Are subjects with erectile dysfunction aware of their condition? Results from a retrospective study based on an Italian free-call information service*

A. Aversa[1°], A.M. Isidori[2°], D. Gianfrilli[2], E.A. Greco[2], A. Graziottin[3], G. Zizzo[4], A. Lenzi[5], and A. Fabbri[6]

[1]Chair of Internal Medicine; [2]Chair of Andrology; [5]Chair of Clinical Pathology III, Department of Medical Pathophysiology, University "La Sapienza"; [4]Pfizer-Italy; [6]Chair of Endocrinology, Department of Internal Medicine, University "Tor Vergata"/AfaR-CRCCS U.O. Endocrinologia, Ospedale Fatebenefratelli Isola Tiberina, Rome; [3]Centre of Gynecology and Medical Sexology "San Raffaele-Resnati Hospital", Milan, Italy
°These authors equally contributed to the manuscript

ABSTRACT. The aim of the study was to analyse the socio-demographic and epidemiological characteristics of the Italian male population affected by sexual disturbances. Men complaining of erectile dysfunction (ED) who called the Pfizer program "Man and Woman in Health" between April 18th 2001 and May 27th 2002 and asked for information about their medical condition, were interviewed by trained doctors using a computer-assisted questionnaire. 16007 out of 25018 calls were considered for statistical analysis. Mean age of callers was 48.8±14.2 yr, reporting ED in 83% of cases. In the majority of men ED was severe (58%) and lasting more than 3 yr (25%). Multivariate analysis revealed that diabetes, depression, prostate surgery, heart disease, neurological disorders, liver and renal diseases were all significant and independent contributors to the degree of erectile impairment adjusted for age (p<0.001). The principal concomitant medications were anti-hypertensive (23%), antidiabetic (9%) and cardiovascular agents (6%). Cigarette smoking was present in 24%. On directed questioning of the caller, anxiety and distress were perceived as the most frequent causes of ED (42%) across all age groups, followed by the presence of concomitant disease/s (26%) especially in aging men. Also, a large number of men (41%) with severe ED waited for more than 3 yr before looking for medical referral. Interestingly, only 19% had ever tried any specific medication for ED. These data indicate that 5 yr after worldwide approval and release of sildenafil, ED is still largely undiagnosed and under-treated, possibly because it is still perceived as a condition mainly due to distress or advancing age and therefore not deserving medical referral. Effective prevention of ED commences with better awareness of the pathological causes by the population and modification of risk factors by the doctors.
(J. Endocrinol. Invest. 27: 548-556, 2004)
©2004, Editrice Kurtis

INTRODUCTION

Erectile dysfunction (ED) is a common problem in men, with relevant impact on the quality of life and life satisfaction of the patient (and his partner), resulting in fear, loss of self-image and self-confidence, and depression (1). Epidemiological studies to date indicate that ED is a universal problem in aging males and it has been predicted that by 2025 it will affect approximately 350 million men worldwide, with only 20% seeking treatment (2). It is generally thought that stronger efforts should be made in order to increase discussion by men with ED with their respective partners and also with physicians about the condition. The proportion of men with ED who have discussed their condition with their partner and physician is however unknown, and may be different in countries characterized by different cultural and social behaviours. Further, with the advent of new phosphodiesterase type-5

inhibitors (PDE5i), i.e. tadalafil and vardenafil along with the precursor sildenafil, the problem of ED has been widely discussed further, sildenafil playing a key role in breaking down social barriers (3). In order to give more information on the attitudes of Italian men with ED, a recent study showed that the people calling had many barriers to overcome before discussing their condition with the partner and physician (4).

In this paper we present data collected from men participating in a free-call service focused on information on ED activated in Italy during the period April 2001 – May 2002 and managed by a team of physicians trained in sexual dysfunction and related problems. This experience, although based on a selected population, may offer some information on the attitudes of Italian men with ED to discuss their condition, as well as information on concomitant disease or medication, the duration of the condition and treatment.

MATERIALS AND METHODS

In 2001 a free-call information service on ED was started. A direct mailing was made in order to inform urologists, andrologists and GPs about it. Further, the service was publicized in the lay press. Each individual who called the service was asked if he was affected by ED (defined as inability to achieve and maintain an erection sufficient for satisfactory sexual performance). In the case of a positive answer, a complete questionnaire was filled in by a trained doctor including information on age, marital status, duration of the condition, area of residence, concomitant diseases or drugs related to ED, smoking and alcohol consumption, severity and perceived causes of ED, discussion of the problem with a physician (see Appendix for details). Individuals who called the free service and spoke of themselves also needed information about ED and its treatment. Further, these subjects were asked if they had ever taken any specific medication to treat their condition and their satisfaction with the therapy. Trade names, prescriptions, or any suggestion on drugs and related producing companies were strictly avoided. Thus the study population was limited to subjects interested in being informed about sexual-related problems. Women represented only a minor subset of total number of calls (688 out of 16007). The majority of them called because of the ED of their partner (79%), while the remaining were interested in lubrification disorders, anorgasmia, etc; these calls were not included in the present analysis.

On the basis of the significantly large number of callers (more than 13000 for ED) we were able to stratify subjects according to the degree of impairment of erectile function and to evaluate the impact of various risk factors on the severity of the condition. We created a surrogate variable to measure the degree of ED on the basis of callers' answers to questions 1-3 of the questionnaire (Appendix) regarding the type, frequency and duration of ED. This new surrogate variable scoring 1 to 10 was normally distributed and was used to evaluate the impact of various risk factors for ED on the degree of impairment of erectile function in the population of callers.

Statistical analysis

Contributors to the severity of ED were investigated using multivariate regression analysis. To avoid overloading the model with independent variables and limiting its scope, reducing power, preliminary analyses were carried out to identify variables that were not contributing to the models using bivariate Spearman's correlation. We used the general linear model and logistic regression analysis to identify significant contributors and discriminators between subjects with severe ED *vs* mild-to-moderate ED with respect to the duration, frequency and degree of erectile impairment. Odds ratios for determinants of ED were calculated using logit loglinear analysis (SPSS 10.0, Chicago, Illinois, USA). All values quoted are means ± standard deviations. Significance was taken as $p < 0.05$.

RESULTS

In the period between April 2001 and May 2002 a total of 25018 subjects called the service, and 16007 were validated for statistical examination. Newspapers and periodicals represented the commonest way people discovered about the service. The reason for calling was ED in 13340 (83.3%) [inability to obtain, in 60.4%, and to maintain erection in 39.6%], premature ejaculation in 2136 (13.3%), Induratio Penis Plastica in 349 (2.2%) and a miscellaneous of other conditions with or without associated ED in 1152 (7.2%) (Fig. 1). Table 1 shows distribution of subjects according to age, marital status, duration of the condition, frequency of erectile problems and medium utilised to learn about the service. Mean age of all callers was 48.8±14.2 yr, while mean age of ED callers was 50.7±13.8 yr. In the majority of men ED was severe (58%), reporting difficulties to obtain/maintain erections nearly at every sexual attempt.
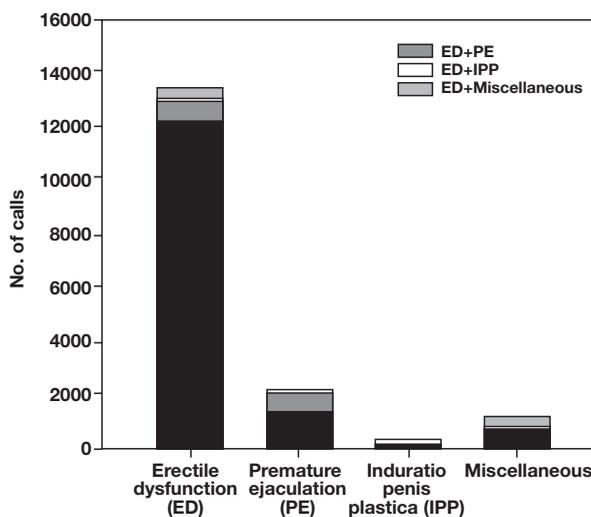

Fig. 1 - *Reason for calling the Pfizer service "Man and Woman in Health".*

Table 1 - *Characteristics of the erectile dysfunction (ED) and non-ED population of callers.*

	ED callers		Non-ED callers	
	No.	%	No.	%
Age (mean±s.d.)	50.7 ±13.8		40.5 ±13.2	
Marital status				
Single	2541	19	952	36
Married	9874	74	1611	61
Divorced	163	1.2	25	0.9
Separate	452	3.4	59	2.2
Widowed	331	2.5	17	0.6
Duration of the condition				
<6 months	2852	21.4	399	15
6 months - 1 yr	2708	20.3	356	13
1-3 yr	4129	31.0	482	18
>3 yr	3389	25.4	1128	42
No answer	262	2.0	302	11
Frequency of ED				
Less than halftimes	458	3	45	1.7
About half times	1292	10	114	4.3
More than half times	3272	25	317	12
Almost always /Always	7718	58	1315	49
No answer	600	4	876	33
How did you learn about the call service?				
Newspapers	10602	79.5	1927	72.3
Periodicals	984	7.4	240	9.0
"Specialist" Physician	22	0.2	1	0.0
General practitioners	544	4.1	114	4.3
Friends and Colleagues	156	1.2	45	1.7
Pharmacist	60	0.4	16	0.6
Hospital	151	1.1	23	0.9
Web	138	1.0	53	2.0
Other	590	4.4	167	6.3
No answer	93	0.7	0	0

Overall, 21% of subjects reported ED lasting less than 6 months, 20% reported ED lasting >6 months and <1 yr, 31% >1 yr and <3 yr, and finally 25% reported ED lasting >3 yr. In our study 25.6% of subjects calling for ED had hypertension, 11.2% had diabetes, 7.4% heart disease, 6.8% reported benign prostate hyperplasia (BPH), 6% dyslipidemia, 5.8% anxiety-stress and 4.7% depression; all other conditions had a prevalence lower than 2%. Cigarette smoking was present in 24%, whereas ex-smokers were 12.3% of subjects calling for ED. The principal concomitant medications were anti-hypertensives (23%), anti-diabetics (9%) and cardiovascular agents (6%).

Figure 2 shows the degree of ED in all subjects according to different age groups. The 10-point scale summarises in a continuous variable the degree of ED derived by numeric transformation of answers 1-3 of the questionnaires. The degree of erectile impairment was normally distributed, with a weak right skewness being the majority of callers affected by moderate or severe ED.

When callers were directly asked to express their opinion on the possible causes of their condition, the majority perceived anxiety and distress as the predominant cause of ED (42%), especially in men aged 20 to 59 yr, while co-morbidities, aging and drug assumption acquired larger weight in the older subjects (Table 2).

A high prevalence of hypertension (17-41%), diabetes (8-19%), dyslipidemia (4-7%) and BPH (1.5-23%) was found starting from the 40-49 yr age group and above, while heart disease was more prevalent (13-30%) starting from the 60-69 yr age group (Table 3). Interestingly, the habit of cigarette smoking weighed significantly throughout all age-groups (>15%) with a tendency toward a decrease from the 70-79 age group (Table 3), whereas the number of ex-smokers increased steadily with age. Prevalence of other conditions had a smaller impact on ED in our population. We investigated the contribution of these co-morbidities on the severity of ED by using logistic regression analysis. At first we entered each factor independently and then we developed a forward selection model in order to include only those factors that added significant contribution to the model (Table 4). Age, hypertension, diabetes, dyslipidemia,
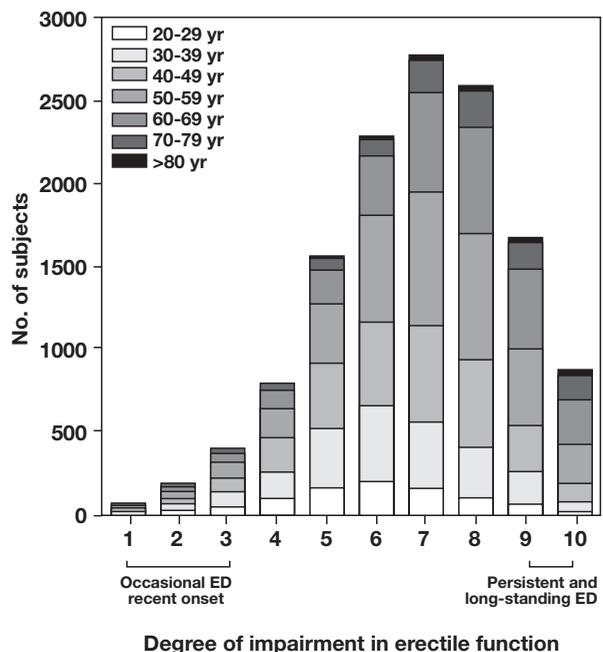

Fig. 2 - *Severity of erectile dysfunction (ED) in all subjects according to age groups.*

Table 2 - *Perceived causes of erectile dysfunction in various age groups. Data are reported as percentages of calls (no.-13340).*

Age group	Anxiety Distress	Diseases	Aging	Drugs	Coupie Issues	Other
Total	41.8	25.8	7.9	4.8	6.4	13.3
<20	66.7	0.0	4.8	2.4	2.4	17.9
20-29	67.7	5.4	0.3	0.8	5.5	19.2
30-39	65.4	9.9	0.2	2.4	9.4	17.3
40-49	58.1	20.6	1.6	3.8	9.9	13.6
50-59	43.1	34.6	6.0	6.4	7.4	14.4
60-69	26.4	43.7	16.4	8.6	4.6	13.5
70-79	15.0	45.8	36.4	6.4	2.9	10.5
>80	8.9	35.5	54.0	3.2	1.6	6.5

depression, prostate surgery, BPH, hepatic and renal disease, neurological and cardiovascular diseases each turned out to be significant determinants of severe ED. The odds ratios for these conditions are reported in Table 4. When a step-forward selection model was developed to identify those with a risk factor that independently of age contributed to the severity of ED, only diabetes mellitus, depression, prostate surgery, heart diseases, neurological disorders, liver and renal diseases turned out to be significant contributors. Multivariate analysis revealed that when specific medications, such as anti-hypertensive and anti-diabetic drugs, were added to the model they did not add any further explanation compared to the presence of the disease (hypertension or diabetes, *p*>0.05). Among life-style habits, we found

that ex-smokers, but not drug or alcohol abusers, nor active smokers, had a higher risk of severe ED. Therefore, we investigated the presence of co-morbidities among smokers and ex-smokers and we found that the group of ex-smokers had a higher prevalence of hypertension (38% *vs* 23%) heart disease (15% *vs* 6%), diabetes mellitus (17% *vs* 10%) and dyslipidemia (13% *vs* 5%) (*p*<0.01, for all). Table 5 describes the time to seek medical help reported from patients with severe ED. Interestingly, 51% (5599/10913) of patients experiencing ED 'most of the times or always' had never looked for medical referral before contacting the service (41% among those with severe ED lasting more than 3 yr, 1239/ 3021), while only 3.6% (390/10913) had contacted a specialist before 6 months from the onset of symp-

Table 3 - *Prevalence of various risk factors for erectile dysfunction according to age group (%).*

	<20	20-29	30-39	40-49	50-59	60-69	70-79	>80
Hypertension	1.19	0.69	4.79	16.90	29.94	41.11	40.89	34.90
Diabetes Mellitus	0.00	0.60	1.50	7.69	14.83	17.84	19.46	10.48
Dyslipidemia	0.00	0.10	2.04	5.13	7.15	6.85	6.83	4.03
Depression	0.00	2.58	4.39	5.16	4.36	3.28	2.90	2.42
Endocrine disorders	0.00	0.50	0.90	1.26	1.26	1.03	0.83	0.81
Liver diseases	0.00	0.20	0.80	1.05	1.79	1.61	0.52	0.81
Renal disease	0.00	2.38	0.20	0.43	0.67	0.68	1.24	0.81
Anxiety – Stress	2.38	4.37	8.42	7.19	5.81	4.28	2.90	1.61
Traumatic injuries of the CNS	0.00	0.00	0.35	0.29	0.08	0.18	0.00	0.00
Prostate Surgery	0.00	0.00	0.05	0.29	1.84	6.28	11.70	12.10
Prostatitis	0.00	1.39	3.09	3.11	2.63	2.78	2.38	2.42
BPH	0.00	0.00	0.45	1.48	5.73	12.92	16.15	22.58
Tumors	0.00	0.10	0.20	0.18	0.50	1.25	1.66	0.00
Neurological diseases	0.00	0.40	1.30	0.90	2.09	2.25	1.66	0.81
Heart diseases	0.00	0.40	0.55	2.06	6.51	12.85	20.08	29.03
Smokers	34.52	30.95	27.87	27.19	25.59	15.49	9.73	4.84
Alcohol abuse	2.38	3.67	3.54	3.39	3.91	2.93	3.00	0.81
Drug's addiction	2.38	1.98	0.75	0.11	0.00	0.00	0.10	0.00
Ex-smokers	0.00	1.88	3.39	6.03	10.95	13.13	13.56	11.29

CNS: central nervous system; BPH: benign prostatic hipertrophy.

Table 4 - *Odds/ratio (OR) of various risk factors for the severity of erectile dysfunction (ED) (severe vs mild-to-moderate ED) in all subjects. .*

	Calling for ED (no.= 12740)	
	OR	95% CI
Hypertension*°	1.45	1.34-1.57
Diabetes Mellitus*°	1.97	1.77-2.20
Dyslipidemia*	1.35	1.17-1.56
Depression*°	1.69	1.44-1.98
Endocrine disorders	0.95	0.68-1.34
Liver diseases*°	1.81	1.32-2.47
Renal disease*°	1.75	1.39-2.21
Anxiety Disorders	0.94	0.81-1.10
Traumatic injuries of the CNS*	2.47	1.07-5.71
Prostate Surgery*°	2.63	2.13-3.25
Prostatitis	0.93	0.75-1.15
BPH*°	1.31	1.14-1.50
Tumors*	1.71	1.12-2.60
Neurological diseases*°	1.90	1.45-2.50
Heart diseases*°	1.97	1.73-2.24
Smokers	0.90	0.82-0.98
Alcohol abuse	0.76	0.62-0.93
Drug's addiction	0.44	0.21-0.93
Ex-smokers*°	1.46	1.29-1.65

CNS: central nervous system; BPH: benign prostatic hipertrophy.
*: $p<0.05$, at χ^2-test; ° $p<0.01$ at logistic regression analysis.

toms. (Table 5). Amongst all callers, 71% had never tried any treatment for ED and only 19% were using any specific medication mainly represented by sildenafil (data not shown), particularly those affected by severe ED (Fig. 3).

DISCUSSION

The aim of the call-center service was mainly for individuals inquiring about their sexual condition and to help them to locate the nearest medical centers with recognized andrological and urological units. Subjects were invited to talk about their sexual problems using a computer-assisted questionnaire (see Appendix). Open discussion with the trained doctor was encouraged in order to help the individual to grasp the problem, seek medical help and thus adequate suggestions for

treatment. The individuals described here cannot be considered a representation of men with ED in Italy, since no control group was available. However, a significant advantage of the present data here reported is that the freecall service was "user-friendly" and completely anonymous allowing even the more refrained subjects to speak about their condition and seek help. This is confirmed by the fact that up to 41% of men suffering from severe ED for more than 3 yr had never sought medical help or discussed it with their GP, but finally ended up calling the service. Furthermore, 41.8% did believe that their sexual problems were mainly due to the presence of anxiety and distress despite 1/3 of them reporting concomitant diseases. This is consistent with a similar study by Mirone et al., who showed that only 39.2% of subjects from their series reported their condition to a physician before calling the service (4). In our study, a large proportion of men still waited an average of 3 yr before seeking professional help and only 18% of callers had received specific treatment for their condition (Fig. 3). We believe that the large amount of data collected in this study may have disclosed some aspects that remained submerged in other epidemiological studies. First, the key role of communication issues, a missed earlier diagno-
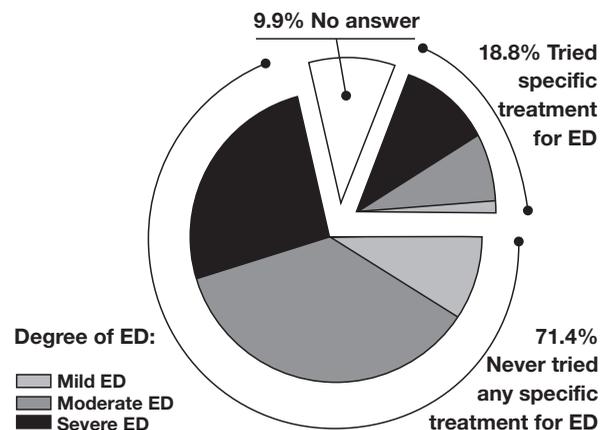

Fig. 3 - *Attempts to treatment in the population of callers with respect to the severity of erectile dysfunction (ED).*

Table 5 - *Time to seek medical help in patients "experiencing erectile dysfunction (ED) most of the time or always".*

	<6 months	6-12 months	1-3 yr	>3 yr	Total
No contact	1410 (64%)	1183 (55%)	1767 (50%)	1239 (41%)	5599
General practitioner contacted	395 (18%)	504 (24%)	794 (22%)	615 (20%)	2308
Specialist contacted	390 (18%)	458 (21%)	991 (28%)	1167 (39%)	3006
Total	2195	2145	3552	3021	10913

Percentages refer to columns.

sis by the primary physician being a key factor in the delay. Second, the ignorance (or denial?) of concomitant diseases as a major risk factor for ED in patients' perception. Third, the importance of understanding the impact of this delay on the partners' sexuality, attitude and emotional wellbeing, is an aspect still too often neglected. In addition, 15% of subjects called because of premature ejaculation with no ED symptoms. This subgroup of individuals, although significantly small, was used as a control for the ED group. Despite all the limitations of the present study, we noticed that the characteristics of the calling group compared well with that of subjects with ED observed in several previous epidemiological studies conducted in Italy and throughout the world (5, 6).

In our study population hypertension, diabetes mellitus, depression, ex-smoking habits turned out to be significant determinants of severe ED. Jaffe et al. found that, in contrast to the common belief, there was little difference between hypertensive and normotensive men with respect to a wide range of classic determinants of ED (7). However, Bulpitt et al. reported that 17% of untreated hypertensives had ED while only 7% of normotensive men of comparable age were affected (8). In a group of 472 men being evaluated for ED, 117 (24.8%) had hypertension (9). In the Massachusetts Male Aging Study (MMAS) the age-adjusted probability of complete ED was 15% in men with treated hypertension compared with 9.6% in the entire study (8, 10). Slag et al. remarked that medications were the likely cause of ED in 25% of affected men (11). In the study by Chew et al., half of the 373 patients (52.0%) with hypertension reported ED with 26.0% having complete ED, and although hypertension appeared to have a significant association with complete ED by the χ^2 test ($p<0.001$) the odds ratio did not confirm hypertension to be an independent risk factor (12). In our study 25.6% of men calling for ED had hypertension; among these 45.5% had severe ED, compared with men without hypertension where the prevalence of severe ED was of 36.4% χ^2 test , $p<0.01$, data not shown). Contrary to Chew's study, we found that the odds ratio for severe vs mild-to-moderate ED in men with hypertension was 1.45 (95% CI: 1.34 to 1.57).

Thus, we showed that hypertension might affect the severity of ED, suggesting that a careful management of hypertension and anti-hypertensive medication should be done while treating patients for ED. Multiple regression analysis revealed that when hypertension was included in the analysis addition of anti-hypertensive medication did not add any further explanation to the severity of ED.

Approximately half of the diabetic men are estimated to complain of ED. A large study by Fedele et al. was reported from Italy and looked at nearly 10000 men with diabetes mellitus (DM) (13). Nearly 36% reported moderate-to-severe ED, ranging from 4.6% in young men to 45.5% in older men. The impact was higher with increased duration of DM, poorer control, Type-2 vs Type-1 DM and presence of complications. Giuliano et al. evaluated data in over 7000 men, 32% of whom had DM (14). Of these, 67% felt they had ED. Interestingly, 78% of men with both DM and hypertension felt they had the problem. Also, two-thirds of these men had not been previously evaluated or treated and over two-thirds wished to be treated. This highlights the importance of having primary care physicians to address the issue of ED in their office. Schiel et al. looked at the prevalence of sexual dysfunction in a selection-free diabetic population composed of both sexes (15). The prevalence in men was 32% for Type-1 DM and 46% for Type-2 DM, while the prevalence was 18% in women with Type-1 DM and 42% in women with Type-2 DM. In our study, 11.2% of subjects calling for ED had diabetes. Among these, 53.4% had severe ED, compared to men without diabetes where the prevalence of severe ED was 36.8% χ^2 test, $p<0.01$, data not shown). Moreover, the odds ratio for severe vs mild-to-moderate ED in men with diabetes was 1.97 (95% CI: 1.77 to 2.20). In accordance to the study by Fedele et al., we found up to 19% of men complaining of DM who believed that ED was due to anxiety more than to the disease itself, once more underlining the discrepancy between perceived and real causes of ED.

Parazzini et al. found an association between cigarette smoking and the risk of ED (16). They found that the risk was similar in current and ex-smokers and increased with the duration of the habit (17). In the present study we found that ex-smokers had a significant risk for a more severe ED, while current smoking was not associated with the severity of ED. This finding, apparently contradictive, can be explained by the fact that in the group of ex-smokers the prevalence of hypertension, cardiovascular disease, diabetes and dyslipidemia was significantly higher than in the group of smokers (38% vs 23%, 15% vs 6%, 17% vs 10%, and 13% vs 5%, $p<0.01$). It is reasonable to assume that, at least in part of the population, the reason for smoking cessation was the occurrence of co-morbidities such as cardiovascular and metabolic diseases.

Anxiety plays a major role in the development of the problems associated with ED resulting from a combination of different causes, which com-

prehends organic and psychogenic factors. Very often, anxiety may overlap with depression or sexual desire disorder due to a normal response to personal and health issues; and not a pathological response (18). However, when depression associated with ED persists for years, it may undermine the neurobiology of sexual drive, causing co-morbidity with secondary loss of sexual desire and reduced mental arousal, an aspect that deserves further evaluation. In parallel, depression dramatically affects the quality of sexual behaviour, couples' interactions and the likelihood of a positive response to a partner's sexual cues for fear of another sexual failure. Psychological and behavioural responses to ED can then lead to a vicious cycle of increased uneasiness, the couple's distance, avoidance of intimacy and conflicts. This in turn leads to a lower frequency of sexual encounters, less time spent together and lack of communication between partners in a relationship. Several studies have shown that there is an association between ED and depression, the severity of the former increasing with the severity of depression. At the maximum degree of depression, the age-adjusted probability of moderate-to-severe ED was nearly 90%, as compared with 59% for medium-grade depression and 25% for mildly depressed men in the Massachusetts study (19). Using data from the same study, Araujo et al. further investigated the association between ED and depression (20). The prevalence of depressive symptoms was constant across the age range in this cohort, averaging some 12%. After adjustment of potential confounders including age, depression was associated with a nearly two-fold increased likelihood for ED than in non-depressed controls. The use of antidepressant medications, which may also increase the prevalence of ED (19), did not affect the odds ratio (20). In our study, depression was significantly associated with the presence of severe ED (OR 1.69, CI: 1.44 to 1.98), suggesting that neuropsychiatric disease may have a profound impact on sexual functioning.

Our results clearly indicate that age, hypertension, diabetes, depression, prostate surgery and neurological diseases all contributed independently to the severity of ED in our population. Although these findings are of limited value in the management of single patients care, they suggest new secondary prevention strategies on a restricted number of factors in order to arrest the progression of endothelial damage leading to ED. This is particularly important in view of the fact that very effective and nearly free of adverse effect oral drugs, such as PDE5i, may rapidly lose their efficacy if primary conditions are not treated adequately, forcing patients to seek more invasive treatments. This aspect is reflected by the discrepancy found between the perceived cause of ED by the individual callers and the presence of several associated medical conditions that are likely to have played a significant role in the development of ED, but are apparently neglected by the patients as possible causes for their ED. It is reasonable that an effective prevention and earlier treatment of ED has to commence from a better awareness of the pathological causes of the condition by the general population. ED sufferers' communication difficulties should be acknowledged, as they currently remain a major obstacle towards an earlier diagnosis of ED and of predisposing, precipitating and maintenance factors. Primary care physicians, and specialists caring about diseases highly associated with ED, should make sexual history a routine part of their clinical investigation from the very first visit. This would break the "collusion of silence" (the physician does not ask, the patient does not dare to disclose), encouraging patients to disclose their sexual difficulties earlier. The benefit for the patient would be threefold. The earlier the diagnosis and treatment of ED is made, the higher is the likelihood of: 1) a reduction in the natural progression of associated systemic diseases, and a change of inappropriate life styles, like cigarette smoking, which are leading predisposing factors; 2) a better compliance of recommended treatments, its inadequacy being a major precipitating factor of ED together with secondary affective disorders, depression first; which diminishes the motivation to comply with therapy; 3) the reduction of maintenance conditions, like reactive depression, worsening of couple communication and avoidance of intimacy in both partners. Couple issues may become critical in the maintenance of the problem, in causing co-morbidity with loss of libido, and concurring to drop-outs from effective treatments of ED when help is asked too late after the onset. Last but not least, an earlier diagnosis promoted by a caring physician would reduce the long-lasting negative psychosexual effects on the partner that could be caused by neglecting a sexual problem for years.

ACKNOWLEDGMENTS

APPENDIX

Q01. Reason for calling
☐ Erectile dysfunction
☐ Failure to obtain or
☐ Failure to maintain
☐ Premature ejaculation
☐ Induratio penis plastica
☐ Other

Q02. Time of onsets of symptoms
☐ No answer
☐ <6 months
☐ 6 months - 1 yr
☐ 1-3 yr
☐ >3 yr

Q03. Frequency of symptoms
☐ No answer
☐ Less than half times
☐ About half times
☐ More than halftimes
☐ Almost always / Always

Q04. Perceived causes of erectile dysfunction by patient
☐ Stress and anxiety
☐ Concomitant diseases (hypertension, diabetes, etc.)
☐ Age
☐ Drugs
☐ Couple problems
☐ Other

Q05. Concomitant diseases
☐ Hypertension
☐ Diabetes
☐ Atherosclerosis / Dyslipidemia
☐ Depression
☐ Endocrine diseases
☐ Liver diseases
☐ Renal diseases
☐ Stress / anxiety
☐ Neurological injuries
☐ Prostate / Colon surgery
☐ Prostatitis
☐ benign prostatic hipertrophy
☐ Neurological diseases
☐ Heart diseases
☐ Smoke
☐ Alcohol
☐ Drug's addiction
☐ Other
☐ Ex smokers

Q06. Concomitant medication
☐ Antihypertensives
☐ Cardio-active drugs
☐ Antidepressants
☐ Antidyslipidemics
☐ Antiepileptycs
☐ Chemotherapeutic agents
☐ Antacids
☐ Anabolic steroids
☐ Anxiolitics
☐ Antiandrogens / Anti prostate cancer
☐ Antiarthritis
☐ Benign prostatic hipertrophy drugs
☐ Other

Q07. Did you tackle the problem with
☐ None
☐ Partner
☐ General practitioner
☐ Specialist
Which specialist did you consult?
_____

Q08. If you didn't tackle the problem this was because of
☐ Shame
☐ You believe that it is an age related problem
☐ It is a problem correlated to stress
☐ You don't trust in drugs
☐ You think that your general practitioner is not adequate
☐ Fear of drugs dependence
☐ Other

Q09. Actual therapies for erectile dysfunction
☐ Yes
☐ No

Q10. How many times did you take erectile dysfunction medications in the last months?
☐ No answer
☐ 1 time
☐ 2 times
☐ 3 times
☐ 4 times
☐ 5 times

REFERENCES

1. Kubin M, Wagner G, Fugl-Meyer AR. Epidemiology of erectile dysfunction. Int J Impot Res 2003, 15: 63-71.

2. Ayta IA, McKinlay JB, Krane RJ. The likely worldwide increase in erectile dysfunction between 1995 and 2025 and some possible policy consequences. BJU Int 1999, 84: 50-6.

3. Fabbri A, Aversa A, Isidori A. Sildenafil and erectile dysfunction. J Endocrinol Invest 1999, 22: 486-92.

4. Mirone V, Gentile V, Zizzo G, et al. Did men with erectile dysfunction discuss their condition with partner and physicians? A survey of men attending a free call information service. Int J Impot Res 2002, 14: 256-8.

5. Braun M, Wassmer G, Klotz T, Reifenrath B, Mathers M, Engelmann U. Epidemiology of erectile dysfunction: results of the 'Cologne Male Survey'. Int J Impot Res 2000, 12: 305-11.

6. Ricci E, Parazzini F, Mirone V, et al. Current drug use as risk factor for erectile dysfunction: results from an Italian epidemiological study. Int J Impot Res 2003, 15: 221-4.

7. Jaffe A, Chen Y, Kisch ES, Fischel B, Alon M, Stern N. Erectile dysfunction in hypertensive subjects. Assessment of potential determinants. Hypertension 1996, 28: 859-62.

8. Bulpitt CJ, Dollery CT, Carne S. Change in symptoms of hypertensive patients after referral to hospital clinic. Br Heart J 1976, 38: 121-8.

9. Muller SC, el Damanhoury H, Ruth J, Lue TF. Hypertension and impotence. Eur Urol 1991, 19: 29-34.

10. Feldman HA, Goldstein I, Hatzichristou DG, Krane RJ, McKinlay JB. Impotence and its medical and psychosocial correlates: results of the Massachusetts Male Aging Study. J Urol 1994, 151: 54-61.

11. Slag MF, Morley JE, Elson MK, et al. Impotence in medical clinic outpatients. JAMA 1983, 249: 1736-40.

12. Chew KK, Earle CM, Stuckey BG, Jamrozik K, Keogh EJ. Erectile dysfunction in general medicine practice: prevalence and clinical correlates. Int J Impot Res 2000, 12: 41-5.

13. Fedele D, Coscelli C, Santeusanio F, et al. Erectile dysfunction in diabetic subjects in Italy. Gruppo Italiano Studio Deficit Erettile nei Diabetici. Diabetes Care 1998, 21: 1973-7.

14. Giuliano F, Leriche A, Jaudinot EO, Solesse de Gendre A. Erectile dysfunction in patients with diabetes and/or hypertension. Eur J Int Med 2001, 12: 240 (Abstract).

15. Schiel R, Muller UA. Prevalence of sexual disorders in a selection-free diabetic population (JEVIN). Diabetes Res Clin Pract 1999, 44: 115-21.

16. Parazzini F, Menchini FF, Bortolotti A, et al. Frequency and determinants of erectile dysfunction in Italy. Eur Urol 2000, 37: 43-9.

17. Mirone V, Imbimbo C, Bortolotti A, et al. Cigarette smoking as risk factor for erectile dysfunction: results from an Italian epidemiological study. Eur Urol 2002, 41: 294-7.

18. Aversa A, Rocchietti-March M, Caprio M, Giannini D, Isidori A, Fabbri A. Anxietyinduced failure in erectile response to intracorporeal prostaglandin-E1 in non-organic male impotence: a new diagnostic approach. Int J Androl 1996, 19: 307-13.

19. Shabsigh R, Zakaria L, Anastasiadis AG, Seidman AS. Sexual dysfunction and depression: etiology, prevalence, and treatment. Curr Urol Rep 2001, 2: 463-7.

20. Araujo AB, Johannes CB, Feldman HA, Derby CA, McKinlay JB. Relation between psychosocial risk factors and incident erectile dysfunction: prospective results from the Massachusetts Male Aging Study. Am J Epidemiol 2000, 152: 533-41.