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SPECIAL ARTICLE

Mindfulness-based stress reduction training program increases psychological well-being, and emotional regulation, but not attentional performance. A pilot study

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Abstract Recently, several studies have suggested that mindfulness-based training programs are beneficial for well-being and emotional regulation. In this article an assessment is presented on the effects of a Mindfulness-Based Stress Reduction Training Program on the extent of mindfulness, psychological well-being, empathy levels, emotional regulation and neuropsychological functions. Results showed that the trained group significantly increased their observation and non-judgment of inner experience variables. The trained group also improved in subjective psychological wellness, and emotional regulation, but not in attentional performance. The relationships between the results obtained are discussed, and a new method is proposed for assessing the capacity for emotional regulation. Further studies are necessary using larger samples.

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Un programa reducido de entrenamiento basado en *mindfulness* incrementa el bienestar psicológico y la regulación emocional, pero no el rendimiento en atención. Un estudio preliminar

Resumen En la actualidad disponemos de muchos estudios que demuestran que los programas de entrenamiento basados en *Mindfulness* producen beneficios sobre el bienestar psicológico y la capacidad de regulación emocional. En este estudio se analizaron los efectos producidos por un entrenamiento breve sobre los niveles de *Mindfulness*, el bienestar psicológico percibido, los niveles de empatía, la capacidad de regulación emocional y el rendimiento neuropsicológico.

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Regulación emocional; Empatía

Los resultados mostraron que el grupo entrenado incrementó sus puntuaciones en las variables observación y ausencia de juicio. Además, este grupo también incrementó su nivel de bienestar psicológico percibido y su capacidad de regulación emocional, pero no obtuvo mejoras en la evaluación neuropsicológica en comparación con el grupo control. En la discusión se infieren posibles relaciones entre los resultados obtenidos, mientras que se propone un nuevo método para evaluar la capacidad de regulación emocional. Se requieren estudios con mayor tamaño de muestra para corroborar estos resultados preliminares.

Introduction

Nowadays, there is evidence to suggest that mindfulness-based training programs increase psychological well-being and psychological well-being is related to different health benefits (Diener & Chan, 2011; Huppert, 2009; McConville, McAleer, & Hahne, 2017). However, the concept of psychological well-being is difficult to define. From a philosophical approach, it has been related to both hedonism and eudemonism. On the one hand, hedonism defines well-being as the experience of positive emotional states, the satisfaction of desires and the absence of negative affect. On the other, eudemonism suggests that well-being is not about maximizing positive experiences and minimizing negative ones, but about developing one's potential by performing activities consistent with deeply held values and full commitment If people feel alive and real, and they can reach an optimal state (Disabato, Goodman, Kashdan, Short, & Jarden, 2016). Many philosophical, spiritual and psychological traditions emphasize the importance of achieving an optimal state through being aware of the maintenance and enhancement of psychological well-being (Wilber, 2000). In this regard, mindfulness helps us to explore our conscience more gently, which increases our perception of well-being. Jon Kabat-Zinn (2015) said: ''Mindfulness can be thought of as moment-to-moment, non-judgmental awareness, cultivated by paying attention in a specific way, that is, in the present moment, and as non-reactively, as non-judgmentally, and as openheartedly as possible''. This way of understanding mindfulness clearly point to the eudemonic perspective of psychological well-being.

Jon Kabat-Zinn introduced the concept of mindfulness-based training programs and developed his Mindfulness-Based Stress Reduction program (MBSR) (Kabat-Zinn, 1982). Although this program was for chronic pain patients, MBSR has been successfully adapted to other psychopathological disorders such as posttraumatic stress (PTSD), insomnia, depressive relapse or anxiety (Borquist-Conlon, Maynard, Brendel, & Farina, 2017; Gong et al., 2016; Hilton et al., 2016; Kuyken et al., 2016). Moreover, mindfulness-based training programs can improve overall psychological health in non-clinical populations. For example, Robins, Keng, Ekblad, and Brantley (2012) used a standard MBSR program (20 training hours) to compare non-clinical adults with a non-active control group on a waiting list. The results showed a significant increase in both trait mindfulness and self-compassion in the training group. They also observed a significant decrease in absent-mindedness, fear of emotions, suppression of anger, aggressive anger, worry and difficulty in regulating emotions. Another example is the study by Song and Lindquist (2015). They found that anxiety levels decreased in a training group versus a non-active control group on a waiting list after a mindfulness-based stress reduction program (MBSR) in a sample of Korean nursing students. It should be pointed out that long periods of practice are not necessary to achieve these health benefits because briefer meditation programs (with 7 sessions of 30 min) can also reduce anxiety levels (Chen, Yang, Wang, & Zhang, 2013).

Another important component of mindfulness training programs that is related to psychological well-being is the development of empathy and compassion (Neff, 2011; Thomas et al., 2007). Several studies have assessed the effects of mindfulness training programs on empathy and compassion. Research on mindfulness and empathy has found that those who score high on mindfulness also tend to report increased levels of empathy and compassion (Asuero et al., 2014; Dekeyser, Raes, Leijssen, Leysen, & Dewulf, 2008; Shapiro, Brown, Thoresen, & Plante, 2011). The scientific literature also shows that both empathic and compassionate states are related with emotional regulation processes (Farb, Anderson, & Segal, 2012; Jazaieri et al., 2014; Lutz, Brefczynski-Lewis, Johnstone, & Davidson, 2008). One possible explanation for these effects has been put forward by Hayes and Feldman (2004). They suggest that people learn to distance themselves from their own internal and external experiences, which creates a more ''offset'' relationship that decreases emotional reactivity and facilitates the return to baseline. This hypothesis coincides with the facets of meditation usually included in mindfulness training programs (Nonreactivity to inner experience, Observing thought/feelings/perceptions, Acting with awareness, Describing with words, Nonjudging of experience) (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006; Chambers, Gullone, & Allen, 2009). Moreover, the practice of mindfulness has been shown to increase the activation of medial prefrontal (PFC), orbitofrontal (OFC) and anterior cingulate (ACC) cortices, three cerebral structures related to the processes of emotional regulation (Chambers et al., 2009; Etkin, Egner, & Kalisch, 2011). The prefrontal areas of the brain are well known to be involved in meditation practices and several studies show this strong relation (Fox et al., 2016; Hernández, Suero, Barros, González-Mora, & Rubia, 2016; Jang et al., 2011; Lazar et al., 2005). Since

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