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Initial Psychometric Performance of an Individualized Measure of BPH Patient Impact (BPH-PIM)[®]

Martin, ML¹, Hareendran AV², Bushnell DM¹, and Goodman JE¹

¹Health Research Associates, Seattle, WA, USA; ²Outcomes Research, Pfizer Ltd. United Kingdom



Outcomes Research
Pfizer, Ltd
Sandwich, UK.

OBJECTIVE AND METHODOLOGY

OBJECTIVE OF THE STUDY:

To evaluate the psychometric performance of the BPH-Patient Impact Measure (BPH-PIM).

THE INSTRUMENT:

- ◆ The BPH-PIM (Benign Prostatic Hyperplasia-Patient Impact Measure)[®] was developed to represent the highly varied content and focus on key impact areas that would be relevant and important to most patients
- ◆ It includes both standardized and individualized sections.
 - Physical Impacts (10 standardized items)
 - Psychological Impacts (5 standardized items)
 - 5-item individualized section with a prompter list.

METHODS:

Sample

48 participants with a diagnosis of BPH (AUA severity score of 8+) were recruited from three different urology clinics in the USA

Scoring

Responses for all 20 possible items were summed to yield a raw score.

The total summary score was computed by transforming the raw score onto a standardized scale of 0 to 100

Analysis

Internal consistency reliability evaluated using Cronbach's alpha.

Test-retest reliability was assessed by a six day retest, using intraclass correlation coefficient (ICC).

Discriminant validity was assessed by comparing scores to the AUA 7-item symptom index and AUA 7-item problem index scores, to determine the ability of the BPH-PIM to discriminate between varied levels of BPH severity.

Convergent validity evaluated by correlating the BPH-PIM scores with the eight sub-scales of the MOS Short-form Health Status survey (SF-36)

RESULTS:

- ◆ Good internal consistency (alpha = 0.93)
- ◆ Good reliability (0.91).
- ◆ Acceptable convergent validity on relevant sub scales of the SF-36 (ranging between 0.40 and 0.56; significant at the 0.05 level).
- ◆ Weaker associations with the bodily pain and physical subscales (0.29 and 0.13).
- ◆ Ability to discriminate between symptom severity levels and the AUA problem index scores. (0.40 and 0.68, p<0.50).

Table 1. Characteristics of the Patients (n=48)

Demographic Variables	Results
Age (years)	
- Mean (Std.Dev)	64.4 (11.8) years
- Minimum	40 years of age
- Maximum	91 years of age
First Diagnosed with Prostate Problems (years)	
- Mean (Std.Dev)	4.2 (5.7) years
- Minimum	0 years
- Maximum	27 years
Currently in paid employment	
- n (%) Yes	13 (27.1 %)
Changed or lost job because of prostate problems	
- n (%) Yes	4 (8.3 %)
Days off from work due to prostate problems (past month)	(n=48)
- Mean (Std.Dev)	0.2 (1.0) days
- Minimum	0 days
- Maximum	6 days
	(n=13) only those who currently work
	0.5 (1.7) days
	0 days
	6 days
Less than normal work effectiveness days due to prostate impact (past month)	(n=48)
- Mean (Std.Dev)	2.0 (5.7) days
- Minimum	0 days
- Maximum	30 days
	(n=13) only those who currently work
	6.5 (9.4) days
	0 days
	30 days
Lost normal activity hours due to prostate problems (past month)	
- Mean (Std.Dev)	11.8 (46.5) hours
- Minimum	0 hours
- Maximum	300 hours

Table 4. Internal consistency and test/retest Reproducibility (ICC)

	Alpha Coefficients (n = 48)	ICC Test/Retest (n = 40) *
BPH-PIM	0.93	0.91

*Total number of retests = 44; however, 4 participants indicated a change in their condition during the retest week.

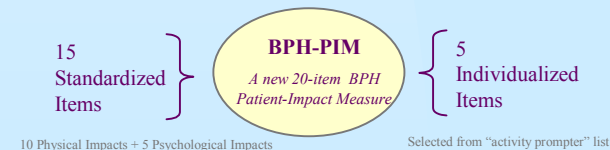


Table 2. Descriptive statistics

	Mean ± Std. Dev	General Male U.S. Population Norms*
BPH-PIM Score	61.2 ± 19.0	---
AUA Quality of Life Question	3.0 ± 1.6	---
AUA Symptom Index Score	50.3 ± 20.2	---
AUA Problem Index Score	46.4 ± 27.0	---
SF-36 Physical Functioning	63.2 ± 27.2	87.2 ± 21.3
SF-36 Role Physical Functioning	40.6 ± 41.5	86.6 ± 30.9
SF-36 Bodily Pain	58.8 ± 25.9	76.9 ± 23.0
SF-36 General Health Perceptions	54.0 ± 22.7	73.5 ± 20.0
SF-36 Vitality	50.6 ± 23.7	63.6 ± 20.0
SF-36 Social Functioning	70.6 ± 28.1	85.2 ± 21.3
SF-36 Role Mental Functioning	50.7 ± 41.3	83.3 ± 31.3
SF-36 Mental Health	68.2 ± 21.8	76.4 ± 17.2

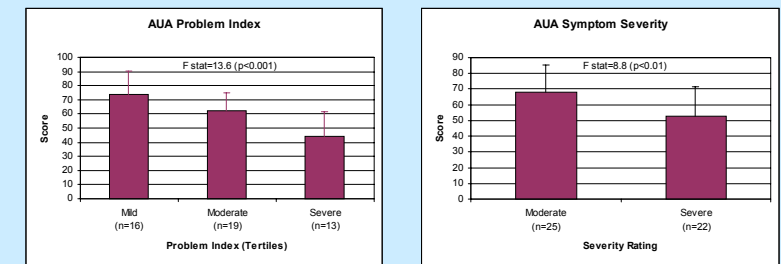
*n=1,055; Ware, et al., SF-36 Health Survey Manual and Interpretation Guide, Lincoln, RI: QualityMetric Inc, 1993, 2000.

Table 3. Correlations with convergent measures

	BPH-PIM
SF-36 Physical Functioning	0.13
SF-36 Role Physical Functioning	0.31*
SF-36 Bodily Pain	0.29*
SF-36 General Health Perceptions	0.54*
SF-36 Vitality	0.47*
SF-36 Social Functioning	0.53*
SF-36 Role Mental Functioning	0.43*
SF-36 Mental Health	0.56*
AUA Symptom Index	0.40*
AUA Problem Index	0.68*

* Correlation is significant at the 0.05 level (2-tailed).

Figure 1. Discriminant validity results using the AUA Problem and Symptom Indices



CONCLUSIONS

The BPH Patient Impact Measure[®] is short in length and low in patient burden. The addition of an individualized section provides high content validity across what would otherwise be extremely varied areas of impact important to patients. The BPH-PIM has been well-accepted by patients, produced very little missing data, and demonstrates good psychometric performance in this initial cross-sectional application.

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