ABSTRACT

Because most patients with chronic medical illness do not suffer from diagnosable depressive conditions, models of normal emotional functioning might be useful in assessing the emotional consequences of physical illness. In this study of 72 male and female patients with rheumatoid arthritis, we examined the Watson and Tellegen (1985) two-dimensional model in this regard. Depression scores were associated, independently, with both positive and negative affect. Pain, daily hassles, and cognitive distortion were associated with depression and negative affect but not with positive affect. Positive daily events were associated with positive affect but not negative affect. This suggests that the routine use of measures of depression in studies of emotional adjustment in chronic medical illness can lead to a loss of more specific information, especially as it concerns positive emotionality.


INTRODUCTION

The psychological impact of chronic medical illness is an important clinical issue, as patients suffering from such conditions (e.g., coronary heart disease, cancer, rheumatoid arthritis) often face a loss of valued activities and may experience significant emotional distress. Adjustment to chronic illness is a central topic of research in behavioral medicine and health psychology (1,2). This research has been useful in identifying potentially modifiable predictors of adjustment difficulties and in developing interventions to maximize functioning and reduce distress.

With few exceptions, the conceptual models guiding this work reflect a predominant focus on the assessment of negative emotions and psychopathology. This is appropriate in some respects, as some patients with chronic medical illness develop depressive disorders, and diagnosable depression has been associated with a poor medical prognosis (3–5). However, most patients with chronic medical illnesses do not suffer from diagnosable psychopathologies, despite the fact that the illness can have far-reaching effects on their emotional quality-of-life. To avoid this implicit “pathologizing” of adjustment processes in this population, models of normal emotional processes and related assessment procedures are likely to be more appropriate for explicating the emotional impact of chronic illness.

One such approach to emotion is the two-dimensional model proposed by Watson and Tellegen (6). Factor analyses of many affect questionnaires revealed separate positive and negative affect factors (6). Low levels of positive affect are characterized by drowsiness or sluggishness, while high levels are characterized by feelings of enthusiasm, excitement, and vigor. Low levels of negative affect are characterized by feelings of calm and relaxation, while high levels are characterized by nervousness, tension, and distress (6). Given the circumstances surrounding chronic illness, it is clear that such conditions could produce both low-positive and high-negative affect.

Diagnosable depressive disorders and elevated scores on depression inventories have been found to reflect both high-negative affect and low-positive affect (7–9). Medical illness is often associated with elevated depression scores (10), but such elevations could reflect either or both low-positive and high-negative affect. Therefore, use of depression measures in studies of the chronically ill could produce a loss of information, because these assessment procedures combine the separate dimensions of normal variations in mood. Positive and negative affect are likely to be distinct aspects of emotional quality-of-life in chronic illness with separate influences. This specificity is lost when positive and negative affect are implicitly combined in the use of depression measures.

To evaluate the utility of the two-factor model of mood in understanding the emotional impact of chronic disease, Zautra and his colleagues (11) recently examined the structure and correlates of the Positive and Negative Affect Scales (PANAS) (12) in three samples of patients with rheumatoid arthritis (RA). RA is a chronic, progressive disease involving the deterioration of the joints. Pain, limitations in activity, and emotional distress are common psychosocial effects of the disease (13). Confirmatory factor analyses of the PANAS item scores supported the
two-dimensional model of mood in this population in each of
the three samples studied by Zautra et al. (11). They indicated
that this model was a better description of the emotional ex-
perience of RA patients than a model in which positive and
negative affect define opposite ends of a single continuum. Fur-
ther, although positive and negative affect were significantly
correlated, they demonstrated independent associations with
specific types of disease-related coping. Use of passive, mal-
adaptive coping strategies (e.g. wishing for more pain medi-
cation) was associated with both greater negative affect and
reduced positive affect. In contrast, active adaptive strategies
(e.g. engaging in exercise or physical therapy) were associated
only with higher positive affect. In addition, negative affect was
more closely associated with pain than was positive affect.

The present study explored further the utility of the two-
dimensional model by examining additional correlates of positive
and negative mood in RA patients. First, we tested the hypothesis
(7) that high scores on a measure of depression reflect both low-
positive and high-negative affect. Second, we evaluated the pos-
sibility that depression measures might mask more specific as-
ociations involving positive and negative affect by examining a
well-established finding involving daily or minor life events. Pre-
vious research has indicated a differential association of positive
affect with positive daily events and negative affect with negative
events (e.g. 9,14). Third, we attempted to replicate the differential
association of positive and negative affect with pain, one of the
most debilitating symptoms of this disease (13). Finally, we eval-
uated the independent associations of the mood dimensions with
cognitive factors (i.e. helplessness and cognitive distortion) that
have been found to predict the development of increased de-
pression in RA patients (15).

METHOD

Sample

Participants in this study were recruited from rheumato-
logy clinics at the University of Utah School of Medicine and
the Salt Lake City Veterans Administration Medical Center. The
sample for the analyses reported here consisted of 72 patients
participating in the follow-up assessment of our previously re-
ported four-year longitudinal study of depressive symptoms
(15). Demographic characteristics of this sample were as fol-
loows: (a) 60% women and 40% men; (b) median age = 62
years (range 23–81); (c) 69% married; (d) median disease du-
ration = 15 years (range 1–53); and (e) median education = 14
years. All participants completed the battery of instruments
described was similar to what their own thinking would be in that
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years. All participants completed the battery of instruments
described below at the time of a clinic visit, returning completed
questionnaires through the mail.

Measures

Positive and Negative Affect: Participants completed the
PANAS (12). This 20-item inventory consists of 10 items re-
lecting negative affect (e.g. distressed, upset, nervous), and 10
items reflecting positive affect (e.g. interested, excited, enthu-
asiastic). The time frame specified for this study was the past
week. Previous studies have documented the reliability and va-
lidity of the scales (12).

Depression: Participants also completed the Beck Depres-
sion Inventory (BDI) (16). A large body of research supports
the reliability and validity of the BDI (17); however, our pre-
vious work has suggested an important modification when the
scale is used with RA patients. Specifically, we replicated the
depressed mood and somatic complaints factors in a sample of
RA patients (18). Further, the former factor displayed an ex-
pected pattern of convergent and discriminant validity in cor-
relations with interview ratings and self-report measures of de-
pression and disability. In contrast, the somatic items of the BDI
were closely correlated with measures of disease severity and
were significantly more likely to be rated by rheumatologists
as reflecting symptoms of the disease. Therefore, depression
was assessed in the present study with an eleven-item depressed
mood factor. This scale consisted of BDI items 1, 2, 3, 5, 6, 7,
8, 9, 10, 12, and 14. This scale had good internal consistency
(alpha > .85), as well as the convergent and discriminant va-
lidity noted above.

Positive and Negative Events: The revised Hassles and
Uplifts Scale (19) was used to assess positive and negative life
experiences. This 53-item scale has eliminated much of the psy-
chological and somatic symptomatology that was problematic
in previous versions (20). For each of the 53 items, subjects
indicated the extent to which specific people or circumstances
were hassles and/or uplifts. We used the total score for both
hassles and uplifts, which consists of the sum of the impact
ratings for the two sets of ratings. It is important to note that
nearly identical results were obtained when the number of items
endorsed (i.e. the number of non-zero hassle or uplift ratings)
rather than the total impact sums were used.

Pain: Participants completed two measures of RA pain.
The total score from the McGill Pain Questionnaire (MPQ) (21)
and a 100 mm visual analogue scale (VAS) from the Arthritis
Impact Measurement Scales (22) were used. Both measures are
widely used in arthritis research and appear to be reliable and
valid in this population (13).

Cognitive Measures: The five-item Arthritis Helplessness
Index (AHI) (23) was used along with the arthritis version of
the Cognitive Errors Questionnaire (RA-CEQ) (24). The AHI
is a factor, analytically-derived self-report scale with adequate
internal consistency and test–retest reliability (23). The AHI has
been found to predict the development of depressive symptoms
over a four-year follow-up period (15). The arthritis version
of the CEQ is adapted from an instrument developed by Lefevbre
(25) to assess distorted thinking about the impact of chronic
low back pain. In the arthritis version, references to back pain
are replaced with arthritis. Two 24-item scales are included for
general distorted thinking and distorted thinking in situations
involving RA. Respondents read short descriptions of hypo-
thetical events and indicated the extent to which a thought de-
scribed was similar to what their own thinking would be in that
situation. The RA-CEQ has been found to have high internal
consistency (alpha = .9) and to predict increases in depression
in our recent prospective study (15).

Means and standard deviations of scores on these measures
are presented in Table 1. Values are consistent with previous
studies using these scales in RA and similar chronic illness
populations (11,15,18).

RESULTS

In the present sample, the positive and negative affect
scales from the PANAS were significantly correlated, r(72) =
-.43, p < .01. This correlation is somewhat larger than in other
populations (12) but consistent with that observed in three other
RA samples (11). To examine the independent associations of
the positive and negative affect scales with the other study vari-