

Association of Pruritus and Quality of Life Among Patients at a Large Dialysis Provider

T Christopher Bond, PhD; Rich Mutell, MBA, MA; Helen M Wilfehrt, PhD; Mahesh Krishnan, MD, MPH, MBA, FASN

DaVita Clinical Research, Minneapolis, MN, USA

Introduction

- Data by Nunley et al. show that > 90% of dialysis patients report pruritus, ranging from mild to severe.¹
- The Kidney Disease Quality of Life 36 (KDQOL) assesses dialysis-specific, patient-reported, health-related QOL for individuals with end-stage renal disease (ESRD) who are undergoing dialysis.²
- It includes the SF-12 physical and mental component scores (PCS and MCS, respectively), subscales for burden of disease, symptoms and problems (including skin itch), and effects on daily life.
- This survey is administered yearly to all dialysis patients treated by a large dialysis organization.
- Burden of disease subscale samples the patient's impression of kidney disease burden
- Interference with life
- Time and frustration dealing with kidney disease
- Burden to family
- Symptoms/problems subscale samples severity of symptoms
- Muscle soreness, cramps
- Itchy, dry skin
- Chest pain, shortness of breath, faintness/dizziness
- Lack of appetite, nausea/upset stomach
- Fatigue
- Problems with dialysis access site
- Effect on daily life subscale samples severity of kidney disease effects
- Fluid and dietary restrictions
- Ability to work around the house and to travel
- Dependence on doctors and medical staff
- Stress/worry about kidney disease
- Sex life
- Personal appearance
- Characteristics of this population have been previously published³
- With increasing severity of self-reported itchiness, patients
- Were slightly younger
- Were more likely to be female
- Were more likely to have diabetes
- Had lower overall physical and mental component scores on the KDQOL
- Were more likely to have cardiovascular disease, chronic obstructive pulmonary disease, or liver disease
- Race and cause of ESRD were different among categories of itchiness severity but showed no meaningful pattern

Objective

We hypothesized that patient-reported itch would be associated with other items of the KDQOL.

Methods

- We analyzed the association between itchiness score on the KDQOL and the component physical and mental scores reported by patients (n = 71,012) who completed the SF-12 portion of the survey between Jan 2009 and May 2012.
- ANOVAs were performed to compare scores on the Effects and Burden subscales for all patients by level of itchiness.
- Summary statistics are provided for the Symptoms subscale, which includes the itchiness question.

Results

- Thirty percent of patients reported that they were moderately to extremely bothered by itching
- Six out of every 10 patients reported some level of itching
- A significant association existed and clear trend was observed
- Between itchiness and both PCS and MCS scores
- Between itchiness and the Burden and Effects subscales
- Itchiness was also correlated with other questions in the Symptoms subscale.

Table 1: Association Between Itchiness and KDQOL Physical and Mental Component Scores

| | P | PCS Score | | | MCS Score | | |
|----------------------------------|----------|-----------|--------|----------|-----------|--------|--|
| Itchiness Score | Mean | SD | Median | Mean | SD | Median | |
| Not bothered at all (N = 28,360) | 39.28 | 10.66 | 39.22 | 52.06 | 10.00 | 54.59 | |
| Somewhat bothered (N = 21,481) | 36.97 | 10.15 | 36.39 | 49.73 | 10.40 | 51.60 | |
| Moderately bothered (N = 10,912) | 34.91 | 9.66 | 33.91 | 47.68 | 10.75 | 48.63 | |
| Very much bothered (N = 6,556) | 33.14 | 9.26 | 32.28 | 44.79 | 11.06 | 44.42 | |
| Extremely bothered (N = 3,703) | 32.18 | 9.53 | 30.51 | 43.42 | 11.87 | 42.77 | |
| ANOVA p-value | < 0.0001 | | | < 0.0001 | | | |

Includes only patients with complete SF-12 (all 12 questions)
Abbreviations: MCS, mental component score; PCS, physical component score

Results (continued)

Figure 1: KDQOL Physical and Mental Component Scores by Itchiness

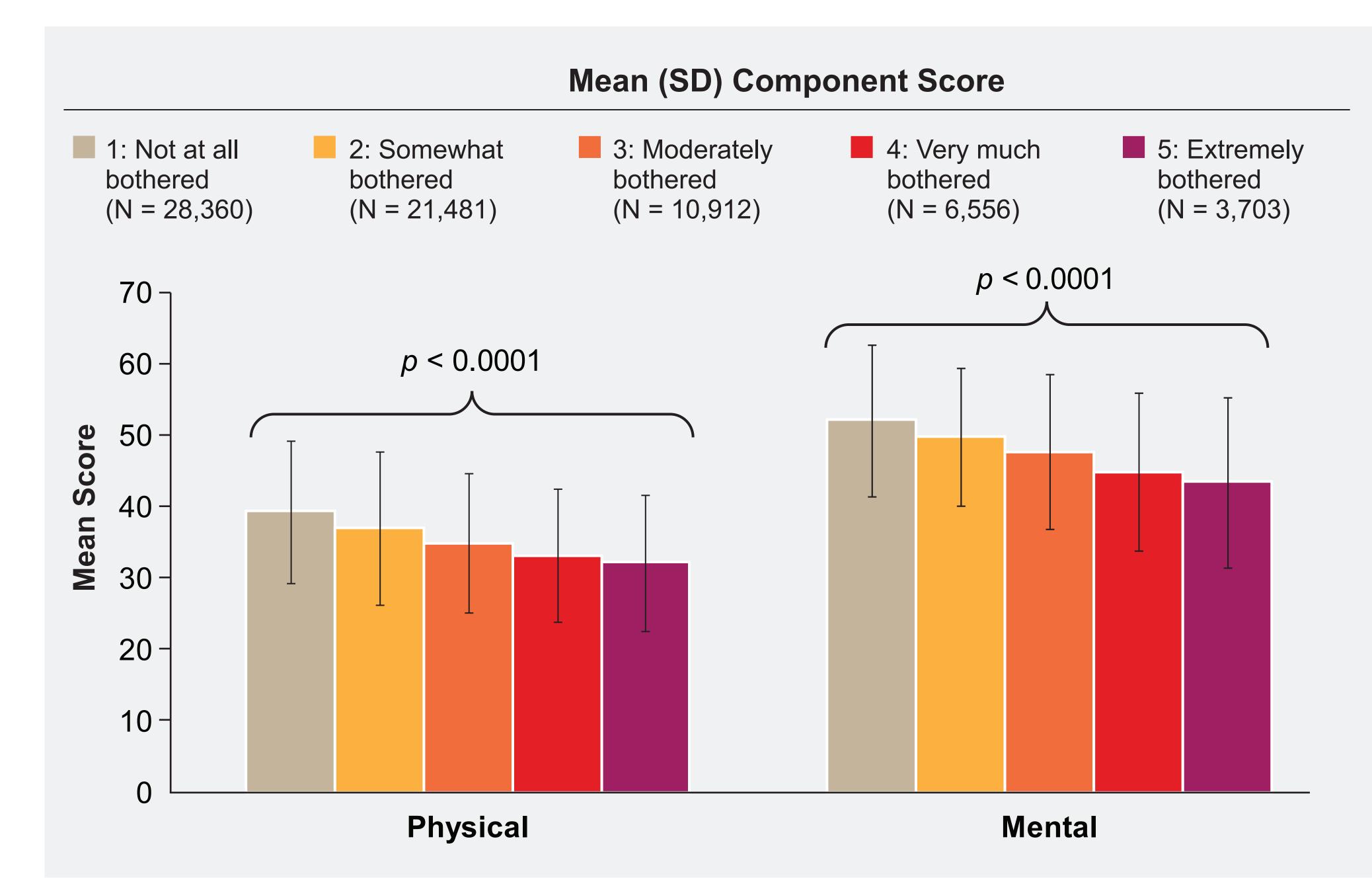


Table 2: Association Between Itchiness and KDQOL Burden and Effects Subscales Scores

| | Burden Score | | | Effects Score | | |
|----------------------------------|--------------|-------|--------|---------------|-------|--------|
| Itchiness Score | Mean | SD | Median | Mean | SD | Median |
| Not bothered at all (N = 29,158) | 57.23 | 29.60 | 56.25 | 76.40 | 20.86 | 81.25 |
| Somewhat bothered (N = 22,108) | 50.04 | 28.58 | 50.00 | 70.17 | 21.50 | 75.00 |
| Moderately bothered (N = 11,237) | 43.84 | 27.33 | 37.50 | 63.01 | 22.01 | 65.63 |
| Very much bothered (N = 6,780) | 36.99 | 26.27 | 31.25 | 57.92 | 23.08 | 59.38 |
| Extremely bothered (N = 3,841) | 32.71 | 27.75 | 25.00 | 51.85 | 25.30 | 50.00 |
| ANOVA p-value | < 0.0001 | | | < 0.0001 | | |

Includes patients with valid subscales (algorithm allows for missing questions)

Table 3: Association Between Itchiness and KDQOL Symptoms Scores

| Itchiness Score | Mean | SD | Median |
|----------------------------------|-------|-------|--------|
| Not bothered at all (N = 29,158) | 85.73 | 11.69 | 87.50 |
| Somewhat bothered (N = 22,108) | 78.48 | 11.91 | 81.25 |
| Moderately bothered (N = 11,237) | 69.21 | 13.16 | 70.83 |
| Very much bothered (N = 6,780) | 60.45 | 14.94 | 62.50 |
| Extremely bothered (N = 3,841) | 52.26 | 17.90 | 54.17 |
| ANOVA p-value | n/a | | |
| | | | |

Includes patients with valid subscales (algorithm allows for missing questions)

Conclusions

- Self-reported skin itch is correlated with validated component and subscale scores on the KDQOL.
- Trends exist across all categories of itch for physical, mental, disease burden, and disease effects scores derived from the validated KDQOL; this relationship demonstrated a dose response.
- Thus, perception of skin itch is associated with other aspects of the quality of life of dialysis patients, suggesting that alleviation of itchiness symptoms may have broader impacts on life quality.

References

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Correspondence: scott.sibbel@davita.com

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