

CLEAR TO CALM: A PILOT STUDY ON THE EFFECTIVENESS OF A MINDFULNESS-BASED STRESS REDUCTION PROGRAMME IN ATM

An episode of acute stress for an air traffic controller led to the implementation of mindfulness-based stress reduction by ENAIRE in Spain. The results of a pilot study found it to be an effective intervention for wellbeing and safety, as reported by **David García Hermosilla, Alberto Rodríguez de la Flor** and **Andrés Martín Asuero**.

David's Story: An Unusual Emergency...and an Opportunity

It was a Saturday morning in June 2015 and I was in the emergency department. The doctor was telling me that I had experienced an acute stress episode. He recommended that I attend a kind of stress reduction therapy. This turned out to be a life-changing experience, not limited to my health, but my overall approach to life.

I arrived at the hospital from a morning shift. I was on frequency dealing with quite a lot of traffic and didn't feel anything special. It was my planner who raised the issue. The planner asked me if I was OK. I said "yes". The planner responded that I didn't look OK. I asked why and he said, "It is just not you. It's not your voice. It's not your energy. Take a break." I was surprised but accepted his offer. I struggled to even stand up. The episode followed a number of personal life changes over the previous five years, which had exhausted me physically and psychologically.

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The doctor advised me to go home and rest for a couple of days. He stared at me astonished while I said that I couldn't, 'because I had to give a talk at the airport that very afternoon. My priorities had become skewed.

What is important for me in this story is how unaware I was of my condition. I felt disconnected from my body. I couldn't feel that I was about to get sick.

A Journey into Mindfulness-Based Stress Reduction (MBSR)

David undertook that course in mindfulness-based stress reduction (MBSR), and ultimately became a certified MBSR instructor. As a TRM facilitator, he saw that MBSR had potential not only for the individuals, but for the organisation as a whole. He proposed an implementation project to ENAIRE's management detailing the

potential benefits for wellbeing and human performance.

Considering the scientific evidence concerning MBSR's potential for stress reduction, and the concerns on stress and fatigue brought by regulation 2017/373, the time was right and the go-ahead was given.

What We Did

Alberto, a specialist in ENAIRE's Safety Division, was charged with working on a pilot study. It was important to determine if MBSR was applicable to ATC, and to obtain data on its effectiveness and usefulness for ENAIRE.

Alberto had not tried MBSR yet (and was not suspect of being a 'believer') so he researched the literature and found good scientific support for the benefits of MBSR. A long procurement process then began for an accredited organisation with experience in performing such studies in operational working environments, bringing Andrés Martín on board.

With external support in place, a study was planned. Two groups, each comprising around 28 people, received an MBSR intervention over eight weeks. The sessions were held at Barcelona ACC, which had a room for the sessions as well as Regional Directorate support. Both groups received the same programme, with three months' difference between the start dates of the first group and the second group. This allowed us to use the first group as the 'study group' and the second as a 'control group' for the purpose of measurement. All participants were volunteers who assisted during their free time, and the confidentiality of all the tests and personal results was assured.

Stress symptoms were measured by using a version of a widely used questionnaire for self-reporting of psychological distress, known as the Symptom Checklist-90-R, or SCL-90-R. Two additional measures were used to understand symptoms and severity: the brief symptom inventory scoring (BSI) and global severity index (GSI). We also performed a survey to see how stress affected operational work and to assess the possible influence of MBSR on specific operational safety behaviours.

What We Found

After the eight weeks programme, the study group showed a 65% reduction on average distress when compared to the control group, which had not yet undertaken the MBSR course. The benefits sustained over time, showing an additional average 10% improvement after three months, despite the COVID-19 outbreak and confinement. All items showed scored reductions. The areas showing most improvement related to memory, irritability, sadness, sensitivity, repetitive checking, concentration, tension and exhaustion.

The operational impact survey found improved resistance to inner distractions, fewer errors associated to concentration, fewer unwanted automatic responses, a broader planning time span, less task delay

time, better memory recovery, higher tolerance towards others' errors, and less emotional reactivity. This suggests that MBSR may also be beneficial for the enhancement of specific operational safety behaviours.

The results have come at a strange moment, due to the COVID outbreak, drawing attention to the economic and productivity downturn. There is increased concern for how the crisis will impact wellbeing and mental health, for safety-critical workers in particular.

Our results are consistent with benefits found in other professional groups, and the results compare well with other studies on the effectiveness of MBSR for high-stress jobs. A study with health professionals (Martín-Asuero and García-Banda, 2010) showed high initial levels of distress, similar to those in our study, and higher than the Spanish average according to the SCL90-R, followed by a reduction of 51% on average distress levels, after eight weeks. The aspects of distress showing the largest reductions were depression (greatest decrease), hostility, somatisation (physical symptoms of psychological distress), and anxiety. These aspects showed reductions of 50% or more (this translates to a decrease 29 percentile points or more on the SCL90-R scales).

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What the participants thought

Participants' feedback about MBSR gives some colour to the statistical results. A small selection helps to illustrate this:

- "This month, we have gone from being thirty stressed faces to thirty smiling faces. I do not know if we are less stressed, but we are more kind and smiling. In general, I see how we

are minimising the seriousness of problems. It is a great feeling!"

- "When you sit on frequency after a meditation, you feel focused. You don't miss a single detail, even the pilot's voice transmits more."
- "I have to say I overcame an impediment and even was able to thank ENAIRE for making the course possible, and I was able to acknowledge my gratitude."
- "Learning to manage mental workload is a great tool to deal with the tasks of both supervisor and controller, and in my personal life. Less energy is wasted on unimportant things to dedicate to relevant topics."
- "About the third week, I realised that I was calmer in a difficult situation. I did not jump. I tried not to judge and I was able to react with more calm and reflection."

What's Next?

Many applications of MBSR are envisaged. One of the priority objectives should be sound mental recovery and resilience-building among ATM professionals. This extends stress and fatigue management to support for chronic and acute stress. It is important to bear in mind that these results were achieved with an on-site MBSR programme of eight weeks' duration, though on-line and other formats are available. An important lesson learned is the importance of having an in-house practitioner to facilitate the approach with the staff and adjust the programme depending on the objectives.

Organisations are increasingly interested in mindfulness and its impact on their professionals. Many are already aware of the importance of training the mind and the potential benefits it may bring for both private and professional aspects of people. Wellbeing influences operational safety, and MBSR also supports wellbeing as well as cognitive control. This is essential for our jobs. Our results show that mindful training for

mindful operational work and mindful leadership can have a transformational effect in an organisation, both in the operational world and at the management level. Aside from the measured aspects of wellbeing, feedback suggests that it helps to increase emotional intelligence and self-awareness.

Mindfulness is not the solution for everything, and stress reduction programmes should not be used as an excuse to avoid addressing stressors in the workplace. Nevertheless, we are convinced of the importance of

bringing mindfulness to all areas, especially for professions which, by their nature, experience greater stress or require better management of stress and fatigue. In ENAIRE, management trust and vision have made this initiative become a reality, even though this was unthinkable during other times at the company.

Summing up, we would like to quote our manager, who speaks for all, when told about the results: *"This is worth it, from first-line staff and management, to the whole organisation!"* 

Reference

Martín-Asuero, A. & García-Banda, G. (2010). The mindfulness-based stress reduction program (MBSR) reduces stress-related psychological distress in healthcare professionals. *Spanish Journal of Psychology*, 13(2), 895-905.



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Andrés Martín Asuero PhD, is a mindfulness certified trainer in MBSR with more than 15 years of experience in teaching and research investigating stress reduction among health professionals. He has published three books and 10 scientific studies on mindfulness and wellbeing. He is director of Instituto esMindfulness in Barcelona.

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