The Impact of Cognitive Stressors in the Emergency Department on Physician Implicit Racial Bias

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OBJECTIVES: The emergency department (ED) is characterized by stressors (e.g. fatigue, stress, time-pressure, and complex decision-making) that can pose challenges to delivering high quality, equitable care. Although it has been suggested that characteristics of the ED may exacerbate reliance on cognitive heuristics, no research has directly investigated whether stressors in the ED impact physician racial bias, a common heuristic. We seek to determine if physicians have different levels of implicit racial bias post-ED shift versus pre-shift, and to examine associations between demographics and cognitive stressors with bias.

METHODS: This repeated measures study of resident physicians in a pediatric ED used electronic pre- and post-shift assessments of implicit racial bias, demographics, and cognitive stressors. Implicit bias was measured using the Race Implicit Association Test (IAT). Linear regression models compared differences in IAT scores pre- to post-shift, and determined associations between participant demographics and cognitive stressors with post-shift IAT and pre- to post-shift difference scores.

RESULTS: Participants (n=91) displayed moderate pro-white/anti-black bias on pre-shift (M=0.50, SD=0.34, d=1.48) and post-shift (M=0.55, SD=0.39, d=1.40) IAT scores. Overall, IAT scores did not differ pre-shift to post-shift (mean increase=0.05, 95% CI -0.02,0.14, d=0.13). Sub-analyses revealed increased pre- to post-shift bias among participants working when the ED was more overcrowded (mean increase=0.09, 95% CI 0.01,0.17, d=0.24) and among those caring for >10 patients (mean increase=0.17, 95% CI 0.05,0.27, d=0.47). Residents' demographics (including specialty), fatigue, busyness, stressfulness, and number of shifts were not associated with post-shift IAT or difference scores. In multivariable models, ED overcrowding was associated with greater post-shift bias (coefficient=0.11 per 1 unit of NEDOCS score, SE=0.05, 95% CI 0.00,0.21).

CONCLUSIONS: While resident implicit bias remained stable overall pre-shift to post-shift, cognitive stressors (overcrowding and patient load) were associated with increased implicit bias. Physicians in the ED should be aware of how cognitive stressors may exacerbate implicit racial bias.

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