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Original Article

The relationship of fatigue with quality of life in patients with systemic lupus erythematosus having low disease activity

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ABSTRACT

Background: Patients of systemic lupus erythematosus (SLE) are known to have poor quality of life and high levels of fatigue. However, there is limited data on patients with SLE having low disease activity; thus this study looked at these aspect in Indian patients with low disease activity.

Methods: This was a cross-sectional study that included consecutive SLE patients having low activity disease (systemic lupus erythematosus disease activity index ≤ 4). Past major organ involvement and current medication was noted. Controls recruited from hospital staff. Subjects were administered SF-36v2, WHOQoL-BREF, FACIT-Fatigue subscale and HAQ-DI. Results expressed as mean \pm SD and compared by students t test. Corrected p value ($p < 0.05$) was considered significant (corrected for multiple comparisons).

Results: This study included 60 patients with SLE (F:M = 55:5) with mean SLEDAI being 0.9 ± 1.6 , and 28 controls (F:M = 24:4). Both the groups had similar age (30.1 ± 9.3 , 27.7 ± 7.7 yrs, $p = 0.27$). Patients had poorer quality of life compared to controls in all domains of SF-36v2, with lower physical (45.0 ± 9.9 , 55.7 ± 3.7 , $p < 0.01$) and mental component summary scores (46.5 ± 11.0 , 54.7 ± 6.4 , $p < 0.01$). WHOQoL-BREF scores in all domains were lower in patients. Patients had higher fatigue, i.e., lower scores on FACIT-Fatigue subscale (36.8 ± 13.0 , 50.5 ± 2.4 , $p < 0.01$) and worse HAQ-DI (0.4 ± 0.6 , 0.0 ± 0.1 , $p < 0.01$). Patients taking prednisolone ≤ 7.5 mg per day ($N = 45$) had a significantly less fatigue thus a higher FACIT score than compared to those on higher doses (FACIT-fatigue score 39.9 ± 10.6 , 27.1 ± 15.4 , $p = 0.03$).

Conclusions: Despite having low disease activity, SLE patients had worse quality of life and high fatigue levels. Fatigue may have an important role in the impaired quality of life in these patients.

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1. Introduction

Systemic lupus erythematosus (SLE) is a chronic systemic autoimmune disease characterized by the presence of auto-antibodies against many cellular antigens.¹ There is increasing awareness of the negative impact on quality of life of this disease.² In most patients, SLE is characterized by episodes of flares followed by periods of low or minimal disease activity.³ The quality of life is expectedly low during period of high disease activity (flares) due to manifestations such as fever, pain and fatigue. In addition, it has been suggested that the quality of life continues to be affected even during inactive periods of the disease. The reasons for this are unclear, but could be related to fatigue. Indeed, studies have found that fatigue continues to be present in many patients with SLE, irrespective of disease activity.^{4,5} Thus, we tried to evaluate the effect of fatigue on quality of life in Indian SLE patients with low disease activity.

2. Methods

This was a cross-sectional study carried out in a University Hospital in North India. Patients: Consecutive patients with systemic lupus erythematosus (fulfilling the ACR 1997 criteria)⁶ and having low activity disease (systemic lupus disease activity index, SLEDAI ≤ 4)⁷ were included after consent. Healthy controls were recruited from the nursing staff after consent. This study was cleared by the institutional ethics committee.

Questionnaires: Subjects were administered a set of questionnaires to evaluate their quality of life, fatigue and functional status. Questionnaires administered were SF-36v2 (Medical Outcomes Survey – Short form 36) and WHOQOL-BREF (WHO Quality of life BREF), FACIT-Fatigue subscale (Functional Assessment of Chronic Illness therapy) and HAQ-DI (Health Assessment Questionnaire – Disability Index).

The SF-36 and WHOQOL-BREF were used to assess quality of life. SF-36 has 36 items, which evaluate the eight domains of physical function, role limitation due to physical function, bodily pain, general health, social functioning, mental health, role limitations due to emotional problems and vitality. These are combined into physical component summary (PCS) and mental component summary scores (MCS).⁸ WHOQOL-BREF has 26 items, which assess four domains: physical, psychological, social and environmental. In both these measures, scores range from 0 to 100, with higher scores indicating better health & functioning.^{9,10} FACIT-Fatigue subscale questionnaire has 13 questions, with scores of each item ranging from 0 to 4, the range of possible scores is 0–52, with 0 being the worst possible score and 52 the best (i.e. higher scores were better).¹¹ HAQ-DI (Health Assessment Questionnaire – Disability index) is a measure of physical function and disability. It is scored from 0 to 3, with higher scores implying poor functional ability and higher disability.¹²

Statistical analysis: Results were expressed as mean \pm SD. Comparison of scores between patients and controls was done using t test. Correlation was performed using the pearsons coefficient of correlation. A p value <0.05 was used to assess

for statistical significance, after correction for multiple comparisons by Bonferroni method (multiplying the p value by the number of comparisons).

3. Results

The study included 60 patients with systemic lupus erythematosus (SLE) (F:M = 55:5) and 28 controls (F:M = 24:4). The mean age of patients was 30.1 ± 9.3 and the mean age of controls was 27.7 ± 7.7 years ($p = 0.3$). A history of major organ involvement in the form of renal or CNS was present in 20 (33.3%) and 16 (26.7%) patients respectively. The mean current SLEDAI of patients was 0.9 ± 1.6 (median 0) and disease duration was 5.2 ± 4.3 years. Current treatment included oral steroids in 52 (86.7%) (mean dose 8.1 ± 6.6 mg per day); with doses ≥ 7.5 mg prednisolone being used in 15 patients. All patients were on hydroxychloroquine, and additional immunosuppression (azathioprine or methotrexate) was being administered to 19 patients (31.7%).

SLE patients had worse quality of life compared to controls as evaluated by Medical Outcomes Survey – Short form 36 (SF-36) in all domains (Table 1). Patients had significantly lower physical and mental component summary scores and as worse WHO Quality of life BREF scores (WHOQOL-BREF) compared to controls (Fig. 1). Patients had higher levels of fatigue as measured by the FACIT-Fatigue subscale (Functional Assessment of Chronic Illness therapy) (Fig. 2). However, there was no correlation between fatigue scores and the SF-36 or WHO-QoL Scores in SLE patients. Patients had worse physical functioning as measured by the HAQ-DI (0.4 ± 0.6 , 0 ± 0.1 , $p < 0.001$).

Patients who were currently taking prednisolone ≤ 7.5 mg per day ($N = 45$) had a significantly higher FACIT-fatigue score (i.e. less fatigue) compared to those on >7.5 mg per day ($N = 15$) (39.9 ± 10.6 , 27.1 ± 15.4 , $p = 0.001$, corrected $p = 0.03$). However, there was no difference in those currently taking additional immunosuppressive or those who ever had major organ involvement compared to those who had not (data not shown).

4. Discussion

Patients with low activity SLE had worse quality of life and physical functioning as compared to healthy controls. They

Table 1 – Comparison of Short Form 36 (SF 36) scores in patients and controls.

	SLE patients N = 60	Healthy controls N = 28	Corrected p
Physical function	43.6 \pm 11.3	56.2 \pm 1.8	<0.01
Role limitation physical	41.5 \pm 11.1	51.4 \pm 7.0	<0.01
Bodily pain	47.9 \pm 12.3	56.5 \pm 5.8	<0.01
General health	44.8 \pm 11.1	57.0 \pm 7.9	<0.01
Vitality	50.5 \pm 12.3	62.3 \pm 6.8	<0.01
Social function	47.6 \pm 11.4	53.2 \pm 5.5	ns
Role limitation emotional	39.8 \pm 12.6	52.3 \pm 4.6	<0.01
Mental health	47.1 \pm 12.6	55.1 \pm 8.6	<0.01

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