

Feasibility, Acceptability and preliminary outcomes of a mindfulness Based Relapse Prevention program on craving among treatment seeking patients with alcohol use disorder

C. von Hammerstein, L. Romo, M. Dupuis, A. Benyamina, Y. khazaal, H-J. Aubin, A. Luquiens.
 Université Paris Nanterre, EA 4430 CLIPSYD, Hôpital Paul Brousse University Paris- Saclay, University Paris-Sud, CESP, Inserm 1018, U 894, University of Geneva

ABSTRACT

Background: Mindfulness based interventions (MBI) have shown efficacy in chronic pain, anxiety and depression. Evidence of efficacy is still to reinforce in the addiction field.

Objective: We examined feasibility, acceptability, and benefits of an add-on mindfulness-based relapse prevention (MBRP) program in alcohol use disorder.

Methods: We systematically included patients benefiting from a MBRP program as an add-on of usual care. We assessed sociodemographics, components of usual care, and drinking characteristics including craving and quality of life at 3 and 6 months. We handled missing data by median imputation, and comforted our analysis with a MICE method.

Results: We included 52 non stationary patients with alcohol use disorder. 63% of participants completed 7 sessions or more out of 8. A majority of participants introduced mindfulness meditation into everyday life: respectively 69% and 49% of included patients maintained a formal practice and 80% and 64% an informal practice at 3 months and 6 months. Most of them used mindfulness techniques to face high risk situations (respectively 57% and 56% at 3 and 6 months). We showed a significant reduction of craving frequency at 6 months and an increase of mindfulness level and psychological flexibility at 6 months with both imputation methods. We showed a significant reduction in the number of heavy drinking days, craving triggers, quality of life, anxiety and depression with the median imputation, but significance was not reached with the MICE method.

Conclusion: The MBRP program showed a good acceptability as an add-on treatment in a clinical setting in France in alcohol use disorder. Encouraging results were found on craving, mindfulness and psychological flexibility. Comparative studies are needed to state on the program efficacy in alcohol use disorder.

Keywords: mindfulness, alcohol use disorder, acceptability, relapse prevention, MBRP, craving.

Limits of current treatment options for alcohol use disorder.

- Relapse rates are still very high in alcohol use disorder, 30-40% at 3 months and 70-80% at 12 months.
- Cognitive behavioral therapy (CBT) is the psychotherapy which has the highest level of proof of efficacy in addiction.
- Even efficacy of CBT blurs over time and some patients seem resistant to CBT.

- The limits of CBT and relapse could be linked to a lack of self-control and persistent craving.

Mindfulness to foster self control

Mindfulness has been classified as "state training": practice to develop a brain state to influence the operation of many brain networks, including self control networks (Tang et al, 2015).

The Mindfulness Based Relapse Prevention (MBRP) program was developed specifically for patients with an addiction, integrating Mindfulness training and Marlatt's CBT program to prevent relapse. It targets particularly craving and associated discomfort.

The themes of the 8 group-sessions dispensed once a week are:

- Automatic pilot and relapse
- Awareness of triggers and craving
- Mindfulness in daily life
- Mindfulness in high risk situations
- Acceptance and skillfull action
- Seeing thoughts as thoughts
- Self-care and lifestyle balance
- Social support and continuing practice

Objective

This studies aims at assessing the feasibility and acceptability of the MBRP program in alcohol use disorder. We also aimed at reporting preliminary efficacy data of the MBRP program in alcohol use disorder.

METHODS

Population and inclusion criteria:

Participants (N=52) were recruited in the addiction facility of the Paul Brousse hospital of Villejuif (France). We included systematically all adult participants of the MBRP program with a current alcohol use disorder. We did not exclude patients who used other drugs (nicotine / cannabis / cocaine / opiates).

References:

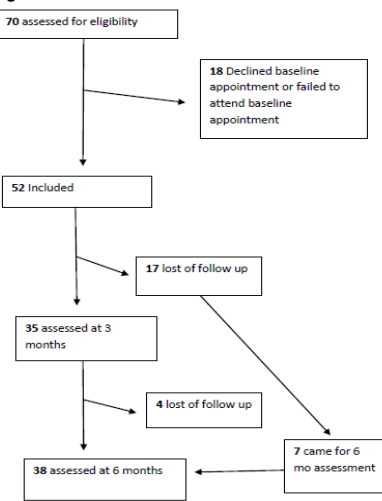
- Bowen, S., Chawla, N., & Marlatt, G. A. (2010). Mindfulness-Based Relapse Prevention for Addictive Behaviors: A Clinician's Guide (1st ed.). Guilford Press. Retrieved from <http://www.amazon.fr/Mindfulness-Based-Relapse-Prevention-Addictive-Behaviors/dp/1606239972>
- Tang, Y.-Y., Posner, M. I., Rothbart, M. K., & Volkow, N. D. (2015). Circuitry of self-control and its role in reducing addiction. *Trends in Cognitive Sciences*, 19(8), 439-444. <https://doi.org/10.1016/j.tics.2015.06.007>
- Wilcox, C. E., Delamater, C. J., Mayer, A. R., Bogenmehl, M. P., & Turner, J. A. (2014). Cognitive control in alcohol use disorder: deficits and clinical relevance. *Reviews in the Neurosciences*, 25(1), 1. <https://doi.org/10.1515/revneuro-2013-0051>

Measures

We collected at baseline, 3 and 6 months the following data:

- Drinking characteristics over the 4 last weeks with the Alcohol Time Line Follow Back (TLFB)
- Quality of life measured by the Alcohol Quality of Life Scale (AQoLS)
- Craving frequency measured by the Craving Experience Questionnaire (CEQ-F)
- Psychological flexibility measured by the Acceptance and action questionnaire (AAQ2)
- Mindfulness levels, measured by the Five Facets Mindfulness Questionnaire (FFMQ)
- Depressive symptoms, measured by the Beck Depression inventory (BDI 21)
- Anxiety measured by the Beck Anxiety Inventory (BAI)
- Craving triggers, measured by the Transdiagnostic craving trigger questionnaire (TCTQ)

Figure 1. Flow Chart



RESULTS

Table 1: Patients characteristics

Characteristics	N=52
Male	59,62%
Age: mean (sd)	49,42(10,36)
Active	71%
Educational level	
More than high school diploma	65%
Marital status	
Single	59%
Other drug use	
Cannabis	21%
Nicotine	54%
Alcohol Use	
Abstinent	31%
Number of alcohol units in the last 30 days, mean (sd)	63,25 (89,78)
% of participants with at least 1 HDD in the last 30 days	46%
Number of HDD in the subgroup with at least 1HDD in the last 30 days: mean (sd)	10,19 (8, 97)
Care intensity	
Individual psychotherapy	60%
Other group activities	8%
Nurse appointments	12%

- At 3 months 69% of patients maintained formal practice and 80% informal practice.
- At 6 months 49% of patients maintained formal practice and 64% kept practicing informally.
- Most of patients used mindfulness techniques learned in the program to face high risk situations (57% at 3 months and 56% at 6 months).

Efficacy outcomes

Evolution of

Days of use 4,0, 9,3, 8,3

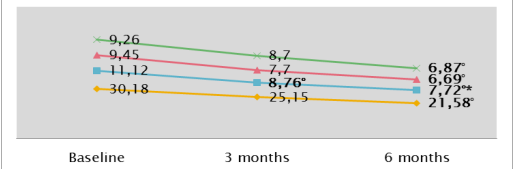
Evolution of craving trigger

positive affects



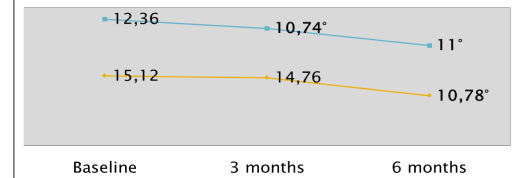
Evolution of craving frequency

CEQ-F total, CEQ-F intensity, CEQ-F imagery, CEQ-F intrusion



Evolution of Depression and Anxiety over time

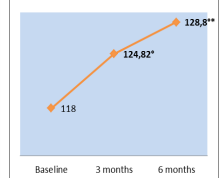
BDI, BAI



Evolution of psycholog

AQoLS, 0, 3, 0

Evolution of mindfulness



- significant with median imputation
- Significant with mice imputation

Limits :

- No control group
- Small sample size and missing data (33% at 3 months and 25% at 6 months) lead to a weakened statistic power that could explain that some of the demonstrated improvements could not reach significance

CONCLUSION:

The MBRP program seems feasible as an dd-on treatment in French addiction facilities to treat alcohol use disorder. In addition, MBRP resulted in significantly less frequent craving, increased mindfulness levels and improvements in psychological flexibility with both imputation methods and improvements in depression, anxiety, heavy drinking, the number of days of use, craving triggers and quality of life with the median imputation. Comparative studies are needed to state on the program efficacy in alcohol use disorder.