How Does Quality of Life of Patients with Systemic Lupus Erythematosus Compare with That of Other Common Chronic Illnesses?

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ABSTRACT. ***Objective.*** Comparison of health related quality of life (HRQOL) of patients with systemic lupus erythematosus (SLE) with other common chronic illnesses.

Methods. Responses from self-administered Medical Outcomes Study Short Form-36 (SF-36) questionnaires from 90 patients with SLE, recorded in the lupus database at the University of Chicago Hospital, were analyzed. Comparative norms and domain scores for patients with other chronic diseases [hypertension, congestive heart failure (CHF), adult onset diabetes mellitus, myocardial infarction, and depression] were used and are based on the general US population. T tests were used to make comparisons.

Results. Patients with SLE were younger than patients with most reference chronic conditions except for depression. Their Physical Component Scores and Mental Component Scores were 30 ± 10.5 and 45.1 ± 11, respectively. SLE patients fared significantly worse than age matched norms from the general US population for women ($p = 0.0001$) in all 8 domains. Their quality of life was significantly worse than for those with hypertension, diabetes, or myocardial infarction in all domains ($p < 0.004$). Patients with CHF were no worse than those with SLE in regard to physical function, role-physical, role-emotional, and vitality. CHF patients fared significantly better in mental health, bodily pain, social functioning, and general health, compared to patients with SLE. Patients with depression were significantly impaired in role-emotional and mental health domains ($p = 0.0001$) compared to SLE patients, but were no worse (role-physical, vitality, and social functioning) and even better (physical function, bodily pain, and general health) in some. General health of SLE patients was significantly lower than all comparative groups.

Conclusion. HRQOL of patients with SLE seems to be significantly worse and affects all health domains at an earlier age in comparison to patients with some other common chronic diseases. (J Rheumatol 2005;32:1706–8)

Key Indexing Terms:
QUALITY OF LIFE SYSTEMIC LUPUS ERYTHEMATOSUS CHRONIC ILLNESS

The profile of diseases contributing the most to morbidity and mortality has changed over time with improved medical care, knowledge, and technology. Chronic diseases and not acute diseases are the leading causes of suffering, disability, and death in the United States[1]. A chronic disease affects not only patients' physical health, but also their social, emotional, mental, and financial well being. Systemic lupus erythematosus (SLE) is a chronic autoimmune disorder, although it is not as prevalent as some other chronic diseases, e.g., hypertension. It preferentially affects women of childbearing age; we anticipate that the overall impact of SLE may be worse than that of other more prevalent and better recognized chronic diseases seen in the community.

Health related quality of life (HRQOL) is a construct that represents the holistic picture of an individual's physical and mental well being. It is necessary to compare the HRQOL of patients with SLE with that of other common chronic diseases to comprehend its influence on patients and their families, caregivers, and physicians.

MATERIALS AND METHODS

We utilized the lupus database at the University of Chicago, which contains self-administered Medical Outcomes Study Short Form-36 (SF-36) questionnaire data, to analyze responses from 90 SLE patients followed in our rheumatology outpatient clinic for longitudinal care. The SF-36 is widely used to measure HRQOL in general, and specifically among SLE patients[2–5]. It comprises 8 domains: physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional, and mental health.

STATA-7SE software was utilized to calculate scores. The domain scores for reference chronic diseases were taken from the SF-36 health survey manual[2] and are based on the general US population. T tests were used to make comparisons. Reference chronic diseases were hypertension

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(HTN), congestive heart failure (CHF), adult onset diabetes mellitus (DM), myocardial infarction (MI), and depression. P values ≤ 0.05 (2-tailed) were considered significant.

RESULTS

The mean age of our SLE study group (n = 90) was 40.54 ± 13.35 years. The mean age at onset of SLE was 30.35 ± 11.59 years. Women made up 92% of the SLE cohort. Of the 82 patients, 71% were African American, 19% were Caucasian, and 10% were other ethnicity. Subjects had 13.4 mean years (range 8–19) of education. Mean disease duration was 10.4 years. Physical Component Scores and Mental Component Scores for the SLE study group were 30 ± 10.5 and 45.1 ± 11, respectively. Table 1 summarizes domain scores for subjects and each reference group.

The mean age of SLE and depression patients was much lower than for other groups (p = 0.0001; Table 1). All reference diseases (except CHF and depression) scored better than SLE in most domains. As expected, patients with CHF or depression performed poorly on physical and mental function, respectively (Figure 1).

However, the mean physical function score for the CHF group was similar to that for SLE subjects (p = 0.57). The mean scores for HTN, DM, MI, and depression were higher as compared to SLE (p = 0.0001).

Mean role-physical scores for reference conditions were higher (except for CHF and depression) than for SLE subjects.

All patients (except those with depression) had significantly better mean role-emotional scores than subjects with SLE.

Mean mental health scores were lowest in patients with depression, as expected. Otherwise subjects with all other reference conditions fared better than those with SLE (p = 0.0001).

Mean vitality scores were similar in SLE, CHF, and depression. Other reference diseases had higher scores (p = 0.0001).

All groups had better scores on bodily pain than subjects with SLE, and in all groups this was either significant (p = 0.0001) or trended toward significance for depression.

General health scores were worst among SLE subjects (Table 1).

Social function scores were similar for SLE and depression subjects. Other reference conditions were significantly better than SLE (p = 0.008).

DISCUSSION

HRQOL of patients with SLE seems to be significantly worse, and affects all health domains at an earlier age, in comparison to patients with some other common chronic diseases. We feel that cumulative deterioration of quality of life over years may be more profound among patients with SLE.

Disease activity and damage measurement instruments have been available in the past, but are poor indicators of HRQOL[6]. Healthcare providers are beginning to focus on quality of life outcomes in SLE. We know quality of life is poor in those with SLE[7,8]. The SF-36 has been found to be a useful and validated outcome measure for patents with SLE[3-5]. Recently, the SLE specific symptom checklist was developed to assess the presence and burden of disease and

Table 1. Comparison of 8 domains of the SF-36 for patients with SLE and norms for the general US female population and some chronic diseases.

	US Norm, n = 264	SLE, n = 90	HTN, n = 2089	CHF, n = 216	DM, n = 541	MI, n = 107	Depression, n = 502
Age, mean yrs	35–44	40.5 ± 13.3	59.1 ± 13.2 (p < 0.0001)	67.4 ± 11.3 (p < 0.0001)	60.2 ± 11.3 (p < 0.0001)	59.2 ± 11.1 (p < 0.0001)	41.6 ± 12.8 (p = 0.45)
PF	88.1 ± 17.7 (p < 0.0001)	49.7 ± 30.7	73.4 ± 26.4 (p < 0.0001)	47.5 ± 31 (p = 0.57)	67.7 ± 28.7 (p < 0.0001)	69.7 ± 26.1 (p < 0.0001)	71.6 ± 27.2 (p < 0.0001)
RP	83.7 ± 32.2 (p < 0.0001)	37.1 ± 43.4	62.0 ± 39.4 (p < 0.0001)	34.4 ± 39.7 (p = 0.59)	56.8 ± 41.7 (p < 0.0001)	51.4 ± 39.4 (p = 0.01)	44.4 ± 40.3 (p = 0.11)
RE	80.1 ± 33.9 (p < 0.0001)	56.4 ± 45.1	76.7 ± 35.7 (p < 0.0001)	63.7 ± 43 (p = 0.18)	75.6 ± 36.6 (p < 0.0001)	73.5 ± 38 (p = 0.004)	38.9 ± 39.8 (p < 0.0001)
MH	73.3 ± 16.8 (p < 0.0001)	62.3 ± 19.1	77.9 ± 17.4 (p < 0.0001)	74.7 ± 21.3 (p < 0.0001)	76.7 ± 18.3 (p < 0.0001)	75.8 ± 15.7 (p < 0.0001)	46.3 ± 20.8 (p < 0.0001)
VT	59.4 ± 19.7 (p < 0.0001)	40.8 ± 22.1	58.3 ± 21.4 (p < 0.0001)	44.3 ± 24.4 (p = 0.24)	55.7 ± 21.6 (p < 0.0001)	57.7 ± 19 (p < 0.0001)	40.1 ± 21.1 (p = 0.77)
BP	74.9 ± 22.7 (p < 0.0001)	53.8 ± 24.7	72.3 ± 24.4 (p < 0.0001)	62.7 ± 31 (p = 0.016)	68.5 ± 26.5 (p < 0.0001)	72.8 ± 25.3 (p < 0.0001)	58.8 ± 26.7 (p = 0.09)
GH	74.3 ± 19.4 (p < 0.0001)	40.7 ± 22.9	63.3 ± 19.7 (p < 0.0001)	47.1 ± 24.2 (p = 0.03)	56.1 ± 21.1 (p < 0.0001)	59.2 ± 19.3 (p < 0.0001)	52.9 ± 23.0 (p < 0.0001)
SF	83.1 ± 23.3 (p < 0.0001)	60.9 ± 25.6	86.7 ± 20.7 (p < 0.0001)	71.3 ± 33.1 (p = 0.008)	82.0 ± 25 (p < 0.0001)	84.6 ± 21.2 (p < 0.0001)	57.2 ± 27.7 (p = 0.238)

SLE: systemic lupus erythematosus, HTN: hypertension, CHF: congestive heart failure, DM: diabetes mellitus, MI: myocardial infarction. PF: physical functioning, RP: role-physical, RE: role-emotional, MH: mental health, VT: vitality, BP: bodily pain, GH: general health, SF: social functioning.

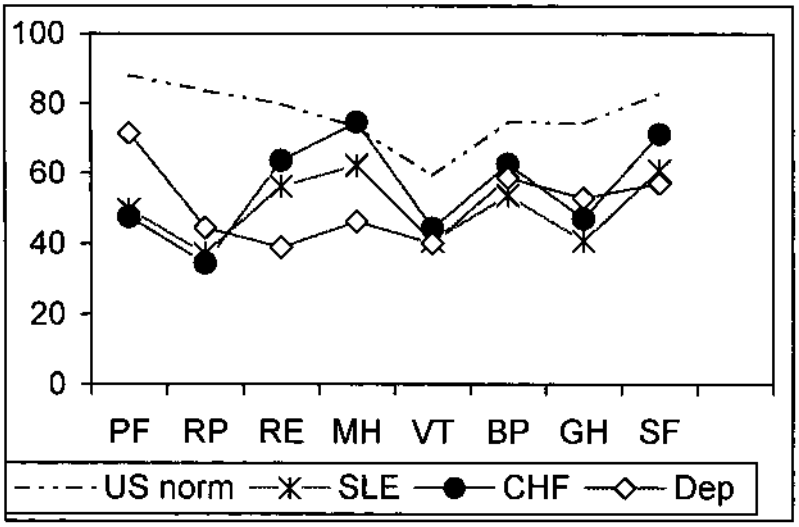

Figure 1. HRQOL of the 8 domains of SF-36 among patients with SLE, the age matched US female population (US norm), patients with CHF, and patients with depression. Among SLE patients all domains are affected as compared to CHF and depression patients. PF: physical functioning, RP: role-physical, BP: bodily pain, GH: general health, VT: vitality, SF: social functioning, RE: role-emotional, MH: mental health.

treatment related symptoms[9]. McElhone, *et al* presented their Lupus Quality of Life (LupusQoL) questionnaire at the International Society of Quality of Life conference in 2004[10]. More work is continuing on these 2 disease-specific HRQOL instruments.

SLE is known to affect all physical, sexual, mental, social, and psychological aspects of a person's life. Since women with SLE are affected at an earlier age, the disease influences not only their physical countenance, but also may impair development of social, communication, interactive, adaptive, coping, and professional skills. It therefore also potentially affects the lives of their parents, spouses/partners, children, care providers, community resources, and society.

There are several limitations in this study. The results at most can be justified as hypothesis-generating. The study design did not permit definitive conclusions, as the groups were not matched or controlled for many variables.

This study attempts to raise awareness about the impact of SLE on patients' HRQOL, by comparison with data for other common chronic diseases.

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