Defense Mechanisms in Endogenous Depression

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ÖZET
Endojen Depresyonda Savunma Mekanizmaları
Savunma mekanizmaları psikiyatrik tanılar ile doğrudan ilişkili olabilir. Özellikle immatür savunma mekanizmaları ile depresyon arasında ilişki tanımlanmıştır. Bu çalışmanın amacı, endojen ve endojen-olmayan depresyonda kullanılan savunma mekanizmalarının farklı olup olmadığını belirlemektir. Çalışma örneklemi tedavi almayan 92 majör depresif bozukluk (MDB) olgusu (endojen tip: 46 ve endojen-olmayan tip: 46) ve 40 sağlıklı kontrol olgusundan oluşturulmuştur. Katılan her hastada MDB tanısı, eğitimli görüşmeciler tarafından uygulanan, DSM-IV için Yapılandırılmış Klinik Görüşme Formunun (SCID-I) Türkçe versiyonu ile doğrulanmıştır. Depresyon endojenliğinin değerlendirmesi Newcastle Depresyon Tanı Ölçeği ile yapılmıştır. Savunma mekanizmaları Savunma Biçimleri Testi-40 ile ölçülmüştür. İmmatür savunma mekanizmalarının sağlıklı bireyleri depresyon olgularından ve endojen olguları endojen-olmayanlardan ayırt ettirdiği gösterilmiştir. Analizler; endojenitenin pasif saldırganlık, dışa vurma, izolasyon, otistik fantezi, rasyonalizasyon ve somatizasyon ile karakterize olduğunu göstermiştir. Ayrıca, immatür savunmaların toplam puanları ile endojen grupta depresyonun şiddeti arasında pozitif bir korelasyon saptanmıştır. Çalışmanın sonuçları endojen ile endojen-olmayan depresyon tanıları arasında kullanılan savunma mekanizmaları yönünden farklılık olduğunu göstermiştir. Özellikle endojen-olmayan depresyonla karşılaştırıldığında endojen depresyon hastalarında immatür savunma mekanizmaları daha fazla kullanılmıştır.

Anahtar Kelimeler: *Endojen depresyon, endojen-olmayan depresyon, savunma mekanizmaları*

SUMMARY

Defense mechanisms may be directly related to psychiatric diagnoses. There is an association between depression and maladaptive defenses, especially, the immature defenses. The aim of this study was to evaluate the defense mechanisms used by endogenous and non-endogenous patients by comparing those used by controls. The sample was composed of 92 treatment-naive patients with major depressive disorder (MDD; 46 endogenous type and 46 non-endogenous type) and 40 controls. The diagnosis of MDD in each participating patient was confirmed by means of the Structured Clinical Interview for DSM-IV, Turkish version, conducted by trained interviewers. Endogeneity of depression was assessed with Newcastle Depression Diagnostic Scale. Defense mechanisms were evaluated by using the Defense Style Questionnaire 40. Immature defense mechanisms differentiated controls from all patients as well as they distinguished endogenous depressive patients from non-endogenous patients. The analyses indicated that endogeneity is characterized by passive-aggression, acting out, isolation, autistic fantasy, rationalization and somatization. Additionally, total scores of the immature defenses had a positive correlation with severity of depression in the endogenous group. The results of the present study showed evidence of some differences in defense mechanisms among endogenous depression and non-endogenous depression diagnoses, specifically the maintenance of a high immature defense style in endogenous depression patients when compared with non-endogenous depression patients.

Key words: *Endogenous depression, Non-endogenous depression, Defense mechanism*

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Introduction

Current definitions of defense mechanisms highlight their function in emotional regulation processes. According to DSM-IV defense mechanisms are described as autonomic psychological processes that protect individuals against internal and external threatening situations and the individuals are generally unaware of them (1). These mechanisms play important roles in personality development and adaptation to the environment and they protect the individual from internal conflict and affective distress.

Defense mechanisms have long been at central of understanding personality and psychopathology (2). According to Anna Freud (3), everyone uses a characteristic defense pattern. The question of whether defense styles can be used in a specific sense to predict particular disorders is an issue that has been investigated in only a preliminary manner. It is likely that a more detailed analysis of the relationship between specific defense styles and particular disorders will provide further information in answering this question. In this context, the relation between defense mechanisms and psychiatric diagnoses has been studied for many years. However, data relating the defense styles to particular mental disorders are contradictory. Bond and Vaillant (4) found in their study that the defense styles of the 16 depressed patients did not differ significantly from those of the normal controls. Smith et al. (5) did not find any differences in their defense styles between the patients with eating disorder and depression. Bond stated that defense mechanisms should be considered as reflections of psychopathology rather than a causative factor (6) On the other hand, controlled trials of patients with borderline personality disorder (7), anxiety (8), depression (9) and eating disorders (10) have revealed that subjects with psychiatric illnesses use immature defense mechanisms more common while healthy individuals commonly use mature ones.

Theories of depression indicate the patients' difficulties about self-esteem regulation and guilt about aggression. In depression, guilt primarily turns toward the self or managed by immature defense mechanisms (11). Studies of ego defense styles have found that patients with depression uses immature defense mechanisms more than mature ones (9,12). In a study on depressive patients with/without suicidal thoughts, Corruble et al. (13) have found a significant negative association between the use of mature defense mechanisms and dep-

ression severity. Likewise, Akkerman et al. (14) found that the use of mature defense mechanisms increases while immature ones decreases in parallel with the improvement of depressive findings.

Debate on the classification of depression is still continuing. There has been a widespread belief among clinicians about the validity of subdividing depression into the endogenous and non-endogenous types. Studies with factor analysis also suggest that endogenous and non-endogenous depression are independent entities (15-18). Endogenous depression is recognized under different titles in the latest nosological systems (DSM-IV melancholia,1995 and ICD-10 somatic syndrome, 1992) (1,19). Melancholic depression or 'depression with melancholic features' is a DSM-IV subtype of major depression requiring one of two: anhedonia (the inability to find pleasure in positive things) or lack of mood reactivity (i.e. mood does not improve in response to positive events) and additionally at least three of the following criteria: depression is subjectively different from grief or loss, severe weight loss or loss of appetite, psychomotor agitation or retardation, early morning awakening, excessive feelings of guilt and worsening of mood in the morning (1). However, these clinical features failed to support the hypothesis that the two forms of depression are distinct clinical entities.

In these afore mentioned studies where the relationship between depression and defense mechanisms have been studied from several dimensions, the distinction of endogenous and non-endogenous has been disregarded. In other words, the use of defense mechanisms has not been explored in endogenous and non-endogenous depression until now. We hypothesized that endogenous depression is associated with lower scores in mature defense style and higher scores in immature defense style. With this effort, we aimed to investigate the defense mechanisms used in endogenous depression, their association with the clinical findings and their differences from those of the non-endogenous depression.

Methods

Participants

The study was carried out in the Outpatient Clinic of Gülhane Military Medical Faculty Psychiatry Department, Ankara, Turkey. Patients who was included in the study group were selected randomly from psychiatric outpatients. Participants were initially asked whether to participate as part of their overall clinical evaluation or not. In this cross-sectional study, a total of 120 subjects were initially recruited and screened. Exclusion criteria included diagnoses of organic mental disorders, substance use disorders within the past six months, psychotic disorders, bipolar disorder, and personality disorders. Ninety-two of participants met the inclusion criteria and 28 did not. As a result, the study group was comprised of 92 treatment-naive patients with major depressive disorder (MDD; 46 endogenous type and 46 non-endogenous type) and 40 healthy control subjects. Patients were evaluated in terms of defense mechanisms by a second investigator who was blind to the first diagnosis.

Measures

Sociodemographic and clinical data were acquired with a questionnaire. The diagnosis of MDD in each participating patient was confirmed by means of the Structured Clinical Interview for DSM-IV (SCID-I) (20), Turkish version (21), conducted by trained interviewers who were skilled in this test. Endogeneity of depression was assessed with the use of the Newcastle Depression Diagnostic Scale (NDDS-1971) (22). The patients' scores on the NDDS were used to classify the patients within two groups: endogenous/ melancholic for patients with a score ≥5.5, and nonendogenous / nonmelancholic for patients with a score <5.5. The defense mechanisms were evaluated with the Turkish version of the Defense Style Questionnaire (DSQ-40) (23,24). The Turkish version of the DSQ-40 is reliable and valid at depression patients (23). In this test, each of the ten defense mechanism was evaluated with two items. Therefore, the DSQ-40 evaluates 20 defenses, which are divided into three factor groups: mature, neurotic and immature. Five defenses are related with the mature factor (sublimation, humor, anticipation, rationalization and suppression); four with the neurotic factor (undoing, pseudo-altruism, idealization and reaction formation) and eleven with the immature factor (projection, passive-aggression, acting out, isolation, devaluation, "autistic fantasy", denial, displacement, dissociation, splitting and somatization). The individual defense scores are calculated by the average of the two items for each defense mechanism and the factor scores are the average of the scores of the defenses that belong to each factor. Depression severity was assessed with Hamilton Depression Scale (HAMD-17 items). In this scale 53 is the maximum score and scores higher than 14 indicates dep¬ression (25).

Statistical Methods

Chi-square test was used to compare percentage values. DSQ-40 scores among groups (endogenous, non-endogenous, control) were compared with ANOVA. Bonferroni test was used for post hoc analysis. Correlations were evaluated with Pearson rank coefficients. In addition, multiple regression analysis was used to identify the relationship between the scores of DSQ-40 and clinical variables. Statistical significance was set at p<0.05.

Results

3.1. Study group and sociodemographic features

Sociodemographic features (age, sex, education and marital status) of the individuals are given in Table 1. All the 3 groups (endogenous, non-endogenous depression and controls) were similar in this regard.

Depression subtypes and defense mechanisms

Table 2 summarizes DSQ-40 scores of the groups. Total mature defense scores (F(2,129)=14.535, p=.000), sublimation (F(2,129)= 10,067, p=.000), anticipation (F(2,129)= 8.318, p=.000), rationalization (F(2,129)= 12.117, p=.000) and suppression (F(2,129)= 8.691, p=.000) scores of the groups were statistically different. Post Hoc analysis revealed that the two depression groups were similar but the control group

Table 1. *Demographic features of the subject*

Characteristics	Endogenous (n=46)	Non-endogenous (n=46)	Control (n=40)	Analysis
Group				
Sex (%)				df=2, $\div^2$=,349*
Female	24 (52.2%)	30 (65.2%)	26 (65%)	
Male	22 (47.8%)	16 (34.8%)	14 (35%)	
Age (Mean±SDᵃ) years	32.50±8.22	35.84±9.32	32.98±8.76	F=1.933, p=.149**
Education (Mean±SD) years	10.87±2.807	10.177±3.36	11.30±3.41	F=1377, p=.256**
Marital status (%)				df=2, $\div^2$=.060*
Single	11 (23.9%)	10 (21.7%)	14 (35%)	
Married	35 (76.1%)	30 (65.2%)	24 (60%)	
Widowed	0	6 (13.1%)	2 (5%)	

ᵃSD, standard deviation, * Chi-square test, ** ANOVA test

was different from the depression groups. All neurotic defense scores except total neurotic factors and reaction formation (F(2,129)=3.522, p=.032) were similar between groups.

Except devaluation, displacement and splitting, all other immature defense scores were statistically different [total immature defense score (F(2,129)= 8.286, p=.000), projection (F(2,129)= 3.584, p=.031), passive-aggression (F(2,129)= 9.372, p=.000), acting out (F(2,129)= 6.315, p=.002), isolation (F(2,129)= 5.444, p=.005), autistic fantasy (F(2,129)= 7.803, p=.001), denial (F(2,129)= 11.466, p=.000), dissociation (F(2,129)= 35.931, p=.003), somatization (F(2,129)= 10.713, p=.000)]. Post Hoc analysis revealed that total immature defense scores were significantly higher in the endogenous group when compared with non-endogenous and control groups. Further, acting out and somatization mechanisms were found to be more frequent in the endogenous group than the non-endogenous group. Other comparisons also showed that when compared with the control group passive-aggression, acting out, isolation, autistic fantasy, rationalization and somatization in the endogenous group and projection, passive-aggression, autistic fantasy in the non-endogenous group was the more commonly used mechanisms. On the other hand, denial and dissociation were less commonly used in both groups than the control group.

In patients with non-endogenous depression, no correlation between main defense mechanism (mature, neurotic, immature) total scores and the number of depression episodes or HAMD scores could be detected. In the endogenous group, immature defense total scores had a positive correlation with HAMD scores (r=.492, p=.001). Any type of main defense mechanism was not correlated with suicidal behavior scores (HAMD-17, 3rd item). Immature defense scores and HAMD scores were found to be correlated with these (ß=.375, p=.000) and this association was independent from age (ß=.019, p=.845), educational status (ß=-.056, p=.573), mature (ß=-.059, p=.550) and neurotic (ß=.062, p=.529) defense scores.

Discussion

Previous studies have shown that various defense mechanisms are used in different psychiatric disorders (26). Current study is the first to explore the defense mechanisms in different forms of depression. Our hypothesis that endogenous

Table 2. Comparisons of DSQ-40 and HAMD17 scores among the groups

Defense (Mean±SD)	Endogenous (n=46)	Non-endogenous (n=46)	Control (n=40)	Analysis*
Group				
Mature factors	31.37±1.97	36.13±10.55	44.13±10.36	F=14.535, p<.001
Sublimation	7.39±3.89	9.66±4.02	3.29±3.29	F=10.067, p<.001
Humor	6.19±3.80	7.13±3.90	8.08±3.63	F=2.637, p=.075
Anticipation	9.32±5.02	11.21±4.13	13.25±4.08	F=8.318, p<.001
Suppression	8.45±4.75	8.13±4.41	11.83±4.24	F=8.691, p<.001
Neurotic factor	40.36±10.63	44.39±12.82	39.87±12.59	F=1.889, p=.155
Undoing	10.43±4.23	11.08±4.59	11.12±3.57	F=.385, p=.681
Pseudo-altruism	10.76±3.19	12.00±4.38	11.27±3.96	F=1.187, p=.309
Idealization	10.04±4.86	9.82±4.97	8.17±4.81	F=1.828, p=.165
Reaction formation	9.13±5.29	11.47±4.93	9.30±3.50	F=3.522, p=.032
Rationalization	8.78±4.48	6.47±2.96	5.12±2.68	F=12.117, p<.001
Immature factor	109.63±21.77	96.69±25.17	90.20±20.60	F=8.286, p<.001
Projection	9.28±4.36	9.95±4.28	7.57±3.92	F=3.584, p=.031
Passive-aggression	9.39±3.18	8.91±4.57	6.30±2.24	F=9.372, p<.001
Acting out	10.91±4.91	8.78±3.81	7.85±3.43	F=6.315, p=.002
Isolation	11.97±5.08	10.21±4.89	8.65±3.85	F=5.444, p=.005
Devaluation	7.93±3.88	7.56±3.58	7.27±2.61	F=.399, p=.672
Autistic fantasy	8.36±4.42	9.69±5.02	6.05±3.06	F=7.803, p=.001
Denial	5.41±3.37	6.65±4.06	9.00±2.88	F=11.466, p<.001
Displacement	8.30±4.63	7.73±4.31	6.55±3.74	F=1.859, p=.160
Dissociation	5.82±3.48	6.30±3.89	8.40±3.51	F=5.931, p=.003
Splitting	9.52±4.42	7.56±±4.19	8.47±3.14	F=2.765, p=.067
Somatization	13.39±4.33	11.13±5.33	8.90±3.49	F=10.713, p<.001
HAMD₁₇ score	23.10±5.09	20.56±3.18	6.57±3.47	F=4.078, p=.020

* ANOVA

depression is associated with lower scores in mature defense style and higher scores in immature defense style was mainly supported. In keep with the pertinent literature (8,12), our findings revealed that both in endogenous and non-endogenous depression, immature defense mechanisms are used more commonly and mature defense mechanisms are used less commonly when compared with healthy subjects. Moreover, passive-aggression, acting out, isolation, autistic fantasy, rationalization and somatization were more commonly used; denial and dissociation were less commonly used in the endogenous group when compared with the control group. In the non-endogenous group, projection, passive aggression, autistic fantasy were more commonly used; denial and dissociation were less commonly used. Importantly, we have found that the defense mechanisms were different in endogenous and non-endogenous depression and that immature mechanisms were more commonly used in the endogenous group. Among those, the difference was more significant for rationalization, somatization and acting-out. Total neurotic and mature scores were similar between depression subtypes.

There is still discussion on the classification of depression as endogenous or non-endogenous and the relevant distinguishing parameters between them. Zimmerman et al. (27) have studied those parameters for endogenous depression and they have found that depression was more severe and that subjects reacted less against neutral or negative conditions. As reviewed by O'Leary (28), when compared with non-endogenous depression, endogenous depression has been found to predict reduced relapse, increased recurrence and increased readmission risks. However, they have mentioned that these factors failed to support the hypothesis that the two forms are distinct clinical entities. In our study, we have observed that the defense mechanisms may help distinguish the endogenous and non-endogenous types and that the predominance of immature mechanisms in the former type would be associated with endogeneity.

Yilmaz et al. (23) have mentioned that the severity of depressive findings were negatively related with mature defense type and positively related with immature defense type. Researchers have reported that the use of mature defense mechanisms increased and that of immature defense mechanism decreased in parallel with the recovery of depression (29,30). In their study where defense mechanisms of depression patients (with or without suicidal thoughts) were investigated, Corruble et al. (13) have observed a significant negative association between the severity of depression and the use of mature defense mechanisms. In our study, a positive relationship between immature defense mechanisms and HAMD scores were detected in endogenous depression groups, but this was not significant for non-endogenous group. On the other hand, mature and neurotic defense types were not correlated with HAMD scores in any of the groups. Although suicidal thoughts were not assessed with a specific tool in this study, any correlation between defense mechanism type and the suicidal component of the HAMD questionnaire was not observed.

Our study has some limitations. First, this study does not address the role of defense styles in a longitudinal manner; therefore, we are unable to determine whether DSQ-40 scores are in fact measuring a state or trait construct. Longitudinal studies should be conducted in order to determine the stability of these mechanisms. As the design was cross-sectional, it was not adequate to clarify causal relationships between the defenses and the depression subtypes. Second, ego defense mechanisms have been a central theoretical construct in psychodynamic theory since their description by Freud (31). Although the definition of "defense mechanisms" is well-known and traditionally accepted definition, it is not accepted from the point of view of empirical, evidence based psychiatry. Nevertheless, many research studies have provided empirical support for the theoretical link between defenses and depression (9,32).

In conclusion, we have found that patients with endogenous depression uses different defense mechanisms from non-endogenous depression patients and also from healthy controls. But our results are not sufficient to conclude about the direction of association. Our results have shown that, due to severity of the clinical findings, immature defense mechanisms are more commonly used in endogenous depression. Future studies, exploring the association between those risk factors and defense mechanism in endogenous depression are awaited. Especially follow up studies that evaluate patients' both premorbid states and depressive episodes should better show whether this difference about defense mechanisms is a causative factor or not.

Acknowledgements

References

1. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders: DSM-IV (4th ed.). Washington: American Psychiatric Association, 1994.

2. Freud A. The Ego and the Mechanisms of Defense. Madison (CN): International Universities Press. (Original work published in 1936), 1995.

3. Milrod D. A current view of the psychoanalytic theory of depression: With notes on the role of identification, orality and anxiety. Psychoanal Study Child 1988; 43:83-99.

4. Bond MP, Vaillant JS. An empirical study of the relationship between diagnosis and defense style. Arch Gen Psychiatry 1986; 43(3):285-288.

5. Smith C, Thienemann M, Steiner H. Defense style and adaptation in adolescents with depressions and eating disorders. Acta Paedopsychiat 1992; 55:185-186.

6. Bond M. Empirical studies of defense style: Relationships with psychopathology and change. Harv Rev Psychiatry 2004; 12:263-278.

7. Bond M, Paris J, Zweig-Frank H. Defense styles and borderline personality disorder. J Pers Disord 1994; 8:28-31.

8. Spinhoven P, Kooiman CG. Defense style in depressed and anxious psychiatric outpatients: an explorative study. J Nerv

Ment Dis 1997; 185:87-94.

9. Bronnec M, Corruble E, Falissard B, et al. Reports on defense styles in depression. Psychopathology 2005; 38: 9-15.

10. Vidoviæ V, Henigsberg N, Juresa V. Anxiety and defense styles in eating disorders. Coll Antropol 2003; 27(Suppl. 1):125-134.

11. Cramer P. Defense mechanisms in psychology today: Further processes for adaption. Am Psychol 2000; 55:637-646.

12. Mullen LS, Blanco C, Vaughan SC, et al. Defense mechanisms and personality in depression. Depress Anxiety 1999; 10:168-174.

13. Corruble E, Bronnec M, Falissard B, Hardy P. Defense styles in depressed suicide attempters. Psychiatry Clin Neurosci 2004; 58:285-288.

14. Akkerman K, Lewin TJ, Carr VJ. Long-term changes in defense style among patients recovering from major depression. J Nerv Ment Dis 1999; 187:80-87.

15. Bebbington PE, Brugha T, MacCarthy B, et al. The Camberwell collaborative depression study 1. Depressed probands: adversity and the form of depression. Br J Psychiatry 1988; 152:754-765.

16. Andreasen NC, Grove WM, Maurer R. Cluster analysis and the classification of depression. Br J Psychiatry 1980; 137:256-265.

17. McConaghy N, Joffe AD, Murphy B. The independence of neurotic and endogenous depression. Br J Psychiatry 1967; 113:479-484.

18. Paykel ES, Prussoff B. Klerman GL. The endogenous-neurotic continuum in depression: rater independence and factor distributions. J Psychiatr Res 1971; 8:73-90.

19. World Health Organization. The ICD-10 Classification of Mental and Behavioural Disorders: Clinical Descriptions and Diagnostic Guidelines. Geneva, World Health Organization; 1992.

20. First MB, Spitzer RL, Williams JBW. Structured Clinical Interview for DSM-IV (SCID). Washington: American Psychiatric Association; 1997.

21. Corapcioglu A, Aydemir O, Yildiz M, et al. Structured Clinical Interview for DSM-IV (SCID), Turkish Version. Ankara: Hekimler Yayin Birligi, 1999.

22. Gurney C. Diagnostic scales for affective disorders. Mexico City: Proc Sth Wld Conf Psychiat; 1971.

23. Yilmaz N, Gencoz T, Ak M. Psychometric properties of the Defense Style Questionnaire: A reliability and validity study. Turk Psikiyatri Derg 2007; 18:244-253.

24. Andrews G, Singh M, Bond M. The defense style questionnaire. J Nerv Ment Dis 1993; 181:246-256.

25. Hamilton M. A rating scale for depression. J Neurol Neurosurg Psychiatry 1960;23:56-62.

26. Watson DC. Predicting psychiatric symptomatology with the Defense Style Questionnaire-40. Int J Stress Manag 2002; 9:275-287.

27. Zimmerman M, Coryell W, Pfohl B, Stangl D. The validity of four definitions of endogenous depression: II. Clinical, demographic, familial, and psychosocial correlates. Arch Gen Psychiatry 1986; 43:63-70.

28. O'Leary D. The endogenous subtype and naturalistic course in depression. J Affect Disord 1996; 41:117-123.

29. Bond M, Perry JC. Long-term changes in defense style with psychodynamic psychotherapy for depressive, anxiety and personality disorders. Am J Psychiatry 2004; 161:1665-1671.

30. Akkerman K, Carr V, Lewin T. Changes in ego defenses with recovery from depression. J Nerv Ment Dis 1992; 180:634-638.

31. Freud A. The Ego and the Mechanisms of Defense. Madison (CN): International Universities Press. (Original work published in 1936); 1995.

32. Blaya C, Dornelles M, Blaya R, et al. Do defense mechanisms vary according to the psychiatric disorder? Rev Bras Psiquiatr 2006; 28:179-183.