Mindfulness in detention: plan- and process evaluation

Summary

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Bij ons leer je de wereld kennen
Summary

Background

In response to the report ‘Behavioral Interventions for Prisoners’ (Fischer, Captein, & Zwirs, 2012) a start was made with the implementation of the Mindfulness-Based Stress Reduction (MBSR)-training in six prisons in The Netherlands. In this report, it was concluded that low self-esteem and stress responsivity were both factors that were not adequately covered by the currently offered interventions. As low self-esteem and deviant stress responsivity are both well-established risk factors for criminal behavior and impaired responsiveness to cognitive behavioral training, they were deemed promising targets for new or complementary interventions.

An initial pilot study showed positive results in participants who completed the training (Van Zessen, 2016). Following the training, significant decreases of psychological complaints and aggression were reported, together with an increase of empathy. Before further steps can be taken regarding the implementation of MBSR in detention, it is important to increase knowledge about how the training is supposedly sorting its effects (i.e., the working mechanisms) and about any difficulties encountered in providing and implementing the MBSR training (i.e., its feasibility).

Mindfulness Based Stress Reduction

The MBSR-training was developed by Jon Kabat-Zinn in the 1980s (Kabat-Zinn, 1990). It is an intensive training program using different Mindfulness exercises (body scan, meditation exercises, movement exercises). The MBSR-training consists of an eight-week program where participants meet every week for 2.5 – 3 hours in group sessions. In addition to these weekly sessions, there is a 6-hour silence day in the weekend between sessions six and seven. Furthermore, participants receive homework assignments aimed at practicing Mindfulness for six days a week, for 45 minutes a day, throughout the course of the training.

Within the prisons, the MBSR-training is provided by specialized Mindfulness trainers, who work as a Buddhist spiritual counselors in the prison. The training is part of the section ‘Terugkeeractiviteiten’ (Return Activities; activities aimed at returning back into society).

Research questions and method

The objective of this study was to prepare for a larger study into the efficacy of MBSR in detention. The larger objective was split into two parts. First, through an extensive review of the literature, knowledge was gathered on how the MBSR-training should work (plan evaluation) and, second, through interviews with participants, trainers and other stakeholders/key persons, it was evaluated whether the MBSR-training was conducted within prisons as intended (process evaluation).
Based on these objectives, seven research questions were formulated:

**With respect to the plan evaluation:**

1. What are the supposed working mechanisms and effects of MBSR?
2. Is there any empirical evidence for the involvement of these mechanisms in general, in the justice domain (including detention), and in circumstances similar to detention?
3. Are there conditions (in detention) and/or characteristics of participants (in detention) that work productive or counterproductive on the efficacy of MBSR? If so, what are these conditions and/or characteristics?
4. Which study designs and instruments are used to measure the supposed working mechanisms and effects of Mindfulness training?

**With respect to the process evaluation:**

5. How does the recruitment and selection of participants take place? Are there any contra-indications for participation?
6. Is the MBSR-training in the Dutch prisons conducted as intended? Are bottlenecks identified by the Radboud University Medical Center for Mindfulness adequately dealt with? Are there any bottlenecks that have not been identified before?
7. Are there any follow-up activities after the end of the training? If yes, which ones? What is the goal of these activities? Are these activities implemented as intended?

As noted, the first four questions were answered with help of an extensive review of the scientific literature as well as manuals on Mindfulness (including the MBSR-manual). Without ruling out any potential working mechanisms or effects, we focused, in our literature search, on aspects of cognition and psychosocial functioning that might play an important role in efficacy of Mindfulness. These included executive functioning (i.e. a collection of regulatory cognitive functions that underlie socially-adaptive behavior, including focused and divided attention, working memory, inhibitory control and cognitive flexibility), emotion recognition and regulation, stress responsivity and regulation, different forms of psychopathology, romantic and non-romantic (e.g. peer) relationships, and societal outcomes. Initially, all settings or contexts for Mindfulness application were taken into account, after which the investigations were focused on the domain of detention. Relevant peer-reviewed publications were consulted in scientific databases, using predefined search terms. The data in this literature research have been processed according to the scoping review method.

The last three questions (for the process-evaluation) have been examined using interviews with 22 randomly chosen participants, 10 stakeholders/key persons and 4 MBSR trainers. The interviews were conducted in five of the six prisons where the MBSR-training was carried out: PI Dordrecht, PI Krimpen a/d IJssel, PI Roermond, PI Veenhuizen, and PI Vught. In addition, background data (age, ethnic cultural background, duration of detention, reason for detention) and the presence of Mild Intellectual Disability (MID) or High Impact Crime (HIC) were collected from the participants’ files. These data and the quantified questions from
the interviews were analyzed using descriptive statistics. The qualitative interview data are reported in a qualitative-descriptive fashion.

Results

Plan evaluation
Mindfulness seems to have a positive effect on executive functioning, with effects observed for different types of executive functions, such as working memory, cognitive flexibility, attention and concentration. Strong effects were also observed for inhibitory control. Furthermore, Mindfulness was shown to have positive effects on emotion regulation: Mindfulness predicts greater clarity about which emotions are felt, greater voluntary exposure to aversive stimuli, faster recovery from aversive experiences, and less aggression after social exclusion.

Many studies have examined the impact of Mindfulness on stress responsivity and stress regulation. In these studies, it became clear that the practice and training of Mindfulness leads to a decrease in perceived stress and stress symptoms. This consistent evidence has resulted in the Mindfulness stress buffering hypothesis, which assumes that Mindfulness-induced stress reduction mediates the effects on mental and physical health. Studies on the effects of Mindfulness also found an increase in quality of interpersonal relationships, a positive influence on romantic relationships, and reduced stress after the loss of connectedness with others. In addition, Mindfulness has positive effects on job attachment and satisfaction.

In the literature indications were found that it is possible to apply Mindfulness in the context of detention. Similar positive results were found within groups of prisoners, compared to other non-clinical and clinical groups. The fact that prisoners (including High Impact Crime-offenders) often have cognitive and psychosocial impairments in the domains that are also supposed to constitute the working mechanisms of Mindfulness training as well as the domains on which the training programs might sort their effects, does not seem to be a contraindication for implementation. This is further evidenced by the fact that Mindfulness training was also shown to be effective in persons with Mild Intellectual Impairment. Considering the high occurrence of anger among detainees, the proven effects of Mindfulness on emotion regulation might even render them an especially suitable group for implementation of such training programs. However, Mindfulness research in the justice domain is still in its infancy and the quality of the studies is not always satisfactory.

One area that clearly needs more attention in the context of detention is stress responsivity and regulation. Antisocial and criminal behavior are characterized by abnormalities in stress responsivity and stress regulation. Most research shows a reduced neurobiological sensitivity to certain types of stress, and reports of reduced experienced stress exist as well. However, these reduced neurobiological and reported stress levels are obviously accompanied by behavioral “over-reactivity”. If these two are linked, and behavioral “over-reactivity” can be regarded as a form of compensation for neurobiological under-arousal in response to stress, it
could be hypothesized that Mindfulness works counterproductively with respect to behavioral responses following stress. However, Mindfulness training has been associated not only with lower neurobiological stress responsivity, but also with better (behavioral) stress regulation. Moreover, it remains to be convincingly established that the lower neurobiological stress reactivity and reported stress are also present in the detention context, as this is known to elevate levels of experienced stress. Also, it is not yet clear whether Mindfulness is effective for offenders characterized by callous-unemotional traits and aggressive psychopathic behavior, for whom the reduced neurobiological sensitivity to stress was shown to be particularly evident.

In order to investigate the effects of the Mindfulness training, different instruments can and have been used. For the measurement of aspects of cognition and psychosocial functioning deemed important in relation to Mindfulness training and its effects many different instruments can and have been used as well. This report gives an overview of the instruments that have been used in earlier studies and provides suggestions for further instruments and materials that might (also) be useful in future studies. Important considerations in this respect are reliability and validity of the chosen instruments, and the fact that the instruments need to be practically applicable to test the target group in detention and at follow-up assessments. The importance of a multi-method approach is also emphasized, combining interviews/rating scales / questionnaires, cognitive tasks (incorporating stressful and non-stressful conditions), and independent observational data.

Process evaluation
The profile of participants in the training was more or less similar to that of the general population of prisoners. Exceptions were the absence of participants with MID and participants with less serious offenses. Participants were predominantly recruited by the trainers and by word-of-mouth advertising from previous participants. Trainers and key persons largely agreed on inclusion and exclusion criteria of the training. Restless behavior, stress and worries were important informal inclusion criteria for the training. Serious psychiatric problems, heavy medication, intense events, and non-group suitability were major exclusion criteria.

The compliance of participants was high: presence during the training sessions was high and participants also reported to have made their homework most of the time. The fidelity of trainers was also high: they were educated as certified Mindfulness trainer and the protocol based on the Trainers manual was largely followed. The original Trainer’s Guide was adapted to the detention situation, with fewer participants per course, shorter session duration and debriefing in groups.

Participants were generally satisfied with the training, although they indicated attention could be given to the improvement of the homework map and CD. Trainers were also satisfied with the feasibility of the training in detention. Facilitation of the staff still needs attention. The main reported bottlenecks during the training were overlap with other activities, noise in the rooms for group sessions of the MBSR-training, availability of CD players, group composition and continuity in offering the training.
Generalization after training (i.e. applying MBSR in contexts outside prison), follow-up activities and aftercare have not been described and were not carried out systematically. Participants, trainers, and key persons were positive about the effects of the training. The main effects reported after the training were reductions of experienced anger and stress, use of more positive coping techniques, increased self-esteem and better impulse control.

Conclusion and discussion

Based on the plan- and process evaluations, it is concluded that the MBSR-training is applicable in detention. Evidence was found for the positive effects of MBSR in general and in the justice domain. Reduced cognitive abilities and psychosocial difficulties (including milder forms of psychopathology) in detainees do not seem a contraindication for participation in the training. In fact, cognitive abilities and psychosocial functioning both seem to improve with Mindfulness training. The process evaluation shows that participants and trainers are positive about the training and that the motivation for the training is high. In addition, the training compliance of participants and training fidelity of trainers during the training are high.

Implications for the implementation of the training

The implementation of the training needs further attention, for example with respect to informing for staff within the prisons, which might help recruitment and prevent bottlenecks in the practicalities of the training. Also, detailed plans and descriptions of follow-up activities and aftercare programs are required. Specifically, TRA-trainers and mentors could play a greater role in the recruitment of participants. A prerequisite is that they are aware of the contents and of the results of the training that can be expected. Therefore, education from trainers for prison staff is required. This will also contribute to the support of the staff during the execution of the training.

The MBSR-training seems to have positive effects on anger, stress, coping, self-esteem and impulse control. It may be important to investigate the possibility of offering MBSR at earlier stages of detention (as well as later), as many offenders with shorter sentence durations may also benefit from MBSR-mediated reductions in, for example, anger, stress and impulsivity.

Implications for further research

The roles of executive functioning, emotion regulation and stress management in (efficacy of) MBSR-training should be investigated more extensively in future studies, using multiple methods. Psychosocial functioning, operationalized as psychopathology but also as quality of social interactions (e.g. peer relationships, romantic relationships, hierarchical relationships in work context) deserves special attention, in addition to societal outcomes such as employment, socio-economic status and recidivism. Outstanding questions also exist regarding the MBSR-training itself. For example, which components of the training exactly lead to the positive effects, and which components could be improved or replaced?
In order to obtain answers to these questions, it is important to investigate the efficacy and effectiveness of MBSR in a prospective randomized control trial (RCT). The influence of process components can be studied in quasi-experimental way within the prospective RCT. Sample sizes of this study must be large enough to investigate the effects of Mindfulness in different groups (e.g. those with short versus long sentences, those with MID versus those without MID, or those with a HIC-status and presence of psychopathy versus those with HIC-status but without psychopathy).

As a theoretical framework for this research into the efficacy of Mindfulness in detention, the Mindfulness-Cognition-Psychosocial Functioning model can be used, as presented in this study.