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Self-Reported Shorter Than Desired Ejaculation Latency and Related Distress—Prevalence and Clinical Correlates: Results From the European Male Ageing Study

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ABSTRACT

Background: Few data have looked at the occurrence and clinical correlates of self-reported shorter than desired ejaculation latency (rapid ejaculation, RE) and its related distress in the general population.

Aim: To determine the prevalence and clinical correlates of self-reported RE and RE- related distress in middle age and older European men.

Methods: Subjects were recruited from population samples of men aged 40-79 years across 8 European centers.

Outcomes: Self-reported RE and its related distress were derived from the European male Aging Study (EMAS) sexual function questionnaire (EMAS-SFQ). Beck's depression Inventory (BDI) was used for the quantification of depressive symptoms, the Short Form 36 health survey (SF-36) for the assessment of the quality of life, the International Prostate Symptom Score (IPSS) for the evaluation of lower urinary tract symptoms.

Results: About 2,888 community dwelling men aged 40-79 years old (mean 58.9 ± 10.8 years) were included in the analysis. Among the subjects included, 889 (30.8%) self-reported RE. Among them, 211 (7.3%) claimed to be distressed (5.9% and 1.4% reported mild or moderate-severe distress, respectively). Increasing levels of RE-related distress were associated with a progressive worse sexual functioning, higher risk of ED and with couple impairment, along with a higher prevalence of depressive symptoms (all $P < 0.05$). Furthermore, a worse quality of life and higher IPSS score were associated with RE-related distress (all $P < 0.05$). The aforementioned results were confirmed even when patients using drugs possibly interfering with ejaculation or those without a stable relationship were excluded from the analysis.

Clinical Implications: RE is a frequent condition in men from the general population; however, its related distress is relatively modest. Nonetheless, men with any degree of self-reported RE show increasing levels of depression, worse quality of life and worse couple satisfaction.

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Strengths & Limitations: This is the first study estimating the prevalence of self-reported RE and its related distress, along with their biological and psychological correlates, in a population sample of European middle age and older men. However, is should be recognized that the diagnosis of RE was derived from patient reports and not supported by Intra-ejaculatory-Latency-Time (IELT) measurements.

Conclusion: Self-reported RE is relatively common in European men aged more than 40 years. The reported limited RE-related distress may explain the relatively low number of medical consultations for RE. RE-related distress is associated with worse sexual function, couple impairment, and more LUTS resulting in a worse quality of life and mood disturbances. **Corona G, Rastrelli G, Bartfai G, et al. Self-Reported Shorter Than Desired Ejaculation Latency and Related Distress—Prevalence and Clinical Correlates: Results From the European Male Ageing Study. J Sex Med Rev 2021;xx:xxx−xxx.**

Key Words: Premature Ejaculation; Erectile Dysfunction; Quality of Life; Distress; Couple

INTRODUCTION

Premature ejaculation (PE) is recognized as the commonest sexual dysfunction in men.[1] In Western countries, its estimated prevalence ranges from less than 3% up to 30%[1] with even higher rate in Asia-Pacific regions.[2] The huge range of variation reflects the presence of two main problems: lack of a standardized and widely accepted definition, along with different instruments used to detect its prevalence.[1] In 2008, the International Society for Sexual Medicine (ISSM) developed the first evidence-based definition of life-long PE.[3] Some years later ISSM updated criteria for life-long PE along with the introduction of acquired PE definition.[4] In particular, a self-estimated or a stopwatch intra-ejaculatory latency time (IELT) of one or three minutes was identified as a valid temporal cut-off for diagnosing lifelong or acquired PE, respectively.[4] Besides IELT timing, another important caveat for making the PE diagnosis is the inability to delay ejaculation in all, or nearly all, vaginal penetrations and, finally, the presence of clinically significant distress, including bother, frustration, and/or the avoidance of sexual intimacy.[3,4] A clinically significant distress is also the main keystone in the PE definition released by the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5[5]). Finally, the International Classification of Disease (ICD) − in its last 2019 version, proposed a cut-off of 15 seconds or less after penetration as possible definition of PE (https://icd.codes/icd10cm/F524). Despite what is reported in the international definitions, it should be recognized that the objective definition of PE based on IELT has been criticized. In particular, there is a huge disparity in the prevalence of objectively measured PE using an IELT-derived cut-off less than one minute (~2.5%), when compared to that derived from men subjectively self-reporting PE (20-40%[6-8]). In order to overcome this problem, Waldinger and Schweitzer[9] introduced the concept of two new groups of PE, besides the pre-existing life-long and acquired PE. Variable PE identifies an inconsistent early ejaculation, which occurs irregularly, and it is associated with an impression of diminished control of ejaculation. The time of ejaculation can be reduced or normal.[9] Finally, subjective PE is a condition characterized by a subjective perception of consistent or inconsistent rapid ejaculation with IELT usually in the normal range.[9]

PE remains an under detected and under treated condition.[10,11] At the present time, there is a lack of comprehensive population data regarding the prevalence and attitudes of men with PE.[12-14] The few available data on PE prevalence in Europe derived, through telephone or web interviews, from a study conducted in Germany and Italy and in the US; the Premature Ejaculation Prevalence and Attitudes (PEPA),[13] or from the extrapolation of European data from the Global Study of Sexual Attitudes and Behaviours (GSSAB).[14] In the GSSAB, European PE prevalence ranged from 9-15%, whereas in PEPA it was estimated around 20%. Both studies were pharma sponsored, which represents a major limitation. In addition, in both studies, the definition of PE was self-reported, without a temporal threshold. In particular, GSSAB was based on a single item, while in PEPA it was based on two items, dealing with lack of control and concerns for the couple.[13,14]

The European Male Aging Study (EMAS) is a population-based study performed in more than 3400 community dwelling men aimed at investigating the effects of aging-related decline in endocrine function (e.g., decrease in circulating T) on physical, psychological, and sexual function.[15-18] Data on sexual function were obtained through the validated tool sexual function questionnaire (EMAS sexual function questionnaire (EMAS-SFQ; 19). Considering that EMAS-SFQ does not include information on timing to ejaculation,[19] the aim of this analysis was to i) determine the prevalence of subjects reporting shorter than desired ejaculation latency, here defined as self-reported "rapid ejaculation", (RE) and its related distress in different regions and populations of men across Europe, and ii) to determine the lifestyle, hormonal, sexual function, mood, marital and low urinary tract factors associated with self-reported RE and RE-related distress.

METHODS

Participants and Design

An age-stratified sample of 3369 men aged 40−79 (mean ± SD, 60 ± 11) years was recruited from population registers in eight European centers: Manchester (United Kingdom), Leuven (Belgium), Malmö (Sweden), Tartu (Estonia), Lodz (Poland), Szeged (Hungary), Florence (Italy) and Santiago de Compostela (Spain). There were no specific exclusion criteria apart from subjects being able to provide written, informed consent. Overall, the mean response rate for full participation in the EMAS study was 41% (3369 out of 8416 invited subjects). The study was funded by the European Union and ethical approval was obtained in accordance with local institutional requirements in each center. In the present study only subjects completing all sections and information concerning orgasm were considered (n = 2884).

Measures

Participants completed at baseline a postal questionnaire including information about self-reported health, employment, education, smoking, and alcohol consumption as well as the presence of concomitant morbidities.[15-18] In particular, the level of education was derived from the age when subjects left full-time education. They also attended a research clinic to complete an interviewer-assisted questionnaire and undergo clinical assessments. Current prescription and non-prescription medication use was recorded during the interview. The validation methods used in the EMAS study were previously published.[19] In particular, in selecting the questionnaire instruments, preference was given to those that had been previously translated and validated in each of the participating centers' languages. If this was not possible, such as in the case of the EMAS sexual function questionnaire (EMAS-SFQ) in order to minimize language differences, questionnaires were initially translated from the original English version to the local language by a professional translator. The translated questionnaires were then sent to each center where they were back-translated into English and checked for authenticity. Further modification of the translated questionnaires by each center was then carried out if required. In addition, to guarantee the highest possible quality control and standardization a number of steps were implemented before the study start including several workshops helded across each center to train the local study coordinators and key research personnel.

The questionnaires included the Short Form-36[20] questionnaire a tool which assesses health related quality of life, Becks Depression Inventory[21] a tool which assesses depressive symptoms (BDI); IPSS= International Prostatic Symptom Score[22] and the EMAS sexual function questionnaire (EMAS-SFQ, 19). The EMAS-SFQ consists of 16 items assessing sexual functioning, sexual function-related distress and change in sexual functioning compared to one year ago, and it has been found to exhibit excellent reliability and validity.[23] The five domains from the EMAS−SFQ used in the present analysis were: overall sexual functioning (OSF), sexual-function-related distress (SFD), change in sexual functioning (CSF) compared to one year earlier, masturbation and erectile dysfunction (ED). The OSF, SFD and CSF scores are all derived from 5 self-report items. Items in the OSF score were: frequency of sexual thoughts, sexual intercourse, petting, morning erection and orgasm. SFD items were worrying about: frequency of desire, sexual intercourse, erection, morning erection and orgasm, and CSF items were change in: desire, sexual activities, erection, morning erection and orgasm. Low scores on the OSF and higher scores on the SFD and CSF represent poorer sexual functioning. Single item score was used for ED. Development and validation of the EMAS-SFQ has been described previously.[23]

Overall, couple (non-sexual) satisfaction was investigated using a specific five-point question derived from question of the EMAS−SFQ (question #2): "How satisfied have you been with your general (non-sexual) relationship with your partner? (response set = very satisfied / moderately satisfied / about equally satisfied and dissatisfied / moderately dissatisfied / very dissatisfied).

Self-reported shorter than desired ejaculatory latency (rapid ejaculation, RE) was here defined using a specific five-point question derived from question of the EMAS−SFQ (question #14): "How satisfied have you been with your sense of control over the timing of your orgasm? (Not being satisfied with "timing" can mean either taking too long to climax or climaxing too early in the course of sexual activity; response set = extremely satisfied / highly satisfied / moderately satisfied / slightly satisfied /not at all satisfied). Those subjects who reported to be moderately, slightly or not at all satisfied due to an orgasm occurring "too early" (question #14a) were considered as self-reported RE. In addition, RE-related distress was investigated using a further question from the EMAS-SFQ (question #15): "Are you worried or distressed by your current orgasmic experience? (response set = not at all / a little bit / moderately / very worried / extremely worried). We categorized those with not at all or a little bit of worry as 'no distress' those with moderate worry as 'mild distress' and those who were very worried or extremely worried as 'moderate / severe distress' .

Hormone Measurements and Biochemistry

A single fasting morning (before 10:00h) venous blood sample was obtained and processed serum stored at -80 C. Measurements of prolactin (PRL), thyroid-stimulating hormone (TSH), free thyroxin (FT4) and sex hormone binding globulin (SHBG) were performed using a chemiluminescence immunoassays (Modular Roche, Milan, Italy). Testosterone (T), DHT and estradiol (E2) were assayed by gas chromatography-mass spectrometry (GC-MS).[24] Free testosterone (cFT) levels were derived from measurements of total T, sex hormone−binding globulin, and albumin as previously reported.[25]

Biochemistry and Metabolic Syndrome

Analyses for high-density lipoprotein (HDL) cholesterol and triglycerides were performed locally in all centers using commercially available enzymatic methods. Fasting serum glucose was measured using standard hexokinase enzymatic assays. All clinical pathology laboratories were accredited by the relevant national authorities and adhered to current guidelines on Good Laboratory Practice as specified by EU Directive 2004/9/EC.[24]

Statistics

Descriptive statistics were used to summarize the response variables from the EMAS-SFQ by age-decade and center. Where applicable, one-way ANOVA or the Chi-square test were used to compare values or proportions between groups. Correlations were assessed using Pearson's or Spearman's method for normally or non-normally distributed data; respectively. In addition, unpaired two-sided Student's t tests were used for comparison of means of normally distributed parameters. In all other cases, Mann-Whitney U test was used for comparisons between groups. Stepwise multiple linear, logistic binary regression or analysis of covariance (ANCOVA) with Bonferroni correction were applied for multivariate analyses, whenever appropriate. Multivariate analyses were adjusted for possible confounders including age, calculated free testosterone (cFT) levels, smoking habit, level of education, co-morbidities and centers. The main results obtained were confirmed after the exclusion of people reporting the current use of antidepressants and/or antipsychotic medications. All analyses were performed using SPSS version 25 (SPSS Inc., Chicago, IL, USA).

RESULTS

Subjects

Of 3,369 subjects included in the study, the sexual function questionnaire was completed by 3,112 men (93% response rate). Not all subjects completed all sections and information concerning orgasm was available for 2,884 men. The baseline characteristics of these subjects are shown in Supplementary Table 1. The vast majority of the subjects declared a stable relationship. Hypertension, diabetes and a history of a previous cardiovascular event were the most common associated morbidities (Supplmentary Table 1)

Prevalence of RE & RE-Related Distress

Among the 2884 subjects with information about orgasm, 889 (30.8%) reported to be unsatisfied about their orgasm timing with their orgasm occurring too early, and were classified as self-reported shorter than desidered ejaculation latency (RE). Among subjects with self-reported RE, 211 (7.3%) reported to be distressed; 171 (5.9%) reported mild distress, while 40 (1.4%) reported to be either moderately or severely distressed. The prevalence of both self-reported RE and RE-related distress increased as a function of age, peaking in the 5th decade (36.2%) and decreasing thereafter (Table 1). Manchester had the highest and Santiago the lowest prevalence of self-reported RE, whereas subjects from Leuven and Santiago reported the highest and the lowest prevalence of RE-related distress, respectively (Table 1). Subjects with self-reported RE were younger (57.1 ± 9.8 vs 59.8 ± 11.1 years; $P < 0.0001$) and had higher calculated free T levels (302.4 ± 85.9 vs 289.3 ± 88.8 pM; $P < 0.0001$), when compared to those not reporting RE. However, after adjusting for age, the difference in free T levels became non-significant. There was no difference in total T and E2 levels between subjects with or without self-reported RE (Supplementary Table 2). Finally, age and cFT levels were similar in subjects with or without RE-related distress (Supplementary Table 2). No association between self-reported RE and RE-related distress with all other biochemical or hormonal parameters investigated was observed (Supplementary Table 2).

Sexual Function

When EMAS-SF questionnaire sub-scales were evaluated, no difference in overall sexual function score (OFS) was observed when men without self-reported RE were compared to those with RE but without RE-related distress (Figure 1, panel A). However, those with RE report significant worse sexual functioning as compared to the previous year (change in sexual functioning, CSF, scoring, Figure 1, panel B). In addition, men with self-reported RE have more often severe ED than those without (Figure 1, panel C). Interestingly, both OSF and CSF progressively worsened as a function of increasing levels of RE-related distress (Figure 1, panel A and B, respectively) and men with RE-related distress have a stepwise decrease in erectile function, when compared to the rest of the sample (Figure 1, panel C). By applying a logistic multivariate regression model, and after adjustment for age, cFT levels, smoking, level of education, co-morbidities and study center, the risk of moderate-severe ED progressively increased from patients with self-reported RE without distress to those with more severe degree of distress (Figure 1, panel D). Subjects with self-reported RE, with or without RE-related distress declared a lower frequency of coital or not coital (petting) sexual activities during the previous week, when compared to those without RE (Figure 1, panel E and F). Differences were even more evident if self-reported RE was associated with increasing levels of distress (Figure 1, panel E and F).

All these associations were confirmed in the same multivariate regression model, when subjects declaring to currently use drugs potentially interfering with the ejaculatory function (i.e. antidepressants and antipsychotic medications; Supplementary Table 3 or alpha-blockers, 5-alpha reductase inhibitors and phosphodiesterase type 5 inhibitors; see Supplementary Table 4) or when those reporting no stable relationship (n = 225; see Supplementary Table 5) were excluded from the analysis.

No association between self-reported RE and masturbation domain was observed in either unadjusted or adjusted analyses. The possible relationship between self-reported RE and SFD was

Table 1. Prevalence of self-reported rapid ejaculation (RE) and its related distress

	Age band (years)				
	40-49 (n = 761)	50-59 (n = 803)	60-69 (n = 714)	70 & over (n = 606)	All (n = 2.884)
	Number (percent)				
Rapid ejaculation	255 (33.5)	291 (36.2)	225 (31.5)	118 (19.5)	889 (30.8)
RE-related distress					
Mild	43 (5.7)	57 (7.1)	46 (6.4)	25 (4.1)	171 (5.9)
Moderate-severe	4 (0.5)	14 (1.7)	15 (2.1)	7 (1.2)	40 (1.4)
Overall	47 (6.2)	71 (8.8)	61 (8.5)	32 (5.3)	211 (7.3)

	Center							
	Florence (n = 355)	Leuven (n = 368)	Malmö (n = 339)	Manchester (n = 343)	Santiago (n = 353)	Łódź (n = 355)	Szeged (n = 372)	Tartu (n = 377)
	Number (percent)							
Rapid ejaculation	96 (25.5)	118 (32.1)	119 (34.7)	124 (35.1)	77 (21.7)	110 (32.5)	127 (34.1)	118 (31.3)
RE-related distress								
Mild	22 (5.8)	34 (9.2)	19 (5.5)	20 (5.7)	6 (1.7)	17 (5.0)	24 (6.5)	29 (7.7)
Moderate-severe	7 (1.9)	8 (2.2)	3 (0.9)	4 (1.1)	1 (0.3)	5 (1.5)	6 (1.6)	6 (1.6)
Overall	29 (7.7)	42 (11.4)	22 (6.4)	24 (6.6)	7 (2.0)	22 (6.5)	30 (8.1)	35 (9.3)

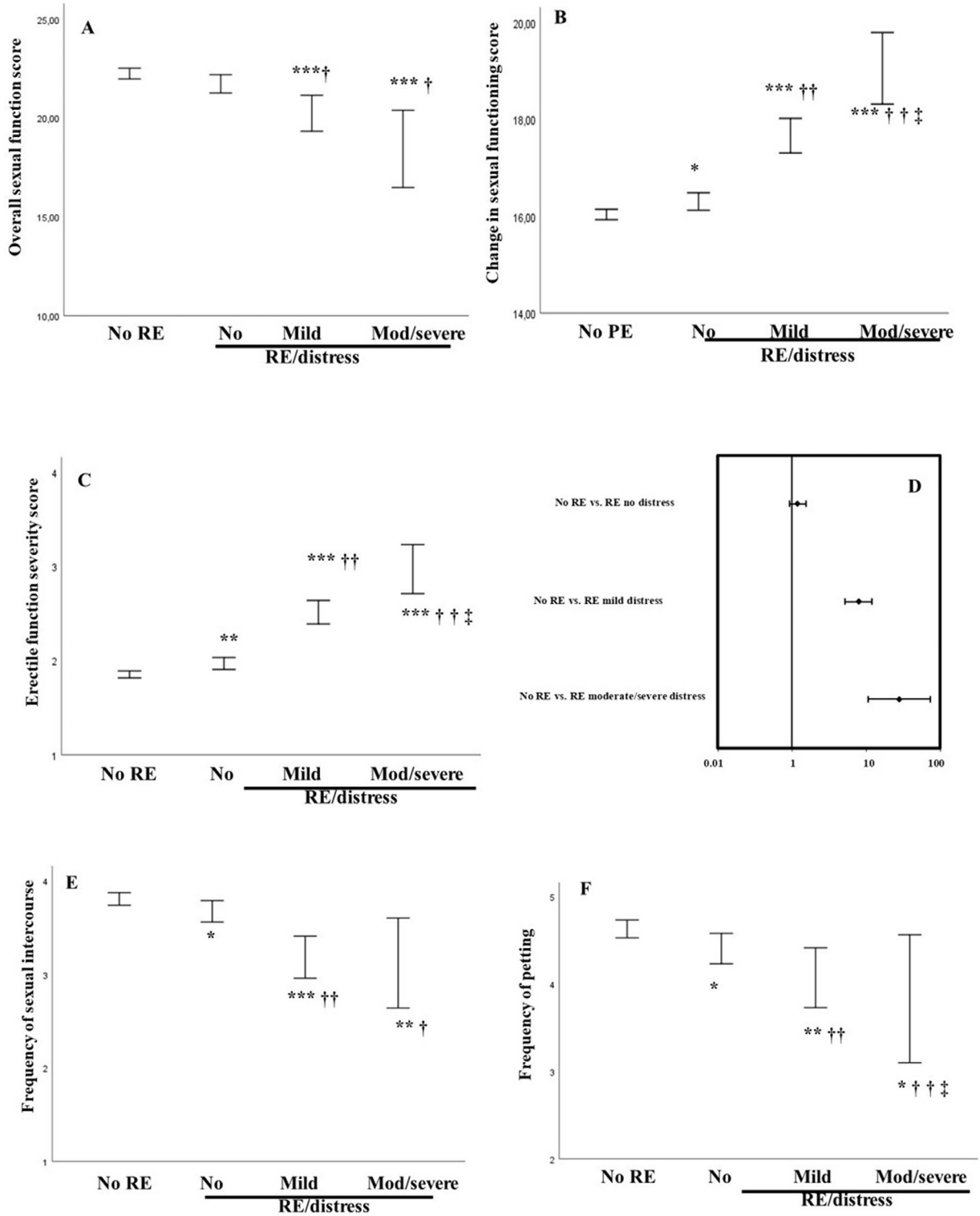

Figure 1. Adjusted association between rapid ejaculation (RE) and its related distress with several items derived from European Male Aging Study sexual function questionnaire: (A) overall sexual function score; (B) change in sexual function score compared to the previous year; (C) erectile function severity score; (E) frequency of sexual intercourse/week; (F) frequency of petting/week. (D) Risk of moderate-severe erectile dysfunction in subjects with PE with or without distress in comparisons to those not reporting PE. * <0.05 vs no PE; ** <0.01 vs no PE; ***<0.0001 vs no PE. † < 0.05 vs PE but without distress; †† < 0.0001 vs PE but without distress; ‡<0.005 vs PE and mild distress.

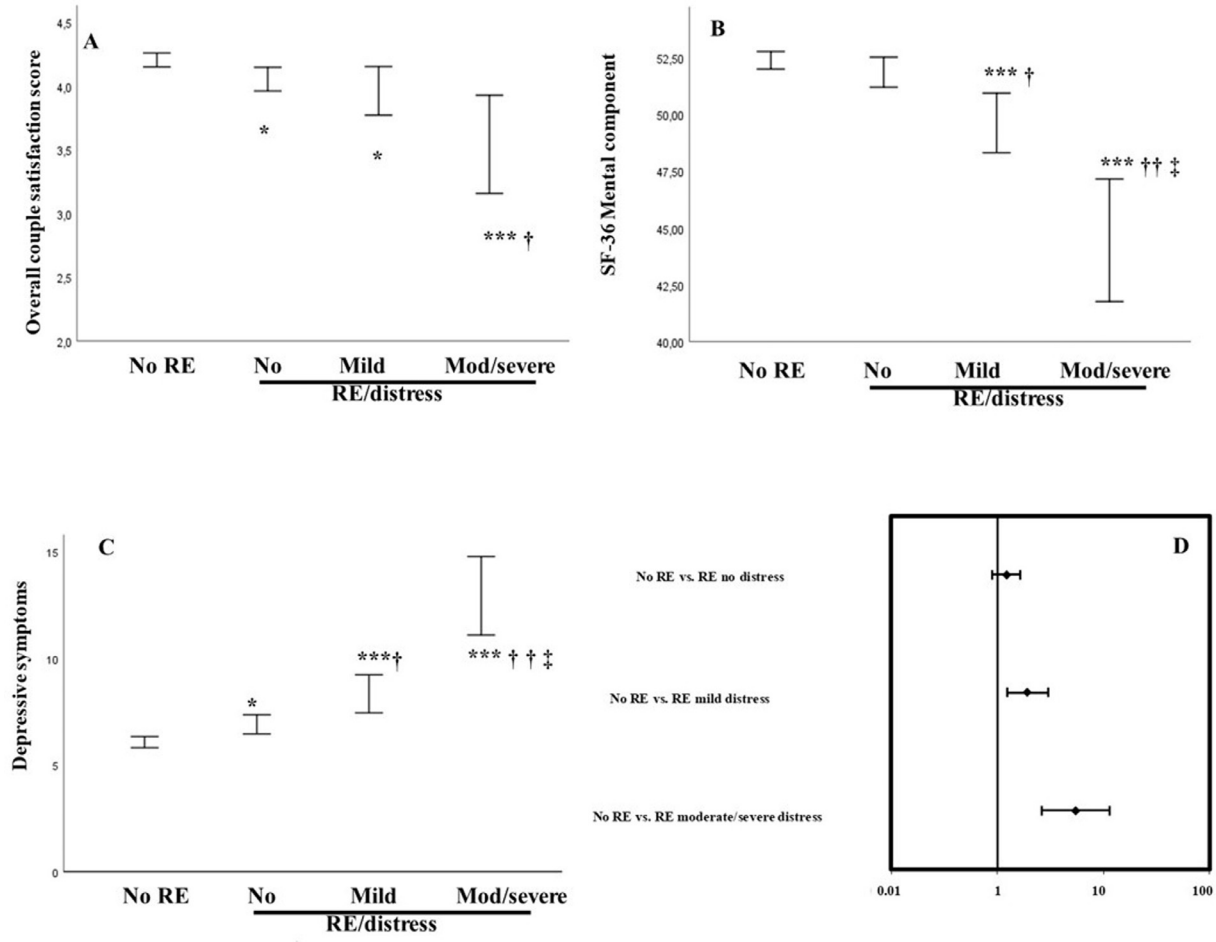

Figure 2. Adjusted association between rapid ejaculation (RE) and its related distress with overall couple satisfaction (A) quality of life as derived from mental component of the Short Form Health Survey (SF-36; B), depressive symptoms as derived from Beck Depression Inventory (BDI) score (C). (D) Risk of depression (BDI score > 17) in subjects with RE with or without distress in comparisons to those not reporting RE. *<0.05 vs no RE; **<0.005 vs no RE; ***<0.0001 vs no RE; † < 0.005 vs RE but no distress; †† < 0.0001 vs RE but no distress; ‡<0.0001 vs RE and mild distress.

not investigated, considering that the orgasm-related distress item is included in the definition of the SFD domain.

Couple Fitness

General couple satisfaction progressively decreased as a function of self-reported RE and its related distress (Figure 2, panel A). Differences were confirmed in a multivariate model when subjects using drugs potentially interfering with ejaculatory function (i.e. antidepressants and antipsychotic medications; Supplementary Table 3 or alpha-blockers, 5-alpha reductase inhibitors and phosphodiesterase type 5 inhibitors; see Supplementary Table 4) or when those reporting no stable relationship (n = 225; see Supplementary Table 5) were excluded from the analysis.

Depressive Symptoms and Quality of Life (QoL) Measures

No significant difference in the physical component of SF-36 score was found among groups (not shown). When the mental component of the SF-36 questionnaire was analyzed, only subjects with RE-related distress scored progressively lower when compared to either individuals with self-reported RE but without distress or without RE (Figure 2, panel B). Accordingly, depressive symptoms, as detected by BDI, progressively increased as a function of severity of RE-related distress (Figure 2, panel C). However, also men with self-reported RE, but without distress, have a significantly higher BDI scoring than those not reporting RE. By applying a logistic multivariate regression model, after adjustment for confounders, the risk of clinically significant depression (BDI score > 13) progressively increased from patients with self-reported RE without distress to those with a more severe level of bother (Figure 2, panel D).

The differences in BDI and mental component of SF-36 score were confirmed in a multivariate model when subjects using drugs potentially interfering with ejaculatory function (i.e. antidepressants and antipsychotic medications; Supplementary Table 3 or alpha-blockers, 5-alpha reductase inhibitors and phosphodiesterase type 5 inhibitors; see Supplementary Table 4) or when those

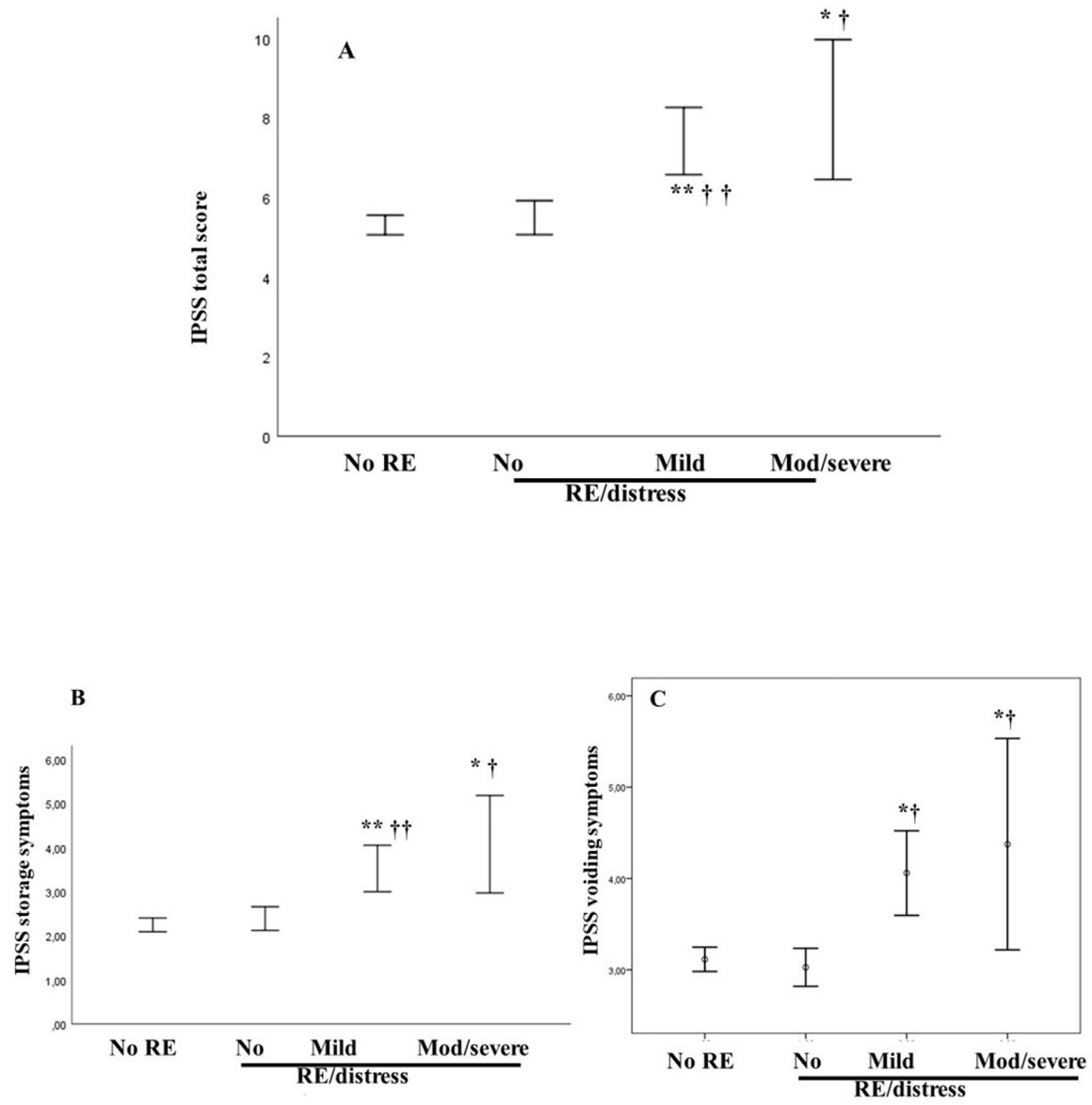

Figure 3. Adjusted association between rapid ejaculation (RE) and its related distress with International Prostatic Symptoms Score total score (A), storage (B) and voiding symptom (C) and sub-scale scores.*<0.001 vs no RE; **<0.0001 vs no RE; † < 0.005 vs RE but no distress, † † < 0.0001 vs RE but no distress.

reporting no stable relationship (n = 225; see Supplementary Table 5) were excluded from the analysis.

Low Urinary Tract Symptoms (LUTS)

LUTS scoring, as detected by IPSS, was progressively higher in subjects with RE-related distress, when compared to those without RE or with self-reported RE but without related bother (Figure 3, panel A). Conversely, no difference in IPSS total score was observed between subjects without RE and those with self-reported RE but without distress and between men who reported mild or more severe RE-related bother (Figure 3, panel A). A similar trend was observed when storage or voiding symptoms IPSS subdomains were considered individually (Figure 3, panels B-C). All these differences were confirmed by applying a multivariate model adjusting for the aforementioned confounders and excluding subjects using drugs potentially interfering with ejaculatory function (i.e. antidepressants and antipsychotic medications; Supplementary Table 3 or alpha-blockers, 5-alpha reductase inhibitors and phosphodiesterase type 5 inhibitors; see Supplementary Table 4) or when those reporting no stable relationship (n = 225; see Supplementary Table 5) were excluded from the analysis.

DISCUSSION

This is the first study estimating the prevalence of self-reported shorter than desidered ejaculatory latency (RE) and its related distress, along with their clinical and biochemical

correlates, in a population sample of European middle aged and elderly men. Our results show that one in three men report RE, though only a small proportion (7%) were significantly distressed by it. Increasing levels of RE-related distress were associated with a progressive decline in overall sexual functioning and with an increased level of couple impairment, along with a higher prevalence of depressive symptoms. Furthermore, as expected,[2-4] a worse quality of life (as assessed by SF-36) and more LUTS were associated with RE-related distress. Finally, individuals with any form of RE, with or without related distress, were more likely to have increasing levels of depressive symptoms and of erectile dysfunction, more likely to avoid sexual and non-sexual (petting) stimulation and more likely to have an impaired couple relationship.

Our data confirm that self-reported shorter than desidered ejaculatory latency represents a very common sexual condition observed in the general population (31%). Previous analysis from the same cohort showed a similar prevalence of other sexual symptoms, including ED (30%) and reduced sexual desire (28%).[18] Similar data have been previously reported in other studies conducted in Europe[13,14,26] and elsewhere.[2,12] In particular, the prevalence of self-reported RE appears to be similar to that reported on one of the first study on this topic including 100 couples from the US and published more than 40 years ago.[27] Interestingly, only a minority of subjects (7%) declaring to be bothered about RE, and even a smaller proportion of men had moderate or severe distress (1.4%). In keeping with these data, we recently reported that among 4024 men (mean age 51.2 years) seeking medical care for sexual dysfunction, only a minority of them (1.8%) consulted only for RE, whereas the vast majority consulted for ED (68.8%) or for a combination of ED and RE (19.4%).[28] These data suggest that a perceived too early ejaculation is considered a normal variant of sexual functioning by the majority of subjects and only when it results in relevant RE-related distress or it is associated with ED will it lead to consultation. The specific factors leading to the development of RE-related distress and medical consultation are far to be elucidated. Personal expectations, fear of not satisfying the partner through intercourse or in other ways, wish to extend personal pleasure during intercourse as well as the development of ED represent important clinical points that might bring many subjects to search help for RE. Hence, negative personal consequences of RE, more than an unsatisfactory control of orgasm timing *per se*, constitute a relevant concern that, eventually, may need treatment. Notwithstanding, self-reporting RE men, even without apparent distress, show worse erectile function, higher depressive symptoms, and a lower frequency of sexual intercourse, petting and couple satisfaction. In fact, a large body of evidence has documented a negative impact of RE on partner sexual function and QoL. In a population sample of 3,104 sexually active adult Italian women aged 18 to 80 years, partners of PE subjects reported an increased prevalence of sexual distress and anxiety, along with a reduced quality of sexual life.[29] Similar results were reported by other studies.[30-33] In can be speculated that the combination of patient embarrassment, guilt, worry, tension, and fear of failure, associated with partner's reduced sexual fitness, can eventually lead to marital problems, reducing couple sexual or non-sexual wellbeing (present study and see for review 34). It should be recognized that female sexual dysfunction including anorgasmia, hypoactive sexual desire, sexual aversion, sexual arousal disorders, and sexual pain disorders such as vaginismus may be the cause, rather than necessarily the consequence of PE.[35]

The cross-sectional nature of the present study does not allow clarifying the specific impact of partner sexual functioning on subjects self-reporting shorter than desidered ejaculatory latency and its related distress. However, the association between RE, mood disturbances and overall couple satisfaction independent of RE-related distress emphasizes the need of including the partner evaluation in all subjects with RE-related distress. Accordingly, RE can be perceived by the patients as incapacity to satisfy their partner lading to the development of marital problems and depression.[33-35]

Depressive symptoms are also associated with the presence of increasing levels of self-reported RE distress. In particular, a pathological BDI scoring was progressively detected only in subjects who were distressed by RE, increasing as a function of distress level. It is well known that PE is often associated with low self-esteem, anxiety, feelings of shame and inferiority inducing to the development of depression and reduced QoL.[36-39] The PEPA study showed that patients with PE had significantly higher levels of depressive and anxiety symptoms, when compared to those without PE.[14] Furthermore, in a recent meta-analysis including eight trials involving 18,035 patients older than 18 years of age and suffering from PE, depression was significantly associated with a higher risk of PE (OR = 1.63, 95% CI:1.42-1.87).[40]

As previously reported, erectile function progressively decreases as a function of RE and its related distress. However, only individuals with RE-related distress had an increased risk of moderate-severe ED. The association between ED, sexual function impairment and RE is not surprising. A previous meta-analysis, including data from 18 studies and up to 60,000 patients, showed that men with PE had an almost three-fold increased risk of ED, when compared to those without PE.[41] In a population survey of 2,997 subjects in nine Asian-Pacific countries, ED was present in more than 30% of men with PE.[2] A similar, or even higher, prevalence of the association between PE and ED was documented in the PEPA survey,[14] and in another large Italian study, investigating the characteristics of PE subjects, randomly selected from patient lists of general practitioners.[26] Jannini et al[42-43] hypothesized that PE and ED share a vicious cycle, where a man trying to control his ejaculation unconsciously reduces his level of excitation, possibly leading to ED. On the other hand, a man trying to achieve an erection may attempt to increase his excitation possibility resulting in PE. This hypothesis was confirmed in the aforementioned meta-analysis, dealing with the relationship between PE and ED.[40] In fact, besides a lower

IIEF scoring detected in subjects with PE, we also found a reduced IELT scoring in subjects reporting ED.[40] The specific (generating and maintaining) factors linking ED and PE are far from being completely clarified. We recently described the specific characteristics of men complaining of both ED and PE, when compared to those reporting only PE or ED[28] in a large sample of subjects seeking medical care for sexual dysfunction. Subjects with both PE and ED had similar characteristics to those consulting only for ED, whereas those seeking medical care only for PE were younger and reported a lower prevalence of associated morbidities and lower predicted cardiovascular risk, even when adjusted for age.[28] In the present study, men reporting any level of RE show similar scoring in SF-36 physical function and similar hormonal and metabolic parameters than the rest of the sample. ED risk in subjects with RE increases only when RE is associated with RE concerns, being higher in those complying of higher distress. The results were confirmed even after the adjustment for confounding factors including associated morbidities.

Another interesting, although expected,[44-50] finding was the association between RE and LUTS symptoms (IPSS). Screponi et al,[44] suggested almost 20 years ago a possible association between PE and prostatitis. A recent study - performed in a cohort of 329 patients seeking medical care for distressing PE - documented that PE was associated with higher IPSS total score, as well as with higher storage and voiding subscales, when compared to no PE.[45] Our data are in keeping with that study.[45] It is well known that PE is the most frequent sexual condition in cohorts with chronic prostatitis (CP) or chronic pelvic pain syndrome (CPPS).[46,47] On the other hand, a high prevalence of CP has been reported in patients primarily presenting with PE.[46,47] Accordingly, some authors have documented that antibiotic treatment is able to delay ejaculation in patients with CP-associated PE.[48,49] Specific pathogenetic mechanisms underlying the association between prostatitis and PE are not completely understood. One hypothesis is that prostatic inflammation may lead to an altered perception of the ejaculatory reflex.[49]

Our study was large, population based, and used standardized instruments in assessment. There are, however, several limitations to be considered in interpreting the results. First of all, the use of the EMAS-SFQ is limited out from the EMAS study. The definition of shorter than desidered ejaculatory latency (RE) was derived from patient self-report and not confirmed by IELT measurements; however, most other epidemiological studies have been conducted using similar criteria.[12-14] The single item question used for RE assessment has no time limits, so patients with both lifelong, acquired and variable RE were analyzed. In addition, the question does not distinguish between masturbation and intercourse, so the response may be affected by the patient's feeling about his control during masturbation. However, present data did not show any association between self-reported RE and EMAS-SFQ masturbation domain supporting that information obtained mainly refers to patient sexual activity. Possible inconsistency between the severity of distress reported by the patient and the authors' interpretation can have occurred. The present results were derived in a mixed population of subjects with or without a stable relationship. Hoverer, all the main results were confirmed when those subjects reporting no stable relationship were excluded from the analysis. ED was not assessed by classic tools such as International Index of Erectile Function. Self-reported information in population surveys may be subject to errors of recall, however, any such misclassification would if anything tend to reduce the chance of finding significant biological associations. Some authors have reported that when all the aforementioned information is adequately considered the prevalence of PE is much lower than that reported in the present study and on the order of 5% or less.[51] The overall response rate in EMAS was 41%. The possibility that those who took part differed from self-reported RE and related distress compared to those who declined to participate cannot be excluded. Those subjects reporting RE may have unrealistic expectations about which duration of sexual performance is "normal". It may be, therefore, the relatively young men have the highest prevalence of RE. No information directly derived from subject partners is available, hence the interpretation of results on the impact of RE-related distress on relational and psychological issues is speculative and may need studies centered on the couple. Those who were invited but did not attend may have been more or less likely to have RE than those who did, so some caution is needed in interpreting the prevalence data, though it is unlikely to have influenced the observed biological relationships, which were based on an internal comparison of responders. Finally, the inclusion of subjects older than 40 years has potentially missed a great deal of younger adults with sexual concerns including those with PE.

In conclusion, self-reported shorter than desired ejaculation latency is relatively common affecting just under a third of European men aged more than 40 years, however, only a relatively small proportion are distressed by it. The latter observation may explain, at least partially, the relatively limited number of subjects consulting for RE. RE-related distress is associated with worse sexual function, couple impairment, and more LUTS resulting in a worse quality of life and mood disturbances.

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