The Prevalence of Psychiatric Comorbidities is Alarmingly High in Patients undergoing Ten Common Sports Medicine Procedures and is Associated with Increased Costs

Jacqueline E. Baron, MD
Zain M. Khazi, BS
Kyle R. Duchman, MD
Brian R. Wolf, MD, MS
Robert W. Westermann, MD

University of Iowa Department of Orthopedics and Rehabilitation

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Background

• Psychiatric comorbidities have been associated with increased complications and costs for patients undergoing orthopaedic procedures.

• Patients undergoing hip arthroscopy have been diagnosed with increased rates of psychiatric comorbidities as compared with the general population.

• Prevalence and costs associated with preoperatively diagnosed psychiatric comorbidities for patients undergoing other sports medicine procedures have not been investigated.
Objectives

• For patients undergoing ten common orthopaedic sports medicine procedures:

1. Evaluate the prevalence of preoperatively diagnosed psychiatric comorbidities and substance use disorders

2. Investigate the impact of psychiatric comorbidities and substance use disorders on healthcare costs
Methods

• Humana administrative claims database was accessed to identify patients undergoing ten common sports medicine procedures from 2007 to 2017q1
  • Queried by CPT codes and ICD 9/10 codes
• Ten common sports medicine procedures¹

  ACL Reconstruction  Meniscus Repair
  PCL Reconstruction  Hip Arthroscopy Labral Repair
  MCL Repair/Reconstruction  Shoulder Labral Repair
  Achilles Repair  Patellofemoral Stabilization
  Rotator Cuff Repair  Shoulder Instability Repair

¹Starman JS, Gettys FK, Capo JA, Fleischli JE, Norton HJ, Karunakar MA. Quality and Content of Internet-Based Information for Ten Common Orthopaedic Sports Medicine Diagnoses. JBJS. 2010;92(7)
Methods

• Patients were categorized as having psychiatric comorbidities with ≥1 of the following:
  Depression
  Anxiety
  Bipolar Disorder
  Schizophrenia

• All costs associated with the procedures (POD 0-90) were used to derive the average 90-day reimbursement per CPT code
  • “Costs” refer to the actual payments or reimbursements made by the insurance company to the hospital
Methods

• Cohorts defined as patients with ≥1 psychiatric comorbidity [Psychiatric] vs. those without psychiatric comorbidities [No Psychiatric]

• Descriptive statistics were conducted

• Differences in costs across groups were compared using Mann-Whitney U tests

• ANOVA logistic regression was used to assess the relationship between preoperatively diagnosed psychiatric comorbidities and increased costs
Results

• 226,402 orthopaedic sports medicine procedures from 2007-2017q1 were available for analysis

  • Meniscus repair (115,339; 51%)
  • Rotator cuff repair (70,566; 31.2%)
  • ACL reconstruction (14,081; 6.2%)

• The prevalence of ≥1 psychiatric comorbidity in the entire database was 10.3% versus 21.2% among sports medicine patients undergoing one of the studied procedures
Results

- Highest prevalence of patients with ≥1 psychiatric comorbidity diagnosed preoperatively:
  - Rotator cuff repair (28%)
  - Hip arthroscopy with labral repair (26.3%)
  - Meniscus repair (24.6%)
Results

• The presence of $\geq 1$ psychiatric comorbidity diagnosed preoperatively vs. no psychiatric comorbidity was associated with increased costs for all ten common orthopaedic sports medicine procedures (all $p<0.01$)

• [Psych] vs. [No Psych], mean; $9,678.81$ vs. $6,436.20$, $p<0.01$
Results

Prevalence of Psychiatric Comorbidities Among Patients Undergoing Ten Common Sports Procedures
Limitations

• Retrospective observational cohort study

• Subject to accurate coding and billing practices within the Humana claims database

• Accuracy of medical records for preoperative diagnoses of psychiatric comorbidities and substance use disorders

• Cost data was an average of the total 90-day event payment for each unique CPT code linked to each procedure
Conclusions

• Preoperatively diagnosed psychiatric comorbidities in patients undergoing common sports procedures were two times higher than baseline rates reported in the database (10.3% vs. 21.2%)

• The presence of psychiatric comorbidities was associated with increased postoperative costs following all investigated orthopaedic sports medicine procedures

• Further investigation into strategies to mitigate costs and improve outcomes for sports medicine patients with preoperative psychiatric comorbidities and substance use disorders are warranted
Thank you!

jacqueline-baron@uiowa.edu