Apple Watch’s Breathing Application for Stress Management
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Stress can trigger a number of psychological, physiological, and behavioral responses. Yoga and meditation are popular in alleviating stress. A modified version of Durga Pranayama or three-part yogic breath seems to alter physiological responses. More recently, technological advancements provide opportunities to affect health and wellbeing. One such application is Apple Watch’s Breathe app that guides users through a timed deep breathing session using onscreen graphics and vibrational cues. PURPOSE: The purpose for this study was to assess the effectiveness of stress relief applications that assist in deep breathing and compare with that of in-person three-part yogic breath, Durga Pranayama, on altering heart rate (HR) and blood pressure (BP). METHODS: Ten (7M/3F) seemingly healthy students were recruited from the Penn State Berks campus. Each participant completed six deep breathing sessions (3 in-person sessions/week and 3 Apple Watch based sessions/per week) over a two-week period. HR and BP were measured before and after each session. RESULTS: Participants’ average HR: 74.25±11.98bpm, systolic BP 112.93±14.34mmHg, diastolic BP: 73.55±13.28mmHg were assessed. A paired-samples t-test was conducted to compare the absolute differences (pre - post) in HR, systolic BP, diastolic BP measured during in-person and during the Apple Watch deep breathing sessions. Although HR & BP noticeably decreased from Apple Watch breathing sessions when compared with in-person sessions, there was no significant absolute differences in HR (2.3±4.9 vs. 1.6±3.4) bpm, SBP (5.1±4.7 vs. 2.4±5.8) mmHg and DBP (1.8±5.3 vs. -0.7±4.6)mmHg; p>0.05. CONCLUSION: Even though HR & BP were evidently decreased during the Apple Watch deep breathing sessions; they were not statistically significant which could be due to relatively small sample size. Technology assisted meaningful reductions in HR & BP might be congruous for stress reductions and perhaps could impact heath.

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