WHICH RA DISEASE ACTIVITY MEASURES TO USE IN PRACTICE

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EVIDENCE BASED MEDICINE

- Anderson et al. “Measures of Rheumatoid Arthritis Disease Activity...” Arthritis Care and Research, 2011
- Maska et al. “Measures of Functional Status and Quality of Life in Rheumatoid Arthritis.” Arthritis Care and Research, 2011

SYSTEMATIC REVIEW FOUND 63 RA DAMS!

ACR DISEASE ACTIVITY MEASURES PROJECT WORKING GROUP

- Mission:
  - Comprehensively evaluate the validity, feasibility, and acceptability of available RA disease activity measures (DAM).
  - Derive recommendations for their use in clinical practice
- Translation:
  - Let’s figure out what you should measure for RA in your clinic!
  - Let’s allow enough flexibility in measure selection that different practice environments (small single specialty vs. large multi-specialty and academic medical centers) with different priorities and levels of support can pick the best measure for their needs.

RULES TO REDUCE FROM 63

- Measured radiographic changes: 2
- Did not report a continuous value: 5
- Pertained only to joint damage or disability: 3
- Had insufficient information: 5
- RADAMs remaining: 47

DISCLOSURES

- No Conflicts of Interest to Disclose
- My primary involvement with the RA Disease Activity Workgroup was in major revisions of the original draft.
- Acknowledge that Kaleb Michaud graciously gave me license to use slides outlining the stepwise process and decisions along the way.
Lacked Remission Criteria: 5
Ranked low: 5
Submitted to ACR membership
Low use reported: 1
Lacked well-defined disease activity categories: 2
RADAMs remaining: 19

FROM 63 TO 6

FINAL LIST OF 6 RA DAMS

• DAS-28 Disease Activity Score 28 joints
• CDAI Chronic Disease Activity Index
• SDAI Simplified Disease Activity Index
• RAPID-3 Routine Assessment of Patient Index Data w 3 measures
• PAS Patient Activity Scale
• PAS-II Patient Activity Scale II

RA DAM - 3 DATA SOURCES

RA DAM COMPONENTS BY SOURCE

RULES TO REDUCE FROM 47

• Not recommend by expert panel: 14
• Measured quality of life: 10
• Required calculation of change score: 2
• Antiquated measure: 1
• Pertains only to single body region: 1
• RADAMs remaining: 19

RULES TO REDUCE FROM 19

• Lacked Remission Criteria: 5
• Submitted to ACR membership (N=335)
• Ranked low: 5
• Low use reported: 1
• Lacked well-defined disease activity categories: 2
• RADAMs remaining: 6!
DIFFERENCES IN PATIENT-REPORTED MEASURES

- All three use pain and patient global
- Difference only in functional assessment
  - PAS uses HAQ
  - RAPID-3 uses MDHAQ
  - PAS-II uses HAQ-II

WHAT IS THE HAQ?

- Stanford (Health Assessment Questionnaire) Disability Index
- 1980 - Jim Fries
- 20 Likert questions
- 21 Aid/devices questions
- Designed to be a generic measure of function
WHICH TO USE FOR YOUR CLINIC?

- Depends on your clinic
- Laboratory measure - greatest limitation
- Provider measures?

HAQ – GOLD STANDARD

THEN CAME MHAQ

- Modified HAQ, Ted Pincus, 1983
- Much shorter
- 8 questions: 1 from each of 8 dimensions of the HAQ

WIDE RANGE OF FUNCTION

MHAQ
THEN CAME MD-HAQ

- Multidimensional HAQ
- Ted Pincus, 1999
- Added 2 new questions to the MHAQ
  - Participate in Sports
  - Walk 2 miles on flat ground

MDHAQ

- Fred Wolfe, Kaleb Michaud (& Ted Pincus)
- 2004 – 10 questions, 5 from HAQ, 5 new
- Used IRT/Rasch analysis to develop
  - Most efficient way of determining function score (using HAQ as standard), with least number of questions
  - Better at distinguishing differences in function
DIFFERENCES BETWEEN PATIENT-REPORTED RA DAMS

- All three use pain and patient global assessment
- Differences due to functional assessment
  - PAS uses HAQ
  - RAPID3 uses MDHAQ
  - PAS-Il uses HAQ-II

HAQ FAMILY SUMMARY

- While all HAQs are valid measures of function, the HAQ & HAQ-II are better at distinguishing differences in function (responsive) than MHAQ & MDHAQ
- If starting from scratch, PAS-II may be best, since it incorporates the HAQ-II - so faster than full HAQ and potentially better at distinguishing changes in function.

PROVIDER RA DAMS

- DAS-28
  - Hard to calculate
  - \[ \text{DAS-28} = 0.56 \times \sqrt{28 \text{TJC}} + 0.28 \times \sqrt{28 \text{SJC}} + 0.70 \times \ln(\text{ESR}) + 0.14 \times \text{PatGlobal} \]
  - Remission may still have several swollen joints, specifically excludes small joints of the feet
  - Lab components (esr, crp) may not be resulted before or at the encounter when clinical decisions need to be made.

- CDAI (SDAI)
  - \[ 28 \text{TJC} + 28 \text{SJC} + \text{PrGlobal} + \text{PatGlobal} + \text{CRP} \]
  - SDAI ≤3.3 is ACR/EULAR remission criteria
CONCLUSIONS

• There is no ideal measure of disease activity
• Measures excluded in [this] review could later be found to possess... superior psychometric properties to the 6 recommended.
• Knowing the data source (patient, provider, lab), the subtleties of individual data elements, and overlaps between the measures is important to fully understand what you are actually measuring in a composite scoring system
• Computerized branching algorithmic measures (PROMIS) have the potential to break new ground in the field of composite disease activity measurement