Background: Many attempts have been made to abbreviate mindfulness interventions to make them more feasible for public health policies while maintaining their therapeutic efficacy. The aim of this study was to assess the efficacy of an 8-week mindfulness-based intervention (MBI) programme and a 2-week abbreviated version for the improvement of well-being in a population of Primary Care providers. Method: A randomized controlled pilot study was conducted with pre-post measurements and three study conditions (8- and 2-session MBI and a control group, with a sample of 35, 33, and 33, respectively). Primary Care providers were recruited, and happiness (PHI), general health (GHQ-12), mindfulness (FFMQ), self-compassion (SCS), and resilience (RISC-Br) were assessed. Mixed-effects multi-level analyses for repeated measures were performed. Results: In the intention-to-treat analysis a significant difference in favour of interventions groups for the “Observe” and “Non-reactivity to the internal experience” dimensions of mindfulness (FFMQ), and for the overall self-compassion score (SCS) were observed, with no differences between 8- and 2-session. For “Self-criticism” and “Isolation” (SCS), the 8-session MBI had greater improvements when compared to 2-session. Regarding happiness, general health and resilience, they were no significant differences between groups. The final multi-level analyses model showed that overall mindfulness score, general health score, "act with awareness" and "describe" (FFMQ), “Isolation” and “Shared Humanity” (SCS) were significantly associated with improvement of happiness in the post-intervention (higher the score, the higher the happiness score, while the negative effects are inversely related). Discussion and Conclusion: To our knowledge, this is the first study to directly investigate the efficacy of a standard 8-week MBI and a 2-week abbreviated protocol in a population of primary care providers. Based on our findings and like previous studies, both programmes performed better than controls regarding mindfulness and self-compassion mainly. The efficacy of abbreviated mindfulness programmes may be similar to that of a standard 8-session MBI programme when applied to non-clinical populations, making them potentially more accessible for a larger number of people. Nevertheless, further studies with more powerful designs to compare the non-inferiority of the abbreviated protocol and addressing clinical populations are warranted. Clinical Trials.gov Registration ID: NCT02897284