

Ego Function Assessment in Major Depressive Patients: An Egyptian Sample

R. Mahfouz, Amani El- Rashidi, M. Askar,
Azza El- Bakry and R. Hatem

Fourteen ego functions were rated in 35 Egyptian major depressive patients using a semi-structured interview. The mean total ego functions was found to be greater than that of schizophrenics and lower than that of neurotics and normal controls in previous studies. The highest score was for sense of reality and the lowest for ARISE. Inter-rater reliability was significantly high. Inter-relationships between ego function and correlations with Hamilton Rating Scale for Depression are presented. Ego function assessment may be a valuable tool in planning and assessing therapy for the individual patient as well as in differentiating between different patient populations. (*Egypt. J. Psychiat.*, 1993, 16: 27-34).

Introduction

Ego psychology can be considered to have begun with Freud's 1921 book *The Ego and The Id* (Holt, 1975). Subsequently, Hartmann (1939, 1950, 1952, 1956) elaborated a new theory of the ego, followed by Fairburn. Erikson and others. Hartmann (1956) described what he called the powerful triad of ego functions: adaptation, control and integration (synthetic function). Bellak and co-workers elaborated these ego functions into twelve (1973). They defined ego functions as theoretical constructs based on observation of behaviour and on patients' reports of their experiences. The

twelve ego functions described by Bellak and Hurvich (1969) were: Reality testing; Judgement; Sense of reality of the world and of the self; Regulation and control of drives, affects and impulses; Object (or interpersonal) relations; Thought processes; Adaptive regression in the service of the ego; Defensive functioning; Stimulus barrier; Autonomous functioning; Synthetic-integrative functioning; Mastery-competence.

Ego function assessment can play a useful role in psychiatry. For example, Strauss (1975) claimed that it constitutes a bridge between the habitually conflicting descriptive and dynamic approaches. Widroe (1968) mentioned that an assessment of the intactness of ego functions enabled us to describe any patient in a concrete fashion and was extremely valuable in formulating a treatment plan tailor-made for the individual patient. Bellak et al (1975) believed in the potential usefulness of rating their twelve ego functions in deciding for treatment, prognosis and prevention. Bellak and Sheehy (1976) suggested the uses of ego func-

R. Mahfouz, M.D. Professor and Chairman, Department of Psychiatry, Faculty of Medicine, El Menia University.

Amani El-Rashidi, M.D. Lecturer, Department of Psychiatry, Cairo University.

M. Askar, M. D. Lecturer Department of Psychiatry, Cairo University.

Azza El-Bakry, M.D. Lecturer, Department of Psychiatry, Cairo University.

R. Hatem, M.S., Psychiatrist, Dar El-Mokattam for Mental Health.

tion assessment in five different psychiatric settings: Professional Standards Review Organizations and third-party funding, forensic psychiatry and legal responsibility, monitoring of psychotherapeutic drugs, research and planning in psychotherapy and psychological testing. Sharp and Bellak (1978) presented ego function assessment as a quantitative method for evaluation of psychoanalytic theory.

Few studies attempted to assess ego functions in psychiatric patients. Grinker and associates (1968) assessed fifty-one borderline syndrome patients on ego function rating scales based on hospital behaviour in the ward, in occupational therapy and during psychotherapy. Their results were used to derive four subgroups of borderline patients. Based on the description of ego functions, Bellak et al (1973) proposed a semi-structured interview with a manual for rating ego functions. Other methods of assessment include psychological tests (Rorschach, TAT, Bender-Gestalt and Figure Drawing tests) as well as certain experimental laboratory procedures. Bellak et al., compared between schizophrenics, neurotics and normals. Mahfouz (1981) studied ego functions in Egyptian schizophrenics. Blatt et al (1984) in a study concerning the psychology of opiate addicts, assessed seventy-seven addicts by using the Bellak interview for ego function assessment. It was considered that ego function assessment could only be applicable in schizophrenics, but this study will try its application to patients with major affective disorder, namely depression.

To our knowledge there has been no attempt to assess ego functions in patients with major depression using the

method described by Bellak et al. It is, therefore, interesting to speculate whether there is disturbance of specific ego functions in major depression. It appears to us that this method of assessment is worthy of further investigation in different populations to evaluate its potential usefulness as a source of information concerning the patient in addition to classical diagnosis, as well as the feasibility of the application of this method by psychiatrists who are not necessarily psychoanalysts.

Subjects and Method

The subject sample consisted of 35 patients attending Kasr Al-Aini University Hospital as either in - patients or out - patients. Patients gave their consent to participate in this study. These patients were diagnosed according to DSM-III-R criteria as having major depression by at least two of the researchers conducting the study and the depression was considered mild, moderate or severe accordingly. The researchers were psychiatrists with a minimum of ten years experience. Each patient was examined by a pair of researchers. A semi-structured interview was conducted to assess ego functions as described by Bellak et al (1973), and a modified Arabic version was introduced by Mahfouz (1981). We considered it preferable to rate separately primary and secondary autonomous functioning as well as actual and sense of mastery-competence giving a total of 14 ego functions. Each function was rated on a 1-10 point scale independently by each of the two raters. Patients were also scored for the Hamilton Rating Scale for Depression (HRSD) (Hamilton, 1967). None of the patients were previously known to researchers.

Statistical Analysis

This was done to estimate inter-rater reliability (Pearson product-moment coefficient), mean of each ego function, relations between ego functions (principal components factor analysis with varimax rotation), correlations between ego functions and HRSD (correlation coefficient) and differences between subgroups were examined (Student t-test).

Results

Demographic characteristics of the subjects are shown in table (1). Table (2) demonstrates data concerning diagnoses and duration of illness. Inter-rater reliability is shown in table (3) with maximum reliability for mastery-competence (sense) and minimum reliability for regulation and control. Further analyses were calculated using the mean score of the 2 raters for each ego function.

The mean score and standard deviation for each ego function for all 35 patients are arranged from highest to lowest in table (4). The mean total ego function was found to be 4.933 (± 0.725). Factor analysis of the ego function scores for our subjects gave the results shown in table 5.

On subdividing the depressive patients into male and female patients, patients with single and recurrent episodes, or patients with episodes of less than 6 months, 6 months-2 years, more than 2 years, no significant differences were found between the groups. In the last subdivision this finding may be due to the unequal size of the groups (e. g. the group of more than 2 years consisted only of 3 patients).

On subdividing depressives into:

- patients with or without psychotic features: the difference as regards mean total ego functions was significant.

- mild and moderately depressed patients (combined) and severely depressed patients: the difference was highly significant. The latter 2 results are shown in table (6).

Examination of the correlations between HRSD and ego functions yielded significant correlations were found between the total HRSD score and mean total EF score, and most of the individual ego functions as shown in table (7). Significant correlations were also found between depressed mood on HRSD and total EF and several individual ego functions (table 8).

Discussion

Other significant correlations between individual HRSD items and certain ego functions and which were considered to validate our scoring of these ego functions are shown in table (9).

Our results show that inter-rater reliability as regards all ego functions was significantly high. This was considered due to the fact that all raters have similar psychotherapeutic (not psychoanalytic) training. However, it must be mentioned that certain functions proved especially difficult to rate, for example synthetic-integrative functioning and also that sometimes, rating based on answers to direct questions appeared to be an inexact representation of the subject's functioning, for example, ARISE. We also noted that the mean scores for all ego functions (except ARISE) occupied a relatively limited range of the 1-10 point scale. This homogeneity may be partly explained by halo effects and response

sets - an observation similarly made by Bellak et al (1973).

On examining the results of correlation between the ego functions and the scores on HRSD, they were in the expected direction. Significant correlation existed between total HRSD and total mean ego functions, as well as several individual ego functions as well as the total ego function. Correlations were also significant between ego functions and HRSD items apparently assessing similar areas: e.g. actual mastery-competence and secondary autonomous functioning with work and activities; reality testing with paranoid symptoms; sense of mastery-competence with worthlessness.

On comparing the ego functions of our depressive patients with those for other patient groups in previous studies, our results emerged consistent with our expectations. The mean ego function in our group (4.938) was higher than that for schizophrenics (3.09) in a previous Egyptian study (Mahfouz, 1981). In comparison with Bellak et al's study (1973), mean ego functions for their schizophrenics was higher (5.86) but their study excluded chronic or severely deteriorated patients giving perhaps an evaluation of a certain group of relatively non-deteriorated schizophrenics. Our depressive group had lower ego function scores than both neurotics and normal controls (7.42, 9.08 respectively) in the Bellak et al (1973) study and also the opiate addicts (7.32) in the Blatt et al (1984) study.

Bellak et al (1973) assumed that a manic-depressive profile would usually show less severe disturbances of reality testing and judgement and reveal little

impairment of thought process but marked fluctuations between highest and lowest level on impulse control and possibly on object relations and defenses. In the present study, highest score was for sense of reality, lowest for ARISE. This latter function was also found to be lowest in the schizophrenics in Mahfouz's study (1981). It is interesting to speculate whether this function is affected by different types of pathology or whether it is low in general in certain cultural contexts e.g. some strata of the Egyptian population. Secondary autonomous functioning and actual mastery-competence were also noticeably low, probably because the sample was drawn from a university hospital where patients arrive with a relatively high degree of handicap. Thought processes were more impaired than expected, probably because patients reported subjective difficulty in thinking, memory and concentration. In a previous Egyptian study on depression El Ray (1988) assessed 5 ego functions for major depressive patients using the Bender-Gestalt test (reality testing, sense of reality, regulation and control, object relations, defensive functioning). She found that disturbances were of a moderate degree (approximately 60% impairment) with the lowest score for regulation and control and highest for defensive functioning and object relations. These findings differ somehow from those of the present study, but her group consisted of only 10 patients. Moreover, the Bender-Gestalt test can be considered as a projective technique for assessing ego functions, thus interpretation of its results is open to discussion.

Three factors were obtained by analysis of the mean ego function scores.

In spite of the relatively small num-

Table 1
Demographic Data

Sex	Male	17
	Female	18
Marital status:	single	9
	married	22
	divorced	1
	widowed	3
Occupation:	manual worker	18
	employee	2
	student	1
	housewife	14
Education:	illiterate	22
	1ry school	8
	2ry school	3
	university	2

Table 2
Diagnosis and Duration of Illness

Diagnosis	
Major depression	34
Bipolar	1
Periodicity	
single episode	16
recurrent	19
psychotic features	
mood congruent	11
mood incongruent	24
Intensity	
mild	10
moderate	15
severe	10
Duration	
<6m	19
6m-2yrs	13
>2yrs	3
Age (mean, S.D.) 37.343 = 10.825	

Table 3
Inter-Rater Reliability for Ego Function Rating

Ego function	Inter-rater reliability	Ego function	Inter-rater reliability
Mast. comp. (sen.)	.9	Arise	.769
Obj. relat.	.846	Sen. of reality	.763
Thought proc.	.835	Judgement	.747
Mast. comp. (act.)	.834	Defen. funct.	.735
Reality testing	.832	Synthet. integ.	.727
Stimul. barrier	.797	Auton. funct. (1ry)	.666
Auton. funct (2ndry).	.782	Regul. & control	.629

Table 4
Ego Function Mean Scores and Standard Deviation

Ego function	M	SD
Sense of reality	6.171	±1.218
Stimulus barrier	6.043	±1.239
Reality testing	5.943	±1.199
Judgement	5.543	±1.094
Thought processes	5.443	±1.199
Auton. function (1ry)	5.443	±1.11
Regul. & control	5.343	±0.881
Mast. compet. (sense)	4.629	±1.497
Obj. relation	4.471	±1.212
Defensive function	4.3	±0.987
Synth. integ. function	4.271	±0.98
Auton. function (2ry)	4.257	±1.003
Mast. compet. (actual)	4.171	±1.3
Arise	3.086	±0.974

Table 5
Ego Function Mean Scores and Standard Deviation

Factor	Factor loading
I- Thought processes	
Autonomous functioning (1ry)	.933
Judgement	.899
Reality testing	.734
Synthetic functioning	.711
Mastery-competence (sense)	.691
Stimulus barrier	.642
II- Mastery-competence (actual)	
Arise	.639
Autonomous function (2ndry)	.848
Defensive functioning	.818
III- Regulation and control	
Object relations	.783
Sense of reality	.775
	.528

Table 6
Differences Between Depressive Subgroups

	Unpaired t value	Probability
With vs without psychotic features	-2.568	-.015
Mild, moderate dep. vs severe dep.	5.247	1.000 E-4

Table 7
Correlations Between Total HRSD and Ego Function Scores

Total EF*	.661	signif. at 0.01 level
Object relations	.597	..
Judgement	.594	..
Reality testing	.569	..
Sense of mastery-competence	.553	..
Defensive functioning	.547	..
Sense of reality	.469	..
Arise	.421	signif. at 0.05 level
Auton. function (2ndry)	.387	..
Synthetic functioning	.383	..
Auton. function (1ry)	.371	..

* Ego Function

Table 8
Correlation Between Depressed Mood Score of HRSD and Ego Function Scores.

-2ry autonom. function	.593	signif. at 0.01 level
-Sense of mast.-competence	.557	..
-Defensive functioning	.546	..
-Arise	.517	..
-Total EF	.506	..
-Actual mast.-competence	.447	..
-Sense of reality	.366	signif. at 0.05 level

Table 9
Correlations Between Certain HRSD Items and Ego Function Scores

HRSD	EF*		
work & activities	act. mast.-comp.	.772	signif at 0.01 level
paranoid symp.	2ry auton.funct.	.604	level
worthlessness	sense mast.-comp.	.454	..
	reality testing	.578	..
	sense mast.-comp.	.402	signif at 0.05 level
	object relations	.334	level

* Ego Function

ber of patients, certain observations can be made concerning the inter-relationship between ego functions as shown by our results. As for factor I, its components appear to reflect the adequacy of processing information: stimulus-barrier, reality testing and the subsequent processes: thinking, judgement, primary autonomous functioning and sense of mastery-competence. In factor II actual mastery-competence is logically related to secondary autonomous function. Murphy (1962) suggested that evading and erecting barriers against reality are part of coping when direct ways of handling reality are not available. Hartmann (1939) postulated that the fruits of temporary regressive withdrawal are then put to creative-adaptive use through mastery. Thus the components of this factor are in a sense a measure of adaptation. As regards factor III, we can assume that the sense of reality particularly the presence of a coherent self-concept is a necessary requirement for the development of object relations (Bellak et al, 1958) as well as an ability to cope with conflicting drives within one's self (Novey, 1966).

Concerning the comparisons between subgroups, our results in general were in the expected direction, the group with psychotic features and the severely depressed group showed significantly more impairment on a number of ego functions as well as the mean total ego functions.

To conclude, we found that ego function assessment in a group of major depressive patients showed that mean total ego function was higher than that of schizophrenics and lower than that of neurotics and normal controls in previous studies. As a group, sense of reality was the least affected and ARISE most

affected with certain inter-relationships between individual functions. In our opinion, psychoanalytic training did not seem to be a pre-requisite for application of this method. However, limitations may be due to assessment during a single interview, halo effect and response set. Assessment of ego functions based on more extensive knowledge of the patient with multiple sources of information may give more valid results. A larger sample of major depressives might possibly show different configurations of ego functions in various sub-groups, perhaps even allowing sub-typing according to ego functions. Lastly, we might say that ego function assessment has a great value as a baseline assessment for the individual patient, depressive and otherwise.

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L'assessment des fonctions de l'Ego chez les Patients en Depression Majeure: Un Échantillon Egyptien

14 fonctions de l'Ego ont été évaluées parmi 35 patients Egyptiens souffrants de depression majeure en utilisant une entrevue semi-structurée. Le moyen du total des fonctions de l'ego a été trouvé plus que celui des schizophrènes et moins que celui des normaux dans les études précédentes. Les degrés les plus élevés ont été pour le sens de réalité et les plus bas pour ARISE. Les relations entre la fonction de l'ego et les correlations avec l'Échelle Hamilton concernant la depression ont été présentées. L'évaluation des fonctions de l'ego peut être un instrument pour l'organisation et l'évaluation de la thérapie des malades.

تقويم وظائف الأنا في مرضى الاكتئاب الجسيم في عينة مصرية

تمت دراسة وتقويم أربعة عشرة وظيفة للأنا في خمسة وثلاثين مريضاً بالاكتئاب الجسيم من خلال مقابلة شبه مقننة وقد أظهرت النتائج أن وظائف الأنا كانت في درجة أعلى من مثيلاتها في مرضى الفصام وأقل من مرضى المصائب وتمت مناقشة النتائج والإشارة إلى المؤشرات والدلائل المستخلصة من البحث ويظهر أن تقويم وظائف الأنا هي وسيلة مفيدة في التفرقة التشخيصية والتخطيط للعلاج.