Measuring Patient-Reported Outcomes (PROs) in a High Volume Trauma Clinic in Pelvis and Acetabular Fracture Patients Using PROMIS® CAT: A Preliminary Study

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ABSTRACT

Objective: To demonstrate the feasibility and patient experience and satisfaction when compared to current standard of care with measuring PROs in pelvic and acetabular fracture patients utilizing PROMIS CATs Mobility (PM) and Pain Interference (PI) in a high volume trauma clinic.

Methods: Patients with pelvis and acetabular fractures returning to clinic are administered the PROMIS PM and PI and the current standard PRO, Short Musculoskeletal Function Assessment (SMFA) at 2-week, 6-week, 3-month, 6-month and 1 year follow-up visits. Participants were provided a paper version of the SMFA when roomed and were asked to complete while waiting for the surgeon. The PROMIS PROs were administered by the surgeon using the PROMIS iPad App and the surgeon reviewed the scores with the patient immediately afterward. Subjective level of usefulness, ease of use, and preference between the SMFA and PROMIS are measured.

Results: Forty-six participants (13 females and 33 males) with an average age of 50.7 (SD=16.2) filled out PROMIS PROs. The majority of participants who responded (98%) stated that the PROMIS iPad App was easier and would prefer to complete it compared to the paper SMFA at their next visit.

Conclusions: We present preliminary data suggesting PROMIS CAT PROs can be successfully administered in a high-volume trauma clinic. Patients find them easier to complete and preferable compared to a paper SMFA. On average pelvic and acetabular patients show significant deviation from the general population in terms of mobility and less so for pain interference in the early postoperative period. This further demonstrates the need to measure PROs to improve quality of care in the post-operative period for this patient population.

OBJECTIVE

- Test the integration of Patient-Reported Outcome Measurement (PROM) in a high-volume trauma clinic in a cohort of patients diagnosed with pelvis and/or acetabular fractures
- Use new computer adaptive testing (CAT) to reduce respondent burden
- Compare CAT and mobile technology modes of administration to "paper and pen" current standard of care
- Determine the patients’ subjective experiences and satisfaction with the PROMIS test compared with the SMFA (current standard of care)
- Assess workflow barriers to using PROMIS iPad App in the clinical setting as part of routine clinical care

RESULTS

- PROMIS Domains in Patients with Pelvic and Acetabular Fractures

METHODS

- Prior to clinic a designated coordinator or clinic staff assess the following day’s clinic schedule and loads the eligible patients (pelvis and acetabular fractures) in the PROMIS iPad App

- Clinic staff provide patients a paper version of the SMFA when roomed and are asked to complete while waiting for the surgeon
- Using the PROMIS iPad App the domains of Mobility and Pain Interference are administered by the surgeon.
- Upon completion the scores are reviewed by the surgeon with the patient
- A paper based questionnaire of subjective level of usefulness, ease of use, and preference between the SMFA and PROMIS are measured following the interaction

CONCLUSIONS

- Engagement of multiple surgeons increased from 1 to 3 resulted in increased volume of PROM of pelvis and acetabular fracture patients
- Overall average PROM encounter/clinic = 2.7 patients
- Increased PROM encounter average from 2.1 patients/clinic to 3.1 patients/clinic by engaging a clinician to identify and enter patient’s identification in PROMIS iPad App prior to clinic
- Mobility T-score was 36.0 (SD=5.8)
- Pain interference T-score was 57.3 (SD=3.6)
- PROM assessment date was on average 2.6 months post-operatively (median 1.7, SD=2.7)
- Almost half (45.7%) of the participants said the PROMIS measures were either somewhat or very useful to complete compared to 19.6% who stated that the SMFA was somewhat useful to complete

CLINICAL IMPLEMENTATION & RESULTS

- Preliminary data suggesting PROMIS CAT PROs can be successfully administered in a high-volume trauma clinic, but a surgeon champion is necessary to ensure successful implementation in routine clinical care
- Patients overwhelmingly reported that the PROMIS iPad App was not only easier to complete, but preferred it to the paper SMFA.
- On average pelvic and acetabular patients show significant deviation (±1 SD) from the general population in terms of mobility
- Pain interference also deviates from the average population, especially in the early post-operative period for this population.
- This pilot project demonstrates the need to measure PROs to improve quality of care in the post-operative period for patients experiencing a traumatic pelvic and acetabular fracture.

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