Supplementary Table 3. Factors that had an impact on QoL

Factors impacting QoL	Reference
Insomnia Severity Index (ISI) was significantly correlated with scores of EQ-5D	1
Sexual dysfunction correlated significantly with lower mental QoL (RAND-36)	2
Both the physical and mental component summaries, as well as all subscales (except 2) of the SF-36, were significantly correlated with the V-RQOL. Frequent throat-clearing, throat soreness, difficulty projecting and vocal discomfort were significantly correlated with SF-36. For the regression model with physical component score (PCS) as the dependent variable, only frequent throat clearing was significant. For the regression model with mental component score (MCS) as the dependent variable, only discomfort while using voice was significant	3
No correlations between FSFI global score and SF-36	4
PSS patients with a fatigue score ≥7 were associated with worse mobility, daily activity, pain/discomfort, and depression/anxiety EQ-5D scores ($P < 0.001$)	5
Pain and depression were the two most important predictors of EQ-5D utility values	6
Fatigue, dryness, and pain (but not disease activity) associated with low QoL (SF-36)	7
ESSPRI and depression were significantly correlated with the PCS and the MCS of SF-36	8
Patients with PSS not having a sexual relationship and not feeling pleasure during sexual activity presented lower scores in Summary Physical Index (SPI) than those having sexual relationship and feeling pleasure in sexual activity. No significant correlation of ocular tests (Schirmer, lissamine green, break-up time of lacrimal film tests) and oral tests (salivary scintigraphy) to SF-36	9
The Medical Outcomes Study 36-Item Short-Form Health Survey Physical Functioning subscore, was significantly reduced in patients with lung involvement ($P = 0.03$)	10
Increasing heart rate at rest was associated with poorer HRQoL as measured by EQ-5D VAS ($P = 0.02$; $r^2 = 0.3$)	11
A correlation between fatigue VAS and pain VAS with healthy status evaluated by HAQ ($r = 0.67$ and $r = 0.59$, respectively). Zung Depression Scales (ZSDS) and Zung Anxiety Scales (ZSAS) correlated significantly with HAQ	12
There were strong correlations between improved HAQ total score and HRQoL (EQ-5D VAS) ($P < 0.0001$, $r^2 = 0.3$)	13

Factors impacting QoL	Reference
A low socioeconomic and educational level had a negative impact on QoL. Histological grading of lower lip glandular biopsy, immunological status and the severity of systemic involvement had no correlations with QoL. High correlations between VAS fatigue and MAF scores and the deterioration of all domains of SF-36 ($P < 0.001$)	14
More intense and deficient processing of emotions associated with worse mental well-being	15
There was a negative correlation between serum osteopontin levels and the overall score of SF-36 ($P < 0.05$)	16
The patients with high levels of oral distress scored significantly lower than patients with low levels of oral distress in 5 of the SF-36 subscales, indicating that oral conditions have a marked impact on general QoL	17
Psychological distress was a constant independent correlate of patients with Sjögren's HRQoL, while less use of humour ($P < 0.001$) and higher rates of delusional guilt ($P = 0.032$) were also significantly associated with Physical HRQoL independently of psychological distress; more use of schizoid fantasy was also independently associated with impaired Environment HRQoL ($P = 0.005$)	18
A worse score on physical functioning was correlated with more tender points ($\rho = -0.39$, $P = 0.002$) and a higher score on the Schirmer I test ($\rho = -0.44$, $P < 0.001$). Fatigue, depressed mood, well-being, and physical functioning were not correlated with laboratory assessments or demographic variables	19
PCSS correlated with improvements in dryness, pain, and fatigue VAS scores (but not global disease activity); MCSS improved but independent of VAS scores	20
In patients with PSS having anxiety according to HADS, the scores of all domains of WHOQOL-BREF were significantly lower, and in patients having depression according to HADS, three of four domains of WHOQOL-BREF were significantly lower compared with the rest of the group. However, the scores of two domains of the SF-36, namely "Role-Physical" and "Role-Emotional" domains, were significantly higher in patients with PSS having depression according to HADS	21
Taste threshold was significantly correlated with both the physical ($r = 0.48$, $P < 0.001$) and the mental ($r = 0.30$, $P = 0.015$) components of SF-12. Smell threshold correlated with the physical ($r = 0.457$, $P < 0.001$), but not the mental component ($r = 0.154$, $P = 0.222$) of SF-12	22
In patients with PSS, a significant negative correlation was detected between serum levels of IL-6 and the PCS of the SF-36. Those patients with concentrations of IL-6 higher than those of the healthy controls showed a significantly lower score in the dimensions of bodily pain and physical functioning, and in the PCS	23

Factors impacting QoL	Reference
Highly educated patients scored significantly better on physical functioning (P = 0.042) and mental health (P = 0.005) compared with non-highly educated patients. Multivariate regression analysis showed that fatigue, tendomyalgia, comorbidity, male sex, and receiving disability compensation were associated with a reduced PCS. Multivariate regression analysis for the MCS demonstrated that fatigue, articular involvement, use of artificial saliva, use of antidepressants and comorbidity were associated with a reduced MCS, whereas dry mouth was associated with a higher MCS	24
Sicca severity and disease duration were not significant contributors to impaired QoL in any of the full models (with age and disease duration taken into account). Somatic fatigue was the only unique predictor of general health; pain severity and depression were the only unique predictors of emotional well-being, and physical functioning was predicted by age, pain severity, and somatic fatigue. For emotional well-being, the dominant unique predictor of quality of life was depression, accounting on its own for 25% of the variance in the index among the PhysR-PSS patients	25
Oral sicca symptoms, as measured with the PROFAD-SSI, were associated significantly with reduced quality of life in all domains of the SF-36 for patients with PhysR-PSS and SSF-PSS patients. In particular, greater sicca severity was associated with reduced general health, social functioning and lower energy levels, and greater fatigue levels in both patient groups	26
Total damage score correlated with physical function as measured by SF-36 (r = 0.250, T = 0 months; r = 0.261, T = 12months)	27
Increased age was associated significantly with higher ratings of bodily pain (P < 0.05), and longer disease duration was associated with both increased pain and lower ratings of mental health (P < 0.05). The Disease Damage Index was correlated significantly and negatively with only the general health domain of SF-36 (P < 0.01).The self-reported autoimmune symptom count correlated significantly with all eight SF-36 domains, and the OHIP-14 sum correlated significantly with 5 domains, with the most significant being the domains of general health (P < 0.01) and social functioning (P < 0.01)	28
The SF-36 vitality domain correlated with the SCAI fatigue domain: r = 0.610, P < 0.001 and SF-36 physical aggregate domain with SCAI arthritis domain: r = 0.420, P < 0.001.	29

Factors impacting QoL	Reference
For patients with primary Sjögren's, physical and mental composite scores on the SF-36 correlated well with the Global Severity Index (GSI) scores of the SCL-90-R (r = −0.29, *P* = 0.006 and r = −0.61, *P* < 0.0001, respectively). Pain correlated with PCS, fatigue correlated with PCS and GSI, and ocular dryness was correlated with GSI. Oral dryness was not correlated with any score	30
The SF-36 vitality score and the VAS fatigue score correlated well (r = 0.48 and 0.62, *P* < 0.01 and *P* < 0.001)	31
We found a significant correlation between age and the values for physical functioning (*P* = 0.013) and bodily pain (*P* = 0.016) scores. No significant differences in SF-36 scores were found when comparing patients according to the presence or absence of sicca features, except for vaginal dryness. Thus, women with vaginal dryness had lower scores for social functioning (61.9 vs. 74.4, *P* = 0.053) and general health (37.2 vs. 44.7, *P* = 0.072) than those without, although the differences were not statistically significant. Patients with extraglandular involvement (defined as the presence of articular, muscle, lung, or kidney involvement, polyneuropathy, and/or serositis) had lower scores for the vitality scale (40.8 vs. 54.5, *P* =0.007), social functioning (67.0 vs.79.8, *P* = 0.010), bodily pain (49.5 vs.62.5, *P* = 0.018), and general health (38.6 vs. 49.4, *P* = 0.001) than those without. With respect to the summary measures, patients with extraglandular features had lower scores in physical (23.8 vs. 59.8, *P* = 0.016) and mental health (57.0 vs. 67.7, *P* = 0.028) compared with those without. No significant differences were found between patients with or without articular involvement, neuropathy, Raynaud's phenomenon, and cutaneous vasculitis. However, patients with lung involvement had significantly lower scores for role physical (10.0 vs. 51.9, *P* = 0.045), role emotional (33.3 vs. 75.5, *P* =0.030) and body pain (30.0 vs. 56.5, *P* = 0.045) and the physical health summary score (29.2 vs. 54.6, *P* = 0.026) than those without. Finally, no significant differences were found between patients with or without cytopenia, high ESR (> 50 mm/hour), hypergammaglobulinemia, antinuclear antibodies, anti-Ro/La or rheumatoid factor on any of the SF-36 scales	32

ESR = erythrocyte sedimentation rate; FSFI = Female Sexual Function Index; HADS = Hospital Anxiety and Depression Scale; HAQ = Health Assessment Questionnaire; HRQoL = health-related quality of life; IL-17 = interleukin 17; MAF = Multidimensional Assessment of Fatigue; PCS = Pain Catastrophizing Scale; PhysR = PSS identified by physician; PSS = primary Sjögren's syndrome; QoL = quality of life; SCL-90-R = Symptom Distress Checklist; SF-36 = 36-Item Short Form Survey; SSF = Sjögren's Syndrome Foundation; VAS = Visual Analog Scale; V-RQOL = Voice-Related QOL; WHOQOL-BREF = World Health Organization Quality of Life – Abbreviated Version.

SUPPLEMENTAL REFERENCES

1. Hur J, Chung SW, Ha YJ, *et al*. Association between insomnia and EULAR Sjögren's syndrome patient-reported index in Korean patients with primary Sjögren's syndrome. *ACR Poster Session A*. 2015; abstract 639.
2. van Nimwegen JF, Arends S, van Zuiden GS, *et al*. The impact of primary Sjögren's syndrome on female sexual function. *Rheumatology (Oxford)* 2015;**54**:1286–93.
3. Tanner K, Pierce JL, Merrill RM, *et al*. The quality of life burden associated with voice disorders in Sjögren's syndrome. *Ann Otol Rhinol Laryngol* 2015;**124**:721–7.
4. Priori R, Minniti A, Derme M, *et al*. Quality of sexual life in women with primary Sjögren syndrome. *J Rheumatol* 2015;**42**:1427–31.
5. Koh JH, Kwok SK, Chung MK, *et al*. Pain, xerostomia, and younger age are major determinants of fatigue in Korean primary Sjögren's syndrome patients: a comprehensive analysis of a cohort study. *Arthritis Rheumatol* 2015;**67 Suppl 10**:abstract 641.
6. Lendrem D, Mitchell S, McMeekin P, et al; UK primary Sjögren's Syndrome Registry. Health-related utility values of patients with primary Sjögren's syndrome and its predictors. *Ann Rheum Dis* 2014;**73**:1362–8.
7. Dias LH, Miyamoto ST, Valim V, *et al*. SAT0422 Impact of symptoms and disease activity on quality of life in primary Sjögren's syndrome. *Ann Rheum Dis* 2015;**74 Suppl 2**:812.
8. Fernandez-Castro M, Andreu JL, Taboada VM, *et al*. [Abstract AB0597] Sjogrenser cohort: clinical and epidemiological features of primary Sjögren's syndrome in Spanish rheumathology departments. *Ann Rheum Dis* 2015;**74 Suppl 2**:1099.
9. Maddali Bongi S, Del Rosso A, Orlandi M, *et al*. Gynaecological symptoms and sexual disability in women with primary Sjögren's syndrome and sicca syndrome. *Clin Exp Rheumatol* 2013;**31**:683–90.
10. Palm O, Garen T, Berge Enger T, *et al*. Clinical pulmonary involvement in primary Sjogren's syndrome: prevalence, quality of life and mortality-a retrospective study based on registry data. *Rheumatology (Oxford)* 2013;**52**:173–9.
11. Ng WF, Stangroom AJ, Davidson A, *et al*. Primary Sjogren syndrome is associated with impaired autonomic response to orthostasis and sympathetic failure. *QJM* 2012;**105**:1191–9.
12. Iannuccelli C, Spinelli FR, Guzzo MP, *et al*. Fatigue and widespread pain in systemic lupus erythematosus and Sjögren's syndrome: symptoms of the inflammatory disease or associated fibromyalgia? *Clin Exp Rheumatol* 2012;**30**(6 Suppl 74):117–21.
13. Hackett KL, Newton JL, Frith J, *et al*. Impaired functional status in primary Sjögren's syndrome. *Arthritis Care Res (Hoboken)* 2012;**64**:1760–4.

14. Ibn Yacoub Y, Rostom S, Laatiris A, *et al*. Primary Sjögren's syndrome in Moroccan patients: characteristics, fatigue and quality of life. *Rheumatol Int* 2012;**32**:2637–43.
15. van Leeuwen N, Bossema ER, van Middendorp H, *et al*. Dealing with emotions when the ability to cry is hampered: emotion processing and regulation in patients with primary Sjögren's syndrome. *Clin Exp Rheumatol* 2012;**30**:492–8.
16. Wu GL, Li TY, Fan YS, *et al*. Therapeutic effect of Chinese herbal medicine for strengthening qi, nourishing yin, and removing stasis on serum osteopontin and quality of life of patients with primary Sjogren's syndrome. *Chin J Integr Med* 2011;**17**:710–4.
17. Enger TB, Palm Ø, Garen T, *et al*. Oral distress in primary Sjögren's syndrome: implications for health-related quality of life. *Eur J Oral Sci* 2011;**119**:474–80.
18. Hyphantis T, Mantis D, Voulgari PV, *et al*. The psychological defensive profile of primary Sjögren's syndrome patients and its relationship to health-related quality of life. *Clin Exp Rheumatol* 2011;**29**:485–93.
19. Hartkamp A, Geenen R, Kruize AA, *et al*. Serum dehydroepiandrosterone sulphate levels and laboratory and clinical parameters indicating expression of disease are not associated with fatigue, well-being and functioning in patients with primary Sjögren's syndrome. *Clin Exp Rheumatol* 2011;**29**:318–21.
20. Devauchelle-Pensec V, Morvan J, Rat AC, *et al*. Effects of rituximab therapy on quality of life in patients with primary Sjögren's syndrome. *Clin Exp Rheumatol* 2011;**29**:6–12.
21. Inal V, Kitapcioglu G, Karabulut G, *et al*. Evaluation of quality of life in relation to anxiety and depression in primary Sjögren's syndrome. *Mod Rheumatol* 2010;**20**:588–97.
22. Kamel UF, Maddison P, Whitaker R. Impact of primary Sjogren's syndrome on smell and taste: effect on quality of life. *Rheumatology (Oxford)* 2009;**48**:1512–4.
23. Baturone R, Soto MJ, Márquez M, *et al*. Health-related quality of life in patients with primary Sjögren's syndrome: relationship with serum levels of proinflammatory cytokines. *Scand J Rheumatol* 2009;**38**:386–9.
24. Meijer JM, Meiners PM, Huddleston Slater JJ, *et al*. Health-related quality of life, employment and disability in patients with Sjogren's syndrome. *Rheumatology (Oxford)* 2009;**48**:1077–82.
25. Segal B, Bowman SJ, Fox PC, *et al*. Primary Sjögren's syndrome: health experiences and predictors of health quality among patients in the United States. *Health Qual Life Outcomes* 2009;**7**:46.
26. Fox PC, Bowman SJ, Segal B, *et al*. Oral involvement in primary Sjögren syndrome. *J Am Dent Assoc* 2008;**139**:1592–601.
27. Barry RJ, Sutcliffe N, Isenberg DA, *et al*. The Sjögren's Syndrome Damage Index–a damage index for use in clinical trials and observational studies in primary Sjögren's syndrome. *Rheumatology (Oxford)* 2008;**47**:1193–8.

28. Stewart CM, Berg KM, Cha S, *et al*. Salivary dysfunction and quality of life in Sjögren syndrome: a critical oral-systemic connection. *J Am Dent Assoc* 2008;**139**:291–9.
29. Bowman SJ, Sutcliffe N, Isenberg DA, *et al*. Sjögren's Systemic Clinical Activity Index (SCAI) – a systemic disease activity measure for use in clinical trials in primary Sjögren's syndrome. *Rheumatology (Oxford)* 2007;**46**:1845–51.
30. Champey J, Corruble E, Gottenberg JE, *et al*. Quality of life and psychological status in patients with primary Sjögren's syndrome and sicca symptoms without autoimmune features. *Arthritis Rheum* 2006;**55**:451–7.
31. Theander E, Andersson SI, Manthorpe R, *et al*. Proposed core set of outcome measures in patients with primary Sjögren's syndrome: 5 year follow up. *J Rheumatol* 2005;**32**:1495–502.
32. Belenguer R, Ramos-Casals M, Brito-Zerón P, *et al*. Influence of clinical and immunological parameters on the health-related quality of life of patients with primary Sjögren's syndrome. *Clin Exp Rheumatol* 2005;**23**:351–6.