Evaluation of psychosocial functioning in the acute treatment term of major depressive disorder: A 16-week multi-centered follow-up study

Neslihan Altunsoy a,b,*,1, Didem Sücüllüoğlu Dikici c, Fikret Poyraz Çökmüncü c, Hüseyin Murat Özkan d,e, Kadır Aşçibaşı f, Deniz Alçı g, Erkan Kuru a, Serra Yüzeren h, Ömer Aydemir i

ARTICLE INFO

Keywords:
Antidepressive agents
Depression
Depressive disorder
Psychosocial functioning
Quality of life

ABSTRACT

Objective: Major depressive disorder is the leading cause of non-fatal burden, and disability in adulthood. Even though depression is well-treated in the acute term, psychosocial functioning does not get back to the premorbid level most of the time. In this present study, it is aimed to evaluate the outcome of the acute term treatment of major depressive disorder in terms of psychosocial functioning.

Methods: The study is an open-label, observational, multi-center follow-up study for four months of patients with major depressive disorder according to DSM-5. Patients were evaluated with Montgomery Asberg Depression Rating Scale (MADRS), Sheehan Disability Scale (SDS) and Short Form-36 (SF-36) at the beginning, and at the 2., 4., 8., 12. and 16. weeks.

Results: 100 patients were invited to the study and 56 patients completed the study. As a result of the treatment, the mean MADRS and SDS scores decreased significantly. All domains of SF-36 were improved significantly with the treatment. Unfortunately patients suffering from MDD could not reach the normative data, especially on the domains of social functioning, role emotional, pain, and general health perception. Treatment outcomes show that SNRI users presented higher scores on the domains of pain and physical functioning. However SSRI users showed better outcomes on the domains of mental health and vitality.

Conclusion: Our research corroborated that even patients gain symptomatic remission in MDD treatment, psychosocial dysfunction persists. It is also concluded that different antidepressant options may act differently on treatment outcomes.

1. Introduction

Psychosocial functioning can be defined as the psychological factors and the social environment being in harmony and that both domains are not aggressive in a way one impairs the other. This concept is composed of subdomains like psychological well-being, resisting emotional distress, social curiosity, fulfilling social roles, relationship with the outer world, curiosity about hobbies, and self-evaluation (Northen and Kurland, 2001). The other important concept in this field is the quality of life, which evaluates patients’ subjective satisfaction, well-being, functioning, and disability. It is accepted that the deterioration in psychosocial functioning is a vital determinant in mental disorders and
evaluation of the treatment response (McKnight and Kashdan, 2009).

Depression is a clinically heterogeneous disorder that is consisted of cognitive, emotional, and physical impairment. Major Depressive Disorder (MDD) impairs various areas such as home life, work-life, friends and family relationships, interest in leisure activities, and many cases seriously affects self-care and independent living capacity (Fried and Nesse, 2014). Among the causes of disability, unipolar depression ranks first place in developed countries and fourth place in the world (Murray and Lopez, 1997). The studies carried out in the 1950s and 1960s focused on reducing the severity of depressive symptoms due to treatment. However, while some patients with high disease symptoms can maintain their work and social lives at a relatively good level, some patients with severe symptom frequency and low severity have been found to suffer from severe disability. These findings indicated that a thorough assessment of depression should incorporate the degree of functional impairment and disability in addition to a symptom count (National Institute for Health and Care Excellence, 2009). After DSM-III (American Psychiatric Association, 1980), the patient’s compliance in the field of social relations, occupation, and leisure time had been a separate axis. Axis V of the DSM-III and DSM-IV included the option of providing a Global Assessment of Functioning (GAF) rating (Aas, 2010). Finally, DSM-5 (American Psychiatric Association, 2013) has adopted a nonaxial documentation of diagnosis, with independent disability ratings. In the DSM-5, the American Psychiatric Association recommended that physicians utilize the World Health Organization Disability Assessment Schedule (WHODAS 2.0) as a measure of impairment instead of the GAF.

There are discrepancies in measuring the depression status based on the perspective when evaluating treatment goals for depression. Remission is generally defined narrowly in depression treatment studies, for example, based on scores on symptom severity measures. Patients in clinical practice, on the other hand, define remission in a broader sense and regard functional status, coping capacity, and life satisfaction to be important markers of remission status (Danner et al., 2011; Zimmerman and regard functional status, coping capacity, and life satisfaction to be important markers of remission status (Danner et al., 2011; Zimmerman et al., 2012a, 2012b). About half of depressed patients with symptom remission do not consider themselves in remission (Hawley et al., 2002; Nierenberg and DeCecco, 2001), and the patients reported ‘remission’ as firstly regaining positive emotions (optimism, self-confidence), then subsequently returning to ‘normal’ self, returning to the average functioning level and lastly having no depressive symptoms (Sheehan, 2016). Treatment success increasingly includes more than symptomatic improvement, with full functional recovery as the ultimate goal - a shift that reflects the growing significance of taking the patient’s perspective into account when making treatment decisions (Saltiel and Silvershein, 2015).

The previous work on treatment outcomes of depression has shown that there is an increase in the quality of life and psychosocial functioning of patients who respond to or improve after treatment, but it does not rise to a premorbid or standard level in almost all areas (Correll et al., 1993; Greer et al., 2010; Kennedy et al., 2007). In order to emphasize the importance and persistence of psychosocial dysfunction observed in MDD, we aimed in this study to evaluate the psychosocial dysfunction of patients with MDD and assess how the acute treatment of major depressive disorder affected their psychosocial functioning and examine the possible difference in the quality of life measurements according to antidepressant types.

2. Material and methods

2.1. Patients and settings

The research was intended as a 16-week multi-centered follow-up study that took place in outpatient clinics at five mental hospitals or units of general hospitals in Ankara, Bahcesir, Tekirdag, Izmir, and Manisa, representing a variety of clinical settings in Turkey, from June 2018 to February 2019. Outpatients who met criteria for a current major depressive episode according to the Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5) and were medication-free for at least two weeks were eligible for consecutive enrollment in this 16-week, open-label, multi-centered, follow-up study.

The study’s inclusion criteria were that participants be between the ages of 18 and 65, have at least a basic school education, comprehend and follow the study’s instructions, and have no psychotic characteristics according to the DSM-5. At each location, therapy was chosen based on depression treatment guidelines and the psychiatrist’s preference. All of the psychiatrists in each center were educated about the essential parts of the treatment protocol, which included i) not prescribing any medications other than antidepressants during the study period; the only exception was zopiclone, which was allowed to be used for sleep disturbances for a limited period, for the first two weeks; ii) visit schedule was planned as on the 2., 4., 8., 12., 16. weeks after the screening visit, iii) greater than or equal to 50% improvement in pretreatment MADRS (Montgomery Asberg Depression Rating Scale) score was accepted as a response, indicating no need for augmentation or increase in medication dosage; iv) when patients achieved less than 50% improvement in pretreatment MADRS scores, medication dosages were increased or augmented with/switched to another antidepressant depending on the psychiatrist’s choice based on the treatment guidelines of depression at the end of the 4th-week visit.

Patients with a high risk of suicide, unstable severe medical illness, concomitant bipolar disorder, schizophrenia, schizoaffective disorder, or any other mental illnesses linked to medical conditions or drug abuse were excluded. During the screening visit, all enrolled patients signed a written informed consent form. Experienced psychiatrists conducted the screening visit. In our group, training in the use of instruments such as the MADRS was performed with peer review of videotaped interviews. In the screening visit and on the next 8. and 16. visits, MADRS, Sheehan Disability Scale (SDS), and Short Form 36 were administered. The MADRS was administered during all study visits. No control group was designed for this study. Normative data were derived from the Health Survey of SF-36 for Turkey (Demiral et al., 2006).

The study protocol was approved by the Ethics Committee of Manisa Celal Bayar University School of Medicine (Ethics committee of Manisa Celal Bayar University approval: 26/06/2019-E.51965). The study protocol was prepared in compliance with the Declaration of Helsinki, as well as the Turkish ethical norms and laws. Each patient gave their informed consent. This research did not gather any personally identifiable information or pictures. The authors declare that they have no competing interests.

2.2. Measures

A standard data collection form created for this study was used to capture essential demographic and clinical information.

2.2.1. Montgomery-Asberg Depression Rating Scale (MADRS)

The Montgomery-Asberg Depression Rating Scale (MADRS) was used in order to evaluate the severity of depressive symptoms (Montgomery and Asberg, 1979). It consists of 10 items, total score can be between 0 and 60 and each item is rated on a 7-point scale (from 0 to 6) by physicians. A higher score signifies a more severe disease. Response on the MADRS scale was defined as a greater than 50% reduction in scores. Remission was defined as a score of less than ten on the MADRS (Kara Ozer et al., 2001).

2.2.2. Sheehan Disability Scale (SDS)

The Sheehan Disability Scale (SDS) and Short Form Health Survey – 36 (SF-36) were used to assess psychosocial function, or the ability to perform at work, in social situations, and at home (Sheehan et al., 1998; Ware and Sherbourne, 1992). Patients fill out the SDS to report the intensity of their impairment during the preceding seven days in three
areas: job, social life, and family life/home obligations. The scale measures how much these domains have been disrupted as a result of the symptoms. Each component is graded on a scale of 0 (no disability) to 10 (extreme disability), and the scores are added together to produce a single-dimensional measure of global psychosocial function that runs from 0 (unimpaired) to 30 (highly impaired).

2.2.3. Short Form Health Survey – 36 (SF-36)

Short-Form Health Survey (SF-36) (Köçyiğit et al., 1999; Ware and Sherbourne, 1992) is a self-report inventory. Physical Functioning, Physical Role Functioning, Bodily Pain, General Health, Vitality, Social Functioning, Emotional Role Functioning, and Mental Health are the eight subscales of the Short-Form Health Survey (SF-36). The scale values range from 0 to 100, with higher scores indicating better-perceived health and function.

2.3. Statistical analysis

Psychosocial Functioning measures at the baseline, Week 8 and Week 16 visits were compared within the group using paired T-Test. To evaluate the outcome measures of SF-36 at the end of the study and compare it with healthy controls, normative data were used in comparison with T-Tests. Continuous variables were given as a medium ± standard deviation (SD). Categorical variables were stated as frequency and percentages. Kruskal Wallis test was used to compare psychosocial functioning means of patients according to which treatment was used (SSRI, SNRI, multimodal) since data for antidepressants were not normally distributed. Congruity of data with normal distribution was evaluated using the Kolmogorov-Smirnov test. Statistical level of significance was acknowledged as p < 0.05.

3. Results

3.1. Sociodemographic and clinical variables

The study enrolled 98 participants out of a total of 100. Sixty-five patients were fully provided at Week 8 visit and 56 at Week 16 visit. Those patients were who achieved response or remission at that visit. Participants who discontinued participation before those assessment timepoints were lost to follow-up or were non-responders. The mean age was 34.9 ± 10.6 years, with females accounting for 70.4% of the population. The average length of illness was 4.1 ± 5.2 years, with a total of 2.3 ± 4.2 prior depressive episodes and a mean duration of 5.85 ± 6.1 months for the most recent episode Table 4.

The MADRS score was 30.4 ± 6.6 at the first visit, but by the fourth month, it had dropped considerably to 5.4 ± 4.7 (p < 0.0001). When we look for response and remission rates, 89.2% of patients responded to the treatment, whereas 35.4% showed remission on the 8th week of treatment. The rates were 96.4% and 73.2% on the 16th week of the antidepressant treatment. Response and remission rates are summarized in Table 1.

3.2. Comparison of psychosocial functioning variables with community standard values in follow-up

All domains of the SF-36 were also better at the posttreatment evaluation compared to baseline scores, as evidenced in the comparison of pre and posttreatment MADRS scores. Table 2 shows all adjusted means from baseline to Week 8 and Week 16 for each psychosocial functioning outcome measure. Statistically significant improvements were detected even when the measures were compared in the 8th week of treatment. Only the improvement in the social functioning domain of SF-36 at week 8 was moderate but significant (p = 0.006) in comparison with other domains’ improvements (p < 0.0001). As expected, all domains of SF-36 were improved significantly both in the 8th week and 16th week of treatment. Comparably, the mean score of SDS dropped to 4.75 ± 5.6 in the 16th week of treatment (p < 0.0001). When from baseline to the 8th-week changes and from eighth to 16th-week changes of SF-36 domains and SDS were compared, from baseline to eighth week changes were far more significant than from 8th to 16th-week changes for each domain. When the measures at the 16th week of treatment were compared with normative data, normative data of each domain was likely to be greater than the means of patients. Patients suffering from MDD could not reach the normative data, especially on the domains of social functioning (T:−5.72, p < 0.0001), role emotional (T:−2.83, p = 0.006), pain (T:−3.15, p = 0.003), and general health perception (T:−4, p < 0.0001).

3.3. Effect of treatment options on psychosocial functioning

41.8% of patients were treated with an SSRI, 40.8% with an SNRI, and 13.3% with a multimodal antidepressant. Functioning outcome measures (SDS and SF-36), depending on which antidepressant was used, SSRI or SNRI, show that on the domains of pain and physical functioning, SNRI users presented higher scores than SSRI users, even better than normative data on a physical functioning domain. On the other hand, SSRI users showed higher improvement in the domains of mental health and vitality. Unfortunately, these differences were not statistically but only numerically significant (Table 3).

4. Discussion

The main focus of this study was to examine psychosocial functioning in MDD patients and evaluate acute term treatment outcomes. It has been previously shown that antidepressant treatment in major depressive disorder is accomplished with a significant improvement in the quality of life and functioning, in line with an improvement in

---

**Table 1** Response and Remission Rates.

<table>
<thead>
<tr>
<th></th>
<th>2.week</th>
<th>4.week</th>
<th>8.week</th>
<th>12.week</th>
<th>16.week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
<td>%35.9</td>
<td>%70.8</td>
<td>%89.2</td>
<td>%96.7</td>
<td>%96.4</td>
</tr>
<tr>
<td>Remission</td>
<td>%6.4</td>
<td>%18.1</td>
<td>%35.4</td>
<td>%57.4</td>
<td>%73.2</td>
</tr>
</tbody>
</table>

**Table 2** Comparison of Psychosocial Functioning Variables in Follow-Up and Community Standard Values.

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>8.week</th>
<th>16.week</th>
<th>Standard Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>69.3</td>
<td>83.1</td>
<td>85.5</td>
<td>86.6 ± 25.2</td>
</tr>
<tr>
<td>Functioning</td>
<td>(22.6)</td>
<td>(16.9)</td>
<td>(23.8)</td>
<td>0.74</td>
</tr>
<tr>
<td>Role Physical</td>
<td>42.6</td>
<td>71</td>
<td>85.1</td>
<td>89.5 ± 29.6</td>
</tr>
<tr>
<td>Bodily Pain</td>
<td>(41.8)</td>
<td>(38.2)</td>
<td>(29.2)</td>
<td>0.497</td>
</tr>
<tr>
<td>Bodily Pain</td>
<td>58.2(24)</td>
<td>69</td>
<td>76.1</td>
<td>86.1 ± 2</td>
</tr>
<tr>
<td>General Health</td>
<td>32.5</td>
<td>54.3</td>
<td>64.7</td>
<td>73.9 ± 4</td>
</tr>
<tr>
<td>General Health</td>
<td>(21.3)</td>
<td>(20.4)</td>
<td>(19.2)</td>
<td>0.003</td>
</tr>
<tr>
<td>Vitality</td>
<td>25.8(16)</td>
<td>53.8</td>
<td>64.6</td>
<td>67.0 ± 13.8</td>
</tr>
<tr>
<td>Social</td>
<td>39(22.8)</td>
<td>69.4</td>
<td>80.6</td>
<td>94.8 ± 2</td>
</tr>
<tr>
<td>Social</td>
<td>(77)</td>
<td>(77)</td>
<td>(19.6)</td>
<td>0.001</td>
</tr>
<tr>
<td>Role Emotional</td>
<td>12(23.9)</td>
<td>47.4</td>
<td>80.1</td>
<td>94.7 ± 0.8</td>
</tr>
<tr>
<td>Mental Health</td>
<td>31(13.3)</td>
<td>57.1</td>
<td>68.4</td>
<td>73.5 ± 11.6</td>
</tr>
<tr>
<td>Mental Health</td>
<td>(21.3)</td>
<td>(33.3)</td>
<td>(19.4)</td>
<td>0.086</td>
</tr>
<tr>
<td>SDS</td>
<td>18.3(5.3)</td>
<td>9.2(6.4)</td>
<td>4.75</td>
<td>(5.6)</td>
</tr>
</tbody>
</table>

**p < 0.05,** **a p < 0.001 (a and b show the results of comparison with the baseline score)**

SDS: Sheehan Disability Scale

p shows the result of comparison between 16.week values and Community Standard Values
we need to discuss whether this regained psychosocial functioning was depression according to the Hospital Anxiety and Depression Scale in six months. In the FINDER study, the comparison of quality of life measurement outcomes of different antidepressants in MDD. The FINDER study was conducted in a total of 3468 patients with MDD.

<table>
<thead>
<tr>
<th>Table 3</th>
<th>The comparison of quality of life measurement outcomes of different antidepressants in MDD.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF-36</td>
<td>SSRI(^a) (n:23)</td>
</tr>
<tr>
<td>Physical Functioning</td>
<td>24.76</td>
</tr>
<tr>
<td>Role Physical</td>
<td>26.39</td>
</tr>
<tr>
<td>Bodily Pain</td>
<td>24.15</td>
</tr>
<tr>
<td>General Health</td>
<td>26.33</td>
</tr>
<tr>
<td>Vitality</td>
<td>30.63</td>
</tr>
<tr>
<td>Social Functioning</td>
<td>26.72</td>
</tr>
<tr>
<td>Role Emotional</td>
<td>27.96</td>
</tr>
<tr>
<td>Mental Health</td>
<td>30.48</td>
</tr>
<tr>
<td>SDS</td>
<td>23.85</td>
</tr>
</tbody>
</table>

SSRI: Selective serotonin reuptake inhibitor
SNRI: Serotonin and norepinephrine reuptake inhibitor
SDS: Sheehan Disability Scale

\(^a\) Mean Rank values are written down and Kruskal Wallis was used.

In the depression studies, one of the main focuses is the type of antidepressant treatment. The findings of Reed et al. (2009) suggest better results with the treatment, including SSRI, instead of SNRI, in SF-36 MCS (mental component study). They also concluded that the positive effects in comparison with no treatment were greater in SSRI’s than ‘other’ drugs, SNRIs, TCAs, and combinations (Reed et al., 2009). In our study, even the results were statistically insignificant; in the mental health dimension and vitality dimension, SSRI’s proved to be more effective than SNRIs. This may be due to the smoother adverse reaction profiles of SSRIs, which are prescribed by psychiatrists more commonly, especially in less severe cases (Sobieraj et al., 2019). On the other hand, we found that in the parameters of pain, physical functioning dimension, and general health perception dimension SNRIs are significantly more effective than SSRIs. It can be deduced from these results that SNRIs are better in the treatment of pain. Previous work indicates that SNRIs are better in the treatment of pain and SNRI monotherapy receivers experienced higher pain severity and lower quality of life than SSRI patients at baseline (Ang et al., 2009). We can conclude that SNRIs are chosen by psychiatrists for more severe cases. This may be the substantial explanation for the difference detected between SF36 improvements of patients grouped according to antidepressant types.

It was noticed that depression implies a persisting deterioration in social functioning and quality of life. Residual psychosocial dysfunction in depression has been associated with poor prognosis and high rates of relapse and recurrence (Vittegl et al., 2009). As a result, functional recovery is becoming the target in demand in the treatment of major depression.

Our study is limited by several factors. First, our sample size is small; since the sample of our research accounts for the number of participants who responded to treatment or were healed, these rigid rules decreased the number of participants. In choosing patients not to show bias, we excluded the treatment-resistant patients, which was a reason for our small sample size. Secondly, we could not detect the premorbid psychosocial functioning levels of the patients. As a result, we could not evaluate whether the patients could regain their premorbid levels, but we compare the regained levels with community standards. Since there has not been a power analysis according to the medication groups, generalizations are discouraged; nevertheless, we can deduce that SSRI’s seem to yield better results than the other medication.

Our longitudinal research showed that even symptomatic remission is reached in the treatment of MDD, psychosocial dysfunction persists. To this date, there is not any consensus about which treatment strategies can be applied in the treatment of psychosocial dysfunction of MDD patients. With the new comprehensive studies, we must specify which treatment strategies may successfully achieve functional remission in MDD.
Finally, it may be concluded that in our daily routine, we must assess every MDD patients’ psychosocial functioning and try to improve their psychosocial functioning even if they are in remission.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgment

Not applicable.

Financial disclosure

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References