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Panic Disorder
An Overlapping or Independent Entity?

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We compared three groups of patients with panic disorder, generalised anxiety disorder and major depressive episode with a control group. Methods of comparison included a clinical profile of the patients, assessed by the Arabic version of the Present State Examination (PSE), a psychological battery of tests measuring personality traits and depressive and anxiety states, and the dexamethasone suppression test (DST) as a biological marker. Our data showed that psychological assessment and DST did not significantly differentiate between the three disorders. Despite a symptom overlap between the disorders, however, some symptoms were associated significantly more often with one disorder than another. Patients with panic disorder differed from patients with major depressive episode in showing more situational, avoidance and free floating anxiety, and more anxious foreboding. They showed less self-negligence, ideas of guilt, early awakening and social withdrawal. Compared with patients with generalised anxiety disorder, patients with panic disorder showed more loss of interest and muscle tension and less anxious foreboding, restlessness, inefficient thinking, social withdrawal and delayed sleep. Our conclusion is that the clinical course and the symptom profile of panic disorder justifies its existence as an independent diagnostic category.

In recent years, there has been an increasing emphasis on the phenomenology of the various disorders of mood or anxiety (Klerman *et al*, 1991). This has received impetus from attempts to construct a clinically relevant taxonomy by identifying operationally defined criteria to delineate one disorder from the other. This is difficult because of complex symptom patterns in which there is considerable overlap between the disorders. One of the most controversial aspects of DSM–III (American Psychiatric Association, 1980) was the introduction of the diagnosis of panic disorder. Relatively few attempts previously had been made to identify subgroups of chronic anxiety. In the 1960s, Klein & Fink (1962) and Klein (1964) observed that panic attacks were an important predictor of response of pharmacological treatments. Anxious patients with panic attacks did best when treated with tricyclic antidepressants (Johnston *et al*, 1980), whereas those without attacks responded better to benzodiazepines (Vollrath & Angst, 1988; Breier *et al*, 1984).

Recently, it has been suggested that such attacks characterise a distinct form of anxiety disorder. This new distinction is evident in DSM–III in which panic disorder and a generalised anxiety disorder are separated by operationalised criteria.

A greater recognition for the weight of panic disorder as a separate entity was observed in the changes in DSM–III–R (American Psychiatric Association, 1987). Whereas DSM–III–R recognised panic disorder in the context of agoraphobia (agoraphobia with panic attacks), DSM–III reversed the disorder, as panic disorder with or without agoraphobia. Whereas DSM–III necessitated the exclusion of affective disorder to diagnose panic disorder, DSM–III–R did not stipulate such an exclusion, obviously recognising the incidence of comorbidity. A further step was taken by the International Classification of Diseases (ICD–10), where panic disorder was recognised as a disorder on its own, in addition to its coexistence with agoraphobia. The recognition of the disorder and the correct diagnosis can be extremely rewarding.

The purpose of the study was to find evidence from descriptive, psychodemographic, clinical, psychometric and biological investigations that supports the validation of panic disorder and generalised anxiety disorder as independent diagnoses, and describes their inter-relationship with major depressive episodes.

Method

All patients were of Egyptian nationality, living either in Cairo or Kuwait. Half the sample was drawn from Cairo and the rest from Kuwait. Patients were either self-referred or referred by professionals to the out-patient clinic. Two trained psychiatrists agreed on the diagnosis. Exclusion criteria included clear evidence of an organic disorder, patients taking hormonal therapy, pregnant or lactating women and recent alcohol use or alcohol withdrawal.

The final sample consisted of 90 patients:

(a) 30 who met DSM-III-R criteria for panic disorder with or without agoraphobia (group 1)
(b) 30 who met DSM-III-R criteria for major depressive episode (group 2)
(c) 30 who met DSM-III-R criteria for generalised anxiety disorder (group 3).

Thirty healthy Egyptian individuals, 15 from Cairo and 15 from Kuwait, were selected as controls, from workers in the hospitals or friends of the patients (group 4). They were matched for age, sex and social level.

Patients were diagnosed according to DSM-III-R criteria. Symptom profiles were drawn up by the Present State Examination (PSE; Wing *et al*, 1973), Arabic version (Okasha & Ashour, 1981).

The Arabic version of the following scales was applied to both patients and controls:

(a) Eysenck Personality Questionnaire (EPQ; Eysenck & Eysenck, 1975)
(b) Hamilton Anxiety Scale (HAS; Hamilton, 1959)
(c) D-scale from Guilford Inventory of Personality Factors (Anastasi, 1978)
(d) Beck Depression Inventory (BDI; Beck *et al*, 1961).

Blood samples were taken from patients and tested for cortisol by radioimmunoassay at 8 am and 11 pm, an injection of dexamethasone was then given, and cortisol plasma levels were assayed again a day later at 8 am and 4 pm. An elevated plasma concentration of cortisol in any of the two latter blood samples, that is, over 190 nmol/l, indicated failure of normal suppression of cortisol levels and signified an abnormal or positive test (Carroll, 1982).

Data were analysed by the χ^2 test used to test for significance on frequency data and a one-way analysis of variance, to test for significance of difference between diagnostic groups on different variables. Student's *t*-test was used to compare two means.

Results

Demographic characteristics

Table 1 summarises the demographic characteristics of the three patient groups. There was no significant difference in the sex distribution, order of birth or occupation between the three groups. Patients with panic disorder were significantly younger than those with major depressive episode. A higher percentage of patients with panic disorder were married ($P<0.005$). There were no significant differences between the two groups regarding educational status and family size. On comparing patients with panic disorder with those with generalised anxiety disorder, we found that a significant majority of the former group was married ($P<0.001$), belonged to larger sized families ($P<0.05$), and had had significantly less education ($P<0.001$).

Family and past history of psychiatric morbidity

Patients with panic disorder reported a higher prevalence of neurotic symptoms in childhood ($P<0.001$) and had more disturbed family pathology than did patients with major depressive episode or generalised anxiety disorder.

A positive family history was present significantly more often in families of the patient groups, that is, eight patients (26.7%) with panic disorder, nine (30%) with major depressive episode, seven (23.3%) with generalised anxiety disorder, than in the control group (two (6.7%)). No significant difference was detected when we compared patients with panic disorder with the other two groups. The most commonly reported psychiatric disorders were depression followed by anxiety (in all three patient groups), drug abuse (two cases reported in the panic disorder and generalised anxiety disorder groups), panic (one case in the panic disorder group), psychosis (one case in major depressive episode group) and epilepsy (one case in major depressive episode). Depressive disorders were relatively more frequent among relatives of patients with panic disorder and major depressive episode than relatives of those with generalised anxiety disorder.

Table 1
Demographic characteristics

Item	MDE $n=30$	P*	PD $n=30$	P**	GAD $n=30$
Age (years; mean (s.d.))	39.5 (5.6)	<0.001	31.6 (6.2)	>0.05	31.8 (9.6)
Males (%)	40	>0.05	60	>0.05	56.7
Females (%)	60		40		43.3
Education (years; mean (s.d.))	6.1 (4.5)	>0.05	6.7 (2.7)	<0.001	12.7 (3.4)
Family size (mean (s.d.))	6.6 (2.8)	>0.05	5.1 (3.8)	<0.05	6.3 (1.2)
Marital status (%)					
Single	13.3	<0.05	13.3	<0.05	30
Married	66.7		83.4		66.7
Other	20		3.3		3.3

MDE = major depressive episode; PD = panic disorder; GAD = generalised anxiety disorder.
*Between PD and MDE.
**Between PD and GAD.

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Table 2
Psychometric assessment and biological marker

Test	PD mean	(s.d.)	MDE mean	(s.d.)	GAD mean	(s.d.)	Controls mean	(s.d.)
EPQ								
Psychoticism	4.53	(2.51)	4.73	(2.39)	4.80	(1.49)	4.80	(1.54)
Neuroticism	15.30	(8.87)	15.40	(4.22)	16.96	(1.97)	9.50*	(3.22)
Extroversion	11.80*	(4.36)	9.90	(2.84)	9.97	(2.65)	13.80*	(3.27)
Criminality	11.20*	(3.62)	11.10	(3.20)	12.30	(1.91)	10.20	(2.62)
D-scale from Guilford	48.30	(15.31)	52.70	(12.21)	43.20	(12.65)	23.20	(9.50)
BDI	22.60*	(7.65)	28.9*	(8.24)	15.80*	(8.04)	2.60*	(2.23)
Hamilton Anxiety Scale	19.50	(8.14)	18.30	(6.28)	30.30*	(4.91)	2.10*	(1.53)
Mean plasma cortisol level								
Before test (8 am)	384.6	(89.8)	477.6	(140.3)	358.7	(70.9)	344.4	(74.1)
(4 pm)	269.2*	(86.4)	281.6*	(139.3)	239.9	(67.2)	180.1	(66.8)
After test (8 am)	53	(55)	197.4*	(197.1)	42.3	(17.6)	38.6	(8.5)
(4 pm)	40.4	(27.2)	84.2*	(79.2)	33.8	(9.9)	32.6	(14.7)
Positive DST (%)	13.3		53.3*		6.7		3.3	

PD = panic disorder; MDE = major depressive episode; GAD = generalised anxiety disorder; EPQ = Eysenck Personality Questionnaire; BDI = Beck Depression Inventory; DST = dexamethasone suppression test.
*Significant difference compared with other groups (AQ state level?).
BDI scores: 0–10 no depression; 11–18 mild depression; 19–25 moderate depression; 26–29 severe depression; >30 very severe depression.

The disorder was more prevalent among first-degree relatives of patients with panic disorder and generalised anxiety disorder and was equally prevalent among first- and third-degree relatives of patients with major depressive episode.

In patients with panic disorder, three (10%) experienced major depression before the start of the illness, and two (6.7%) had phobic disorders. One had social phobia and one had agoraphobia which developed before the panic disorder. Of patients with generalised anxiety disorder, three also showed a frequent occurrence of depressive disorders at some period in their lives before the start of the illness.

Psychometric assessment

Table 2 summarises the data on psychometric assessment and the cortisol levels.

Although EPQ scores on criminality and psychoticism showed no significant differences between any of the four groups, patients were significantly more neurotic and less extrovert than controls. Inter-patient group comparisons showed no significant differences except in the case of extroversion, where patients with panic disorder were significantly more extrovert than patients with generalised anxiety disorder and major depressive episode.

On the D-scale from the Guilford Inventory, all patients had significantly higher depressive traits than the controls. Among patients, those with major depressive episode had higher scores than those with panic disorder. The latter obtained higher scores than those with generalised anxiety disorder, although these differences were not statistically significant.

The highest BDI scores were obtained by patients with major depressive episode who were considered to have severe depressive symptoms. Patients with panic disorder experienced moderate depression and those with generalised anxiety disorder had milder degrees of depression.

Patients scored significantly higher on the HAS than controls. Within the patient groups, those with generalised anxiety disorder obtained significantly higher scores than both the generalised anxiety disorder and panic disorder groups.

Table 2 shows that a positive dexamethasone suppression test (DST) was encountered significantly more often among patients with major depressive episode than all other patient groups and controls. Patients with panic disorder showed more positive DST results than those with generalised anxiety disorder, and controls. For pretest plasma cortisol levels, patients with major depressive disorder showed a significantly higher value than all other groups, both in the 8 am and 4 pm samples. Patients with panic disorder had a significantly higher value than controls, only in the 4 pm value; otherwise, the differences were not statistically significant. For post-DST samples, only patients with major depressive episode showed a significantly higher value than all other groups.

Onset, symptom profile and duration

On the whole, patients with generalised anxiety disorder were a fairly chronic symptomatic group, with a mean (s.d.) average duration of symptoms of 8.4 (7.3) years compared with panic disorder (4.9 (5.4) years) and major depressive episode (5.8 (4.7) years) ($P<0.05$). Subjects with generalised anxiety disorder reported an earlier onset of illness (mean (s.d.) age of onset 23.7 (5.8) years) compared with subjects with panic disorder (26.7 (6.4) years) or major depressive episode (33.7 (9) years) ($P<0.001$). The type of onset also differed between the two subgroups. Twenty-six (86.7%) subjects with panic disorder reported a sudden onset

of symptoms whereas only four (13.3%) of those with generalised anxiety disorder noted an abrupt onset ($P<0.001$). For major depressive episode, 19 (63.3%) patients reported an insidious onset compared with panic disorder ($P<0.05$).

Present state examination revealed a symptom overlap between panic disorder, major depressive episode and generalised anxiety disorder (Table 3). Each group also showed a distinctly different pattern of symptoms by frequency distribution. Patients with panic disorder were significantly different from patients with major depressive episode in the presence of more frequent panic attacks, situational anxiety and avoidance anxiety ($P<001$); free floating anxiety and anxious foreboding ($P<0.01$). They reported less frequently self-negligence, ideas of guilt, early awakening and social withdrawal ($P<0.001$). Patients with major depressive episode listed the following symptoms significantly more frequently than patients with panic disorder ($P<0.01$): poor concentration, anergia, retardation, loss of interest and morning depression. Symptoms overlapping in both disorders ($P>0.05$) were depressed mood, suicidal thoughts, hopelessness, lack of confidence, muscle and nervous tension, restlessness, worry, hypochondriasis, loss of libido and weight, obsessional checking, phobia and inefficient thinking.

Study of the PSE symptoms in the panic disorder and generalised anxiety disorder groups revealed that some symptoms varied significantly between both conditions: patients with generalised anxiety disorder had more anxious foreboding, restlessness, inefficient thinking, social withdrawal and delayed sleep ($P<0.001$). Patients with panic disorder, on the other hand, had more panic attacks ($P<0.001$), loss of interest and muscle tension ($P<0.01$). The following symptoms did not differ significantly between both conditions: worrying, depressed mood, hypochondriasis, nervous tension, irritability, loss of libido, poor concentration, situational and avoidance anxiety, lack of confidence and anxiety on meeting people, obsessional checking and phobias.

The severity of PSE scores denoted that, despite more overlapping symptoms between panic disorder and generalised anxiety disorder, severe symptoms in patients with generalised anxiety disorder were more frequently recorded than in patients with panic disorder and major depressive episode.

Table 3
PSE symptoms (%) that were significantly different between any two of the patient groups

Symptom	MDE	P*	PD	P**	GAD
Panic attacks	3.3	<0.001	100	<0.001	13.3
Free floating anxiety	60	<0.01	93.3	>0.05	100
Restlessness	53.3	>0.05	76.7	<0.01	100
Poor concentration	93.3	<0.01	60	>0.05	80
Muscle tension	33.3	>0.05	46.7	<0.001	96.7
Social withdrawal	100	<0.001	46.7	<0.001	100
Delayed sleep	73.3	<0.05	40	<0.001	90
Self-neglect	100	<0.001	40	>0.05	50
Ideas of guilt	100	<0.001	33.3	>0.05	50
Early awakening	100	<0.001	30	>0.05	40
Anxious foreboding	36.7	<0.01	73.3	<0.01	100
Situational anxiety	13.3	<0.001	73.3	>0.05	56.7
Anergia, retardation	66.7	<0.01	66.7	>0.05	43.3
Irritability	66.7	>0.05	66.7	<0.05	93.3
Loss of interest	100	<0.01	66.7	<0.01	26.7
Avoidance anxiety	10	<0.001	63.3	>0.05	33.3
Morning depression	100	<0.01	63.3	>0.05	63.3
Inefficient thinking	30	>0.05	56.7	<0.01	96.7
Phobias	3.3	<0.05	26.7	>0.05	33.3

MDE = major depressive episode; PD = panic disorder; GAD = generalised anxiety disorder.
*Between PD and MDE.
**Between PD and GAD.

Phenomenology of panic attacks

On asking patients with panic disorder about the most suitable expression to describe their panic attacks, 16 (53.3%) chose the term 'fear'. Twelve (40%) chose the term 'anxiety' or 'depression', whereas only 10 (33.3%) chose the term 'panic'. The most annoying symptoms reported were choking, feeling panicky and heart pounding with tachycardia. The most frequently occurring symptoms were 'fear of dying', tachycardia with heart pounding and feeling depressed.

Panic attacks were characterised by a crescendo pattern with a rapid onset and ending. The mean duration of an attack was 20 minutes and the mean frequency was 9.8 attacks per month.

Discussion

In accordance with other findings (Alnaes and Torgersen, 1989), our results show that patients with panic disorder and generalised anxiety disorder were significantly younger than those with major depressive episode. The same was also reported by Okasha & Ashour (1981) in a study on the psychodemography of anxiety in Egypt.

Our results revealed significant differences between groups in the incidence of neurotic, symptom during childhood. Patients with generalised anxiety disorder showed the highest incidence followed by those with panic disorder and, lastly, those with major depressive episode, whose incidence was the same as controls. Torgersen (1985) studied the developmental differentiation of anxiety and affective neurosis in twin probands, and found that anxiety symptoms such as fear of the dark, nightmares and enuresis were more common among patients with pure anxiety than among neurotic depressive patients or mixed anxiety depressive patients.

We found a high prevalence of psychiatric disorders among relatives of patients with panic disorder, major depressive episode and generalised anxiety disorder compared with controls. Depression

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and generalised anxiety disorder were by far the most common disorders among the relatives of patients. Some studies have shown a familial relationship between panic and depression. Munjack & Moss (1981) found that significantly more first-degree relatives of probands with agoraphobia with panic attacks had a history of affective disorders (38%) than first degree relatives of probands with phobic disorders without panic attacks. Bowen & Kohout (1979) reported that 84% of patients with agoraphobia with panic attacks had first-degree relatives with a history of major affective disorder, a result that is much higher than ours. On the other hand, Coryell *et al* (1988), on interviewing relatives of patients with panic disorder, found that they were less likely to have primary depression and significantly more likely to have various anxiety disorders.

There is strong evidence that panic disorder has a high familial prevalence and genetic transmission (Breier *et al*, 1984). Although different studies may vary in their figures, there seems to be an agreement that panic disorder has a strong familial relationship with both generalised anxiety disorder and major depressive episode.

We found some evidence of comorbidity in panic disorder and generalised anxiety disorder. Comorbidity is a relatively new, yet widely used term indicating the presence of additional psychiatric disorders at some point in the person's life (Klerman *et al*, 1991). They found that comorbidity of panic disorder with major depression was 32.3%, while in agoraphobia it was 33.1%. With alcohol abuse it was 26.4% and with drug abuse it was 17.7%.

Symptom overlap

Present State Examination revealed symptom overlap between patients with panic disorder, major depressive episode and generalised anxiety disorder. Overlap was more obvious among those with panic disorder and generalised anxiety disorder, with a tendency for those with generalised anxiety disorder to show more severe symptomatology. This might be explained by the fact that patients with generalised anxiety disorder suffer continuous symptoms whereas those with panic disorder experience a peak during the attack, with milder anxiety or depressive symptoms in between. A number of studies, and clinical experience, have demonstrated a considerable symptomatological overlap between panic disorder, major depressive episode and generalised anxiety disorder (Vollrath & Angst, 1989). The concomitant occurrence of symptoms of anxiety and panic with episodes of major depression is also well documented. Roth *et al* (1972) estimated that depressive symptoms in anxious patients are as high as 65%. They also reported that symptoms such as irritability, mild agoraphobia, anxiety, agitation and ideas of guilt were common in both anxious and depressed patients. Gorman *et al* (1984) reported that high levels of anticipatory anxiety in patients with panic disorder can also produce vegetative symptoms that resemble those seen in depressed patients. Thus the highly anxious patient complains of difficulty falling asleep, intermittent inability to concentrate, with worry and apprehension. Arafa *et al* (1987), comparing panic disorder and generalised anxiety disorder in an Arab culture, reported that patients usually tend to describe mixed neurotic depressive and anxiety manifestations. They also found that most somatic symptoms of anxiety were reported more frequently by patients with panic disorder. When we compared the phenomenology of panic disorder and generalised anxiety disorder we found that, despite the symptom overlap (worry, depressed mood, hypochondriasis, nervous tension, irritability, poor concentration, loss of libido, situational and avoidance anxiety, lack of confidence), symptoms such as loss of interest, muscle tension, anxious foreboding, inefficient thinking, social withdrawal and delayed sleep differed significantly between both disorders.

Tyrer (1985) stressed the nature of neurotic disorders that tend to merge and interchange, a fact that only adds to the confusion in their diagnosis – for example, the most common change is for anxiety disorders to be classified as depressive ones, and vice versa. Patients with panic disorder and agoraphobia can become depressed, depressed patients can become anxious and phobic and almost any other combination of diagnosis can occur over five years. The most persistent symptoms appear to be those of anxiety, that progresses from panic attacks to limited and social phobias, later generalising to agoraphobia and then depressive symptoms.

Cultural reflections

The way patients described their panic attacks in our sample is a reflection of the emotivity in verbal communication in Arabic (Shouby, 1951; Prothro, 1955) and the cultural pattern of Arab patients' expression of their complaints. Arab patients do not usually complain of depressive, anxiety or panic symptoms directly. They tend to somatise their symptoms and exaggerate in their verbal communication, otherwise they will not be understood by other Arabic speakers to mean what they say. This leaves a very thin margin for differentiation between the different syndromes. For example 'tightness in the chest', 'heaviness of the heart' or 'a choking sensation in the throat' can mean that the patient is feeling depressed, distressed, anxious or frightened. Even in the case of panic attacks they may describe fear associated with somatic symptoms, or the feeling of impending death or going mad. A correct diagnosis in this case would depend entirely on the elaboration

of what is meant by the different verbal expressions and on recognising whether or not those phenomena occur in attacks.

As to the existence of a culturally bound panic syndrome in Egypt equivalent to *amok*, *koro* and *latah* in south-east Asia, we do have panic attacks that are referred to as the evil eye, magic, possession and witchcraft. Many patients described their first panic attack in relation to one of these phenomena, believing it to take over the patient's body and soul, inducing a strange influence. That is why many patients with panic disorder in our culture may visit traditional or religious healers before consulting a physician or psychiatrist. In a study done by Okasha (1966), he found that 8% of subjects attending an El Zar cult (a musical, spiritual, semi-religious, therapeutic ceremony) suffered from acute anxiety states. At that time panic disorder was still included under this category of mental disorders.

Eysenck personality questionnaire revealed a significantly higher mean score of neuroticism and significantly lower mean score of extroversion among all patient groups compared with controls. Except for extroversion, which was significantly higher among patients with panic disorder, personality traits did not differ between the three patient groups. A similar finding was reported in another local study done by El Dawla *et al* (1981) where they found that patients with anxiety and depressive disorders had a higher neuroticism and a lower extroversion score than normal controls. They also found that depressed patients did not differ significantly from those with anxiety in any of the EPQ items. Similar findings were reported by Eysenck (1967), Kelly *et al* (1970) and Kelly (1980).

The BDI revealed significantly higher scores among patients with major depressive episode followed by panic disorder and then generalised anxiety disorder. All patients had higher scores than the controls. All patient groups also had significantly higher HAS scores than controls, with significantly higher scores recorded among patients with generalised anxiety disorder followed by panic disorder and then major depressive episode patients. These findings are in agreement with those of Hibbert & Pilsbury (1989) who reported high BDI and HAS scores among patients with panic disorder.

Positive DSTs were more frequent in our patients with major depressive episode than the other groups. This is in agreement with other reports, which also found that DST yields abnormal results in depressed patients (Carroll *et al*, 1976; Greden *et al*, 1983; Targum, 1983). Reports in panic disorder are conflicting: some authors reported that they were within normal limits (Roy-Byrne *et al*, 1985; Bridges *et al*, 1986); while others reported an incidence of abnormal results in patients with panic disorder equivalent to that seen in a group of depressed outpatients (Avery *et al*, 1985). Eriksson (1988) found that, according to most reports, about 20% of patients with panic disorder display high plasma cortisol concentrations after administration of dexamethasone. Thus the rate of abnormal DST in panic disorder seems to be considerably lower than in depressed patients, of whom about 50–70% are non-suppressors, but higher in normal controls, of whom only 2–5% display abnormal cortisol suppression (Eriksson, 1989).

Although DST results in patients with panic disorder were significantly different from those with major depressive episode, they indicate that patients with panic disorder have an abnormality of at least one function of the hypothalamo–pituitary–adrenal axis, which overlaps with the abnormality in major depressive disorder.

Conclusion

Our data suggest that panic disorder seems to have some aspects in common with generalised anxiety disorder, while other commonalities were observed with major depressive episode. The temporally separate occurrences of these disorders indicate that they may not be symptomatic variants of each other. Patients with panic disorder are more extrovert than depressive and anxious patients; their BDI scores were significantly less than those of depressive patients but also significantly more than anxious patients. Although DST did not differentiate between panic disorder and generalised anxiety disorder, the pretest cortisol level did reveal a significant difference from anxious patients, being higher in panic disorder. The symptom overlap between panic disorder, and generalised anxiety disorder and major depressive episode, does not favour a delineation. Certain symptoms, however, were associated significantly more often with panic disorder than any of the other two disorders (more situational, avoidance and situational anxiety and anxious foreboding and less self negligence, guilt, early awakening and social withdrawal compared with major depressive episode; more loss of interest and muscle tension and less restlessness, inefficient thinking and delayed sleep compared with generalised anxiety disorder).

The legitimacy of delineating a disorder on the basis of clinical findings only was supported by Andrews (1993) who stated that, although aetiological, natural history or treatment outcome data have not yet managed to differentiate between panic disorder and generalised anxiety disorder, it is possible to distinguish reliably between the two

disorders on a clinical level. We also believe that the clinical course of panic disorder is a special characteristic of the disease. A major feature is the paroxysmal occurrence of the primary disorder. Additional psychiatric symptomatology, whether before or after the attack, whether anxiety or depression, is a secondary phenomenon rather than an integral part of the disorder. We believe that panic disorder should therefore retain a diagnostic category in its own right, based for the time being on its clinical course and associated symptomatology until future research, based on longitudinal studies, provides further support for its nosological status.

References

ALNAES, R. & TORGERSON, S. (1989) Clinical differentiation between major depression only, major depression with panic disorder and panic disorder only. In *Many Faces of Panic Disorder. Psychiatrica Fennica Supplement*, pp. 58–64.

AMERICAN PSYCHIATRIC ASSOCIATION (1980) *Diagnostic and Statistical Manual of Mental Disorders* (3rd edn) (DSM-III). Washington, DC: APA.

—— (1987) *Diagnostic and Statistical Manual of Mental Disorders* (3rd edn, revised) (DSM-III-R). Washington, DC: APA.

ANASTASI, A. (1978) *Psychological Testing* (4th edn). New York: MacMillan.

ANDREWS, G. (1993) Panic and generalized anxiety disorder. *Current Opinions in Psychiatry*, **6**, 191–194.

ARAFA, M., AMINE, Y. & MOUSA, F. (1987) Cognitive components of anxiety: A comparison of panic disorder and a generalized anxiety disorder in an Arab culture. *Egyptian Journal of Psychiatry*, **10**, 89–104.

AVERY, D. H., OSGOOD, T. B., ISHIKI, D. M., *et al* (1985) The DST in psychiatric outpatients with generalized anxiety disorder, panic disorder or primary affective disorder. *American Journal of Psychiatry*, **142**, 844–848.

BECK, A. T., WARD, C. H., MENDELSON, M., MOCK, J. & ERBAUGH, J. (1961) An inventory of measuring depression. *Archives of General Psychiatry*, **4**, 561–571.

BOWEN, R. C. & KOHOUT, J. (1979) The relationship between agoraphobia and primary affective disorders. *Canadian Journal of Psychiatry*, **24**, 317–322.

BREIER, A., CHARNEY, D. S. & HENINGER, G. R. (1984) Major depression in patients with agoraphobia and panic disorder. *Archives of General Psychiatry*, **41**, 1129–1135.

——, —— & —— (1985) The diagnostic validity of anxiety disorders and their relationship to depressive illness. *American Journal of Psychiatry*, **142**, 787–797.

BRIDGES, M., YERAGANI, U. K., RAINEY, J. M., *et al* (1986) Dexamethasone suppression test in patients with panic attacks. *Biological Psychiatry*, **21**, 853–855.

CARROLL, B. J. (1982) The dexamethasone suppression test for melancholia. *British Journal of Psychiatry*, **140**, 292–304.

——, CURTIS, G. C. & MENDELS, J. Neuroendocrine regulation in depression. *Archives of General Psychiatry*, **33**, 1051–1058.

CORYELL, W., ENDICOTT, J., ANDREASEN, N. C., *et al* (1988) Depression and panic attacks: The significance of overlap as reflected in follow up and family study data. *American Journal of Psychiatry*, **145**, 293–300.

EL-DAWLA, A., OKASHA, A., SADEK, A., HAMED, A. & LOTAIEF, F. (1981) Anxiety: a concomitant of some psychiatric disorders (a psychophysiological approach). *Egyptian Journal of Psychiatry*, **6**, 294–309.

ERIKSSON, E. (1988) Biological markers in depression and panic disorder. In *Depression, Anxiety and Aggression: Factors that Influence the Course* (eds J. A. Swinkels & W. Blijleven). Houten, The Netherlands: Mediact.

—— (1989) Neuroendocrine markers and CSF neurotransmitters and transmitter metabolites in patients with panic disorder. In *Many Faces of Panic Disorder. Psychiatrica Fennica Supplement*, pp. 35–40.

EYSENCK, H. J. (1967) *The Biological Basis of Personality*. Springfield, IL: Charles C. Thomas.

—— & EYSENCK, S. B. G. (1975) *Manual of Eysenck Personality Questionnaire*. London: Hodder and Stoughton.

GORMAN, J. M., ASKANAZI, J., LIEBOWITZ, M. R., *et al* (1984) Response to hyperventilation in a group of patients with panic disorder. *American Journal of Psychiatry*, **41**, 857–861.

GREDEN, J. F., GARDNER, R., KING, D., *et al* (1983) Dexamethasone suppression test and antidepressant treatment of melancholia. *Archives of General Psychiatry*, **40**, 493–500.

HAMILTON, M. (1959) The assessment of anxiety states by rating. *British Journal of Medical Psychology*, **32**, 50–55.

HIBBERT, G. & PILSBURY, D. (1989) Hyperventilation. Is it a cause of panic attacks? *British Journal of Psychiatry*, **155**, 805–809.

JOHNSTON, E., CUNNINGHAM, D. G., FIRTH, C. D., *et al* (1980) Neurotic illness and its response to anxiolytic and antidepressant treatment. *Psychological Medicine*, **10**, 321–328.

KELLY, D. (1980) (ed.) *Anxiety and Emotions: Physiological Basis and Treatment*. Springfield, IL: Charles C. Thomas.

——, BROWN, C. & SHAFFER, J. W. (1970) A comparison of physiological and psychological measurements on anxious patients and normal controls. *Psychophysiology*, **6**, 429–441.

KLEIN, D. F. (1964) Delineation of two drug responsive anxiety patterns. *Psychopharmacology*, **5**, 397–408.

—— & FINK, M. (1962) Psychiatric reaction patterns to imipramine. *American Journal of Psychiatry*, **119**, 423–438.

KLERMAN, G. L., WEISSMAN, M. M. & QUELLETTE, R. (1991) Panic attacks in the community. *Journal of the American Medical Association*, **265**, 742–746.

MUNJACK, D. J. & MOSS, H. B. (1981) Affective disorder and alcoholism in families of agoraphobics. *Archives of General Psychiatry*, **38**, 869–871.

OKASHA, A. (1966) A cultural psychiatric study of El Zar cult in the UAR. *British Journal of Psychiatry*, **112**, 693.

—— & ASHOUR, A. (1981) Psychodemographic study of anxiety in Egypt (the first application of PSE in its Arabic version). *British Journal of Psychiatry*, **130**, 70–73.

PROTHRO, E. T. (1955) Arab American differences in the judgement of written messages. *Journal of Social Psychology*, **42**, 3.

ROTH, M., GURNEY, C., GARSIDE, R. F., *et al* (1972) Studies in the classification of affective disorders. The relationship between anxiety states and depressive illness. *British Journal of Psychiatry*, **121**, 147–161.

ROY-BYRNE, P. P., UHDE, T. W., POST, R. M., *et al* (1985) Normal pain sensitivity in patients with panic disorder. *Psychiatric Research*, **14**, 75–84.

SHOUBY, E. (1951) The influence of the Arab language on the psychology of the Arabs. *Middle East Journal*, **5**, 284.

TARGUM, S. D. (1983) The application of serial neuroendocrine challenge studies in the management of depressive disorder. *Biological Psychiatry*, **18**, 3–19.

TORGERSEN, S. (1985) Developmental differentiation of anxiety and affective neurosis. *Acta Psychiatrica Scandinavica*, **71**, 304–310.

TYRER, P. (1985) Neurosis divisible? *Lancet*, *ii*, 685–688.

VOLLRATH, M. & ANGST, J. (1989) Panic disorder in the Zurich cohort study: symptoms and course. In *Many Faces of Panic Disorder. Psychiatrica Fennica Supplement*, pp. 74–82.

WING, J. K., COOPER, J. E. & SARTORIUS, N. (1973) *The Present State Examination (PSE) and Catego System*. London: Institute of Psychiatry.

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