**Decisional Balance and Smoking: Are Orthopaedic Trauma Patients More Willing to Quit?**

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**Background/Purpose:** Smoking is associated with increased complications in fracture care, including increased infection rate, wound healing difficulties, nonunion, and perioperative morbidity. Recent data also demonstrate that smoking cessation may have a positive impact on fracture care. The psychological effects of trauma may influence a patient's desire to quit smoking. It is unknown if orthopaedic trauma patients represent a group that can be targeted for smoking cessation programs. Our hypothesis is that orthopaedic trauma patients are more apt to quit smoking than expected in a typical population of smokers.

**Methods:** The study group included all patients having sustained a new extremity or pelvis fracture presenting to our orthopaedic trauma clinic within 8 weeks of injury who consented to participation (n = 112, 68 nonsmokers and 44 smokers, 66 males). Nonsmokers were defined as those patients who have never smoked or have not smoked in the last 6 months. A 24-question survey administered to each patient included opinion questions assessing "decisional balance" in smoking (6 questions, a short-form validated psychometric tool), a question asking if injury influenced desire to quit, and knowledge questions about the effects of smoking. Additionally, the survey addressed the smoking patients' willingness to quit by measuring the previously defined transtheoretical model (TTM) stage of change. TTM is a well-known biopsychological model designed to conceptualize the process of intentional behavior of change. It consists of 5 stages associated with increasing success in behavior change: Precontemplation, Contemplation, Preparation, Action, and Maintenance. Ordinal logistic regression was performed to assess the primary outcome, the TTM stage of change.

**Results:** 73% of smokers were in the 3 most favorable stages of change ($P < 0.001$ vs. historical control, [95% CI (confidence interval) 0.596-0.859], 16% Action, 18% Preparation, 34% Contemplation), consistent with higher likelihood of smoking cessation. 48% (95% CI 0.330-0.628) stated their injury made them more likely to quit. Higher scoring on smoking knowledge questions successfully predicted increasingly favorable stages of change ($P = 0.004$). Likewise, smokers reporting increased desire to quit secondary to injury were likely to be in a favorable stage of change ($P < 0.0001$). Smokers with decisional balance favoring smoking correlated with the lowest stage of change (precontemplation), but no others ($P < 0.05$).

**Conclusion:** A significant number of smokers after orthopaedic trauma are within a stage of change favoring cessation interventions (73%, $P < 0.001$), which is in stark contrast to values expected in nonorthopaedic trauma populations. Increased knowledge about the effects of smoking makes patients more receptive to quitting. Our data suggest that patients with new orthopaedic injuries may represent a population uniquely receptive to smoking cessation and education programs. Decisional balance may be a clinically useful screening tool and further prospective studies will help elucidate the most effective smoking cessation modalities for the orthopaedic trauma population.



See pages 99 - 147 for financial disclosure information.