Supplemental Tables

Supplemental Table S1: Health Behaviors

| | Total | AAV | IgG4-RD | Scleroderma |
|-----------------------------|-----------------|-----------------|-----------------|----------------|
| N | 132 | 41 | 61 | 30 |
| Smoking status n (%) | | | | |
| Current | 2 (1.5) | 1 (2.4) | 0 (0.0) | 1 (3.3) |
| Former | 51 (38.6) | 15 (36.6) | 20 (32.8) | 16 (53.3) |
| Never | 79 (59.8) | 25 (61.0) | 41 (67.2) | 13 (43.3) |
| Vaping status n (%) | | | | |
| Current | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) |
| Former | 3 (2.3) | 1 (2.4) | 2 (3.3) | 0 (0.0) |
| Never | 128 (97.0) | 40 (97.6) | 58 (95.1) | 30 (100) |
| Sleep Quality n (%) | | | | |
| Very good | 19 (14.4) | 4 (9.8) | 10 (16.4) | 5 (16.7) |
| Fairly good | 47 (35.6) | 14 (34.1) | 21 (34.4) | 12 (40.0) |
| Neutral | 37 (28.0) | 12 (29.3) | 17 (27.9) | 8 (26.7) |
| Fairly bad | 23 (17.4) | 8 (19.5) | 10 (16.4) | 5 (16.7) |
| Very bad | 6 (4.5) | 3 (7.3) | 3 (4.9) | 0 (0.0) |
| Health Behaviors | | | | |
| Vigorous physical activity | | | | |
| (days, median, IQR) | 0.0 [0.0, 2.0] | 1.0 [0.0, 3.5] | 0.0 [0.0, 2.0] | 0.0 [0.0, 1.0] |
| Moderate physical activity | | | | |
| (days, median, IQR) | 2.0 [0.0, 4.0] | 3.0 [0.5, 5.0] | 2.0 [0.0, 4.0] | 1.0 [0.0, 4.0] |
| Time spent walking (days, | | | | |
| median, IQR) | 4.0 [2.0, 7.0] | 4.0 [2.0, 6.0] | 4.0 [2.5, 7.0] | 4.0 [1.0, 7.0] |
| Time spent sitting (hours, | | | | |
| median, IQR) | 8.0 [5.0, 12.0] | 8.0 [5.0, 10.0] | 8.0 [6.0, 11.8] | 9.0 [5.0, 16.0 |
| Time spent sleeping (hours, | | | | |
| median, IQR) | 7.0 [6.0, 8.0] | 6.0 [6.0, 7.8] | 7.0 [6.2, 7.5] | 7.0 [6.0, 8.0] |

Supplemental Table S2a: Uncertainty and Mental Health in AAV Stratified According to Disease Activity

| | | In remission | Not in remission | I don't know | |
|--------------------|--------|-------------------|-------------------|-------------------|------|
| N | | 21 | 13 | 7 | |
| MUIS n (%) | | | | | |
| Median, IQF | ł | 53.0 [43.0, 56.0] | 56.0 [51.0, 74.0] | 66.0 [59.0, 67.0] | 0.02 |
| Q1 (22-44) | | 7 (33.3) | 1 (7.7) | 4 (57.1) | |
| Q2 (44-66) | | 13 (61.9) | 8 (61.5) | 3 (42.9) | |
| Q3 (66-88) | | 1 (4.8) | 3 (23.1) | 0 (0.0) | |
| Q4 (88-110) | | 0 (0.0) | 1 (7.7) | 0 (0.0) | |
| PHQ-8 n (%) | | | | | |
| Median, IQF | ł | 2.0 [2.0, 7.0] | 8.0 [5.0, 19.0] | 4.0 [1.0, 5.0] | 0.01 |
| Minimal (0-4 | 4) | 13 (61.9) | 3 (23.1) | 5 (71.4) | |
| Mild (5-9) | | 5 (23.8) | 4 (30.8) | 1 (14.3) | |
| Moderate (1 | 0-14) | 2 (9.5) | 2 (15.4) | 0 (0.0) | |
| Moderately (15-19) | Severe | 1 (4.8) | 1 (7.7) | 0 (0.0) | |
| Severe (20-2 | 24) | 0 (0.0) | 3 (23.1) | 0 (0.0) | |
| < 10 | , | 18 (85.7) | 7 (53.8) | 6 (85.7) | |
| >= 10 | | 3 (14.3) | 6 (46.2) | 1 (14.3) | |
| GAD-7 n (%) | | | | | |
| Median, IQF | ł | 2.0 [0.0, 6.0] | 7.0 [4.0, 10.0] | 5.0 [2.0, 6.0] | 0.07 |
| Minimal (0-4 | 4) | 13 (61.9) | 5 (38.5) | 2 (28.6) | |
| Mild (5-9) | , | 8 (38.1) | 4 (30.8) | 4 (57.1) | |
| Moderate (1 | 0-14) | 0 (0.0) | 3 (23.1) | 1 (14.3) | |
| Severe (15-2 | , | 0 (0.0) | 1 (7.7) | 0 (0.0) | |
| SIP n (%) | , | | . , | | |
| Median, IQF | ł | 1.0 [0.0, 2.0] | 5.0 [1.0, 10.0] | 6.0 [0.0, 8.0] | 0.06 |
| Q1 (0-5) | | 18 (85.7) | 7 (53.8) | 2 (28.6) | |
| Q2 (6-11) | | 3 (14.3) | 5 (38.5) | 4 (57.1) | |
| Q3 (12-16) | | 0 (0.0) | 1 (7.7) | 1 (14.3) | |
| Q4 (17-22) | | 0 (0.0) | 0 (0.0) | 0 (0.0) | |

Supplemental Table S2b: Uncertainty and Mental Health in Scleroderma Stratified According to Disease Activity

| | In remission | Not in remission | I don't know | P-Value |
|---------------------------|-------------------|-------------------|-------------------|----------------|
| N | 3 | 16 | 11 | |
| MUIS n (%) | | | | |
| Median, IQR | 59.0 [52.0, 66.0] | 59.0 [54.5, 66.0] | 59.0 [55.0, 66.0] | 1.0 |
| Q1 (22-44) | 0 (0.0) | 1 (6.3) | 10 (90.9) | |
| Q2 (44-66) | 3 (100.0) | 11 (68.8) | 1 (9.1) | |
| Q3 (66-88) | 0 (0.0) | 4 (25.0) | 0 (0.0) | |
| Q4 (88-110) | 0 (0.0) | 0 (0.0) | 0(0.0) | |
| PHQ-8 n (%) | | | | |
| Median, IQR | 1.0 [1.0, 7.0] | 3.0 [2.0, 8.0] | 2.0 [1.0, 4.0] | 0.2 |
| Minimal (0-4) | 2 (66.7) | 9 (56.3) | 8 (72.7) | |
| Mild (5-9) | 1 (33.3) | 5 (31.3) | 2 (18.2) | |
| Moderate (10-14) | 0 (0.0) | 1 (6.3) | 0(0.0) | |
| Moderately Severe (15-19) | 0 (0.0) | 1 (6.3) | 0 (0.0) | |
| Severe (20-24) | 0 (0.0) | 0 (0.0) | 0 (0.0) | |
| < 10 | 3 (100.0) | 14 (87.5) | 10 (90.9) | |
| >= 10 | 0 (0.0) | 2 (12.5) | 0 (0.0) | |
| GAD-7 n (%) | | | | |
| Median, IQR | 2.0, [0.0, 7.0] | 2.0 [0.0, 3.5] | 1.0 [0.0, 9.0] | 1.0 |
| Minimal (0-4) | 2 (66.7) | 13 (81.3) | 7 (63.6) | |
| Mild (5-9) | 1 (33.3) | 3 (18.8) | 3 (27.3) | |
| Moderate (10-14) | 0 (0.0) | 0 (0.0) | 1 (9.1) | |
| Severe (15-21) | 0 (0.0) | 0 (0.0) | 0(0.0) | |
| SIP n (%) | | | | |
| Median, IQR | 0.0 [0.0, 1.0] | 1.0 [0.0, 4.0] | 4.0 [0.0, 7.0] | 0.3 |
| Q1 (0-5) | 3 (100.0) | 13 (81.3) | 8 (72.7) | |
| Q2 (6-11) | 0 (0.0) | 3 (18.8) | 3 (27.3) | |
| Q3 (12-16) | 0 (0.0) | 0 (0.0) | 0 (0.0) | |
| Q4 (17-22) | 0 (0.0) | 0 (0.0) | 0 (0.0) | |

Supplemental Table S2c: Uncertainty and Mental Health in IgG4-RD Stratified According to Disease Activity

| | In remission | Not in remission | I don't know | P-Value |
|---------------------------|-------------------|-------------------|-------------------|---------|
| N | 32 | 13 | 16 | |
| MUIS n (%) | | | | |
| Median, IQR | 49.5 [42.0, 53.5] | 54.0 [48.0, 63.0] | 58.0 [54.5, 63.5] | 0.002 |
| Q1 (22-44) | 9 (28.1) | 2 (15.4) | 1 (6.3) | |
| Q2 (44-66) | 23 (71.9) | 11 (84.6) | 14 (87.5) | |
| Q3 (66-88) | 0 (0.0) | 0 (0.0) | 1 (6.3) | |
| Q4 (88-110) | 0 (0.0) | 0 (0.0) | 0 (0.0) | |
| PHQ-8 n (%) | | | | |
| Median, IQR | 2.0 [0.0, 4.0] | 4.0 [1.0, 9.0] | 3.0 [0.0, 6.0] | 0.09 |
| Minimal (0-4) | 27 (84.4) | 8 (61.5) | 9 (56.3) | |
| Mild (5-9) | 4 (12.5) | 4 (30.8) | 5 (31.3) | |
| Moderate (10-14) | 0 (0.0) | 0 (0.0) | 0 (0.0) | |
| Moderately Severe (15-19) | 1 (3.1) | 0 (0.0) | 1 (6.3) | |
| Severe (20-24) | 0 (0.0) | 1 (7.7) | 0 (0.0) | |
| < 10 | 31 (96.9) | 12 (92.3) | 14 (87.5) | |
| >= 10 | 1 (3.1) | 1 (7.7) | 1 (6.3) | |
| GAD-7 n (%) | | | | |
| Median, IQR | 0.0 [0.0, 2.5] | 3.0 [0.0, 6.0] | 3.0 [0.0, 6.0] | 0.06 |
| Minimal (0-4) | 30 (93.8) | 7 (53.8) | 11 (68.8) | |
| Mild (5-9) | 2 (6.3) | 5 (38.5) | 4 (25.0) | |
| Moderate (10-14) | 0 (0.0) | 0 (0.0) | 1 (6.3) | |
| Severe (15-21) | 0 (0.0) | 1 (7.7) | 0 (0.0) | |
| SIP n (%) | | | | |
| Median, IQR | 0.0 [0.0, 5.5] | 2.0 [0.0, 9.0] | 1.5 [0.5, 7.0] | 0.2 |
| Q1 (0-5) | 24 (75.0) | 7 (53.8) | 10 (62.5) | |
| Q2 (6-11) | 7 (21.9) | 4 (30.8) | 5 (31.3) | |
| Q3 (12-16) | 1 (3.1) | 2 (15.4) | 1 (6.3) | |
| Q4 (17-22) | 0 (0.0) | 0 (0.0) | 0 (0.0) | |

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| Supplemental Table S3a: Uncertainty | and Mental Health Stratified by S | Sex |
|-------------------------------------|-----------------------------------|-----|
|-------------------------------------|-----------------------------------|-----|

| | MALE | FEMALE | P-Value |
|--------------------|-------------------|-------------------|---------|
| N | 63 | 69 | |
| MUIS n (%) | | | |
| Median, IQR | 52.0 [46.0, 58.0] | 58.0 [52.0, 63.0] | 0.002 |
| Q1 (22-44) | 14 (22) | 6 (9) | 0.096 |
| Q2 (44-66) | 41 (65) | 51 (74) | |
| Q3 (66-88) | 7 (11) | 12 (17) | |
| Q4 (88-110) | 1 (2) | 0 (0) | |
| Missing | 0 (0) | 0 (0) | |
| PHQ-8 n (%) | | | |
| Median, IQR | 2.0 [1.0, 5.0] | 3.0 [1.0, 7.0] | 0.15 |
| Minimal (0-4) | 44 (71) | 40 (59) | 0.57 |
| Mild (5-9) | 13 (21) | 18 (26) | |
| Moderate (10-14) | 1 (2) | 4 (6) | |
| Moderately Severe | | 3 (4) | |
| (15-19) | 2 (3) | | |
| Severe (20-24) | 2 (3) | 3 (4) | |
| Missing | 1 (2) | 1 (1) | |
| GAD-7 n (%) | | | |
| Median, IQR | 2.0 [0.0, 5.0] | 3.0 [0.0, 7.0] | 0.061 |
| Minimal (0-4) | 47 (75) | 43 (62) | 0.17 |
| Mild (5-9) | 15 (24) | 19 (28) | |
| Moderate (10-14) | 1 (2) | 5 (7) | |
| Severe (15-21) | 0 (0) | 2 (3) | |
| Missing | 0 (0) | 0 (0) | |
| SIP n (%) | | | |
| Median, IQR | 1.0 [0.0, 7.0] | 1.0 [0.0, 6.0] | 0.98 |
| Q1 (0-5) | 41 (65) | 51 (74) | 0.45 |
| Q2 (6-11) | 18 (29) | 16 (23) | |
| Q3 (12-16) | 4 (6) | 2 (3) | |
| Q4 (17-22) | 0 (0) | 0 (0) | |
| Missing | 0 (0) | 0 (0) | |

AAV: ANCA-Associated Vasculitis; IgG4-RD: IgG4-Related Disease; SSc: Systemic Sclerosis; MUIS: Mishel Uncertainty in Illness Scale; PHQ-8: Patient Health Questionnaire depression scale; GAD-7: General Anxiety Disorder; SIP: Sickness Impact Profile

*P-value compares the proportion of patients with at least mild depression or anxiety across the three disease groups.

Supplemental Table S3b: Uncertainty and Mental Health Among Female Patients

| | Overall | AAV | IgG4-RD | SSc | P-Value |
|--------------------|-------------------|-------------------|-------------------|-------------------|---------|
| N | 69 | 23 | 17 | 29 | |
| MUIS n (%) | | | | | |
| Median, IQR | 58.0 [52.0, 63.0] | 57.0 [51.0, 62.0] | 54.0 [48.0, 63.0] | 59.0 [55.0, 65.0] | |
| Q1 (22-44) | 6 (9) | 3 (13) | 2 (12) | 1 (3) | 0.42 |
| Q2 (44-66) | 51 (74) | 16 (70) | 14 (82) | 21 (72) | |
| Q3 (66-88) | 12 (17) | 4 (17) | 1 (6) | 7 (24) | |
| Q4 (88-110) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | |
| Missing | 0 (0) | 0 (0) | 0 (0) | 0 (0) | |
| PHQ-8 n (%) | | | | | |
| Median, IQR | 3.0 [1.0, 7.0] | 5.0 [2.0, 11.0] | 3.0 [0.0, 6.0] | 3.00 [1.0, 7.0] | |
| Minimal (0-4) | 40 (59) | 11 (48) | 11 (65) | 18 (64) | 0.40 |
| Mild (5-9) | 18 (26) | 5 (22) | 5 (29) | 8 (29) | |
| Moderate (10-14) | 4 (6) | 3 (13) | 0 (0) | 1 (4) | |
| Moderately Severe | | 2 (9) | 0 (0) | 1 (4) | |
| (15-19) | 3 (4) | | | | |
| Severe (20-24) | 3 (4) | 2 (9) | 1 (6) | 0 (0) | |
| Missing | 1 (1) | 0 (0) | 0 (0) | 1 (3) | |
| GAD-7 n (%) | | | | | |
| Median, IQR | 3.0 [0.0, 7.0] | 6.0 [2.0, 9.0] | 1.0 [0.0, 4.0] | 2.0 [0.0, 5.0] | |
| Minimal (0-4) | 43 (62) | 9 (39) | 13 (76) | 21 (72) | 0.12 |
| Mild (5-9) | 19 (28) | 10 (43) | 2 (12) | 7 (24) | |
| Moderate (10-14) | 5 (7) | 3 (13) | 1 (6) | 1 (3) | |
| Severe (15-21) | 2 (3) | 1 (4) | 1 (6) | 0 (0) | |
| Missing | 0 (0) | 0 (0) | 0 (0) | 0 (0) | |
| SIP n (%) | | | | | |
| Median, IQR | 1.0 [0.0, 6.0] | 2.0 [0.0, 7.0] | 2.0 [0.0, 7.0] | 1.0 [0.0, 5.0] | |
| Q1 (0-5) | 51 (74) | 15 (65) | 12 (71) | 24 (83) | 0.55 |
| Q2 (6-11) | 16 (23) | 7 (30) | 4 (24) | 5 (17) | |
| Q3 (12-16) | 2 (3) | 1 (4) | 1 (6) | 0 (0) | |
| Q4 (17-22) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | |
| Missing | 0 (0) | 0 (0) | 0 (0) | 0 (0) | |

AAV: ANCA-Associated Vasculitis; IgG4-RD: IgG4-Related Disease; SSc: Systemic Sclerosis; MUIS: Mishel Uncertainty in Illness Scale; PHQ-8: Patient Health Questionnaire depression scale; GAD-7: General Anxiety Disorder; SIP: Sickness Impact Profile

*P-value compares the proportion of patients with at least mild depression or anxiety across the three disease groups.

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| Supplemental Table S3c: Uncertain | ty and Mental Health Among Male Patients |
|-----------------------------------|--|
|-----------------------------------|--|

| | Overall | AAV | IgG4-RD | SSc | P-Value |
|--------------------|-------------------|-------------------|-------------------|-------------------|----------------|
| N | 63 | 18 | 44 | 1 | |
| MUIS n (%) | | | | | |
| Median, IQR | 52.0 [46.0, 58.0] | 53.0 [44.0, 66.0] | 51.5 [46.5, 56.5] | 66.0 [66.0, 66.0] | |
| Q1 (22-44) | 14 (22) | 4 (22) | 10 (23) | 0 (0) | 0.019 |
| 0.019Q2 (44-66) | 41 (65) | 9 (50) | 32 (73) | 0 (0) | |
| Q3 (66-88) | 7 (11) | 4 (22) | 2 (5) | 1 (100) | |
| Q4 (88-110) | 1 (2) | 1 (6) | 0 (0) | 0 (0) | |
| Missing | 0 (0) | 0 (0) | 0 (0) | 0 (0) | |
| PHQ-8 n (%) | | | | | |
| Median, IQR | 2.0 [1.0, 5.0] | 3.5 [2.0, 8.0] | 2.0 [1.0, 4.0] | 2.0 [2.0, 2.0] | |
| Minimal (0-4) | 44 (71) | 10 (56) | 33 (77) | 1 (100) | 0.27 |
| Mild (5-9) | 13 (21) | 5 (28) | 8 (19) | 0 (0) | |
| Moderate (10-14) | 1 (2) | 1 (6) | 0 (0) | 0 (0) | |
| Moderately Severe | | 0 (0) | 2 (5) | 0 (0) | |
| (15-19) | 2 (3) | | | | |
| Severe (20-24) | 2 (3) | 2 (11) | 0 (0) | 0 (0) | |
| Missing | 1 (2) | 0 (0) | 1 (2) | 0 (0) | |
| GAD-7 n (%) | | | | | |
| Median, IQR | 2.0 [0.0, 5.0] | 2.5 [1.0, 5.0] | 1.0 [0.0, 3.0] | 0.0 [0.0, 0.0] | |
| Minimal (0-4) | 47 (75) | 11 (61) | 35 (80) | 1 (100) | 0.37 |
| Mild (5-9) | 15 (24) | 6 (33) | 9 (20) | 0 (0) | |
| Moderate (10-14) | 1 (2) | 1 (6) | 0 (0) | 0 (0) | |
| Severe (15-21) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | |
| Missing | 0 (0) | 0 (0) | 0 (0) | 0 (0) | |
| SIP n (%) | | | | | |
| Median, IQR | 1.0 [0.0, 7.0] | 1.5 [0.0, 6.0] | 1.0 [0.0, 7.0] | 11.0 [11.0, 11.0] | |
| Q1 (0-5) | 41 (65) | 12 (67) | 29 (66) | 0 (0) | 0.63 |
| Q2 (6-11) | 18 (29) | 5 (28) | 12 (27) | 1 (100) | |
| Q3 (12-16) | 4 (6) | 1 (6) | 3 (7) | 0 (0) | |
| Q4 (17-22) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | |
| Missing | 0 (0) | 0 (0) | 0 (0) | 0 (0) | |

AAV: ANCA-Associated Vasculitis; IgG4-RD: IgG4-Related Disease; SSc: Systemic Sclerosis; MUIS: Mishel Uncertainty in Illness Scale; PHQ-8: Patient Health Questionnaire depression scale; GAD-7: General Anxiety Disorder; SIP: Sickness Impact Profile

*P-value compares the proportion of patients with at least mild depression or anxiety across the three disease groups.

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Supplemental Table S3d: The Association of Uncertainty with Mental Health Among Female Patients

| | Correlation coefficient | p-value |
|----------------|--------------------------------|---------|
| Overall | | |
| MUIS and PHQ-8 | 0.44 | < 0.001 |
| MUIS and GAD-7 | 0.34 | 0.004 |
| MUIS and SIP | 0.34 | 0.0046 |
| AAV | | |
| MUIS and PHQ-8 | 0.45 | 0.031 |
| MUIS and GAD-7 | 0.42 | 0.048 |
| MUIS and SIP | 0.42 | 0.045 |
| IgG4-RD | | |
| MUIS and PHQ-8 | 0.34 | 0.18 |
| MUIS and GAD-7 | 0.49 | 0.046 |
| MUIS and SIP | 0.079 | 0.76 |
| SSc | | |
| MUIS and PHQ-8 | 0.62 | < 0.001 |
| MUIS and GAD-7 | 0.28 | 0.15 |
| MUIS and SIP | 0.62 | < 0.001 |

AAV: ANCA-Associated Vasculitis; IgG4-RD: IgG4-Related Disease; SSc: Systemic Sclerosis; MUIS: Mishel Uncertainty in Illness Scale; PHQ-8: Patient Health Questionnaire depression scale; GAD-7: General Anxiety Disorder; SIP: Sickness Impact Profile

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Supplemental Table S3e: The Association of Uncertainty with Mental Health Among Male Patients

| | Correlation coefficient | p-value |
|----------------|--------------------------------|---------|
| Overall | | |
| MUIS and PHQ-8 | 0.39 | 0.002 |
| MUIS and GAD-7 | 0.25 | 0.045 |
| MUIS and SIP | 0.27 | 0.033 |
| AAV | | |
| MUIS and PHQ-8 | 0.68 | 0.002 |
| MUIS and GAD-7 | 0.51 | 0.033 |
| MUIS and SIP | 0.73 | < 0.001 |
| IgG4-RD | | |
| MUIS and PHQ-8 | 0.072 | 0.65 |
| MUIS and GAD-7 | 0.040 | 0.80 |
| MUIS and SIP | -0.018 | 0.91 |
| SSc* | | |
| MUIS and PHQ-8 | - | |
| MUIS and GAD-7 | - | |
| MUIS and SIP | - | |

AAV: ANCA-Associated Vasculitis; IgG4-RD: IgG4-Related Disease; SSc: Systemic Sclerosis; MUIS: Mishel Uncertainty in Illness Scale; PHQ-8: Patient Health Questionnaire depression scale; GAD-7: General Anxiety Disorder; SIP: Sickness Impact Profile; *There were too few male patients in the SSc disease group to assess correlations

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Supplemental Table S4: Needs Identified by Patients According to Illness Group

| | AAV | IgG4-RD | SSc |
|---|-----------|-----------|-----------|
| N | 41 | 61 | 30 |
| Managing physical symptoms | 18 (43.9) | 31 (50.8) | 21 (70.0) |
| Coping with emotional concerns | 11 (26.8) | 14 (23.0) | 7 (23.3) |
| Managing social concerns/lack of support | 4 (9.8) | 3 (4.9) | 3 (10.0) |
| Learning strategies to increase self-care | 18 (43.9) | 21 (34.4) | 10 (33.3) |
| Managing sexual and reproductive concerns | 2 (4.9) | 2 (3.8) | 0 (0.0) |
| Finding resources | 4 (9.8) | 6 (9.8) | 1 (3.3) |
| Other | 4 (9.8) | 5 (8.2) | 3 (10.0) |
| Missing/None | 6 (14.6) | 13 (21.3) | 3 (10.0) |

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Supplemental Table S5: Communication of Needs Survey with Providers and Interest in Intervention

| | Managing physical symptoms | Coping with emotional concerns | Managin g social concerns/ lack of support | Learning strategies to increase self-care | Managing sexual and reprodu- ctive concerns | Finding resources to help with daily concerns | Other | Blank |
|--|----------------------------------|---|--|---|---|---|----------|-------|
| Ν | 70 | 32 | 10 | 49 | 4 | 11 | 12 | 20 |
| Discussed with rheumatology provider | | | | | | | | |
| Yes | 50 (71.4) | 10 (31.3) | 3 (30.0) | 17 (34.7) | 1 (25.0) | 4 (36.4) | 6 (50.0) | |
| No | 8 (11.4) | 15 (46.9) | 4 (40.0) | 26 (53.1) | 3 (75.0) | 2 (18.2) | 4 (33.3) | |
| Not sure | 9 (12.9) | 4 (12.5) | 2 (20.0) | 4 (8.2) | 0 (0.0) | 3 (27.3) | 2 (16.7) | |
| Blank | 3 (4.3) | 3 (9.4) | 1 (10.0) | 2 (4.1) | 4 (0.0) | 2 (18.2) | 0 (0.0) | |
| Interested in receiving information | | | | | | | | |
| Yes | 43 (61.4) | 18 (56.3) | 3 (30.0) | 33 (67.3) | 3 (75.0) | 5 (45.5) | 6 (50.0) | |
| No | 11 (15.7) | 7 (21.9) | 4 (40.0) | 7 (14.3) | 0 (0.0) | 2 (18.2) | 5 (41.7) | |
| Not sure | 15 (21.4) | 6 (18.8) | 3 (30.0) | 7 (14.3) | 1 (25.0) | 3 (27.3) | 1 (8.3) | |
| Blank | 1 (1.4) | 1 (3.1) | 0 (0.0) | 2 (4.1) | 0 (0.0) | 1 (9.1) | 0 (0.0) | |
| Interested in receiving information virtually | | | | | | | | |
| Yes | 35 (81.4) | 14 (77.8) | 2 (66.7) | 31 (93.9) | 3 (100.0) | 4 (80.0) | 5 (83.3) | |
| No | 0 (0.0) | 1 (5.6) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 1 (16.7) | |
| Not sure | 5 (11.6) | 2 (11.1) | 1 (33.3) | 1 (3.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | |
| Blank | 3 (7.0) | 1 (5.6) | 0 (0.0) | 1 (3.0) | 0 (0.0) | 1 (20.0) | 0 (0.0) | |

Supplemental Materials: Survey Measures

| (1) Der | (1) Demographics, comorbidities, and self-reported disease activity | | | | | |
|---------|---|---|--|--|--|--|
| 1) | 1) I would characterize my race/ethnicity as: (Please check all that apply) | | | | | |
| , | □American Indian or Alaskan | □ Native Hawaiian or Other Pacific Islander | | | | |
| | □Asian | □ White | | | | |
| | □Black or African American | □ Other, please specify: | | | | |
| | □ Hispanic or Latino | □ Prefer not to answer | | | | |
| 2) | I would characterize my gender as: (P | Please check one) | | | | |
| | □ Male | □ Trans female/Trans woman | | | | |
| | □ Female | Genderqueer/Gender non-conforming | | | | |
| | □ Trans male/Trans man | □ Different identity | | | | |
| 3) | What is your relationship status? (Plea | ase check one) | | | | |
| | □ Single, never married | | | | | |
| | □ Married | □ Separated or no longer living as married | | | | |
| | □ Living with partner as married | □ Other, please describe: | | | | |
| | □ Widowed | | | | | |
| 4) | Do you have any children? | | | | | |
| | \Box Yes (Go to question 4a) | | | | | |
| | \Box No (Go to question 5) | | | | | |
| | 4a. How many children do you have? | (number) | | | | |
| 5) | Are you a caretaker for a family mem | ber (e.g. parent, grandparent, grandchildren, spouse, sibling, etc.) or friend? | | | | |
| , | \Box Yes (Go to question 5a) | | | | | |
| | \Box No (Continue to question 6) | | | | | |
| | 5a. For how many people other than y | your children are you a caretaker? (number) | | | | |
| | | | | | | |
| | | questions will help us better address the needs of our patient population. | | | | |
| 6) | | es your level of education? (Please check one) | | | | |
| | | Completed two-year degree/AA degree/technical school training | | | | |
| | □ Some high school | Completed four-year college/university (BA or BS) | | | | |
| | Completed high school or GED | - | | | | |
| | \Box Attended some college | Doctoral/Medical/Law Degree | | | | |
| 7) | What is your current employment stat | tus? (Please check one) | | | | |
| | \Box Employed full time | □ Unable to work due to illness or disability | | | | |
| | □ Employed part time | □ Retired | | | | |
| | □ Unemployed and looking for wor | | | | | |
| | \Box Unable to work due to caring for | home or family Other, please describe: | | | | |

| 8) | 5 | Please check one)] \$80,000-99,999 |
|-----|--|---|
| | | 3 \$100,000 and over |
| | |] Don't know |
| | | Prefer not to answer |
| | | |
| 9) | How many people are supported on this in | ncome? (number) |
| 10 |) What kind of health insurance or health co | overage do you have? (Please check one) |
| , | □ Employer-sponsored insurance (throu | gh a 🛛 Medicaid/state public insurance |
| | policy offered by a place of employr | nent Other state, local government, or community programs |
| | for you or a family member) | □ Military health care (Tricare/VA/Camp-VA) |
| | □ Individual insurance (through a policy | \square Don't know |
| | purchased by you/your policy holder) | □ Other, please describe: |
| | □ Medicare | \Box No health insurance |
| | | |
| 11) | □ Cardiovascular disease (ie. Heart disestroke, high blood pressure, high ch □ Diabetes | olesterol) □ Overweight/Obesity (BMI > 30.0) □ Underweight (BMI <20) |
| | □ Kidney disease □ Liver disease | □ Other, please specify: |
| 12) | ANCA-associated vasculitis (including microscopic polyangiitis, eosinophilic Fibromyalgia Giant cell arteritis Gout IgG4-related disease Inflammatory myositis (including derm Lupus | |
| 13) | How would you describe your disease too □ In remission (or not active) | lay? |

- \Box Not in remission (or active)
- \Box I do not know

(2) Mishel Uncertainty in Illness Scale

Please read each statement. Take your time and think about what each statement says. Then fill in the button under the column that most closely measures how you are feeling TODAY. If you agree with a statement, then you would indicate either "Strongly Agree" or "Agree". If you disagree with a statement, then indicate either "Strongly Disagree" or "Disagree". If you are undecided about how you feel, then indicate "Undecided" for that statement. Please respond to every statement.

In this survey, "my condition" refers to the condition, illness, or disease for which you see your rheumatologist.

| | Strongly | | TT 1 '1 1 | D. | Strongly |
|--|----------|-------|-----------|----------|----------|
| | Agree | Agree | Undecided | Disagree | Disagree |
| I do not know what is wrong with me | | | | | - |
| I have a lot of questions without answers | | | | | |
| I am unsure if my rheumatology condition is getting better or worse | | | | | |
| It is unclear how bad my symptoms will be | | | | | |
| The explanations that my rheumatology providers give about my condition seem unclear to me | | | | | |
| The purpose of each rheumatology treatment is clear to me | | | | | |
| When I have pain, I know what this means about my rheumatology condition | | | | | |
| I do not know when to expect things like lab tests, biopsies, x-rays, or other tests will be done to me | | | | | |
| The symptoms of my rheumatology condition continue to change unpredictably | | | | | |
| I understand everything explained to me by my rheumatology providers | | | | | |
| My rheumatology providers say things to me that could mean many things | | | | | |
| I can predict how long my rheumatology condition will last | | | | | |
| My rheumatology treatment is too complicated to figure out | | | | | |
| It is difficult to know if the rheumatology treatments I am getting are helping | | | | | |
| I see so many different types of providers; it is unclear who is responsible for what | | | | | |
| Because of the unpredictability of my rheumatology condition, I cannot plan for the future | | | | | |
| The course of my rheumatology condition keeps changing. I have good and bad days. | | | | | |
| It is unclear to me how I will manage my rheumatology condition after I leave my appointments with my rheumatology providers | | | | | |
| I have been given many differing opinions about what is wrong with me | | | | | |
| It is not clear what is going to happen to me in the future because of my rheumatology condition | | | | | |
| I usually know if I am going to have a good or bad day | | | | | |
| The results of my rheumatology tests are always changing | | | | | |

(3) Health Behavior Questionnaire

This survey asks about health behaviors. Please answer every question to the best of your ability.

14) Have you smoked tobacco, now or in the past? (Please check one)

 \Box Yes, I am a current tobacco smoker

□ Yes, I am a former tobacco smoker

 \Box No, I have never smoked tobacco

15) Have you ever used vaping products or e-cigarettes, now or in the past? (Please check one)

- \Box Yes, I am a current user
- \Box Yes, I am a former user
- \Box No, I have never used those products

These questions are about the time you spent being physically active in the last 7 days. They include questions about activities you do at work, as part of your house and yard work, to get from place to place, and in your spare time for recreation, exercise or sport.

Your answers are important. Please answer each question even if you do not consider yourself to be an active person. In answering the following questions: "vigorous" physical activities refer to activities that take hard physical effort and make you breathe much harder than normal. "moderate" activities refer to activities that take moderate physical effort and make you breathe somewhat harder that normal.

16) During the last seven days, on how many days did you do vigorous physical activities, like heavy lifting, digging, aerobics, or fast bicycling?

Think about only those physical activities that you did for at least 10 minutes at a time. (days)

17) During the last seven days, on how many days did you do moderate physical activities, like carrying light loads, bicycling at a regular pace, or doubles tennis?

Again, think only about those physical activities that you did for at least 10 minutes at a time. Do not include walking. ______(days)

- 18) During the last seven days, on how many days did you walk for at least 10 minutes at a time? This includes walking at work and at home, walking to travel form place to place, and any other walking that you did solely for recreation, sport, exercise, or leisure. _____ (days)
- 19) The last question is about the time you spent sitting while at work, at home, while doing course work, and during leisure time. This includes time spent sitting at a desk, visiting friends, reading, traveling on a bus, or sitting or lying down to watch television.

During the last seven days, how much time in total did you usually spend sitting each day? (hours)

The following questions relate to your usual sleep habits during the PAST MONTH only. Your answers should indicate the most accurate reply for the majority of days and nights in the past month.

20) During the past month, how many hours of actual sleep did you get per night? (This may be different than the number of hours you spent in bed)

_____ (hours)

21) During the past month, how would you rate your sleep quality overall? (Please check one)

| □ Very good | □ Fairly good | 🗆 Neutral | Fairly bad | \Box Very bad |
|-------------|---------------|-----------|------------|-----------------|
|-------------|---------------|-----------|------------|-----------------|

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(4) Needs Survey

We would like to get a sense of which informational services and topics are most important to you. From the following list, which would you consider to be your major concerns? (Please check all that apply)

| | Have you discussed this topic with your rheumatology provider in the past? (Yes/No/Not sure) | Would you be interested in receiving more information on this topic? (Yes/No/Not sure) | Would you be interested in receiving this information virtually? (e.g. using your computer or smartphone) (Yes/No/Not sure) |
|---|--|---|---|
| Managing physical symptoms of your disease | | | |
| Coping with emotional concerns related to your | | | |
| disease and its treatment | | | |
| Managing social concerns/lack of social support | | | |
| Learning strategies to increase self-care | | | |
| activities (e.g. sleep, diet, exercise) | | | |
| Managing sexual and reproductive concerns | | | |
| Finding resources to help with daily concerns | | | |
| (e.g. finding PCP, childcare, assist with financial | | | |
| costs of healthcare and treatment, etc.) | | | |
| Other, please describe: | | | |