

Psycho-Biological Correlates of Free-Floating Anxiety Symptoms in Male Patients With Sexual Dysfunctions

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ABSTRACT: Anxiety has a relevant impact on everyday life, including sexual life, and therefore is considered the final common pathway by which social, psychological, and biological stressors negatively affect sexual functioning. The aim of this study is to define the psycho-biological correlates of free-floating anxiety in a large sample of patients complaining of erectile dysfunction (ED)-based sexual problems. We studied a consecutive series of 882 ED patients using SIEDY©, a 13-item structured interview, composed of 3 scales that identify and quantify organic, relational, and intrapsychic domains. MHQ-A scoring from Middlesex Hospital Questionnaire (MHQ) was used as a putative marker of free-floating anxiety symptoms (AS). Metabolic and hormonal parameters, nocturnal penile tumescence (NPT) test, and penile Doppler ultrasound (PDU) examination were also performed. MHQ-A score was significantly higher in patients

complaining of difficulties in maintaining erection and in those reporting premature ejaculation (6.5 ± 3.3 vs 5.8 ± 3.3 and 6.6 ± 3.3 vs 6.1 ± 3.3 , respectively; both $P < .05$). Moreover, ASs were significantly correlated to life stressors quantified by SIEDY© scale 2 (relational component) and scale 3 (intrapsychic component) scores, as dissatisfaction at work or within the family or couple relationships. Among physical, biochemical, or instrumental parameters tested, only end-diastolic velocity at PDU was significantly ($P < .05$) related to ASs. In conclusion, in patients with ED-based sexual problems, ASs are correlated to many relational and life stressors. Conversely, organic problems are not necessarily associated with MHQ-A score.

Key words: Erectile dysfunction, premature ejaculation, SIEDY©, structured interview.

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Only a few decades ago, it was generally thought that the majority of sexual dysfunctions (including erectile dysfunction) were mostly related to psychological problems and to anxiety in particular (Bodner, 1985; Hendry et al, 2000; Sommer et al, 2001). Hence, at that time, the only recognized treatment was psychotherapeutic, that is, psychoanalysis and behavioral therapy. Nowadays, it is well recognized that this picture is limitative, as biological and relational domains, beside psychological components, have a relevant impact on male sexual response (Petrone et al, 2003; Corona et al, 2004a,b,c,d, 2005). Understanding the relative contribution of each of these components is essential for a correct diagnostic and/or therapeutic approach to male sexual dysfunction and, in particular, to erectile dysfunction (ED). We recently developed and validated an instrument to simultaneously quantify the relative weight of these components (organic, intrapsychic, and relational), through a simple, 13-item,

structured interview, termed SIEDY© (Structured Interview on Erectile Dysfunction; Petrone et al, 2003). By using this instrument, we confirmed previous views (Masters and Johnson, 1970; Bodner, 1985; Sommer et al, 2001) that anxiety is the most common intrapsychic component in several male sexual dysfunctions, including ED (Petrone et al, 2003; Corona et al, 2004b,c, 2005) and premature ejaculation (PE; Corona et al, 2004d). Anxiety induced by different stressors can, in fact, distract from erotic thoughts and impair male sexual excitation through an increased sympathetic tone, which, in turn, induces cavernous smooth-muscle contraction, counteracting nitric oxide-induced vasodilatation and penile erection (Maggi et al, 2000; Filippi et al, 2003). Quite often, once failure has occurred, the problem is self-perpetuating, because the fear of failure and thoughts of inadequacy lead to an excessive focus on oneself, which further increases sympathetic activation. This vicious cycle of failure and escalating anxiety was originally described as performance anxiety (Master and Johnson, 1970; Sommer et al, 2001).

When considering male sexual behavior, anxiety could be described as the final common pathway by which social, psychological, and biological stressors disrupt it

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(Kaplan, 1988). To date, few studies considered the relationship between different anxious syndromes and sexual dysfunctions in men. A systematic study assessing sexual dysfunctions in subjects suffering from social phobia, panic disorder, generalized anxiety disorder and controls found that anxiety-disorder patients report more frequently sexual dysfunction than normal controls, and that patients with panic disorder and social anxiety disorder experienced greater difficulties than subjects with generalized anxiety disorder (Ware et al, 1996). In another study, Angst (1988) found that loss of sexual interest was associated with generalized anxiety disorder, but it was not associated with panic disorder, agoraphobia, or social phobia. Finally, Figueira et al (2001) found that panic disorder patients were more likely to report sexual problems, particularly sexual aversion, than social phobias, whereas PE was the most common sexual problem in men with social phobias. Nonetheless, little research attention has received the idea that anxiety about sexual situation, in particular anxiety about failure to respond sexually, may cause, or at least aggravate, a weak sexual responsiveness. Moreover, no study systematically investigates the real contribution of free-floating anxiety (ie, not phobic and not somatized) to male sexual dysfunctions, and the biological and relational correlates of free-floating anxiety in patients with ED. Hence, the aim of this study is to define the psychological, relational, and organic correlates of free-floating anxiety symptoms (AS) in a large sample of patients complaining of ED-based sexual problems.

Materials and Methods

A consecutive series of 882 patients attending for the first time the Outpatient Clinic for ED sexual problems of the Andrology Unit of the University of Florence at Careggi Hospital was studied. Patients with mental retardation or not fluent in Italian were excluded.

Patients were interviewed before the beginning of any treatment and before any specific diagnostic procedures, using the SIEDY© Structured Interview (Petrone et al, 2003). This is a 13-item interview, previously validated for either patients with or without stable relationships, composed of 3 scales, which identify and quantify components concurring to ED. Scale 1 deals with organic disorders, scale 2 with disturbances in relationship with partner, and scale 3 with psychological traits. Scores more than or equal 3.5 of SIEDY© scale 1 are predictive of organic disturbances underlying ED with a sensitivity and specificity of about 70% (Petrone et al, 2003).

Patients were asked to specify any current pharmacological treatment; drugs listed in Broderich and Foremann (1999) were considered capable of interfering with sexual function. Premature ejaculation was defined as ejaculation within 1 minute of vaginal intromission (as reported by the patient) according to previously described criteria (Corona et al, 2004d). One minute

is the most widely accepted cut-off limit to define PE (see Waldinger et al, 2004, 2005 for review). Hypoactive sexual desire (HSD) was assessed with question 14 of SIEDY© Structured Interview as previously described (Corona et al, 2004a). Intimacy during sexual intercourses was analyzed using a standard question: "Do you have enough intimacy during your sexual activity?" (rating 0 = always; 1 = in over 50% of occasions; 2 = in less than 50% of occasions; 3 = rarely/never). Self-reported cigarette and cannabis smoking history was obtained from a specific question. Men were defined as current smokers if their history of smoking had lasted for at least 1 year, as past smokers if they had smoked at least 1 year in their life and were not current smokers, and as nonsmokers if they had never smoked or smoked less than 1 year. SIEDY© Appendix A was used for the analysis of ED problems as previously described (Petrone et al, 2003).

Patients were asked to complete the Middlesex Hospital Questionnaire, modified (MHQ) (Crown and Crisp, 1966), in its Italian version (Dioguardi et al, 1984), a brief self-reported questionnaire for the screening of mental disorders in nonpsychiatric settings, which provides scores for free-floating anxiety (MHQ-A), phobic anxiety (MHQ-F), obsessive-compulsive traits and symptoms (MHQ-O), somatization (MHQ-S), depressive symptoms (MHQ-D), and hysterical traits and symptoms (MHQ-H). MHQ-A was used as a putative marker of free-floating anxiety. The total score of MHQ (Σ = sum of scores for MHQ-A, MHQ-F, MHQ-O, MHQ-S, MHQ-D, and MHQ-H) provides an index of mood and anxious spectrum psychopathology (Crown and Crisp, 1966).

All patients underwent a complete physical examination, with measurement of blood pressure (mean of 3 measurements 5 minutes apart, in sitting position, with a standard sphygmomanometer), height, weight, and testis volume (Prader orchidometer). Blood samples were drawn in the morning, after an overnight fast, for determination of blood glucose (by glucose oxidase method; Aerosep Abbott, Rome, Italy), total cholesterol, HDL cholesterol, and triglyceride (by automated enzymatic colorimetric method; Aerosep Abbott, Rome, Italy), total testosterone, prolactin, follicle stimulating hormone (FSH), luteinizing hormone (LH), thyroid stimulating hormone (TSH), and prostate specific antigen (PSA) (by electrochemoluminescent method, Modular Roche, Milan, Italy). Penile Doppler ultrasound (PDU) examination was performed before and 20 minutes after PGE₁ intracavernous injection (10 µg). We decided to use the same protocol for PDU in all patients studied to make results fully comparable. The following parameters were considered: a) in basal condition, peak systolic velocity and acceleration; b) in dynamic condition (after PGE₁ intracavernous injection; 10 µg), peak systolic velocity, end diastolic velocity (EDV), and resistance index (Mancini et al, 2000). Nocturnal penile tumescence and rigidity (NPT) were evaluated with a commercially available home monitor (Rigiscan©, Dacomed Corp, Minneapolis, Minn). The results of the Rigiscan© test were considered normal in case of at least 1 episode of penile tip rigidity greater than 60% and more than 10 minutes in duration during 2 consecutive nights of recording, as previously described (Hatzichristou et al, 1998).

Data were expressed as mean \pm SD when normally distributed, and as median (quartiles) for parameters with nonnormal

Table 1. Sociodemographic characteristics of the sample

Age (y)	52 ± 13
Marital status (%)	
Stable relationship living together	67.5
Stable relationship not living together	20.3
No stable relationship	12.2
Education (%)	
None/primary school	16.0
Secondary school	28.0
Secondary higher	32.6
University	23.4
Employment (%)	
Retired	33.5
Student	6.5
Unemployed	2.7
Employed	57.3
Cigarette smoking (%)	
Never smoker	27.7
Current smoker	35.4
Ex-smoker	36.9
Cannabis smoking (%)	
None	95.8
1–2 for wk	1.6
3–4 for week	1.0
>4 for week	1.6

distribution, unless otherwise specified. Differences among more than 2 groups were assessed with 1-way ANOVA or Kruskal-Wallis test, whenever appropriate. Correlations were assessed using Spearman's or Pearson's method whenever appropriate. Unpaired 2-sided Student's *t* tests were used for comparison of means of normally distributed parameters. In all other cases, the Mann-Whitney *U* test was used for comparison between groups.

Variables associated with higher MHQ-A scores at univariate analysis were categorized as *N* = 0 and *Y* = 1 or more; the categorical variables obtained were used for receiver operating characteristic (ROC) curve analysis with MHQ-A scores. The area under the curve (AUC) of the ROC analysis for each variable was calculated and assumed as an index of the accuracy of its association with free-floating anxiety score.

All statistical association among different parameters and MHQ-A scores were adjusted for Σ MHQ to discriminate the specific effect of free-floating anxiety from generic psychological disturbances.

All statistical analysis was performed on SPSS for Windows 12.1.

Results

Among the 882 patients studied, 817 (92.6%) reported ED, 317 (35.9%) HSD, and 228 (25.9%) PE. The latter problems were commonly associated with ED; in fact, isolated PE or HSD was reported by a minority (5% and 1.8%, respectively) of patients. The prevalence of free-floating anxiety was not different as a function of patient's

Table 2. Clinical and biochemical characteristics of the sample; data are expressed as mean ± SD when normally distributed, median (quartiles) when nonnormally distributed*

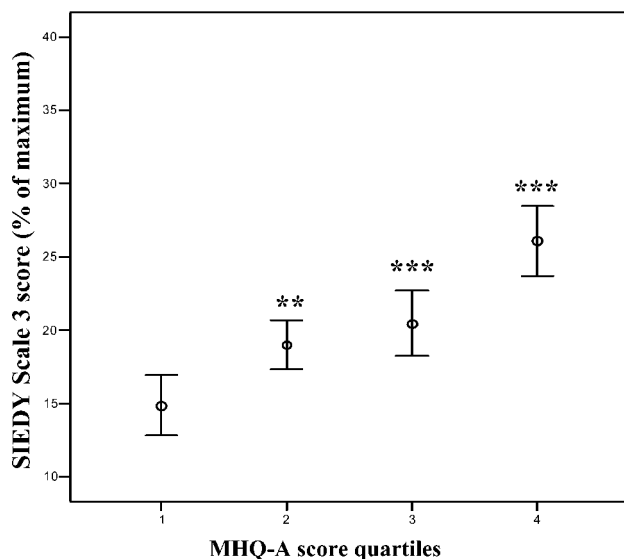
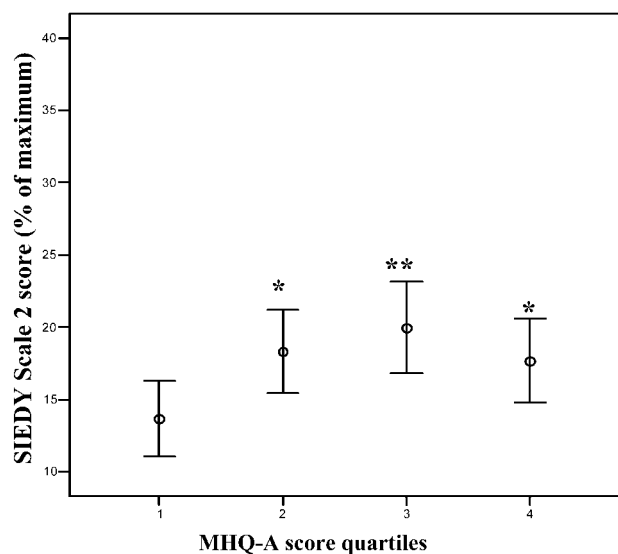
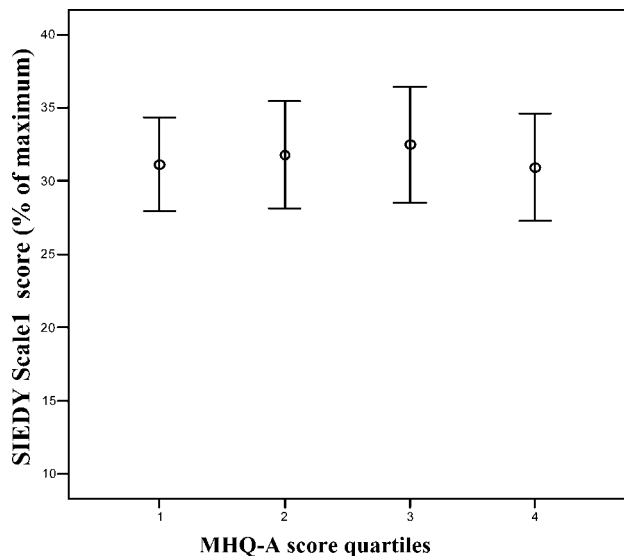
BMI (kg/m ²)	26.2 ± 4.1
Right testis volume (mL)	20.2 ± 4.4
Left testis volume (mL)	19.9 ± 4.2
Systolic blood pressure (mmHg)	140 (130–160)
Diastolic blood pressure (mmHg)	85 (80–95)
LH (U/L)	3.8 (2.6–5.2)
FSH (U/L)	4.2 (2.8–6.9)
Testosterone (nmol/L)	16.5 ± 6.3
PRL (mU/L)	163 (119–250)
PSA (ng/dL)	0.9 (.5–1.4)
TSH (mU/L)	1.5 (1.04–2.02)
Glycemia (mg/dL)	96 (87–110)
Total cholesterol (mg/dL)	204.7 ± 38.6
HDL cholesterol (mg/dL)	49.7 ± 11.8
Triglyceride (mg/dL)	128 (90–170)

* BMI indicates body mass index; LH, luteinizing hormone; FSH, follicle stimulating hormone; PRL, prolactin; PSA, prostate specific antigen; TSH, thyroid stimulating hormone; and HDL, high density level.

age or considering patients with and without stable relationship as assessed by question 5 of SIEDY© (data not shown). The sociodemographic, clinical, and biochemical characteristics of the sample are summarized in Tables 1 and 2.

Symptoms of Sexual Dysfunction

At univariate analysis, ASs were significantly ($r = .084$; $P < .05$) correlated with difficulties in maintaining erection (as expressed by question 2 of SIEDY© Appendix A). In particular, MHQ-A score was significantly higher in patients complaining of difficulties in maintaining erection in more than 25% of attempts when compared with the rest of the sample (6.5 ± 3.3 vs 5.8 ± 3.3 ; $P < .001$). The difference retained significance even after adjustment for Σ MHQ (data not shown). No difference in anxiety score was observed in patients complaining of difficulties in achieving erection or in patients without ED (data not shown). When we considered other sexual dysfunctions, symptoms of free-floating anxiety were significantly correlated with the presence of HSD and PE ($r = .150$ and $.077$, respectively; both $P < .05$). Accordingly, patients reporting HSD and PE of any degree showed significantly higher MHQ-A score when compared with the rest of the sample (6.9 ± 3.3 vs 5.8 ± 3.2 and 6.6 ± 3.3 vs 6.1 ± 3.3 , respectively; both $P < .05$). At multiple regression analysis, after adjustment for Σ MHQ, only PE retained significant correlation to MHQ-A score (adjusted $r = .051$; $P < .05$). This difference was confirmed even when patients without ED were excluded (data not shown). PE was primary in 63.2% and secondary in 26.8% of the sample. This particular characteristic of PE was not associated with anxiety score (data not shown).



A *Biological Parameters*

We did not find any significant correlation between symptoms of free-floating anxiety and the vast majority of physical, biochemical, or instrumental parameters (data not shown). Only end-diastolic velocity (EDV) at PDU was significantly ($P < .05$ at Kruskal-Wallis) correlated to MHQ-A quartiles. In particular, EDV was higher in the second vs the first quartile of MHQ-A (3 [0–5] vs 0 [1–3.8] cm/s; $P < .05$), while the third and fourth quartile of MHQ-A did not show any further significant increase over the second quartile (data not shown). No further correlations between other psychological parameters of MHQ psychometric test and EDV were observed (data not shown).

SIEDY© Parameters

No correlation was observed between SIEDY© scale 1 (which analyzed the organic component of ED) and free-floating anxiety symptoms (data not shown). Conversely, MHQ-A score was significantly and positively related to both SIEDY© scale 2 (which explores relational component of ED; $r = .101$; $P < .05$) and SIEDY© scale 3 score (which analyzes the intrapsychic component of ED; $r = .323$; $P < .0001$). Figure 1 reports the effect of different levels of free-floating anxiety (expressed as MHQ-A quartiles) on SIEDY© scales. Again, at ANOVA, only scale 2 and 3 scores results were significantly associated with higher MHQ-A quartiles ($P < .05$ and $P < .0001$, respectively). After adjustment for Σ MHQ, the correlation between MHQ-A and both scales 2 and 3 retained statistical significance (adjusted $r = .085$ and $.331$, respectively; both $P < .05$).

Relational Components

Symptoms of free-floating anxiety were significantly ($P < .005$) correlated with the presence of couple's ($r = .111$) or family's conflicts ($r = .141$) (as expressed by questions 6 and 11 of SIEDY©). Accordingly, a higher MHQ-A score was observed in patients reporting couple's or family's conflicts when compared with the rest of the sample (6.7 ± 3.1 vs 5.9 ± 3.3 and 7.1 ± 3.2 vs 6.0 ± 3.3 , respectively; both $P < .001$). All these differences were confirmed after adjustment for Σ MHQ (data not shown). Furthermore, a low climax and libido in patient's partner (as assessed by questions 8 and 9 of SIEDY© Structured Interview) was significantly associated with symptoms of free-floating anxiety ($r = .085$ and $.102$ respectively; both $P < .05$). In particular, higher MHQ-A

Figure 1. Effect of different levels of free-floating anxiety symptoms (expressed as MHQ-A quartiles) on SIEDY© scale 1 (A), scale 2 (B), and scale 3 (C) expressed as percent of maximum score. * $P < .05$, ** $P < .005$, *** $P < .0001$ vs first MHQ-A quartile.

score was observed in patients reporting in their partner a low climax or sexual desire of any degree when compared with the rest of the sample (6.5 ± 3.2 vs 5.9 ± 3.3 and 6.6 ± 3.2 vs 5.9 ± 3.3 , respectively; both $P < .05$). At multiple regression analysis, only low climax in patient's partner was significantly associated with MHQ-A after adjustment for Σ MHQ (adjusted $r = .048$; $P < .05$). Finally, patients reporting insufficient intimacy during sexual intercourse showed higher MHQ-A score when compared with the rest of the sample (7.0 ± 3.1 vs 6.1 ± 3.3 ; $P < .005$), even after adjustment for Σ MHQ (data not shown).

Life Stressors

Lower satisfaction and higher stress at work (as expressed by questions 2 and 3 of SIEDY© Structured Interview) were significantly correlated with AS ($r = .230$ and $.214$, respectively; both $P < .0001$). Accordingly, MHQ-A score was higher in patients reporting low satisfaction and higher stress at work when compared with the rest of the sample (6.8 ± 3.3 vs 5.4 ± 3.2 and 6.8 ± 3.4 vs 5.5 ± 3.1 , respectively; both $P < .0001$). Furthermore, AS were significantly ($P < .05$) correlated with cigarette ($r = .108$) and cannabis ($r = .072$) smoking. In particular, MHQ-A score was higher in patients reporting cigarette and cannabis smoking when compared with the rest of the sample (6.5 ± 3.0 vs 6.0 ± 3.5 and 7.3 ± 3.0 vs 6.2 ± 3.3 , respectively; both $P < .05$). All these differences were confirmed after adjustment for Σ MHQ (data not shown). The prevalence of AS was not correlated to number of cigarettes or to amount of cannabis consumed or to duration of smoking (data not shown). Finally, patients reporting a diagnosis of psychiatric disease or currently treated with benzodiazepine medications showed higher MHQ-A score when compared with the rest of the sample (7.7 ± 3.2 vs 6.1 ± 3.3 and 7.6 ± 3.5 vs 6.1 ± 3.2 , respectively, for psychiatric diseases and benzodiazepine; both $P < .01$). However, these differences were not confirmed at multiple regression analysis, after adjustment for Σ MHQ (data not shown).

Strength of Associations of MHQ-A Scores With Other Parameters

Figure 2 reports the ROC AUC for each variable that was significantly correlated to MHQ-A. ROC AUC is an index of accuracy of association of each variable with AS score. The presence of problems at work (ie, high stress and low satisfaction) underlies the highest AUC value for MHQ-A score (0.620 ± 0.02 and 0.612 ± 0.02 , respectively; both $P < .0001$).

Discussion

It has been generally assumed, but never demonstrated, that anxiety is one of the main determinant of ED, having

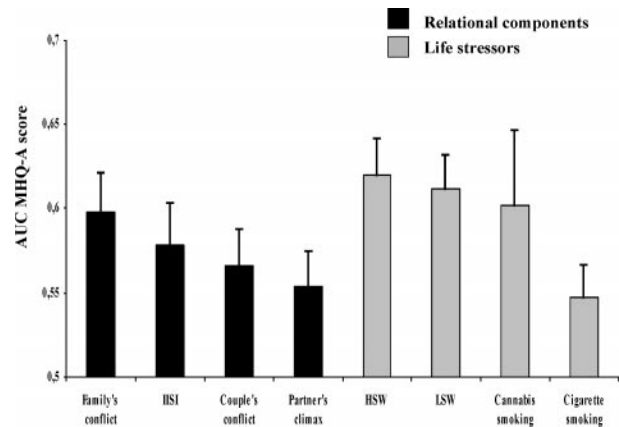


Figure 2. Area under the curve (AUC) of receiver operating characteristic (ROC) analysis for each variable found to be significantly associated with free-floating anxiety symptoms at multiple regression analysis (see text). Black bars represent AUC for family's conflict ($P < .0001$), insufficient intimacy during sexual intercourse (ISI, $P < .005$), couple's conflict ($P < .005$), partner's climax ($P < .05$). Grey bars represent AUC for high stress at work (HSW, $P < .0001$), low satisfaction at work (LSW, $P < .0001$), cannabis ($P < .05$) and cigarette ($P < .05$) smoking.

a primary role in the so-called psychogenic ED (Norton and Jehu, 1984; Krane et al, 1989; Lue, 2000; Ralph and McNicholas, 2000; Brotons et al, 2004). In fact, no systematic studies have been performed so far to investigate anxiety's biological, relational, and intrapsychic correlates in ED patients. Therefore, the notion that anxiety underlies a consistent portion of ED (at least in the less or nonorganic forms) is derived more from everyday clinical practice than from evidence-based studies. Diagnosis of anxiety-based psychogenic ED is often derived from the exclusion of an organic cause of ED, and it is mainly based on a nonpathological outcome of well-established diagnostic procedures, such as PDU, NPT, or hormonal and biochemical tests. We now report, for the first time, results on clinical correlates of free-floating anxiety in a large population of patients with ED, obtained using the aforementioned investigations along with SIEDY©, an anamnestic instrument, specifically designed and validated to simultaneously quantify the relative impact of organic, relational, and psychological domains in the pathogenesis of ED (Petroni et al, 2003). Scores of free-floating anxiety were derived from a subscale of Middlesex Hospital Questionnaire (MHQ-A), a simple psychometric instrument, originally validated to quantify psychological symptoms in a nonpsychiatric setting (Crown and Crisp, 1966).

We found that free-floating anxiety has a relevant impact in 2 of the most common male sexual problems, that is, failure to maintain erection during intercourse and premature ejaculation, confirming previous observations (Corona et al, 2004d, 2005). Moreover, as we previously reported (Corona et al, 2004d), only few patients reported PE without ED showing that, although PE is considered

the most common sexual dysfunction in males, most men start to seek medical help for this problem only after they have erectile difficulties (Waldinger, 2002). The development of PE is often coupled with ED, most probably because men having no confidence in the reliability to maintain their erection ejaculate prematurely (Corona et al, 2005). When an individual consistently experiences the self-monitoring perspective in a sexual context, sexual performance culminates with both failure to maintain erection (Corona et al, 2005) and PE (Corona et al, 2004d). Both sexual problems have been classically related to an anxiety-induced excessive sympathetic outflow, which increases smooth-muscle tone in either the penis or in the male genital tract favoring, on the one hand, penile detumescence (Krane et al, 1989; Maggi et al, 2000; Filippi et al, 2003; Brien et al, 2004; Corona et al, 2005) and, on the other hand, PE (Strassberg et al, 1987, 1990; Rowland et al, 2000; Corona et al, 2004d; Waldinger, 2004; Mancina et al, 2005). According to a previous interpretation (Aversa et al, 1996), an increased sympathetic tone might also underlie the significant association we found between anxiety scores and increased EDV, at PDU examination. In fact, it has been reported that an increased EDV could be often reversed by intracavernous administration of the alpha-adrenergic antagonist phentolamine (Aversa et al, 1996, 2000; Wilkins et al, 2003). It is noteworthy that anxiety is capable of increasing sympathetic activity (Tanaka et al, 2000).

We did not find any significant association between severity of AS and any degree of inability to obtain an erection. This is in keeping with the lack of correlation of MHQ-A scores with both basal and dynamic (after PGE-1 injection) peak systolic velocity at PDU examination and with abnormal NPT test results. In addition, hormonal and metabolic profiles were not different in patients with or without anxiety. These findings corroborate the notion that anxiety is not primarily associated with the most organic forms of ED. Accordingly, SIEDY© scale 1 score, which evaluates the organic contribution to the pathogenesis of ED, is unrelated to MHQ-A rating. In contrast, we found that free-floating anxiety was significantly associated with the other scales of the SIEDY© interview (ie, scales 2 and 3), exploring the relational and the intrapsychic domains. In ED patients, to quantify the accuracy of single SIEDY© items to variation of free-floating anxiety's score, we employed the AUC of ROC analysis. We found that problems with employment have the highest impact in free-floating anxiety score. Loss or reduced job satisfaction (item 2 of SIEDY©) might in fact impair self-esteem, pushing men to feel disgraced, weakened, and frightened, negative feelings that can be further exported to sexual life, impairing it and further increasing frustration. Negative stress at work is another obvious source of anxiety, which can be exported to private life,

damaging sexual response and therefore handicapping the patient's self-esteem which, in turn, increases anxiety and impairs performance.

Concerning relational partnership results, it is important to note that the data are derived from patients' perception and not from partner interviews. However, the data are relevant because they represent the scenario the patient is often dealing with, and therefore it mirrors the true couple relationship, at least as perceived by the patient. In addition, patient's perception of these relational life events are at the base of narcissistic perturbation, which undermines self-image, causing fear of scrutiny by the partner and further contributing to subsequent failure and performance anxiety (Hedon, 2003). For instance, an adequate climax reaction of the partner during intercourse would reinforce the patient's narcissistic ejaculatory and erectile competence, therefore corroborating his sexual self-esteem. Accordingly, in our sample, patient-perceived partner's orgasmic failure is significantly associated with anxiety, most probably because of pessimistic attribution of inadequate sexual performance with overall negative effect on gender cognition (male = dominant role in lovemaking) and related coping strategies. In addition, an overt conflict between the couple or in other domestic inhabitant relationships, with their associated negative feelings, such as hostility, resentment, and anger, might interfere with the man's ability to be sexually self-confident, generating anxiety. In fact, the majority of couples perceived that family support (or lack of support) had an effect on the quality of their couple relationship and even of their sexual life. Cross-sectional surveys, such as the present one, do not allow any speculation on causal relationship. In fact, in this sample, anxiety could be considered either a cause or a consequence of sexual dysfunction. Any speculation on pathogenetic relationship should be confirmed through prospective studies or intervention trials. A further limitation is represented by the fact that enrolled patients were all Italian men seeking help for ED in an andrology clinic; the extension of results to different settings needs caution.

In conclusion, in patients with ED-based sexual problems, higher scores in the majority of SIEDY© scale 2 and 3 items (those related to relational and intrapsychic domains, respectively) are associated with a higher score in free-floating anxiety, supporting previous views on psychogenic ED (Norton and Jehu, 1984; Krane et al, 1989; Lue, 2000; Ralph and McNicholas, 2000; Brotons et al, 2004). Although this cross-sectional study does not allow the investigation of causal relationships, it could be speculated that the cognitive component of anxiety contributes to the psychological one and is associated with performance disturbance. The resulting increased sympathetic activity might determine smooth-muscle contractions with failure to maintain erection and PE. Converse-

ly, organic problems are not primarily associated with MHQ-A scores.

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