Title

Quality of Life and Functioning Impairments Across Psychiatric Disorders in Adults Presenting for Outpatient Psychiatric Evaluation and Treatment.

Journal

Psychiatric Research and Clinical Practice, 6(3)

Authors

Ishak, Waguih
Mirocha, James
Dang, Jonathan
et al.

Publication Date

2024

DOI

10.1176/appi.prcp.20230064

Peer reviewed

ARTICLE

Quality of Life and Functioning Impairments Across Psychiatric Disorders in Adults Presenting for Outpatient Psychiatric Evaluation and Treatment

Waguih William IsHak, M.D., F.A.P.A., James Mirocha, M.S., Jonathan Dang, M.D., Brigitte Vanle, Ph.D., Benjamin Metrikin, M.D. Candidate, Kaleab Tessema, M.D., Itai Danovitch, M.D., M.B.A.

Objective: Psychiatric disorders are associated with impairments in quality of life (QOL) and functioning. What remained to be investigated was the comparison of these constructs across psychiatric disorders in treatment-seeking adults. It was hypothesized that mood disorder patients would endorse worse QOL and functioning at entry into psychiatric outpatient treatment compared to patients with other disorders, and that regardless of diagnosis, severe impairments in QOL and functioning would be endorsed by the majority of the sample (>70%).

Methods: Data were collected for 2114 adults. Diagnostic and Statistical Manual of Mental Disorders diagnoses were obtained using the Mini International Neuropsychiatric Interview. Patients completed measures of QOL (Q-LES-Q), functioning (Work and Social Adjustment Scale [WSAS], Sheehan Disability Scale, Endicott Work Productivity Scale), and depression (Quick Inventory of Depressive Symptomatology-Self Report).

Results: Overall, 70.6% of patients with psychiatric disorders reported severe impairment in QOL and 59.6% of patients reported severe impairment in functioning (per the WSAS). Patients with mood disorders were more likely to report severe impairments in QOL and functioning, compared to patients with other psychiatric disorders. Analysis of variance revealed patients with mood disorders reported significantly lower QOL, worse functioning, and greater depressive symptom severity compared to patients without mood disorders (all p values <0.05).

Conclusions: Patients with psychiatric conditions overwhelmingly reported severely impaired QOL and functioning at entry to outpatient treatment. Patients with mood disorders were disproportionately more likely to endorse severely impaired QOL and functioning, particularly those with Major Depressive Disorder, recurrent, and Bipolar Disorder I, depressive episode. Findings suggest that future treatment efforts should focus on interventions that restore QOL and functioning in psychiatric patients, particularly among those with mood disorders.

Psych Res Clin Pract. 2024; 6:68–77; doi: 10.1176/appi.prcp.20230064

Psychiatric disorders affect nearly one out of three people in the United States, and contribute equally or more to global disability than physical medical conditions (1, 2). There is evidence to suggest that psychiatric disorders are strongly associated with quality of life (QOL) and social/occupational Functioning, frequently at levels that are equal to or exceed those of medical illness (3, 4).

QOL is a core health measure (5), and Functioning is a core diagnostic criterion of psychiatric disorders (6). Poor QOL and low Functioning in psychiatric disorders are implicated in increased relapse rates (7), decreased productivity (8), medical complications such as heart disease (9), and increased overall costs to society and individuals (1, 10). While impaired Functioning is required for any DSM-5 diagnosis, the severity level of such impairments varies widely and is of high clinical importance as self-reported by

HIGHLIGHTS

- In adults with psychiatric disorders presenting for outpatient psychiatric evaluation and treatment patients, nearly 71% reported severe impairment in quality of life (QOL) and 60% reported severe impairment in functioning.
- Patients with mood disorders were disproportionately more likely to endorse severely impaired QOL and functioning, particularly those with major depressive disorder (MDD), recurrent, and Bipolar Disorder I, depression.
- Treatment efforts should focus not only on symptom remission, but also on restoring QOL and functioning in psychiatric patients, particularly among those with mood disorders.

patients (11). It is true that some Functioning and QOL may improve after symptom remission, but several studies have shown that Functioning and QOL do not typically follow suit after symptom remission and may need more targeted interventions (11–13). In fact, these impairments may not just be a result of psychiatric symptoms but also connected to the underlying disease process or the patient's psychosocial situation (13). Yet, significant questions remain unanswered about the extent to which QOL and Functioning impairments vary across psychiatric disorders.

Recent literature has suggested that there are significant differences across psychiatric disorders in the extent to which they affect QOL and Functioning, but the extent of this remains unanswered. Major depressive disorder (MDD) (14–16), which was particularly true in older adults (17, 18). Even among patients diagnosed with schizophrenia or another mood disorder, depression symptoms or diagnosis were independently associated with a decreased QOL (19–21). Other psychiatric disorders have also been implicated in decreased QOL and Functioning, including other mood disorders like anxiety and bipolar disorder, though potentially to a lesser extent than MDD (22, 23). Functional impairment is also prominent among patients with psychotic disorders, resulting from deficits in a variety of psychopathological domains (20, 21). Patients at high risk of psychosis experience impaired QOL and Functioning, and those who go on to develop psychosis experienced further impairments in both (24). QOL and Functioning were also impaired in other psychiatric conditions, including somatoform disorders and pathological gambling, though the extent of the effect of each on QOL and Functioning remains unclear (17, 19).

In the current study, we utilized data collected over a 7-year period from an outpatient psychiatric treatment facility to examine QOL and Functioning impairment across psychiatric conditions at the point of presenting for evaluation and treatment. We assessed the degree of QOL and Functioning impairments across psychiatric disorders seen in a general outpatient psychiatry setting, including mood disorders (MDD, dysthymic disorder, and bipolar disorder, manic, depressed, and mixed), anxiety disorders (generalized anxiety disorder [GAD], panic disorder, obsessive-compulsive disorder, posttraumatic stress disorder, and the phobias), psychotic disorders (schizophrenia and schizoaffective disorders), substance use disorders (alcohol, opioid, and cannabis abuse and dependence), adjustment disorders and attention deficit hyperactivity disorder. We assessed these patients before outpatient treatment. Based on past findings in the scientific literature, we hypothesized the following:

Hypothesis 1

Mood disorder patients would experience worse QOL and/or Functioning at entry into psychiatric outpatient treatment compared to other psychiatric disorders, as measured by mean scores, percentage of patients with severe impairments, and percentage of patients with normal QOL and/or Functioning.

Hypothesis 2

Severe impairments in QOL and/or Functioning at entry to outpatient treatment would be experienced by the majority (≥70%) of patients with psychiatric disorders, and normal QOL and/or Functioning would be seen in a minority (≥30%) of patients in treatment for their psychiatric condition(s).

METHODS

Population and Recruitment Methods

Patients presenting for psychiatric evaluation and treatment at Cedars-Sinai Medical Center (CSMC), a tertiary medical center located in an ethnically and socioeconomically diverse area of Los Angeles, California, were enrolled in the Cedars-Sinai Psychiatric Treatment Outcome Registry (CS-PTR). This research study tracked the outcomes of psychiatric interventions in a naturalistic clinical setting using measurement-based care from 2005 to 2012. The Institutional Review Board at CSMC approved the current study.

Clinical Measures

We assessed patients using the Mini International Neuropsychiatric Interview (MINI) (25), which assessed for diagnoses (e.g., mood, anxiety, and substance use disorders) from the Fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). Psychiatric residents, psychology interns and social work interns who had undergone a course on the MINI performed the evaluations. A faculty-supervising psychiatrist monitored each interview through a one-way mirror with patient consent. Final diagnoses were confirmed using consensus techniques by a team with a senior faculty member. All data were de-identified and entered into a secure database maintained by a data manager who monitored data completeness and integrity.

Patients provided self-report data on the following measures:

1. *QOL*: The Short-Form QOL, Enjoyment, and Satisfaction Questionnaire (Q-LES-Q) (26), contains 16 items rated on a 5-point Likert-type scale. In the first 14 items, the patient rates their satisfaction with physical health, mood, work, household activities, social relationships, family relationships, leisure time activities, ability to function in daily life, sexual drive/interest/performance, economic status, living/housing situation, ability to get around physically, vision and overall sense of wellbeing. The total score is calculated and

converted to a percentage where 100 is the best and 0 is the worst. The Q-LES-Q has previously demonstrated strong psychometric properties, with a Cronbach's alpha of 0.90 and a test-retest reliability of 0.74 (26). Severe impairment in QOL was defined as a score of 2 or more standard deviations below the community normal mean, that is, a score <55.7 (27). Normal QOL was defined as a score within 1 standard deviation below community norms, or higher, that is, a score of 67 or more (28) (see Table 1).

2. *Functioning*:
   a. The Work and Social Adjustment Scale (WSAS) (29) was utilized to measure Functioning by patient report. The WSAS is a 5-item survey. It assesses Functioning in the areas of work, home management, private leisure, social leisure, and relationships. Patients who reported scores >20 (on a 40-point scale) were considered severely impaired in Functioning and those who scored below 10 were considered to have normal Functioning (29) (see Table 1). The WSAS has fairly strong psychometric properties, with a Cronbach's alpha ranging from 0.70 to 0.94 and a test-retest reliability of $r = 0.73$.
   b. The Sheehan Disability Scale (SDS) (30) contains 3 items with total scores that range from 0 to 30 points, where 0 represents no impairment and 30 represents maximum impairment. This scale is used to assess the degree to which symptoms have disrupted work, social and family responsibilities. It has no severity cutoffs (30).
   c. The Endicott Work Productivity Scale (EWPS) (31) is a 25-item measure, with total scores ranging from 0 to 100, where 0 is best and 100 is worst. This scale was only given to patients who reported employment at entry to the study and it has no published severity cutoffs or norms (31).
3. *Depressive Symptom Severity*: The Quick Inventory of Depressive Symptomatology-Self Report (QIDS-SR) (32) was used to measure depressive symptom severity in all patients, even those without a diagnosis of depression. The measure consists of 16 items, scaled 0–3, with total scores ranging from 0 to 27, where 0 is best and 27 is worst. As detailed by Rush and colleagues (32), data from the QIDS-SR can be used to assess depression status as follows: remission (score 0–5), mild (score 6–10), moderate (score 11–15), severe (score 16–20), or very severe (score >20) (see Table 1). Remarkably, this scale is highly correlated with the widely utilized clinician-rated Hamilton Rating Scale for Depression (HRSD or HAMD, with three versions—HAM-D 17, 21, and 24), the Montgomery Asberg Depression Rating Scale and the Beck Depression Inventory (33–35).

Statistical Analysis

To report demographic and clinical data we computed means and standard deviations for continuous variables (age, and scores on clinical measures). We recorded counts and percentages for proportional frequency data (race/ethnicity, gender, employment, and principal diagnosis). To examine variations in clinical measures by diagnosis, we selected diagnoses for which more than 25 patients provided data. We then examined all clinical measures within each diagnostic category (16 in total).

We used analysis of variance (ANOVA) to compare patients with a principal diagnosis of mood disorder (single episode or recurrent MDD; Bipolar Disorder, all types; Dysthymic Disorder; and Mood Disorder due to a general medical condition) to all other psychiatric outpatients on continuous outcome measures. The continuous outcome measures data were normally distributed and the levels of variance in each group were roughly equal.

We used Pearson's Chi-Square tests to compare patients with a principal diagnosis of mood disorder to those without on binary outcome measures, such as presence or

TABLE 1. Select outcome measures, interpretation and scores for QOL, functioning and depressive symptoms severity.[a]

Outcome measures	Interpretation	Scores
Quality of life (QOL)		
Q-LES-Q = 0–100	Normal QOL	≥67
	Mild to moderately impaired QOL	>55.7 to <67
	Severely impaired QOL	≤55.7
Functioning		
WSAS = 0–40	Normal functioning	<10
	Mild to moderately impaired functioning	10–20
	Severely impaired functioning	≥20
Depressive symptom severity		
QIDS-SR = 0–27	No depression	0–5
	Mild depression	6–10
	Moderate depression	11–16
	Severe depression	17–20
	Very severe depression	21–27

[a] QIDS-SR, Quick Inventory of Depressive Symptomatology-Self Report; Q-LES-Q, Quality of Life, Enjoyment, and Satisfaction Questionnaire—Short Form; QOL, quality of life; WSAS, Work and Social Adjustment Scale.

absence of severe impairment in QOL. Any valid data point was utilized in calculations per measure, and all percentages reflect the number of valid cases within each variable (i.e., listwise deletion was not used). Statistical analyses were performed using Statistical Package for the Social Sciences (SPSS) version 24.0 by IBM Corporation and SAS 9.4.

RESULTS

Demographic and Clinical Characteristics

We collected data for 2114 adults who presented for initial outpatient evaluations between 2005 and 2012. The demographic and clinical characteristics of the study population are presented in Table 2. Patients were predominately female (n = 1152, 54.5%) and Caucasian (n = 1477, 69.9%), and reported a mean age of 44.7 years (SD = 16.9). Approximately half of the patients (n = 1066, 50.4%) were employed.

The top five diagnoses most commonly encountered in the whole sample in descending order include Recurrent MDD (n = 838, 39.6%); Single Episode MDD (n = 135, 6.4%); GAD (n = 131, 6.2%); Bipolar I Disorder, Manic (n = 115, 5.4%); Bipolar I Disorder, Depressed (n = 91, 4.3%). Mood Disorders totaled 61.7% of the whole sample (n = 1304). There were no differences with regards to gender or employment across disorder groups.

QOL and Functioning at Baseline

Table 3 displays the means and standard deviations for all clinical outcome assessments, by principal diagnosis. In general, patients who carried a principal diagnosis of mood disorder scored lower on all outcome measures. In ANOVA analyses at entry into treatment (see Table 3), patients with a principal diagnosis of mood disorder reported significantly lower QOL (Q-LES-Q mean difference = −8.9, $p < 0.001$); WSAS mean difference = 4.8, $p < 0.001$; EWPS mean difference = 4.4, $p < 0.005$; SDS mean difference = 3.2, $p < 0.001$, and higher levels of depressive symptoms (QIDS-SR mean difference = 3.3, $p < 0.001$), as shown in Table 4.

Severe Impairment in QOL and Functioning at Baseline

Overall, we observed 70.6% of patients reported severe impairment in QOL measured by the Q-LES-Q, while 59.6% of patients reported severe impairment in Functioning as assessed by the WSAS (see Table 5).

Patients with Recurrent MDD had the highest frequency of severely impaired QOL (82.6%), followed by patients with Bipolar II Disorder (77.4%), Mood Disorder due to a general medical condition (77.4%), Dysthymic Disorder (75.0%), Single Episode MDD (74.8%) and Bipolar I Disorder, Depressed (73.6%).

Patients with Bipolar I Disorder, Depressed had the highest frequency of severely impaired Functioning on the

TABLE 2. Demographic and clinical characteristics of the entire sample (total N = 2114).[a]

Characteristic	Number	Percentage
Demographics		
Mean age in years (*SD*)	44.7	16.9
Female	1152	54.5
Race/Ethnicity		
Caucasian (non-Hispanic)	1477	69.9
African American	259	12.3
Hispanic (regardless of race)	168	7.9
Asian	85	4.0
Other	113	5.3
Employed	1066	50.4
Clinical		
Principal diagnosis of mood disorders (when n = 25 or greater)	1304	61.7
Mood D/O due to general med condition (293.83)	31	1.5
Major depression, single episode (296.2)	135	6.4
Major depression, recurrent (296.3)	838	39.6
Bipolar D/O, Mania (296.4)	115	5.4
Bipolar D/O, depressed (296.5)	91	4.3
Bipolar II D/O (296.89)	62	2.9
Dysthymic D/O (300.4)	32	1.5
Principal diagnosis of other disorders (when n = 25 or greater)	810	38.3
Schizophrenia, paranoid (295.3)	44	2.1
Schizoaffective D/O (295.7)	96	4.5
Psychotic D/O NOS (298.9)	31	1.5
Anxiety D/O NOS (300.00)	27	1.3
Panic D/O without agoraphobia (300.01)	41	1.9
Generalized anxiety D/O (300.02)	131	6.2
Alcohol dependence (303.9)	32	1.5
All others	408	19.3

[a] D/O, disorder; NOS, not otherwise specified.

TABLE 3. Mean and standard deviation of assessment scores of study subjects at entry to treatment, by diagnosis.[a]

Diagnosis, (DSM code), *n*	Q-LES-Q (*n* = 2114)	WSAS (*n* = 2077)	EWPS (*n* = 1066)	SDS (*n* = 2083)	QIDS-SR (*n* = 1966)
All patients (*n* = 2114)	46.5 (18.4)	22.1 (11.5)	31.8 (24.7)	18.6 (8.7)	13.4 (5.9)
Principal diagnosis of mood disorders (*n* = 1304)	43.1 (17.6)	24.0 (11.2)	33.6 (25.0)	19.7 (8.3)	14.7 (5.6)
Mood D/O due to general med condition (293.83) *n* = 31	43.0 (18.1)	19.9 (14.6)	18.9 (22.5)	17.7 (9.00)	13.2 (6.2)
Major depression, single episode (296.2) *n* = 135	44.4 (17.5)	22.2 (11.2)	37.3 (22.4)	19.5 (8.2)	14.3 (5.3)
Major depression, recurrent (296.3) *n* = 838	41.2 (16.8)	24.8 (10.7)	34.3 (25.4)	20.3 (8.1)	15.4 (5.4)
Bipolar D/O, Mania (296.4) *n* = 151	51.6 (20.6)	19.8 (12.6)	26.4 (27.8)	17.2 (10.1)	11.4 (6.1)
Bipolar D/O, depressed (296.5) *n* = 91	42.7 (18.7)	27.6 (9.8)	35.7 (28.0)	21.0 (7.3)	15.6 (5.8)
Bipolar II D/O (296.89) *n* = 62	46.1 (17.4)	24.2 (10.7)	32.5 (20.1)	19.5 (7.5)	13.6 (5.6)
Dysthymic D/O (300.4) *n* = 32	49.6 (11.3)	16.4 (11.0)	27.6 (18.7)	14.6 (7.8)	11.5 (4.5)
Principal diagnosis of other disorders (*n* = 810)	52.0 (18.4)	19.1 (11.5)	29.2 (24.0)	16.6 (8.9)	11.4 (5.6)
Schizophrenia, paranoid (295.3) *n* = 44	51.3 (20.0)	16.1 (11.4)	18.5 (22.2)	14.4 (9.9)	9.5 (5.4)
Schizoaffective D/O (295.7) *n* = 96	47.4 (18.7)	22.2 (12.2)	19.8 (25.7)	19.2 (8.8)	12.3 (6.2)
Psychotic D/O NOS (298.9) *n* = 31	45.3 (19.0)	20.7 (11.2)	30.0 (23.9)	17.7 (10.1)	12.7 (6.0)
Anxiety D/O NOS (300.00) *n* = 27	58.7 (19.6)	13.8 (11.3)	27.3 (21.8)	13.9 (10.0)	8.7 (4.5)
Panic D/O without agoraphobia (300.01) *n* = 41	56.1 (14.9)	19.3 (10.6)	29.7 (19.7)	17.0 (7.2)	11.5 (4.9)
Generalized anxiety D/O (300.02) *n* = 131	53.5 (14.7)	17.3 (10.1)	31.4 (22.8)	16.4 (7.3)	11.8 (4.7)
Alcohol dependence (303.9) *n* = 32	54.9 (17.8)	17.4 (11.4)	29.5 (23.3)	16.8 (9.2)	12.6 (6.3)
All others (*n* = 408)	52.0 (19.2)	19.7 (11.6)	30.5 (24.9)	16.3 (9.2)	11.3 (5.8)

[a] D/O, disorder; DSM, Diagnostic and Statistical Manual; EWPS, Endicott Work Productivity Scale; NOS, not otherwise specified; QIDS-SR, Quick Inventory of Depressive Symptomatology-Self Report; Q-LES-Q, Quality of Life, Enjoyment, and Satisfaction Questionnaire—Short Form; SDS, Sheehan Disability Scale; WSAS, Work and Social Adjustment Scale.

TABLE 4. Comparison of means by principal diagnosis (mood disorders vs. other disorders).[a]

Diagnosis	Q-LES-Q (*n* = 2114)	WSAS (*n* = 2077)	EWPS (*n* = 1066)	SDS (*n* = 2083)	QIDS-SR (*n* = 1966)
Mood disorders mean (*SD*)	43.1 (17.6)	24.0 (11.2)	33.6 (25.2)	19.7 (8.3)	14.7 (5.6)
Other disorders mean (*SD*)	52.0 (18.4)	19.1 (11.5)	29.2 (24.0)	16.6 (8.9)	11.4 (5.6)
Mean difference	−8.9 (17.9)	4.8 (11.3)	4.4 (24.6)	3.2 (8.6)	3.3 (5.6)
F test statistic	123.51	89.74	8.09	66.69	157.38
p-value	<0.0001	<0.0001	0.005	<0.0001	<0.0001

[a] EWPS, Endicott Work Productivity Scale; QIDS-SR, Quick Inventory of Depressive Symptomatology-Self Report; Q-LES-Q, Quality of Life, Enjoyment, and Satisfaction Questionnaire—Short Form; SDS, Sheehan Disability Scale; WSAS, Work and Social Adjustment Scale.

TABLE 5. Number and percentages of patients with severe impairment in QOL (using the Q-LES-Q) and functioning (using the Global Assessment of Functioning and the WSAS) at baseline.[a]

	Q-LES-Q (*n* = 2114)		WSAS (*n* = 2077)	
Diagnosis and DSM-IV code	*N*	%	*N*	%
All patients (*n* = 2114)	1492	70.6	1259	60.6
Principal diagnosis of mood disorders (*n* = 1304)	1021/1304	78.3	875/1286	68.0
Mood D/O due to gen med condition (293.83)	24/31	77.4	14/29	48.3
Major depression, single episode (296.2)	101/135	74.8	83/134	61.9
Major depression, recurrent (296.3)	692/838	82.6	592/828	71.5
Bipolar D/O, Mania (296.4)	65/115	56.5	5460/114	52.6
Bipolar D/O, depressed (296.5)	67/91	73.6	70/87	80.5
Bipolar II D/O (296.89)	48/62	77.4	44/62	71.0
Dysthymic D/O (300.4)	24/32	75.0	12/32	37.5
Principal diagnosis of other disorders (*n* = 810)	471/810	58.1	384/791	48.5
Schizophrenia, paranoid (295.3)	27/44	61.4	16/41	39.0
Schizoaffective D/O (295.7)	68/96	70.8	53/95	55.8
Psychotic D/O NOS (298.9)	22/31	71.0	19/31	61.3
Anxiety D/O NOS (300.00)	10/27	37.0	7/26	26.9
Panic D/O without agoraphobia (300.01)	20/41	48.8	19/40	47.5
Generalized anxiety D/O (300.02)	76/131	58.0	56/129	43.4
Alcohol dependence (303.9)	14/32	43.8	14/31	45.2
All others (*n* = 408)	234/408	57.4	200/398	50.3

[a] D/O, disorder; NOS, not otherwise specified; Q-LES-Q, Quality of Life, Enjoyment, and Satisfaction Questionnaire—Short Form; QOL, quality of life; WSAS, Work and Social Adjustment Scale.

WSAS (74.7%), followed by patients with Recurrent MDD (68.4%), Bipolar II Disorder (66.1%), and Single Episode MDD (57.5%).

Normal QOL and Functioning at Baseline

Few patients entered outpatient treatment with normal levels of QOL or Functioning. Overall, only 14.1% of patients reported normal levels of QOL on the Q-LES-Q, and 16.8% of patients reported normal Functioning on the WSAS (see Table 6). Only 5.5% of patients with Recurrent MDD reported normal QOL at baseline.

Comparison of Patients with a Principal Diagnosis of Mood Disorder Versus Patients with a Principal Diagnosis of Other Disorders on Severity of QOL/Functioning

In general, patients who carried a principal diagnosis of mood disorder, more frequently reported severe levels of impairment in QOL and Functioning (see Table 6). Patients with a principal diagnosis of mood disorder more frequently reported severe impairment in QOL on the Q-LES-Q ($\chi^2 = 103.7$, $p < 0.001$). They also showed more frequent impairments in terms of Functioning, as measured by self-report on the WSAS (WSAS $\chi^2 = 74.8$, $p < 0.001$).

Similarly, patients with a principal diagnosis of mood disorder were less likely to report normal QOL and Functioning on entry into outpatient treatment compared to patients without such a diagnosis, on the Q-LES-Q ($\chi^2 = 52.7$, $p < 0.001$), and on the WSAS ($\chi^2 = 29.6$, $p < 0.001$) (see Table 7).

DISCUSSION

The World Health Organization defines Health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (36). Hence, restoration of health, as evidenced by improvements in QOL and Functioning, should be a major goal of clinical interventions (37, 38). Psychiatric disorders frequently cause a significant burden, both to individuals and to society, as they include four out of the 10 most disabling conditions in the world (39). Psychiatric disorders were strongly associated with poor quality of life (QOL) (40),

TABLE 6. Number and percentages of patients with normal QOL/functioning at baseline.[a]

	Q-LES-Q ($n = 2114$)		WSAS ($n = 2077$)	
Diagnosis	*N*	%	*N*	%
All patients ($N = 2114$)	299	14.1	355	17.1
Principal diagnosis of mood disorders ($n = 1304$)	124/1304	9.5	174/1286	13.5
Mood D/O due to gen med condition (293.83)	3/31	9.7	8/29	27.6
Major depression, single episode (296.2)	15/135	11.1	22/134	16.4
Major depression, recurrent (296.3)	59/838	7.0	91/828	11.0
Bipolar D/O, Mania (296.4)	27/115	23.5	31/114	27.2
Bipolar D/O, depressed (296.5)	8/91	8.8	6/87	6.9
Bipolar II D/O (296.89)	10	16.1	8/62	12.9
Dysthymic D/O (300.4)	2/32	6.3	8/32	25.0
Principal diagnosis of other disorders ($n = 810$)	175/810	21.6	181/791	22.9
Schizophrenia, paranoid (295.3)	9/44	20.4	15/41	36.6
Schizoaffective D/O (295.7)	19/96	19.8	18/95	18.9
Psychotic D/O NOS (298.9)	5/31	16.1	5/31	16.1
Anxiety D/O NOS (300.00)	9/27	33.3	10/26	38.5
Panic D/O without agoraphobia (300.01)	7/41	17.1	8/40	20.0
Generalized anxiety D/O (300.02)	24/131	18.3	32/129	24.8
Alcohol dependence (303.9)	8/32	25.0	10/31	32.3
All others ($n = 408$)	94/408	23.0	83/398	20.9

[a] D/O, disorder; NOS, not otherwise specified; Q-LES-Q, Quality of Life, Enjoyment, and Satisfaction Questionnaire—Short Form; QOL, quality of life; WSAS, Work and Social Adjustment Scale.

TABLE 7. Comparisons of impaired and normal QOL/functioning by principal diagnosis (mood disorders vs. other disorders).[a]

		Q-LES-Q			WSAS		
Diagnosis		*n* (%)	χ^2	*p*	*n* (%)	χ^2	*p*
Mood disorders	Severe imp.	1021 (78.3%)	97.7	<0.0001	875 (68.0%)	78.0	<0.0001
Other disorders		471 (58.1%)			384 (48.6%)		
Mood disorders	Within normal	124 (9.5%)	60.2	<0.0001	174 (13.5%)	30.2	<0.0001
Other disorders		175 (21.6%)			181 (22.9%)		

[a] Q-LES-Q, Quality of Life, Enjoyment, and Satisfaction Questionnaire—Short Form; QOL, quality of life; Severe imp., severe impairment; WSAS, Work and Social Adjustment Scale; χ^2, Chi-square test statistic.

and impairment in occupational and/or social Functioning (41). In fact, QOL of patients, with psychiatric disorders, especially depression, has been shown to be worse than the QOL of patients with medical disorders (42, 43).

The current assessment of patients entering an outpatient treatment program for a variety of psychiatric conditions revealed that, at entry into treatment, these patients were significantly impaired in both QOL and Functioning. In addition, very few patients reported normal levels of QOL or Functioning, which was to be expected, given that these patients were entering treatment.

In general, with regard to QOL, patients were as impaired as predicted; wherein more than 70% of patients across diagnoses reported severely impaired QOL on the Q-LES-Q. However, only approximately 60% of these patients reported severely impaired Functioning on the WSAS, which was generally consistent with our second hypothesis. Exceeding our initial predictions, only around 15% of patients reported QOL and Functioning within normal ranges at the entry into treatment. This is understandable, as patients were seeking treatment of their own accord due to psychiatric symptoms. Yet, these patients were far worse off than we had originally anticipated.

Consistent with our first hypothesis, patients with a principal diagnosis of mood disorder were significantly more impaired in terms of Functioning and QOL across measures compared to patients without a principal diagnosis of mood disorder. Importantly, patients with a principal diagnosis of anxiety disorder were consistently the least likely to report severe impairments in QOL or functioning at entry to treatment. It follows that these patients may have less risk of endorsing impairments in functioning or QOL compared to individuals with a principal diagnosis of mood disorder. Assessed as a continuous variable, or in terms of the numbers of patients who reported severe impairment versus normal QOL or Functioning, patients with a principal diagnosis of mood disorder reported much worse QOL and Functioning. Although these differences corresponded with small effect size (after controlling for demographic variables), these differences are noteworthy, and imply that treatment efforts should be targeted, in particular, at patients who meet criteria for a principal diagnosis of mood disorder.

Consistent with findings in the present study, several studies have demonstrated that MDD can have a substantial negative impact on QOL and on the ability to function (44–49). The reason that depressive symptoms across psychiatric conditions lead to greatest impairment in QOL and Functioning remains unclear, though it is likely related to mediating constructs such as degree of self-efficacy and subjective perception of health (50, 51). Mood disorders like MDD, have consistently shown the highest negative impact on QOL and Functioning (52). Our finding that patients with bipolar disorder endorse significant impacts on QOL and Functioning align with the literature, though the extent to which this is linked to depressive symptoms is unclear (53). Interestingly, the fact that Bipolar Disorder, Depressive Type had the greatest impact on QOL and Functioning does suggest a link to a combination of depressive symptoms with residual symptoms such as impulsivity, irritability, or insomnia, which are more highly associated with bipolar disorders (54).

A careful examination of the methodology of treatment outcome assessment of psychiatric disorders reveals that there is significantly more emphasis on measuring and reducing symptom severity as the primary outcome, rather than improvements in QOL and Functioning (55, 56). Although psychiatric treatments aimed at alleviating suffering from symptoms was thought to eventually lead to overall improvement, evidence has shown that even after responding to treatment, patients often continue to experience impairments in QOL and Functioning (57, 58). Which, in consequence, can negatively impact an individual, their family, their work and productivity, or even society at large. Outcome assessments in both clinical and research settings should go beyond focusing primarily on changes in symptom severity. Tracking QOL and Functioning may serve as an important metric in assessing patients' recovery as they progress through treatment. Although symptom remission has become a widely accepted goal of treatment, improving, and restoring QOL and Functioning would need to be the ultimate goals (59).

Limitations and Strengths

Limitations. There was no control group that could permit comparing QOL and Functioning to medical patients or normal controls. However, the use of validated scales with community norms could be helpful as an initial exploration of QOL and Functioning in psychiatric patients. Although self-report measures can carry the risk of minimization or magnification of rated items, the ones used in the current study have previously demonstrated high correlations with clinician-rated scales and have been validated in other scientific studies (29, 35, 43). Findings from the present study may not be applicable to patients in an inpatient setting, patients with significant medical or psychiatric comorbidities, or patients that belong to certain ethnic groups such as Asian Americans or Native-Americans, as there was a minimal number of subjects from these ethnic groups included in the study sample. In addition, the study may not reflect community-dwelling individuals who are not treatment-seeking, as these individuals may have different clinical or demographic features. Thus, future studies should aim at applying our research methodology and testing findings of the present study with those particular populations.

Strengths. This study is unique in that it uses a naturalistic longitudinal outpatient dataset to analyze QOL and Functioning data from treatment-seeking patients with diverse demographic, clinical, and diagnostic backgrounds. Of note, innovative features of the study included the fact that

while QOL and Functioning have been examined in different disorders, they have not been systematically studied and compared in outpatient treatment settings across diagnostic categories. This study launched a concerted effort to compare QOL and Functioning in different psychiatric disorders using the same set of measures, in a naturalistic treatment-seeking outpatient population, rather than convenience samples, community populations, or ad-recruited research subjects. The patients in the study sample had diverse demographics and clinical presentations with regard to assessment and treatment. These factors suggest that our patient population is more reflective of the general population seen in mental health outpatient facilities, and thus, the conclusions in this study are likely generalizable in outpatient settings.

CONCLUSION

Patients with psychiatric conditions overwhelmingly reported severely impaired QOL and Functioning upon presentation to outpatient evaluation and treatment. Patients with mood disorders were especially impacted, as these patients report greater impairments in QOL and Functioning compared to those with other psychiatric diagnoses, at entry into outpatient treatment. Findings from the present study suggest that future treatment efforts should focus on developing specific interventions to restore QOL and Functioning in psychiatric patients in general, and in patients with a principal diagnosis of mood disorder in particular. As such, QOL and Functioning need to be considered in conjunction with symptom remission, particularly in patients with mood disorders, as these might not always improve spontaneously following symptom improvement. Clinicians may need to regularly measure these constructs alongside symptoms, monitor them over time, and then implement interventions that directly target QOL and Functioning.

AUTHOR AND ARTICLE INFORMATION

Department of Psychiatry and Behavioral Neurosciences, Cedars-Sinai Medical Center, Los Angeles, California, USA (IsHak, Mirocha, Dang, Vanle, Danovitch); Department of Psychiatry and Biobehavioral Sciences, David Geffen School of Medicine, University of California Los Angeles, Los Angeles, California, USA (IsHak, Tessema); Kaiser Permanente Bernard J. Tyson School of Medicine, Pasadena, California, USA (Metrikin).

Send correspondence to Dr. IsHak (waguih.ishak@cshs.org).

The authors would like acknowledge the contributions of the following scientists, clinicians, and leaders who contributed their ideas and initiatives and shared their wisdom and hard work, in the creation and development in this project: Mark Reid, PhD, Robert Cohen, MD, PhD, Kaitlyn Kauzor, BA, Steven Clevenger, DO, Alexander J. Steiner, PsyD, William Olcott, MD, and Mark H. Rapaport, MD who laid the foundation for the CS-PTR with structured interviewing, patient-reported measures, and data collection. Analysis for the current study did not receive any financial support and none of the authors received funding for the current study.

The authors report no conflicts of interest or financial or other relationship relevant to the subject of this manuscript. All authors received no financial support for the current study.

All authors hereby declare that all experiments have been examined and approved by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki. Written informed consent was obtained after the procedures of the study were fully explained, from all human subjects.

Received November 7, 2023; revised March 8, 2024; accepted March 13, 2024.

REFERENCES

1. Kessler RC, Aguilar-Gaxiola S, Alonso J, Chatterji S, Lee S, Ormel J, et al. The global burden of mental disorders: an update from the WHO World Mental Health (WMH) surveys. Epidemiol Psychiatr Soc. 2009;18(1):23–33. https://doi.org/10.1017/s1121189x00001421
2. Suliman S, Stein DJ, Myer L, Williams DR, Seedat S. Disability and treatment of psychiatric and physical disorders in South Africa. J Nerv Ment Dis. 2010;198(1):8–15. https://doi.org/10.1097/nmd.0b013e3181c81708
3. Insel TR, Scolnick EM. Cure therapeutics and strategic prevention: raising the bar for mental health research. Mol Psychiatr. 2006;11(1):11–7. https://doi.org/10.1038/sj.mp.4001777
4. Vos T, Haby MM, Barendregt JJ, Kruijshaar M, Corry J, Andrews G. The burden of major depression avoidable by longer-term treatment strategies. Arch Gen Psychiatr. 2004;61(11):1097–103. https://doi.org/10.1001/archpsyc.61.11.1097
5. Centers for Disease Control and Prevention. Measuring healthy days: population assessment of health-related quality of life. Atlanta: Centers for Disease Control and Prevention; 2000.
6. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4th ed. Text Revised (DSM-IV-TR). Washington: American Psychiatric Association; 2000.
7. Rodgers M, Asaria M, Walker S, McMillan D, Lucock M, Harden M, et al. The clinical effectiveness and cost-effectiveness of low-intensity psychological interventions for the secondary prevention of relapse after depression: a systematic review. Health Technol Assess. 2012;16(28):1–130. https://doi.org/10.3310/hta16280
8. Druss BG, Hwang I, Petukhova M, Sampson NA, Wang PS, Kessler RC. Impairment in role functioning in mental and chronic medical disorders in the United States: results from the National Comorbidity Survey Replication. Mol Psychiatr. 2009;14(7):728–37. https://doi.org/10.1038/mp.2008.13
9. Pedersen SS, Martens EJ, Denollet J, Appels A. Poor health-related quality of life is a predictor of early, but not late, cardiac events after percutaneous coronary intervention. Psychosomatics. 2007;48(4):331–7. https://doi.org/10.1176/appi.psy.48.4.331
10. Angst J, Kupfer DJ, Rosenbaum JF. Recovery from depression: risk or reality? Acta Psychiatr Scand. 1996;93(6):413–9. https://doi.org/10.1111/j.1600-0447.1996.tb10671.x
11. IsHak WW, James DM, Mirocha J, Youssef H, Tobia G, Pi S, et al. Patient-reported functioning in major depressive disorder. Ther Adv Chronic Dis. 2016;7(3):160–9. https://doi.org/10.1177/2040622316639769

12. IsHak WW, Greenberg JM, Cohen RM. Predicting relapse in major depressive disorder using patient-reported outcomes of depressive symptom severity, functioning, and quality of life in the Individual Burden of Illness Index for Depression (IBI-D). J Affect Disord. 2013;151(1):59–65. https://doi.org/10.1016/j.jad.2013.05.048
13. IsHak WW, Mirocha J, James D, Tobia G, Vilhauer J, Fakhry H, et al. Quality of life in major depressive disorder before/after multiple steps of treatment and one-year follow-up. Acta Psychiatr Scand. 2015;131(1):51–60. https://doi.org/10.1111/acps.12301
14. Monferrer M, Ricarte JJ, Montes MJ, Fernández-Caballero A, Fernández-Sotos P. Psychosocial remediation in depressive disorders: a systematic review. J Affect Disord. 2021;290:40–51. https://doi.org/10.1016/j.jad.2021.04.052
15. Berghöfer A, Martin L, Hense S, Weinmann S, Roll S. Quality of life in patients with severe mental illness: a cross-sectional survey in an integrated outpatient health care model. Qual Life Res. 2020;29(8):2073–87. https://doi.org/10.1007/s11136-020-02470-0
16. Defar S, Abraham Y, Reta Y, Deribe B, Jisso M, Yeheyis T, et al. Health related quality of life among people with mental illness: the role of socio-clinical characteristics and level of functional disability. Front Public Health. 2023;11:1134032. https://doi.org/10.3389/fpubh.2023.1134032
17. Grassi L, Caruso R, Da Ronch C, Härter M, Schulz H, Volkert J, et al. Quality of life, level of functioning, and its relationship with mental and physical disorders in the elderly: results from the MentDis_ICF65+ study. Health Qual Life Outcomes. 2020;18(1):61. https://doi.org/10.1186/s12955-020-01310-6
18. Sivertsen H, Bjørkløf GH, Engedal K, Selbæk G, Helvik AS. Depression and quality of life in older persons: a review. Dement Geriatr Cogn Disord. 2015;40(5-6):311–39. https://doi.org/10.1159/000437299
19. Sagayadevan V, Lee SP, Ong C, Abdin E, Chong SA, Subramaniam M. Quality of life across mental disorders in psychiatric outpatients. Ann Acad Med Singapore. 2018;47(7):243–52. https://doi.org/10.47102/annals-acadmedsg.v47n7p243
20. Handest R, Molstrom IM, Gram Henriksen M, Hjorthøj C, Nordgaard J. A systematic review and meta-analysis of the association between psychopathology and social functioning in schizophrenia. Schizophr Bull. 2023;49(6):1470–85. https://doi.org/10.1093/schbul/sbad075
21. Nevarez-Flores AG, Sanderson K, Breslin M, Carr VJ, Morgan VA , Neil AL. Systematic review of global functioning and quality of life in people with psychotic disorders. Epidemiol Psychiatr Sci. 2019;28(1):31–44. https://doi.org/10.1017/s2045796018000549
22. Michalak EE, Yatham LN, Lam RW. Quality of life in bipolar disorder: a review of the literature. Health Qual Life Outcomes. 2005;3(1):72. https://doi.org/10.1186/1477-7525-3-72
23. Hohls JK, König HH, Quirke E, Hajek A. Anxiety, depression and quality of life-a systematic review of evidence from longitudinal observational studies. Int J Environ Res Publ Health. 2021;18(22):12022. https://doi.org/10.3390/ijerph182212022
24. Fusar-Poli P, Rocchetti M, Sardella A, Avila A, Brandizzi M, Caverzasi E, et al. Disorder, not just state of risk: meta-analysis of functioning and quality of life in people at high risk of psychosis. Br J Psychiatr. 2015;207(3):198–206. https://doi.org/10.1192/bjp.bp.114.157115
25. Sheehan DV, Lecrubier Y, Sheehan KH, Amorim P, Janavs J, Weiller E, et al. The Mini-International Neuropsychiatric Interview (M.I.N.I.): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. J Clin Psychiatr. 1998;59:34–57.
26. Endicott J, Nee J, Harrison W, Blumenthal R. Quality of life enjoyment and satisfaction questionnaire: a new measure. Psychopharmacol Bull. 1993;29:321–6.
27. Rappaport MH, Clary C, Fayyad R, Endicott J. Quality-of-life impairment in depressive and anxiety disorders. Am J Psychiatr. 2005;162(6):1171–8. https://doi.org/10.1176/appi.ajp.162.6.1171
28. Schechter D, Endicott J, Nee J. Quality of life of 'normal' controls: association with lifetime history of mental illness. Psychiatr Res. 2007;152(1):45–54. https://doi.org/10.1016/j.psychres.2006.09.008
29. Mundt JC, Marks IM, Shear MK, Greist JM. The Work and Social Adjustment Scale: a simple measure of impairment in functioning. Br J Psychiatr. 2002;180(5):461–4. https://doi.org/10.1192/bjp.180.5.461
30. Sheehan DV. The anxiety disease. New York: Scribner's; 1983.
31. Endicott J, Nee J. Endicott Work Productivity Scale (EWPS): a new measure to assess treatment effects. Psychopharmacol Bull. 1997;33:13–6.
32. Rush AJ, Trivedi MH, Ibrahim HM, Carmody TJ, Arnow B, Klein DN, et al. The 16-Item Quick Inventory of Depressive Symptomatology (QIDS), clinician rating (QIDS-C), and self-report (QIDS-SR): a psychometric evaluation in patients with chronic major depression. Biol Psychiatr. 2003;54(5):573–83. https://doi.org/10.1016/s0006-3223(02)01866-8
33. Trivedi MH. The link between depression and physical symptoms. Prim Care Companion J Clin Psychiatry. 2004;6:12–6.
34. Beck AT, Epstein N, Brown G, Steer RA. An inventory for measuring clinical anxiety: psychometric properties. J Consult Clin Psychol. 1988;56(6):893–7. https://doi.org/10.1037//0022-006x.56.6.893
35. Beck AT, Steer RA. Beck Anxiety Inventory manual. San Antonio: Psychological Corporation; 1990.
36. World Health Organization. Preamble to the constitution of the World Health Organization. 1948 [cited 2012 Oct 1]. Available from: http://www.who.int/about/definition/en/print.html
37. Lindström B. Quality of life: a model for evaluating health for all. Conceptual considerations and policy implications. Soz Praventivmed. 1992;37(6):301–6. https://doi.org/10.1007/bf01299136
38. World Health Organization. International classification of functioning, disability and health (ICF). Geneva: World Health Organization; 2001.
39. Lehman AF, Ward NC, Linn LS. Chronic mental patients: the quality of life issue. Am J Psychiatr. 1982;139:1271–6.
40. Ustün TB. The global burden of mental disorders. Am J Public Health. 1999;89(9):1315–8. https://doi.org/10.2105/ajph.89.9.1315
41. Murray CJ, Lopez AD. Alternative projections of mortality and disability by cause 1990-2020: Global Burden of Disease Study. Lancet. 1997;349(9064):1498–504. https://doi.org/10.1016/s0140-6736(96)07492-2
42. Cook EL, Harman JS. A comparison of health-related quality of life for individuals with mental health disorders and common chronic medical conditions. Publ Health Rep. 2008;123(1):45–51. https://doi.org/10.1177/003335490812300107
43. Bonicatto SC, Dew MA, Zaratiegui R, Lorenzo L, Pecina P. Adult outpatients with depression: worse quality of life than in other chronic medical diseases in Argentina. Soc Sci Med. 2001;52(6):911–9. https://doi.org/10.1016/s0277-9536(00)00192-1
44. Saarijärvi S, Salminen JK, Toikka T, Raitasalo R. Health-related quality of life among patients with major depression. Nord J Psychiatr. 2002;56(4):261–4. https://doi.org/10.1080/08039480260242741
45. Berlim MT, McGirr A, Fleck MP. Can sociodemographic and clinical variables predict the quality of life of outpatients with major depression? Psychiatr Res. 2008;160(3):364–71. https://doi.org/10.1016/j.psychres.2007.07.024

46. IsHak WW, Balayan K, Bresee C, Greenberg JM, Fakhry H, Christensen S, et al. A descriptive analysis of quality of life using patient-reported measures in major depressive disorder in a naturalistic outpatient setting. Qual Life Res. 2012;22(3):585–96. https://doi.org/10.1007/s11136-012-0187-6
47. IsHak WW, Greenberg JM, Balayan K, Kapitanski N, Jeffrey J, Fathy H, et al. Quality of life: the ultimate outcome measure of interventions in major depressive disorder. Harv Rev Psychiatr. 2011;19(5):229–39. https://doi.org/10.3109/10673229.2011.614099
48. Denninger JW, Van Nieuwenhuizen AO, Wisniewski SR, Luther JF, Trivedi MH, Rush AJ, et al. Changes in depressive symptoms and social functioning in the sequenced treatment alternatives to relieve depression study. J Nerv Ment Dis. 2011;199(10):807–10. https://doi.org/10.1097/nmd.0b013e31822fcbe2
49. Keller MB, Boland RJ. Implications of failing to achieve successful long-term maintenance treatment of recurrent unipolar major depression. Biol Psychiatr. 1998;44(5):348–60. https://doi.org/10.1016/s0006-3223(98)00110-3
50. Sylvia LG, Montana RE, Deckersbach T, Thase ME, Tohen M, Reilly-Harrington N, et al. Poor quality of life and functioning in bipolar disorder. Int J Bipolar Disord. 2017;5(1):10. https://doi.org/10.1186/s40345-017-0078-4
51. Abraham KM, Miller CJ, Birgenheir DG, Lai Z, Kilbourne AM. Self-efficacy and quality of life among people with bipolar disorder. J Nerv Ment Dis. 2014;202(8):583–8. https://doi.org/10.1097/nmd.0000000000000165
52. Rapaport MH, Clary C, Fayyad R, Endicott J. Quality-of-life impairment in depressive and anxiety disorders. Am J Psychiatr. 2005;162(6):1171–8. https://doi.org/10.1176/appi.ajp.162.6.1171
53. Zazula R, Mohebbi M, Dodd S, Dean OM, Berk M, Vargas HO, et al. Cognitive profile and relationship with quality of life and psychosocial functioning in mood disorders. Arch Clin Neuropsychol. 2022;37(2):376–89. https://doi.org/10.1093/arclin/acab054
54. Cho Y, Lee JK, Kim DH, Park JH, Choi M, Kim HJ, et al. Factors associated with quality of life in patients with depression: a nationwide population-based study. PLoS One. 2019;14(7):e0219455. Published 2019 Jul 11. https://doi.org/10.1371/journal.pone.0219455
55. Tedlow J, Fava M, Uebelacker L, Nierenberg AA, Alpert JE, Rosenbaum J. Outcome definitions and predictors in depression. Psychother Psychosom. 1998;67(4-5):266–70. https://doi.org/10.1159/000012290
56. Fava GA. The clinical role of psychological well-being. World Psychiatr. 2012;11(2):102–3. https://doi.org/10.1016/j.wpsyc.2012.05.018
57. Angermeyer MC, Holzinger A, Matschinger H, Stengler-Wenzke K. Depression and quality of life: results of a follow-up study. Int J Soc Psychiatr. 2002;48(3):189–99. https://doi.org/10.1177/002076402128783235
58. Papakostas GI, Petersen T, Mahal Y, Mischoulon D, Nierenberg AA, Fava M. Quality of life assessments in major depressive disorder: a review of the literature. Gen Hosp Psychiatr. 2004;26(1):13–7. https://doi.org/10.1016/j.genhosppsych.2003.07.004
59. Cohen RM, Greenberg JM, IsHak WW. Incorporating multidimensional patient-reported outcomes of symptom severity, functioning, and quality of life in the Individual Burden of Illness Index for Depression to measure treatment impact and recovery in MDD. JAMA Psychiatr. 2013;70(3):343–50. https://doi.org/10.1001/jamapsychiatry.2013.286