Impact of Medical Comorbidities on Patient-Rated Upper Extremity Disability

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OBJECTIVES

- Comorbidities have been shown to impact patient-rated outcomes in patients with musculoskeletal conditions.
- In prior studies, comorbidities have been quantified through various algorithms.
- With no consensus approach to account for medical comorbidities, this study was designed to determine the impact of alternative methods of calculating comorbidities on Quick Disabilities of the Arm Shoulder and Hand (QuickDASH) scores in patients suffering from common hand conditions.

METHODS

- This cross-sectional review analyzed 220 adult patients at the time of an initial visit with a hand surgeon at a tertiary institution from August 2008 to August 2009.
- All patients were diagnosed with atraumatic hand conditions:
  - Arthritis, nerve compression, or tendonitis
- Patients completed the QuickDASH and a complete medical history questionnaire.
- Medical comorbidities were quantified via 4 methods:
  - Simple dichotomization (presence/absence any comorbidity)
  - Total number of comorbidities
  - Charlson Comorbidity Index (CCI)
  - Functional Comorbidity Index (FCI)
- Statistical analysis determined the correlation between each comorbidity score and QuickDASH score and the impact of comorbidities on QuickDASH scores.

RESULTS

- The mean QuickDASH score for this population was 43 (SD 23).
- Patients suffered from a mean of 2.6 comorbidities (SD 2.3, range 0-10).
  - 45 patients reported no comorbidities.
- All methods for quantifying comorbidities had limited correlation with QuickDASH scores (r_p=0.03-0.18)
- Comparisons between patients in the lowest and highest categories of comorbidities failed to reveal difference in the mean QuickDASH score exceeding the minimally clinically important difference of 15 points.

Method	QuickDASH score (±SD)	N
Total Number Comorbidities		
0	39 (23)	45
7-10	44 (29)	14
Charlson Comorbid Index		
0	40 (23)	87
≥5	45 (27)	25
Functional Comorbid Index		
0	40 (23)	42
≥4	47 (26)	53

CONCLUSION

- No single method of quantifying comorbidities demonstrated superior correlation with QuickDASH scores.
- In hand patients, comorbidities do not substantially affect QuickDASH scores.
- Due to the advantage of simplified scoring and high correlation with other methods, we recommend simple summation of total comorbidities in hand surgery research.