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Deficits in Psychological Well-Being and Quality-of-Life in Minor Depression: Implications for DSM-V

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Objective: To examine deficits in psychological well-being (PWB) and quality-of-life (QOL) in minor depressive disorder (Min D).
Method: Ninety-three subjects entering a treatment study for Min D were assessed using the QOL, Enjoyment and satisfaction questionnaire (Q-LES-Q), and the Psychological Well-Being Scale (PWBS). Scores were compared with major depressive disorder (MDD) and normative community samples.
Results: Even though subjects had mild depressive severity, Q-LES-Q total scores for the Min D sample averaged nearly two standard deviations below the community norm. Almost 40% of Min D cases had Q-LES-Q scores in the lowest 1% of the population. Responses to most Q-LES-Q items were closer to subjects with MDD than to community norms. Mean standardized PWB scores were extremely low for subscales of Environmental Mastery and Self-Acceptance, low for Purpose in Life and Positive Relations with others, but within the normal range for Personal Growth and Autonomy. QOL and PWB measures had low correlations with depressive symptom severity, and scores were similar in the presence or absence of a prior history of MDD.
Conclusions: Mild depressive symptoms with Min D are associated with major deficits in QOL and PWB measures of environmental mastery and poor self-acceptance. Our findings suggest that diminished QOL and PWB may be intrinsic cognitive aspects of Min D with or without a history of MDD. It may be unnecessary in the DSM IV-TR to exclude the diagnosis of Min D if a subject has had a past episode of MDD.

- Minor depression exists along a continuum of depression.
- Deficits in psychological well-being and quality-of-life in minor depression are severe.
- No difference in these measures if minor depression existed with or without a history of major depression.

Introduction

Epidemiologic and clinical data suggest that minor depressive disorder (Min D) is a highly prevalent and clinically relevant syndrome [1–11]. In contrast to major depressive disorder (MDD), DSM-IV-TR includes Min D in the appendix and not among the established list of accepted disorders. DSM-IV-TR defines Min D as a syndrome with either persistent depressed mood or decreased interest, and a total of 2 to 4 depressive symptoms, rather than the minimum of 5 that define MDD, along with no history of a previous major depressive episode. Min D has a 1-year prevalence rate between 3.4% and 4.7% [4,6,8,10,12–15] and a lifetime prevalence rate of 7.5% [5].

While, by definition, Min D has fewer than the five DSM-IV threshold symptoms required for MDD, the syndrome of Min D may consist of more than just "milder

than MDD" symptoms. It is possible that the illness burden of Min D lies not in the symptoms *per se*, but rather in deficits of wellness and health. Health has been defined as "a state of complete physical, mental, and social well-being" [16], and not just the absence of disease. In the context of this expanded definition of health, quality-of-life (QOL), and psychological well-being (PWB) are emerging as important issues for understanding the nature of psychiatric disorders and their impact on life, as well as defining optimal goals of treatment.

Clinical studies typically focus on the signs and symptoms of psychiatric disorders and on measures of functional impairment in carrying out life activities. In contrast, QOL generally measures subjective levels of enjoyment and satisfaction with specific aspects of life, as well as overall life satisfaction [16]. It has been useful to assess subjective QOL to understand the burden of psychiatric illness and response to treatment. For example, when antidepressant and placebo responders with panic disorder were compared, antidepressant responders had substantially greater improvement in QOL compared to placebo responders [17].

As a construct distinct from QOL,PWB is a measure of positive aspects of overall experience and resilience [18]. Through a series of cross-validating factor analyses based on a large pool of candidate items and constructs, six well-defined aspects of PWB have been identified: the capacity for warm, satisfying, affectionate, empathic, and intimate relationships (positive relations with others); the subjective sense of mastery and competence in managing one's environment (environmental mastery); a realistic acceptance of oneself, including one's good and bad qualities, along with a positive feeling about one's past life (self-acceptance); a personal sense of purpose, meaning, and goals in life (purpose in life); a feeling of continued growth, development, sense of realizing one's potential, and increasing self-knowledge and effectiveness (personal growth); and the ability to regulate one's behavior based on one's own personal standards rather than on social pressures to think or act in certain ways (autonomy) [19,20]. PWB measures have the potential to elucidate cognitions that could be intrinsic to some disorders (rather than their impacts/outcomes), and may provide alternative therapeutic objectives and outcomes of treatment, beyond symptom reduction.

The purpose of this study is to document the QOL impact of Min D and to expand our understanding of PWB as possible intrinsic aspects of a spectrum of depressive disorders—especially in the less severe or "minor" range based on symptom severity. We hypothesized that Min D would be associated with significant reductions in both QOL and PWB compared to community norms.

Methods

The study was reviewed and approved by the Institutional Review Boards at the Massachusetts General Hospital (Boston, MA), the Cedars-Sinai Medical Center (Los Angeles, CA), and the University of Pittsburgh Medical Center (Pittsburgh, PA). All subjects signed written informed consent prior to study participation. Subjects for this study were recruited and enrolled in a 12-week double-blind randomized study comparing St. John's Wort, citalopram, and placebo. Subjects were recruited through clinical referrals and community advertising. Data presented in this article were obtained at the screening visit, prior to randomization into the clinical trial. These data are from the first 93 consecutive subjects who met criteria to be enrolled in the study.

Minor depression was defined as the presence of two to four symptoms of major depression according to DSM-IV criteria [21], with at least one symptom being depressed mood or anhedonia. Symptoms must have been present for at least 6 months, but not longer than 2 years. Subjects must not have met criteria currently or within 1-year prior to enrollment for major depression or dysthymia, but they could have had a prior history of major depression (in contrast to the DSM-IV-TR definition) or dysthymia. Subjects with organic mental disorders, substance use disorders (current or within 1 year of enrollment), psychotic symptoms or disorders, bipolar disorder, or antisocial personality disorder were excluded. Anxiety disorders did not exclude subjects if they were considered secondary to depression or were currently in remission. Inclusion and exclusion diagnoses were established using the structured clinical interview for DSM-IV (SCID) [22].

Subjects must also have met specific entry criteria on the 17-item Hamilton Rating Scale for Depression (HAM-D) [23], the Global Assessment of Functioning (GAF) scale, and the Medical Outcomes Study 36-item Short-Form scale (MOS) [24]. These criteria were a HAM-D score between 10 and 17, a GAF score of less than 70, and either an MOS Social Functioning subscale score of 75% or less or an MOS Emotional Role Functioning subscale score of 67% or less. The GAF and MOS screening criteria were identical to a previous study of minor depression [4,7], but the previous study did not use a restricted HAM-D score criteria.

Depressive symptoms and illness severity were assessed using the HAM-D, the Inventory of Depressive Symptomatology-Self Report (IDS-SR) and Clinician Rated (IDS-C) scales [25,26], the Clinical Global Impressions Severity Scale (CGI) [27], and the Global Assessment of Functioning (GAF) scale. The IDS-SR and IDS-C are standardized 30-item self-report and clinician-rated depression symptom scales, respectively. A detailed

description of symptoms associated with Min D has been presented in Rapaport et al. [7] and replicated in Howland et al. [28].

Psychosocial and health functioning were assessed using the MOS. The MOS is a standardized 36-item measure, which includes the subscale domains of emotional role function, social function, bodily pain, physical function, physical role function, general health, mental health, and vitality. MOS data from previously published studies of outpatient subjects with major depression [9], minor depression [7], and normal controls [9] have been compared to our data set from Howland et al. [7](33). PWB was assessed by the 84-item version of the PWB scale (containing 14 items for each of 6 scales). For this analysis, PWB scores were created based on the 9-item version of each scale, so that raw scores could be standardized around gender-specific norms obtained from the Wisconsin Longitudinal Study [29]. The Wisconsin Longitudinal Study is the largest and most generalizable community sample with available PWB data—namely, the Wisconsin Longitudinal Study consisting of 8493 individuals who graduated from Wisconsin high schools in 1957. While it did not include a diagnostic assessment, the Wisconsin Longitudinal Study is likely to contain individuals with a full spectrum of current and past psychiatric disorders, in addition to subjects without any history of mental disorder. Schechter and colleagues provide Q-LES-Q scores for a sample of 529 of individuals recruited to serve as comparison (control) groups for studies at the New York State Psychiatric Institute [30]. Not designed to be epidemiologically representative of the community, the sample includes individuals with a full range of current and past psychiatric diagnoses as detailed in the Schecter et al. paper, and is weighted toward current or past mental illness (mostly minor). Those authors found that an individual's current QOL is strongly related to the extent of his or her history of mental illness. In order to avoid comparison to a "super well" sample, data used to standardize Q-LES-Q scores for this study of MinD were drawn from the overall study sample rather from the "Never Mentally Ill" group.

Raw scores are based on item responses ranging from 1 ("strongly disagree") to 6 (" strongly agree("), with some item responses reversed so a higher score represents greater well-being. Nine-item score values each have a possible range of 9–54. One item within each scale was permitted to be missing, in which case the mean of the other eight items was substituted for this item response.

QOL was assessed using the short form of the QOL, enjoyment and satisfaction questionnaire (Q-LES-Q), a 16-item well-validated instrument (consisting of the general activities items within the longer version of Q-LES-Q) that has been used to measure QOL in psychiatric and nonpsychiatric populations [30,31]. Each item is self-rated on a 5-point scale (from 1 = "very poor" to 5 = "very good") indicating how satisfied the individual has been over the past week with 14 specific aspects of his or her life. A separate item assesses medication satisfaction, and an overall summary item measures overall life satisfaction. A total Q-LES-Q score is computed by summing responses to the first 14 items and expressing this as a percent of the maximum possible score based on the number of items answered. Following guidance from the developers of the Q-LES-Q, we used the formula Total = % of maximum score [(raw sum of items 1–14) − (no. of items answered)]/(no. of items answered × 4). This formula effectively reduces raw item responses by −1 in order to yield a possible score ranging from 0% to 100%. This is distinguished from researcher reports based on the raw sum divided by the number of items answered times 5 (i.e., 70 if all items are answered), which has a possible range from 20% to 100% and yields substantially different values in the lower range of satisfaction scores. The original normative sample of $N = 67$ cases [31], which is the source of community data for individual Q-LES-Q items reported in Table 2, has been updated with total score norms based on a larger community sample [30] of $N = 529$ individuals recruited to serve as a comparison group for studies conducted at the New York State Psychiatric Institute. The sample comprises $N = 130$ people with no history of mental illness (24.7%), $N = 274$ with some past minor or more serious (but nonpsychotic) mental illness (51.6%), [or]and 125 with a current nonpsychotic mental illness (23.7%). None of the subjects were currently in treatment for a psychiatric disorder. A mean of 78.3 (SD = 11.3) for the combined sample on the "General Activities" scale of the 93-item Q-LES-Q corresponds to the total% of the maximum possible score based on items 1–14 of the short (16-item) version of Q-LES-Q and was used to compute standardized scores in this study.

For the present article, descriptive statistics were run for key demographic and clinical characteristics of the study group (Table 1). Mean responses to individual Q-LES-Q items were compared to those of patients with MDD drawn from Lydiard et al., 1997 [32], and to community norms (36, 37), based on paired group *t*-tests (Table 2). A probability level of $P = 0.05$ (two-tailed) was used to determine statistically significant group differences. PWB and QOL measures for the Min D sample were standardized around normative community samples (Table 3), and correlations among these measures and depressive symptom severity scales were compiled (Table 4).

Table 1 Demographic and clinical characteristics of $N = 93$ patients with minor depression[a]

Demographics:			
Age	Mean (SD) Mdn [Range]		46.8 (14.7) 46.2 [21–82]
Gender	*N* (%)	Female	43 (46.2)
Race	*N* (%)	White	81 (87.1)
	N (%)	African American	3 (3.2)
		Asian	2 (2.2)
		Hawaiian/Pacific Islander	1 (1.1)
Ethnicity		Did not provide information	6 (6.4)
		Hispanic/Latino	4 (4.3)
Education	*N* (%)	At least some college	90 (96.8)
Marital status[b]	*N* (%)	Married/Living together	33 (36.3)
		Separated/Divorced/Widowed	14 (15.4)
		Never married	44 (48.3)
Employment status	*N* (%)	Currently employed	64 (68.8)
Any comorbid disorder	*N* (%)	Current (nonprimary)	10 (10.8)
	N (%)	Lifetime	29 (31.2)
Clinical rating scales:			
Inventory for depressive symptomatology—clinician rated (30-Item Version) (IDS-C_{30})	Mean (SD) Mdn [Range]		22.0 (4.7) 22.0 [11–34]
Hamilton depression rating scale (17-Item Version) (HAM-D_{17})[c]	Mean (SD) Mdn [Range]		13.3 (2.1) 13.0 [10–18[c]]
Global assessment of functioning (GAF) Scale[d]	Mean (SD) Mdn [Range]		62.6 (5.0) 65.0 [45–69][e]

[a]Based on completed Screen Visit data for $N = 93$ patients meeting all entry criteria for the minor depression treatment trial described in detail in the text.

[b]Two cases have missing data for this item.

[c]HAM-D_{17} of 10–17 was required for entry into the study. Due to a hand-scoring error, one case entered the study with a HAM-D_{17} score of 18.

[d]GAF scale values range from 1 (most severely impaired) to 100 (superior functioning). Ratings of 41–50 represent serious impairment, 51–60 represent moderate impairment, and 61–70 represent mild impairment.

[e]The distribution of GAF scores is negatively skewed as follows: $N = 5$ (5.4%) had a value of 45–50; $N = 8$ (8.6% had a value of 55–59; $N = 19$ (20.4%) had a value of 60; the remaining $N = 61$ (65.6%) had GAF values of 62–69.

Results

Depressive symptoms were mild [mean HAMD-17 = 13.3 (2.1) (Table 1)], and GAF scores [mean = 62.6 (5.0)] reflected mild to moderate symptoms or impairment. Two-thirds of the sample (66%) had GAF scores between 62 and 69. The mean Q-LES-Q total score (raw sum of items 1–14) for the Min D sample was 65.6 (9.5), which approaches the level of MDD (mean of about 57) and is significantly worse than community norm (mean = 83.0). Similarly, mean overall satisfaction (Q-LES-Q item 16) was 2.9 (0.8) for Min D, compared to 2.5 (0.8) for MDD and 4.2 (0.8) for a community sample (Table 2). For satisfaction with physical health, economic status, and ability to get around physically, Min D participants were approximately mid-way between MDD and the norm; for all other Q-LES-Q items (12 of 15 items) they were closer to MDD than to the norm. Despite having "minor" depression, the mean QOL score for the Min D sample averaged nearly two standard deviations below the community norm (mean = −1.94) (Table 3). For 38.7% of Min D cases, the overall Q-LES-Q score was in the lowest 1% of the population ($z \leq -2.33$ relative to community norm), and only 4.3% were as good as or better than the community norm on this measure.

The mean standardized PWB scores for subjects with Min D were extremely low (approximately two standard deviations below community norms) for Environmental Mastery and Self-Acceptance scales, low (1 standard deviation below the norms) for Purpose in Life and Positive

Table 2 Mean response to items of the quality-of- life enjoyment and satisfaction questionnaire (Q-LES-Q) for depressed patients and community norms

	Minor depression ($N = 93$)[b]		Major depressive disorder ($N = 366$)[c]		Community sample ($N = 67$)[d]		Probability of differences (based on two-tailed *t*-test)					
							MinorD vs. MDD			MinorD vs. Norms			MDD vs. Norms		
Q-LES-Q Item[a]	Mean	(SD)	Mean	(SD)	Mean	(SD)	t	df	*P*	t	df	*P*	t	df	*P*
Physical health	3.8	(0.8)	3.2	(0.9)	4.3	(0.7)	5.87	457	<0.0001	4.11	158	<0.0001	9.49	431	<0.0001
Mood	2.9	(0.8)	2.4	(0.8)	3.9	(0.9)	5.38	457	<0.0001	7.40	158	<0.0001	13.83	431	<0.0001
Work	3.1[e]	(0.9)	2.7	(1.0)	3.9	(0.9)	3.26	442[e]	0.001	5.34	143[e]	<0.0001	9.16	431	<0.0001
Household activities	3.0	(0.8)	2.7	(1.0)	3.8	(0.9)	2.68	457	0.008	5.92	158	<0.0001	8.40	431	<0.0001
Social relationships	3.1	(0.8)	2.6	(1.0)	4.1	(0.9)	4.47	457	<0.0001	7.40	158	<0.0001	11.46	431	<0.0001
Family relationships	3.2[f]	(0.9)	2.9	(0.9)	4.2	(0.8)	2.86	456[f]	0.005	7.25	157[f]	<0.0001	11.05	431	<0.0001
Leisure	2.9	(0.8)	2.7	(1.0)	4.1	(0.9)	1.79	457	0.074	8.88	158	<0.0001	10.69	431	<0.0001
Ability to function in daily life	3.3	(0.8)	2.9	(0.8)	4.5	(0.7)	4.31	457	<0.0001	9.86	158	<0.0001	15.33	431	<0.0001
Sexual drive	2.8	(1.1)	2.2	(1.1)	3.9	(1.0)	4.70	457	<0.0001	6.48	158	<0.0001	11.79	431	<0.0001
Economic status	2.9	(1.2)	2.4	(1.1)	3.4	(1.0)	3.84	457	0.0001	2.78	158	0.006	6.93	431	<0.0001
Living/housing situation	3.3[f]	(1.1)	3.0	(1.0)	3.9	(0.9)	2.52	456[f]	0.012	3.66	157[f]	0.0003	6.87	431	<0.0001
Ability to get around physically	4.5	(0.7)	4.1	(0.9)	4.8	(0.5)	3.99	457	<0.0001	3.00	158	0.003	6.19	431	<0.0001
Vision	3.8[f]	(1.0)	3.9	(1.0)	4.7	(0.6)	0.86	456[f]	0.392	6.55	157[f]	<0.0001	6.34	431	<0.0001
Overall sense of well-being	3.0	(0.7)	2.6	(0.9)	4.3	(0.7)	3.99	457	<0.0001	11.59	158	<0.0001	14.67	431	<0.0001
Overall life satisfaction	2.9	(0.8)	2.5	(0.8)	4.2	(0.8)	4.31	457	<0.0001	10.14	158	<0.0001	15.99	431	<0.0001

[a]For each item, respondents rate their level of satisfaction during the prior week, using the following response scale: 1 = very poor; 2 = poor; 3 = fair; 4 = good; 5 = very good. The first 14 items are summed to compute a total Q-LES-Q score.

[b]Screen Visit data for $N = 93$ patients meeting all entry criteria for the minor depression treatment trial described in detail in the text.

[c]Data for $N = 366$ patients with major depressive disorder were drawn from a multicenter treatment trial (32) Subjects were men and women 18 or older without bipolar disorder, schizophrenia or other psychosis, alcohol or substance abuse or dependence, severe personality disorders, significant suicide risk, or clinically significant or unstable medical condition.

[d]The community sample ($N = 67$) consisted of volunteers with no clinically significant current mental or medical illness, who responded to advertisements seeking comparison subjects for studies conducted at the Columbia University School of Medicine (31).

[e]In the minor depression treatment trial, 15 patients subscribed to the added response option "Not applicable; not working" and are excluded from the mean response (which is based on $N = 78$). In other studies, subjects who are not working are asked to rate their satisfaction with this status, and so are included in the mean response.

[f]One subject in the minor depression trial failed to answer this item, resulting in $N = 92$.

Relations with Others, and within 0.5 standard deviation of the community norms for Autonomy and Personal Growth (Table 3).

It is noteworthy that among the third of the sample with the least severe depressive symptom scores (N = 32 or 34.4% with IDS-C scores from 11 to 19), most (N = 26 or 81.2%) were in the lowest 10% of the population on one or more PWB scales—mostly the PWB subscales of environmental mastery (65.6%) or self-acceptance (53.1%), and nearly half (N = 15 or 46.9%) were in

Table 3 Raw and standardized scores on psychological well-being (PWB) scales and quality-of-life enjoyment and satisfaction (Q-LES-Q) total score for $N = 93$ patients with minor depression

	Raw scores	Standardized scores (around community norms)				
Scale	Mean (SD) [range]	Mean (SD) [range]	% Equal to or better than norm $z \geq 0$	% In worst 10% of pop. $z \leq -1.28$	% In worst 5% of pop. $z \leq -1.64$	% In worst 1% of pop. $z \leq -2.33$
Psychological well-being (Pwb) scales, 9-Item version:[a]						
Environmental mastery	31.0 (7.5) [14 to 53]	**−2.07** (1.22) [5.05 to +1.54]	4.3%	75.3%	66.7%	35.5%
Self-acceptance	30.3 (8.1) [13 to 54]	**−1.87** (1.16) [−4.47 to +1.57]	4.3%	66.7%	60.2%	31.2%
Purpose in life	35.1 (6.6) [19–50]	**−1.28** (0.97) [−3.77 to +0.91]	10.8%	50.5%	37.6%	14.0%
Positive relations with others	34.7 (9.1) [16 to 56]	**−1.02** (1.35) [−3.99 to +2.24]	22.6%	43.0%	33.3%	17.2%
Personal growth	40.7 (5.7) [26 to 52]	**−0.41** (0.86) [−2.57 to +1.25]	36.6%	19.4%	7.5%	2.2%
Autonomy	38.8 (8.4) [15 to 61]	**−0.39** (1.29) [−4.35 to +2.83]	46.2%	22.6%	16.1%	6.5%
Quality-of-life enjoyment & satisfaction questionnaire (Q-LES-Q):[b]						
Total% of max. possible score (Items 1–14)	56.2 (12.4) [17.3 to 94.6]	−1.94 (1.08) [−5.36 to +1.42]	4.3	69.9	60.2	38.7

Table 4 Quality-of-life enjoyment and satisfaction questionnaire (Q-LES-Q) and psychological well-being scale scores comparing min D patients with vs. without a history of major depressive disorder

	Past MDD ($N = 25$)		No past MDD ($N = 68$)				
Scores	Mean	(SD)	Mean	(SD)	t	df	*P*
Q-LES-Q score							
(Total% of max. possible score for items 1–14), standardized around community norms	−2.15	(1.30)	−1.87	(0.99)	1.11	91	0.269
PWB scale scores							
Nine-item version, standardized around community norms (within gender):							
Environmental mastery	−2.24	(1.29)	−2.01	(1.20)	0.82	91	0.415
Self-acceptance	−2.17	(1.37)	−1.76	(1.06)	1.52	91	0.133
Purpose in life	−1.46	(1.12)	−1.22	(0.91)	1.09	91	0.278
Positive relations with others	−0.76	(1.44)	−1.12	(1.31)	−1.13	91	0.260
Personal growth	−0.41	(0.83)	−0.41	(0.88)	0.00	91	0.997
Autonomy	−0.18	(1.16)	−0.46	(1.34)	−0.95	91	0.346

the lowest 10% of the population on Q-LES-Q based oncommunity norms. Q-LES-Q and WBS scores were similar for the 25 Min D patients (26.9%) with a past history of MDD versus the 68 (73.1%) without past MDD (Table 4).

Correlations between depressive symptom severity and the six psychological well-being scales were all very low ($r = -0.06$–0.29), and Q-LES-Q measures of overall well-being and life satisfaction had moderately low correlations with depressive symptom severity ($r = -0.16$–0.45)) (Table 5), indicating that PWB and QOL share little common variance (at most 20%) with MinD symptom severity. PWB measures of environmental mastery and self-acceptance had modest correlations ($r = 0.60$–0.56, respectively) with overall Q-LES-Q scores (% of maximum possible score); other PWB scales had lower correlations with this QOL measure ($r = 0.1$–0.47).

Table 5 Intercorrelations among depression symptom severity, psychological well-being, and quality-of-life enjoyment and satisfaction measures for $N = 93$ patients with minor depression

	Depression		Well-being scales						Q-LES-Q		
Scale or item	IDS-C	HAM-D	Envir. mast.	Self-accept.	Purp. life	Pos. relat.	Pers. growth	Auto-nomy	% of Max.	Well being Item	Satis-faction Item
Depression symptom severity scales:											
IDS-C_{30}	1.00										
HAM-D_{17}	0.70	1.00									
Psychological well-being scales (PWBS):[a]											
Environmental mastery	−0.18	−0.22	1.00								
Self-acceptance	−0.19	−0.16	0.62	1.00							
Purpose in life	−0.19	−0.18	0.46	0.50	1.00						
Positive relations	−0.16	0.02	0.31	0.47	0.22	1.00					
Personal growth	−0.14	−0.06	0.26	0.42	0.47	0.49	1.00				
Autonomy	−0.29	−0.19	0.41	0.48	0.37	0.25	0.29	1.00			
Quality-of-life enjoyment & satisfaction questionnaire (Q-LES-Q):											
Total% of max. possible[a]	−0.45	−0.36	0.60	0.56	0.40	0.27	0.11	0.47	1.00		
Overall well-being, item 14[b]	−0.44	−0.37	0.43	0.43	0.28	0.26	0.05	0.29	0.75	1.00	
Life satisfaction, item 16[b]	−0.31	−0.16	0.43	0.41	0.25	0.22	−0.04	0.28	0.65	0.61	1.00

[a]Score computed and standardized as described in Table 3, footnotes a. and b.

[b]Original item response as described in Table 2, footnote a.

Discussion

In this sample of clinical trial participants with minor depression, we found major deficits in QOL and PWB in the presence of mild depressive symptoms. QOL measures of satisfaction with specific areas of one's life, as well as overall life satisfaction, were well below community norms and approached the level of impairment found in MDD. The observation that nearly 40% of participants with Min D had QOL scores in the lowest one percentile of the general population, while less than 5% had total Q-LES-Q scores at or above the community norms, underscores the powerful impact of Min D on QOL.

The most severe deficits in PWB were in areas of environmental mastery and self-acceptance, followed by deficits in assessments of the purpose in life and positive relations with others subscales. Personal growth and autonomy subscale scores were closer to community norms. Whether the lack of a sense of environmental mastery is a cause or the result of Min D cannot be determined from these data, but the strong association found in this study points to psychotherapeutic interventions that focus on restoring a feeling of control of one's environment. Problems with self-acceptance may reflect an internal dialogue of self-criticism commonly observed in depressed individuals. This is another facet of a mood disorder that frequently is amenable to psychotherapy. At this time, we do not know if low environmental mastery and poor self-acceptance are intrinsic cognitive aspects of Min D rather than the result or impact of having Min D. Further, research is needed to determine how these two measures change with treatment to depressive symptom severity. In addition, it would be of clinical and heuristic interest to compare and contrast the effects of pharmacotherapy and psychotherapy on these measures in patients with Min D.

The lesser but still substantial deficits in Min D on PWB subscales assessments of purpose of life and positive relations with others found in this study may reflect the relative preservation of a sense of purpose coupled with feeling unable to achieve that purpose because of the lack of environmental mastery—a setup for ruminative depressogenic learned-helplessness thinking and a persistent feeling of failure. A diminished sense of positive relations with others contrasts with the far greater lack of self-acceptance—perhaps with Min D, one can feel unlovable but with a sense of gratitude towards those who remain positively connected. The similarity of PWB measures of personal growth and autonomy in Min D with community norms is intriguing and may point to areas of difference from MDD. The community samples used to standardize data for the current MinD group are likely to represent a broad spectrum in terms of psychiatric status, rather than "super well" samples. Thus, we believe that the extraordinarily large standardized scores for environmental mastery, self-acceptance, and QOL validly reflect the concurrent minor depressive disorder.

Another finding from this study that bears closer examination in another cohort is the correlation between total Q-LES-Q scores and the PWB measures of environmental mastery and self-acceptance. Although it may appear self-evident that individuals who lack a sense of control over their environment might perceive the richness of their lives to be diminished, the complexity and directionality of this relationship needs to be more fully investigated.

Our findings are consistent with other studies that examine aspects of the burden of Min D beyond symptoms. Min D has been associated with increased emergency department visits, increased visits to medical practitioners for emotional health reasons, increased days lost from work, increased marital problems, increased days in bed, decreased emotional health, decreased work efficiency, and decreased social functioning [1,2,5,6,9–11]. Follow-up studies suggest that Min D increases the likelihood of developing future MDD [1,3,11,33] and even in cases where Min D does not lead to MDD, patients have multiple recurrent disabling episodes [5]. Since Min D can also be the outcome of MDD, true recovery should not only include the complete resolution of depressive symptoms (remission), but also the full restoration of QOL and maximal PWB [34,35]. The results overall highlight the difficulties to identify a border between minor depression, residual symptoms and subthreshold phenomenology.

Departing from DSM-IV-TR by including patients with a past history of MDD (prior to the past year) within the definition of Min D for this study does not appear to account for the striking impact of Min D on QOL and PWB, since we found no significant difference in life satisfaction or PWB scores for those with compared to those without past MDD. Combined with the absence of significant differences in depression severity or functional impairment scores based on MDD history, previously reported for this sample [28] as well as for an earlier treatment study [7], these findings suggests that a prior history of MDD should not be an exclusion for a diagnosis of Min D, as it is in DSM-IV-TR.

One limitation of this study is that these data come from a sample of subjects recruited to participate in a clinical trial. Additionally, these subjects had to meet rather rigorous criteria for Min D that included a minimal level of dysfunction (i.e., a GAF score of less than 70, and either an MOS Social Functioning subscale score of 75% or less or an MOS Emotional Role Functioning subscale score of 67% or less). The latter two requirements were an attempt to explicitly operationalize the DSM-IV-TR appendix criterion 2a for Min D—that is, "the symptoms [must] cause clinically significant distress or impairment in social, occupational, or other important areas of functioning." Despite this limitation, the low QOL finding is consistent with previous findings [7] as well as recent findings about Min D in the medical literature (42). Another limitation is that the measures of PWB were compared to a sample reported in the literature and was not done directly. To the best of our knowledge, this is the first study to systematically measure PWB in subjects with Min D, revealing deficits in PWB that could be intrinsic to the disorder. It is clear all of these findings merit replication in other cohorts of patients with MinD.

In summary, the results of this study support the hypothesis that Min D exists along a spectrum of depression, with measures of QOL and PWB closer to MDD than to community norms. These findings add to the literature suggesting that it may be unnecessary in the DSM IV-TR to exclude the diagnosis of Min D if a subject has had a past episode of MDD. Our findings also suggest that, in addition to relieving depressive symptoms, specific interventions targeting underlying deficits in QOL and PWB (and using these measures as outcome variables), might enhance treatment outcomes of individuals with Min D.

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Conflict of Interest

The authors have no conflict of interest.

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