

▲ Confidence in Medical Care Linked to Depression in Lupus Sufferers

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Objective: This cross-sectional study was performed to provide a preliminary investigation of the relationship between patient satisfaction with medical care and depression among individuals diagnosed with lupus. **Method:** A mail-out questionnaire was completed by 154 members of the Lupus Australia Foundation and the Lupus Association of New South Wales. Each questionnaire consisted of the Lupus Medical and Symptoms Questionnaire, Patient Satisfaction Questionnaire—Third Edition, and Cardiac Depression Scale. **Results:** Participants reported, on average, a moderate level of illness severity and pain associated with lupus. The majority of participants reported moderate to severe depression and a moderate level of satisfaction with medical care. Hierarchical regression analysis revealed that 40% of the variance in depression scores could be explained by negative illness factors and dissatisfaction with medical care. In particular, depression was associated with the technical quality of medical care, pain levels, and perceived severity of illness. **Conclusion:** This research identified that patient confidence in the competency of the medical practitioner was an important factor in the experience of depression. These findings indicate the need for both medical practitioners and mental health professionals to acknowledge the interrelationship between medical and psychological factors in patients with chronic illnesses such as lupus. *J Allied Health* 2009; 38:106–112.

THE DIAGNOSIS of a chronic illness is often synonymous with a dramatic change in lifestyle and a decline in functional ability and quality of life.^{1–3} This is true for those diagnosed with lupus, an inflammatory autoimmune disorder that can manifest a wide range of debilitating symptoms.^{2,4} Systemic lupus erythematosus (SLE) is a form of

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lupus that can result in fatigue and joint and muscle pain as well as structural damage to the kidneys, heart, and the central nervous system in more serious cases.^{5–7} The multisystem effects of lupus can also include renal dysfunction for nearly 50% of patients, as well as enlarged liver (hepatomegaly) and swollen lymph nodes (lymphadenopathy).⁵ For the majority of diagnosed individuals, this illness necessitates adherence to an individually tailored medication regimen to manage symptoms,^{8–11} while for many it can also result in the disruption of daily activities and possible disability.⁴ These challenges emphasize the need to ensure that individuals possess suitable coping mechanisms and support and that appropriate attention is given to the possible psychological distress than may be experienced.

Research has indicated that a significant proportion of those diagnosed with a chronic illness, including lupus, experience symptoms of depression.^{2,12–19} It has been further established that the existence of depression can significantly impair an individual's ability to manage a chronic illness diagnosis.^{20,21} This fact, combined with the noted difficulty experienced by practitioners in diagnosing depression in chronically ill individuals,^{19,22–24} has prompted research into a range of potentially associated factors, including patient satisfaction.^{25–28}

Patient satisfaction represents an individual's response or value judgement regarding an aspect, or aspects, of their medical care.^{29,30} The impact of a number of facets of patient satisfaction have been investigated, including the time spent with a health care provider; the technical, interpersonal, and financial aspects of care; the accessibility of care; the health care provider's ability to communicate; and measures of general satisfaction. Research in the domain of chronic illness has indicated that dissatisfaction within one or more of these domains can be associated with the existence of depression²⁸ and nonadherence to medication,³¹ while increased satisfaction has been associated with fewer days in bed due to health problems and more positive health perceptions.²⁶

For the majority of patients diagnosed with lupus, a strict long-term regimen of medication and care is required to manage this disease. As a consequence, the health care provider/ patient relationship can be of critical importance^{32–35} and can provide a basis of support that can guard against psychological distress, such as depression.^{6,36} Empirical investigation has established a consistent association

between a high level of patient satisfaction and a low degree of depression in a number of disease conditions^{26,37,38}; however, the nature of this association in lupus, and its potential impact on disease outcomes, is yet to be fully investigated.^{39,40}

The aim of this preliminary study was to (1) investigate the prominence of depression in those diagnosed with SLE, (2) confirm the association between patient satisfaction and depression in those diagnosed with SLE, and (3) investigate which facets of patient satisfaction are of primary importance in preventing or minimizing depression. Based on previous research, and the specialized care needed to manage lupus, it was hypothesized that the facets of patient satisfaction relating specifically to the health care provider/patient relationship, that of technical ability, communication, and interpersonal ability, would provide a significant level of prediction of variance in depression scores beyond that explained by illness severity, pain, or demographic factors.

Methods

PARTICIPANTS

Participants in this study were recruited through a questionnaire mailed to registered members of the Lupus Australia Foundation and the Lupus Association of New South Wales. In total, 530 questionnaires were sent, with 172 of these returned. This return rate of 32% is consistent with the 30% expected in a mail-out survey.⁴¹ Upon examination, 18 of those returned were excluded due to either a diagnosis of discoid lupus ($n = 12$) or a condition similar to SLE ($n = 3$), failure to complete the questionnaire ($n = 2$), or the respondent being younger than 18 yrs ($n = 1$). The remaining 154 questionnaires were deemed acceptable for inclusion in this study. The current study drew on participants' responses from a larger data set that investigated a range of psychosocial variables in an individual's management of lupus.

The mean age of the participant sample was 52.33 yrs (SD 14.71), with the sample consisting of 91% (139) women, 9% (14) men, and 1 participant who did not disclose his or her gender. This gender bias was expected due to the acknowledged 9:1 female-to-male ratio inherent to the lupus condition.⁵ The majority of respondents were either married/de facto (69%) or single (16%) and possessed either a secondary (49%) or tertiary (48%) level of education. Examination of postcode responses revealed that 89 participants (59%) were from Victoria, and the remaining 62 (41%) resided in New South Wales. The majority of participants (109; 71%) lived in the metropolitan regions of their respective state.

Participants indicated a mean time since diagnosis of 14.63 yrs (SD 10.22), and 59 respondents (38%) indicated they had experienced a remission of symptoms in the past 2 months. The average duration of the remission for those participants who responded in the affirmative was 18.7

mos. The majority of participants (81.5%) also reported that they were seeing a specialist.

MEASURES

Demographic and Medical Information

Participants were asked to record general demographic information, including their gender, age, relationship status, residential postcode, and highest level of education achieved. Further items that related to their lupus diagnosis included the type of lupus, the length of time since diagnosis, and whether they had experienced a remission of their illness symptoms in the past 2 mos (and, if so, the length of this remission).

Participants were asked to provide a subjective global rating of their current level of symptom severity on a scale of 0 to 10, with 0–4 equating mild, 5–7 moderate, and 8–10 severe symptom severity. Participants were also asked to provide individual ratings of the specific pain-related areas of arthritis, muscle pain, joint pain, and headaches using the same scale. These specific pain-related reports were added to provide a total score that ranged from 0 to 40. Data from the pain measurement revealed consistency across the four areas assessed, with a Cronbach α of 0.8. Although participants were presented with a total of 10 symptoms, responses on the remaining symptom scales of photosensitivity, fatigue, fevers, skin rashes, kidney involvement, and anemia were omitted from analysis due to a high response rate from all participants, which resulted in minimal variability in severity scores using these items.

Patient Satisfaction

The Patient Satisfaction Questionnaire—Third Edition (PSQ-III)²⁸ was used to assess participants' satisfaction with the care they were receiving at the time of completing the survey. The PSQ-III enabled participants' satisfaction with a range of aspects of their medical care to be measured. The primary focus of the current study was to investigate the impact of the relationship between the patient and his or her health care provider, as well as attitudes and evaluations of treatment and services. The subscales of the PSQ-III that assessed general satisfaction and financial aspects of treatment were therefore removed, because these were not directly relevant to the patient/health care provider relationship. The modified version of the PSQ-III constituted 35 questions pertaining to the participants' level of satisfaction in regard to a health professional's technical quality, interpersonal aspects, communication, and access/availability and the degree of time available for an appointment.

Participants indicated their level of agreement with each statement on a five-point Likert scale that ranged from strongly agree (1) to strongly disagree (5). The elements of the PSQ-III were as follows: (1) technical quality, nine questions (score range, 9–45); (2) interpersonal aspects,

seven questions (score range, 7–35); (3) communication, five questions (score range, 5–25); (4) time with doctor, two questions (score range, 2–10); and (5) access/availability, 12 questions (score range, 12–60). Scores for each domain were summed to provide a score on each of the five dimensions, with a lower score indicating a greater degree of satisfaction with care. The current study recorded Cronbach α values from 0.7 to 0.8, which are consistent with past research.²⁸

Depression

Participants' levels of depressive symptoms were measured by the Cardiac Depression Scale (CDS), a 26-item scale developed by Hare and Davis.⁴² Although this scale was developed to assess depression in a cardiac population, the items contain no reference to cardiovascular disease, while relating generally to negative mood in chronic illness. This measure has demonstrated highly significant Cronbach α values with both clinical assessment (0.93)⁴³ and the established Beck Depression Inventory (0.9)⁴⁴; most notably, it lessens the inherent skewness evident for the latter of these two measures.^{42,45} The more normal distribution of the CDS therefore allows for the identification of mild and moderate levels of depression instead of only severe cases, as in the Beck Depression Inventory. Finally, the suitability and relevance of the CDS to individuals diagnosed with lupus has been confirmed in interviews and focus groups with patients with lupus as part of the development of the current study.

A score of 80 on the CDS indicates a level of at least mild depression. Participants recorded their level of agreement or disagreement with each item statement on a seven-point Likert scale that ranged from strongly disagree (1) to strongly agree (7). Results were then summed to provide an overall score between 26 and 182, with a higher score indicating a greater level of depression. The Cronbach α for the present study of individuals diagnosed with lupus was found to be 0.9.

PROCEDURE

Following ethics approval, a mail-out recruitment methodology was organized through the Lupus Australia Foundation and Lupus Association of New South Wales, with participants being asked to voluntarily complete the questionnaire, which was estimated to take approximately 20 minutes. A reply-paid envelope was enclosed with each package, which enabled the anonymous return of the questionnaire.

Data analysis using SPSS (SPSS Inc., Chicago, IL) involved a three-stage progression to investigate the relationship between patient satisfaction and depression. The first two stages of analysis involved the examination of descriptive statistics and bivariate correlations to establish a preliminary degree of association between each of the

measures and their respective subscales. Hierarchical regression analysis was then utilized to establish associations between patient satisfaction and depression.

Results

DATA INTEGRITY

Preliminary analysis resulted in a number of demographic factors being omitted from further analysis. The role of gender could not be assessed in the current study due to the low number of male participants; however, given that a higher incidence of both lupus and depression is observed in women, gender is an issue that requires future exploration. Similarly, the majority of participants were married or in a de facto relationship and possessed at least a secondary level of education. These factors were omitted from further analysis because there was minimal variance in scores on these measures. Lastly, information regarding the time since diagnosis was not deemed reliable due to the cyclic nature and often delayed identification of lupus.

Further analysis revealed one observable departure from normality across all measurement dimensions. The PSQ-III subscale of interpersonal aspects was found to be moderately positively skewed, and thus a square root transformation of this variable was used in analyses.⁴⁶ Descriptive statistics and bivariate correlations were analyzed to establish a preliminary degree of association between each of the measures and their respective subscales. Hierarchical regression analysis was then utilized to establish associations between illness severity, pain, patient satisfaction, and the measure of depression.

SYMPTOM SEVERITY AND PAIN

Participants reported a mean subjective rating of 4.57 (SD 2.52) in regard to the current severity of their lupus symptoms. In regard to participants' ratings of illness-related pain, an average rating of 15.8 (SD 9.12) out of a possible score of 40 was reported.

DEPRESSION

Participants' scores on the CDS ranged from 41 to 174, with a mean of 101.51 (SD 25.19). Analysis revealed that 21% of respondents were considered to have no significant level of depressive symptoms (<80), 23% were classed as mild (80–99), 30% were classed as moderate (100–119), and 26% were classed as clinically depressed (>120).⁴⁷

Participants' results on the CDS were compared with those reported by Hare and Davis⁴² in a study of cardiac outpatients (mean 80.3, SD 27.8). An independent *t* test revealed a significant difference between the two populations under study ($t [398] = 10.45, p < 0.01$), indicating that

TABLE 1. Descriptive Statistics for the PSQ-III Subscales (*n* = 154)

PSQ-III Subscales	Minimum	Maximum	Mean	SD	Range of Attainable Scores
Communication	5	23	11.9	3.64	5–25
Accessibility	16	47	31.39	7.02	12–60
Interpersonal aspects	7	31	15.79	4.69	7–35
Interpersonal aspects (transformed)	2.65	5.57	3.93	0.57	2.65–5.90
Technical ability	9	43	23.35	5.89	9–45
Time with doctor	2	10	5.61	1.93	2–10

PSQ-III, Patient Satisfaction Questionnaire–Third Edition.

individuals in the current study reported a significantly higher degree of depression than the cohort of cardiac outpatients surveyed by Hare and Davis.⁴²

PATIENT SATISFACTION

Participants' results on the PSQ-III were collated across the relevant subscales to provide a measure of satisfaction in each domain. Descriptive statistics for each subscale of the PSQ-III are provided in Table 1.

Given that a lower score indicated a greater degree of satisfaction with care, it was revealed that participants reported a moderate degree of satisfaction across each of the domains under investigation. Table 1 indicates that the majority of subscale means were close to the midpoint attainable score.

INTERCORRELATIONS

An intercorrelation matrix (Pearson's *r* correlation coefficient) was analyzed to investigate preliminary relationships between depression and predictor variables. A summary of correlations is presented in Table 2.

As can be seen in Table 2, a high degree of intercorrelation was established between the subscales of the PSQ-III, while all five subscales demonstrated a significant level of positive correlation with depression scores. Participants' evaluation of their health care provider's technical ability recorded the greatest level of association to depression, while the subscales of communication, interpersonal aspects, and accessibility all established similar, but lower, degrees of correlation to depression. Furthermore, significant correlations were also established between pain and the various facets of patient satisfaction and depression.

Multiple hierarchical regression analysis was utilized to investigate the unique contribution of the subscales of the PSQ-III in predicting levels of depression beyond that of demographic and illness-related factors (Table 3). The analyses at step 1 revealed that the demographic factors of participant age, level of remission, and residential location did not predict a significant level of variance in levels of depression. However, at step 2, it was revealed that participants' self-reported levels of illness severity were a significant factor in predicting depression, accounting for 21% of

unique variation in depression scores. At step 3, participants' responses on both the pain measure and illness severity accounted for a significant level of variance in depression scores, each accounting for 11% of unique variation.

In the final step, it was revealed that when patient satisfaction subscales were added to the regression analyses, all factors accounted for an overall level of 39% of variation in participants' levels of depression. The majority of this was accounted for by participants' ratings of their health care provider's technical ability, which was the only patient satisfaction factor to gain significance, and accounted for 13% of the unique variation in depression levels. The remaining variation was accounted for by pain (9%) and severity of illness (9%).

Discussion

The hypothesis that patient satisfaction with medical care would account for a significant level of variance in a participant's level of depression was supported. Patient satisfaction with personal interactions and competency aspects of medical care explained 20% of variance in depression scores in the current sample of individuals with lupus, with satisfaction with health care provider's technical ability providing the most significant level of association with depression. Contrary to expectation, this was the only significant predictor of depression among the measured facets of patient satisfaction. While it is acknowledged that further longitudinal research is needed to confirm the nature of this relationship, the results of this preliminary study may reflect the importance of specialized medical management of lupus.

For example, the individualized nature of SLE requires a treatment plan that reflects a patient's specific experience of symptoms.^{8–10} This can take time to develop and may require an experienced specialist, possibly a rheumatologist, to coordinate with an individual and tailor a treatment plan based on presenting symptoms.² While all facets of patient satisfaction explored in this study revealed a significant degree of correlation with depression, the nature of treatment of SLE may be responsible for the importance established by an individual's satisfaction with a health care provider's technical ability, potentially to the exclusion of the other facets of satisfaction. It could therefore be possible that dissatisfaction with the technical ability of a health

TABLE 2. Intercorrelations (Pearson's r Correlation Coefficient) Between Outcome and Predictor Variables ($n = 154$)

	1	2	3	4	5	6	7	8
1 Communication	—	0.69	0.76	0.79	0.55	0.27	0.25	0.27
2 Time with doctor		—	0.64	0.66	0.61	0.16*	0.20	0.19*
3 Technical ability			—	0.74	0.69	0.24	0.25	0.38
4 Interpersonal aspects (transformed)				—	0.60	0.23	0.30	0.24
5 Accessibility					—	0.13†	0.19	0.28
6 Severity						—	0.41	0.44
7 Pain							—	0.46
8 Depression								—

Note. All correlation statistics have p values <0.01 except as indicated: * $p < 0.05$, † $p > 0.05$.

care provider to treat lupus may exacerbate symptoms of depression if already present, or in more serious cases where the health care provider is perceived to not have the technical knowledge of their illness, a sense of hopelessness, or depression, may prevail, even beyond that accounted for by the pain experienced by the lupus patient. The paucity of research of lupus relating to patient satisfaction with medical care restricts the strength of the current findings. Further longitudinal exploration is needed to support or extend the findings established in this study.

It is also noteworthy that a significant degree of variance in depression was explained by the subjective pain measure utilized in this study. While this did not form the focus of this report, it does confirm established findings of association between pain and depression in chronic pain and other illness conditions.⁴⁸ This finding serves to highlight the myriad of factors that can exert an influence on the psychological well-being of individuals diagnosed with a chronic illness and that consideration must also be afforded to patients' subjective pain reports in monitoring the potential influence of depression on disease outcomes.

Furthermore, results also suggested that a relationship between patient satisfaction and pain may exist, which may in turn exert an influence upon disease outcomes such as depression.^{49,50} It is possible that dissatisfaction with one or more aspects of care may result in a degree of nonadherence to scheduled appointments and/or medication. This in turn could cause or exacerbate pain symptoms and ultimately contribute to negative disease outcomes, such as high levels of depression. It is further acknowledged that this form of association could also exist in reverse, with evidence suggesting that symptoms of depression can result in nonadherence and thus potentially exacerbate symptoms and further impair the management of an illness such as lupus.⁵¹ Once again, this relationship was not focused upon in the current study; however, the significant associations established in regard to patient satisfaction, pain, and depression in lupus warrant further longitudinal investigation.

IMPLICATIONS

The results of this preliminary study indicate that those diagnosed with SLE report a similarly heightened degree of

depressive symptoms as those with a range of other chronic illnesses.^{2,11-19} If the existence of depression among those individuals surveyed in this study is considered representative of the larger lupus population, then the potential effect of depression cannot be ignored and may further validate the need for routine screening and treatment for depression in the management of chronic illness and lupus.

The current study also provides preliminary cross-sectional evidence that an individual's dissatisfaction with care, specifically the technical ability of his or her health care provider, can be associated with high levels of depression. This finding provides tentative support for recommendations for specialized treatment of lupus, most frequently in the form of referrals to rheumatologists and specialists, to appropriately treat the symptoms of this illness. Furthermore, it remains important to monitor the effectiveness of the health care provider/patient relationship and ensure that dissatisfaction with care is not directly or indirectly contributing to depressive symptoms.

LIMITATIONS AND FUTURE DIRECTIONS

While careful consideration was given to the methodology undertaken for this study and the potential influence of demographic factors and illness severity on depression and patient satisfaction, a number of limitations must be noted. Participation was voluntary and limited to members of a lupus foundation, and it is thus possible that due to their association with an organized foundation, participants in this study had greater access to information and were more involved in treating their illness. Further, it is noted that the depression scale and patient satisfaction scale used in the current study possessed contrasting Likert scale ranges, thus introducing the possibility that participants may not have utilized the appropriate scaling when completing their response. Whereas intercorrelations between these measures were in the expected direction, this is an important consideration for future research and thus the possibility of using uniform Likert scales should be assessed.

It is also acknowledged that information regarding causality cannot be drawn between factors in a cross-sectional study such as this one. This preliminary study does,

TABLE 3. Hierarchical Regression of Demographic Factors and PSQ-III Scores on CDS Scores

Outcome Variable	Predictor Variables	B	SE B	β	sr^2 (unique)
Depression	Step 1				
	Residential area	5.554	4.710	0.100	0.01
	Age	-0.112	0.154	-0.062	0.00
	Remission	-9.318	4.263	-0.182	0.03
				Adjusted	$R^2 = 0.05$ $R^2 = 0.03$
	Step 2				
	Residential area	1.00	4.341	0.018	0.00
	Age	-0.156	0.140	-0.086	0.01
	Remission	-1.06	4.138	-0.02	0.00
	Severity	4.54	0.814	0.459	0.21
				Adjusted	$R^2 = 0.22$ $R^2 = 0.20$
	Step 3				
	Residential area	-1.00	4.102	-0.002	0.00
	Age	-0.120	0.133	-0.066	0.00
	Remission	-0.411	3.905	-0.008	0.00
	Severity	3.259	0.824	0.330*	0.11
	Pain	0.916	0.215	0.333*	0.11
				Adjusted	$R^2 = 0.31$ $R^2 = 0.29$
	Step 4				
	Residential area	-0.296	3.957	-0.005	0.00
	Age	-0.105	0.131	0.058	0.00
	Remission	-0.643	3.799	-0.013	0.00
	Severity	2.998	0.809	0.304*	0.09
	Pain	0.843	0.413	0.306*	0.09
Technical ability	1.510	0.526	-0.357*	0.13	
Communication	-0.431	0.857	-0.063	0.00	
Time with doctor	-1.782	1.433	-0.137	0.02	
Accessibility	0.387	0.347	0.107	0.01	
Interpersonal aspects (transformed)	-9.028	5.9	-0.210	0.04	
			Adjusted	$R^2 = 0.39$ $R^2 = 0.35$	

Note. Unique variability = 0.38; shared variability = 0.01. PSQ-III, Patient Satisfaction Questionnaire-Third Edition; CDS, Cardiac Depression Scale.

* $p < 0.01$.

however, provide a basis for further longitudinal investigation of the relationship between patient satisfaction and depression in those diagnosed with lupus. However, the direction of the relationship does not seem to be particularly pertinent in considering standards of care. Whether dissatisfaction with care may be the result of underlying depression, or whether such a relationship could exist in reverse, patient care needs to include a high standard of practitioner communications, interactions, and technical competencies and the management of a coexisting negative affective condition such as depression.

CONCLUSIONS

This research indicates the need for both medical practitioners and mental health professionals to acknowledge the

interrelationship between medical and psychological factors in patients with a chronic illness such as lupus.

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