of 62% at one year follow up (Miller, 1976). A controlled study using hypno-aversion as add on found no additional effect of the this treatment (Edwards, 1966).

The most recent and well-designed study included three control groups: attention-placebo (stress management), cognitive-behavioural trans-theoretical intervention and no additional intervention group (Pekala et al., 2004). The abstinence rate in all groups was between 85 and 90% at two-month follow-up. However, the individuals in the self-hypnosis group, who played their audiotapes at least 3 times a week, reported higher levels of self-esteem and serenity, and lower levels of anger/impulsivity, in comparison to the minimal-practice and control groups.

The aim of this study was to investigate the effect of hypnotherapy for patients with AUD in a randomized controlled clinical trial.

2. Methods

This study was designed as a parallel study, where two groups were compared: one receiving treatment as usual (motivational interviewing; MI) and the intervention (hypnotherapy group). If the mean difference in treatment effect was as great as 40% we would have needed 46 participants to achieve statistical power ($p=0.05$). We had initially planned to recruit as many as 50 individuals, but many were sceptical to the novel treatment. Four persons withdrew from the hypnotherapy group either before or after first treatment because of uncertainty. This did not affect randomization and they are not represented in the results.

Participants in the study were recruited from patients admitted to a six week long inpatient treatment programme at Vangseter Clinic in Norway in 2016. Only individuals who diagnosed with AUD were included in the study. The treatment programme consisted of the following elements: 5 hours of group therapy 5 days a week, a 2-3 days long family visit, where a family therapy session was also included, some obligatory group activities, like trips to museums or walks in nature, and lastly, informal activities, such as barbecues, watching movies together or discussions in the hall. All this was thought to contribute to the therapy of the patients. From the second week of the programme the patients were expected to have one hour of additional individual therapy a week. It was conducted as MI, totalling five hours. MI is one of the most popular and effective modern treatments. As a brief intervention, MI appears to be at least as effective as, and possibly more effective than, other treatment methods (Kohler and Hofmann, 2015). As an alternative to the MI sessions half of the patients enrolled in the study could receive five individual hour-long sessions of hypnotherapy. These patients continued as the intervention group.

Patients were informed about the study, were given time to consider, and if they volunteered to participate then signed a consent form. Thirty-one individuals took part in this randomized controlled trial (RCT). A list of numbers generated by www.randomiser.org was used for randomization. Patients were assigned numbers from the list in the order, in which they enlisted themselves into the study. The ones who received odd numbers were assigned to the hypnotherapy group ($N=16$), while the ones with even numbers became control group receiving MI ($N=15$).

At the beginning of the second week of treatment (baseline) all the participants were administered MINI psychiatric interview to be able to diagnose mental problems other than AUD (Sheehan et al., 1998). Exclusion criteria were having psychotic episodes, a recent severe other psychiatric diagnosis or recent drug abuse other than alcohol.

In addition, all patients filled in the Alcohol Use Identification Test (AUDIT) and a Timeline Follow-back (TLFB) for registration of number of standardized alcohol units consumed and alcohol-related problems during the previous month. They also filled in the Hopkins Symptoms Check List (HSCL-25) to measure their level of mental distress. Mental distress was given as a global average of the HSCL-25 denoted Global Severity Index (GSI). The Traumatic Life Events Questionnaire was used to register traumatic life experiences. AUDIT, TLFB and HSCL-25 were re-administered one year later as a follow-up.

The intervention consisted of hypnotherapy given as five one-hour sessions over 5 weeks as individual therapy instead of motivational interviewing. The treatment method was Erickson's (permissive) hypnosis (Erickson, 1998). Each treatment session began with a conversation about the patient's past life events, present situation, alcohol problem and his or her thoughts about it. To be able to use visualisation, patients were always asked when and where they bought alcohol, and how it was consumed. During the first part of the treatment session the theme of the hypnotic intervention was formulated, and then hypnotic trance was induced. The induction method was

mostly a combination of relaxation and breathing exercises with mental pictures of a peaceful place. Once the trance was induced, the patient was asked to visualize mastery of a selected situation. This situation was tailored according to the patient's needs. It could include, for example, abstaining from alcohol at a party, passing an alcohol shop without going inside, or mastering another problematic issue, such as staying relaxed and calm in the presence of other people. When indicated, the events of the past were a subject of hypnotic intervention as well.

Data were analysed using SPSS (IBM statistics) version 25, using simple bivariate analysis (Student's T-test or chi-square test), comparing the intervention group and the control group. Level of significance was set to $p < 0.05$, but even higher values were considered as the risk of type II statistical errors would be substantial in the small randomized controlled trial.

3. Results

Table 1 shows that there were no group differences between those who were randomized to the experimental hypnotherapy group or the MI control group. This included gender, age, trauma experiences, diagnosis, and severity of AUD and symptoms of mental distress. There was a non-significant tendency for the hypnotherapy group to have a higher AUDIT score ($p=0.270$).

After one year we were able to follow-up with fewer women in the motivational interviewing group (tab. 2), making the gender distribution in the groups different. Both the intervention and control groups had reduced their alcohol consumption significantly; the control group had a reduction of 296 units in the previous month (95 % CI 186-406 units last month), while the intervention group reduced their consumption by 341 units in the previous month (95 % CI 101-582 units last month).

There were, however, no statistically significant differences between the hypnotherapy and the motivational interviewing groups at follow up. But there was non-significant tendency for the hypnotherapy group to have a lower AUDIT score at follow up ($p=0.234$), so the change in AUDIT score was largest for the hypnotherapy group, albeit only on a trend level ($p=0.088$). This was, however, possibly a reflection of the hypnotherapy group's having the highest portion of the patients who reported total abstinence (82 vs. 54 %, $p=0.148$). There was a strong correlation between reporting total abstinence and AUDIT score on follow-up (Spearman's $\rho = 0.820$, $p < 0.001$).

There was somewhat greater, but also far from significant, reduction in mental distress (GSI sum) in the hypnotherapy group compared to the control group (mean 0.75 (0.68) vs. 0.46 (SD 0.56); $p=0.269$).

The analyses at follow up were also done using an intention to treat (ITT) model with last (baseline) observation carried forward. There were no differences, even at trend level, between the motivational interviewing group and the hypnotherapy group using the ITT model. Furthermore, subgroup analysis was performed on those who did not have or did have any current or lifetime anxiety disorder, depressive disorder or psychotic disorder or any ongoing comorbid mental illness (tab. 1), with no statistically significant effect of this subgrouping identified. There was however a trend that ongoing anxiety or depressive disorder reduced the difference between motivational interviewing and the hypnotherapy intervention groups.

4. Discussion

In this RCT in the treatment of AUD, patients receiving hypnotherapy did marginally better concerning alcohol use at one-year follow-up compared to the controls. The results were not statistically significant, but possibly reflected the fact that the portion of the patients reporting total abstinence was higher in the hypnotherapy group. There was also a small, although far from significant, reduction in mental distress in the hypnotherapy group compared to the control group.

Regretfully this study had three significant limitations. The first was the small group sizes, rendering the study open to type II errors. The second limitation was the study design, which was far from ideal to demonstrate an effect of hypnotherapy. Both hypnotherapy and MI were administered as add-ons, in the context of a substantial treatment program given to all patients. Any specific effect of any therapeutic effect would be difficult to establish, considering the amount of time invested in the structured program. The third limitation could be that all the treatment in the intervention group was conducted by one single therapist, the first author of this paper. She has undergone training in Erickson's hypnosis, has practised it for almost ten years and has a personal preference for it. This may have influenced the treatment method in the intervention group.

Nonetheless the above mentioned positive trends could be interpreted in several ways. It could indicate that the use of one-hour-a-week hypnotherapy sessions is neither superior nor inferior to receiving MI in addition to other therapy for the treatment of AUD. Others have found no significant differences between different psychological treatments (Cutler and Fishbain, 2005). Furthermore, a meta-analysis had concluded that MI appears to be at least as effective and may possibly be more effective than other psychological treatments (Kohler and Hofmann, 2015). Interpreted this way, our results may reflect positively on the effectiveness of hypnotherapy.

The results could, however, indicate that neither hypnotherapy nor MI had any additional effect over and above the substantial treatment already given to all patients, and any real effectiveness of these two therapeutic interventions was unlikely to be shown because of the set-up of the current study.

Both intervention and control groups were given only 5 hours of additional individual therapy. Some studies indicate that longer duration of counselling gives little additional effect in the treatment of AUD (Kaner et al., 2018), but it is not certain whether this applies to hypnotherapy. In some (Potter, 2004), but not all (Pekala et al., 2004) earlier studies on hypnotherapy in AUD, the number of treatments was greater than five. The question of whether additional hours of hypnotherapy could have improved the outcome in the hypnotherapy group thus remains unanswered.

In our study, the size of the groups was small. It is possible that the trend in favour of the hypnotherapy group could become statistically significant with an increase in group size. We believe, however, that it is important to publish these results, because to date, only two randomized controlled trials investigating the use of hypnotherapy on AUD have been conducted (Edwards, 1966, Pekala et al., 2004), and our study has a long follow-up time (Pekala et al., 2004).

Most of the existing psychological treatment methods, such as CBT and MI appeal to reason and rational thinking. The patient who seeks treatment, wants to become sober, but emotion may often override reason. Hypnotherapy, on the other hand, allows us to address both reason and emotions, by reviving previous experiences or creating new in a course of a treatment session. The authors believe that this gives hypnotherapy advantage.

Hypnotherapy is a complex craft that, in experienced hands, can produce immediate and significant reduction in mental distress (Barabasz et al., 2013). It is, however, reasonable to assume that for a reduction of mental distress to contribute to stable remission of AUD, such an effect would have to

last for years. There are some indications that hypnotherapy can give lasting effects, as in the case of treatment of headaches (Kohen, 2010). No studies have, however, directly investigated the long-term effect of hypnotherapy on anxiety or depression, the two major contributors to mental distress. The study by Pekala and co-workers (2004), where AUD was treated with a self-hypnotic intervention, describes some lowering of mental distress. This agrees with the results of our study, even if our results are not statistically significant.

In summary, the size of the groups in our RCT on hypnotherapy for AUD was small and the setting was far from optimal. At one year follow up there were no statistically significant differences between the hypnotherapy group and the motivational interviewing group, but changes in AUDIT score and mental distress were largest for the hypnotherapy group. It would be logical to conclude that hypnotherapy appears to be at least as effective as MI. Regretfully, because of the set-up of the study, both therapeutic interventions functioned as add-ons of an extensive programme. In this setting the real effectiveness of MI and hypnotherapy could not be revealed. The authors however believe that hypnotherapy might have a potential, meriting further study.

We would recommend that the future researchers conduct a similar study, comparing two treatments without the compounding effects of another intervention, for example, two treatment arms in an outpatient clinic. It would be desirable to recruit larger groups and to focus both on the reduction of the mental distress and reduction in drinking.

5. Literature

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Table 1. Baseline characteristics of the motivational interviewing group and the hypnotherapy group

		Motivational interviewing group (N=15)	Hypnotherapy group (N=16)	p-value
Number of women	N (%)	1 (7)	3 (19)	0.316 ^a
Age (years)	mean (SD)	52.0 (14.1)	54.2 (11.6)	0.639 ^b
Trauma experience checklist (sum)	mean (SD)	18.5 (12.4)	15.4 (12.3)	0.491 ^b
Any anxiety diagnosis	N (%)	10 (67)	10 (63)	0.809 ^a
Any depression diagnosis	N (%)	10 (67)	11 (69)	0.901 ^a
Any psychosis diagnosis	N (%)	3 (20)	2 (13)	0.571 ^a
Any ongoing diagnosis	N (%)	9 (60)	10 (63)	0.886 ^a
Number of units last month	mean (SD)	291.4 (181.3)	335.6 (75.9)	0.629 ^b
AUDIT score (sum)	mean (SD)	26.5 (5.4)	28.4 (3.9)	0.270 ^b
Mental distress (GSI sum)	mean (SD)	1.98 (0.36)	2.06 (0.61)	0.681 ^b

^aChi-square test, ^bStudent's T-test**Table 2.** Differences between the control group receiving treatment as usual and the intervention group receiving the hypnosis intervention at follow up 1 year after treatment

		Motivational interviewing group (N=15)	Hypnotherapy group (N=16)	p-value
Number at follow up	N (%)	13 (87)	11 (69)	0.181 ^a
Number of women at follow up	N (%)	0 (0)	3 (19)	0.044 ^a
Number of units last month	mean (SD)	14.2 (21.6)	11.7 (26.1)	0.805 ^b
Change in number of units last month	mean (SD)	296.2 (182)	341.5 (358)	0.693 ^b
Total abstinence last month	N (%)	7 (54)	9 (82)	0.148 ^a
AUDIT score (sum)	mean (SD)	7.2 (8.5)	3.4 (6.2)	0.234 ^b
AUDIT score change (sum)	mean (SD)	19.5 (8.1)	25.7 (9.1)	0.088 ^b
Mental distress (GSI sum)	mean (SD)	1.53 (0.46)	1.40 (0.31)	0.417 ^b
Change in mental distress (GSI sum)	mean (SD)	0.46 (0.56)	0.75 (0.68)	0.269 ^b

^aChi-square test, ^bStudent's T-test