

The Impact of a Mindfulness Application (App) on the Mental Health of Injured College Athletes Experiencing Chronic Pain

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ABSTRACT

Experiencing an injury can cause negative effects on an athlete's mental health, including depression and anxiety, decreased self-esteem, isolation, loss of identity, and fear. Some athletes may experience chronic pain after an injury, defined as pain that lasts beyond the normal timespan of healing over three months, not including tissue damage. Most research on the psychological effects of sport injuries have focused on acute injuries rather than chronic injuries. Mindfulness, the ability of being fully present in a moment in time in one's body, paying attention to physical sensations and feelings, has been found to improve mental health outcomes in athletes but has not yet been studied in injured athletes. **PURPOSE:** To investigate if using a mindfulness application for 10 days can decrease perception of pain, symptoms of depression, and increase mindfulness in athletes with chronic injuries. **METHODS:** Collegiate athletes experiencing chronic pain from a sport injury (N = 25; male = 16, female = 9) underwent a repeated measures design. During the initial visit, participants completed a Demographic/Sport/Injury Questionnaire, Visual Analog Scale (VAS) to measure perception of pain, Beck Depression Inventory (BDI-II), and the Mindful Attention Awareness Scale (MAAS). Participants assigned to the experimental group then downloaded a mindfulness application to their phone and completed one mindfulness session on the app per day for 10 days. After 10 days, participants returned to the laboratory and completed the VAS, BDI-II, and MAAS. **RESULTS:** A two-way repeated measures ANOVA test was conducted to assess differences in perception of pain, mindfulness, and depression symptoms over time between the control and experimental group. The results revealed an overall significant effect in perception of pain ($F(1,23) = 6.4194, p = 0.019, \eta p^2 = 0.218$), in that participants in the experimental group decreased in perception of pain ($M = 1.019, SD = 0.970$) more than those in the control group ($M = 2.625, SD = 2.225$). Likewise, a significant main effect on mindfulness was found ($F(1,23) = 5.151, p = 0.033, \eta p^2 = 0.183$), with those in the experimental group improving in mindfulness ($M = 61.385, SD = 16.194$) more so than those in the control group ($M = 60.750, SD = 15.580$). Finally, there was no significant main effect of depression symptoms ($F(1,23) = 2.299, p = 0.143, \eta p^2 = 0.091$). **CONCLUSION:** Our study determined that using the mindfulness app for 10 days produced a decrease in perception of pain and increase in mindfulness compared to the control condition, but did not appear to impact depression symptoms. This suggests that a 10-day mindfulness app intervention can be utilized to decrease perception of pain and improve mindfulness in collegiate athletes, thus improving their quality of life and athletic experience.