

The Impact of Education Level, Access to Transportation, and the Home Environment on Patient-Reported Outcomes After Orthopaedic Trauma Surgery

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Purpose: Social determinants of health impact a variety of health outcomes. Of these determinants, it remains unclear how education level, access to transportation, and the home environment influence patient-reported outcomes following orthopaedic trauma surgery. The aim of this study is to correlate patient-reported outcomes with specific social determinants of health (educational level, transportation access, and home environment) in urban orthopaedic trauma surgical patients.

Methods: A cross-sectional survey was conducted at an urban Level I trauma center to collect data on demographics, education level, access to transportation, and the home environment from 120 patients who underwent fracture repair surgery. This data was correlated with Patient-Reported Outcomes Measurement Information System (PROMIS) scores (global mental health, global physical health, pain interference, and physical function) and parametric statistical analyses were employed to assess significant associations.

Results: Patients with lower education levels reported better physical function up to 6 weeks postoperatively ($P = 0.015$). Patients with limited access to transportation reported worse physical function ($P = 0.037$) and mental health ($P \leq 0.001$) at 3 months while those who relied on others for transportation reported worse physical function at 6 months ($P = 0.003$). Patients with stairs in their homes reported more pain interference up to 6 weeks ($P = 0.043$). Those who faced no difficulty accessing the toilet or shower reported less pain interference at 2 weeks ($P = 0.04$) and 6 months ($P = 0.032$), better physical function up to 6 weeks ($P = 0.004$), and better global physical health at 6 months ($P = 0.038$).

Conclusion: This study found that social determinants of health including education level, access to transportation, and the home environment influence patient-reported outcomes after orthopaedic trauma surgery.