Epidemiology of premature ejaculation

Emmanuele A. Jannini[a] and Andrea Lenzi[b]

Purpose of review

Accumulating evidence suggests that premature ejaculation is the most common sexual symptom. This review focuses on the epidemiology of premature ejaculation from geographical and medical perspectives.

Recent findings

In the past year many articles have been published using the data from the Global Study of Sexual Attitudes and Behaviors, a large survey that investigated various aspects of sex and relationships among 27 500 men and women aged 40–80 years. Despite some methodological bias, discussed herein, a prevalence of more than 21% seems a realistic figure for premature ejaculation.

Summary

Premature ejaculation is the most prevalent sexual dysfunction in every country.

Keywords

epidemiology, erectile dysfunction, premature ejaculation

Curr Opin Urol 15:399–403. © 2005 Lippincott Williams & Wilkins.

[a]Course of Medical Sexology and Endocrinology, Department of Experimental Medicine, University of L'Aquila, L'Aquila, Italy and [b]Chair of Endocrinology, Department of Medical Physiopathology, University of Rome 'La Sapienza', Rome, Italy

Correspondence to Professor Emmanuele A. Jannini MD, Course of Medical Sexology and Endocrinology, Department of Experimental Medicine, University of L'Aquila, Coppito, Building 2, Room A2/54, 67100 L'Aquila, Italy
Tel: +39 0862 433530; fax: +39 0862 433523; e-mail: jannini@univaq.it

Current Opinion in Urology 2005, 15:399–403

Abbreviations

CIPE	Chinese Index of Premature Ejaculation
GSSAB	Global Study of Sexual Attitudes and Behaviors
IELT	intravaginal ejaculation latency time
PRO	patient-reported outcome

0963-0643

Introduction

Compared with other sexual symptoms, such as the more studied erectile dysfunction, premature ejaculation has some unique characteristics [1]. It is a culture-dependent symptom that is self-identified, self-reported, and self-rated with respect to severity. Both the etiology and the consequences of premature ejaculation are psychorelational. It is a hidden condition, to date, considered as exclusively psychogenic in nature. In comparison with other sexual symptoms, premature ejaculation is not generally perceived as a problem and is believed to be a nonmedical issue. Finally, there is no universally accepted definition of premature ejaculation. Due to these reasons, the knowledge of its real prevalence is not easy to obtain.

An important aspect of the future treatment of premature ejaculation is the changing perception of sex and relationships, which involves the remapping of the cultural values associated with sexual function. An evaluation of premature ejaculation epidemiology should look beyond the traditional taxonomy of psychological and organic factors and consider the additional contribution of relational and sociocultural factors. In most cases, these four domains – organic, psychological, relational, and sociocultural – coexist in patients with premature ejaculation as interdependent factors. It is this interplay that leads to the new view of premature ejaculation as a psychoneuroendocrine [2] and urologic [3] disorder that affects the couple. Conventional premature ejaculation algorithms, however, are still based on the organic–psychogenic dichotomy with the psychogenic factor being traditionally considered as the main etiological cause. The distinction between psychosocial (or psychodynamic) and organic (or medical) causes has the corollary that psychological premature ejaculation should be treated by a psychosexologist, while organic premature ejaculation must be cured by an andrologist. The division into these mutually exclusive groups is not only inappropriate in most cases but also based on inadequate epidemiological grounds.

Insight into differences in reported prevalence

Premature ejaculation is an age-dependent symptom: it is anecdotally considered to be widespread in adolescents, young adults, and other sexually naive males. Its high prevalence in young and inexpert men, hypothesized by a number of theorists, was recently confirmed in a selected population of 755 Italian patients attending an

outpatients clinic for sexual dysfunction. Patients reporting premature ejaculation were in fact younger and showed a higher prevalence of anxiety symptoms than the rest of the sample [4••]. The prevalence of premature ejaculation in patients aged less than 40 years was higher than 40% while in patients aged more than 70 years, it was less than 10%.

From an epidemiological perspective, premature ejaculation has been reported as the most common male sexual symptom with global prevalence rates estimated at approximately 30% [5] or even 40% [6]. Its epidemiology, however, has not been firmly established, and the lack of robust epidemiological studies renders its true prevalence still unknown. Nevertheless, the data from an international survey investigating the attitudes, behaviors, beliefs, and sexual satisfaction of 27 500 men and women aged 40–80 years [7••] give an indication of reported prevalence rates across various European regions and beyond. The Global Study of Sexual Attitudes and Behaviors (GSSAB) can be considered as an international poll of people's attitudes towards sex and sexual dysfunction although it is not a true epidemiological survey. As sexual health issues are strongly characterized by culture and religion, the same terminology may have different interpretations across countries and/or regions. Clearly, premature ejaculation will be perceived, reported, and treated differently according to these sociocultural factors. Local and regional variations identified in the GSSAB must therefore always be considered in the context of different cultural, religious, and political influences.

Another core limitation of the GSSAB survey stems from the fact that the youngest participants were aged 40 years, an age when the incidence of premature ejaculation is, or should be, lower than in younger, sexually inexperienced males. Conversely, it must also be taken into consideration that because of cultural and age-related reasons, mature men may be more likely to seek professional help for sexual problems [8•].

A further important aspect regards the variation in the perception of the symptom between the man and his partner. In their historic survey on human sexuality, Kinsey *et al.* [9] rejected the notion that premature ejaculation is a sexual dysfunction in which they found that 75% of men ejaculated within 2 min of penetration. Conversely, something must have changed in the last half of the century. In fact, in the Multi Country Concept Evaluation and Assessment of Premature Ejaculation (MCCA-PE), the perception of the time taken for an average man to ejaculate varied enormously from 7 to 14 min [10,11••,12•]. Furthermore, this estimate (which is actually a subjective opinion) is geography-dependent, being shorter in Germany (7 min), longer in the United States (13.6 min) and average in England, France, and Italy (9.6 min). The partner's estimate also differs according to her culture: North American women estimated (perhaps more realistically) average coital time as 11.2 min, much shorter than men did. With the exception of German partners, who were more generous than the men, the perception of men and women in other countries was quite similar.

A psychometric inventory can be used to assess the prevalence of premature ejaculation. The Chinese Index of Premature Ejaculation (CIPE) [13•] first explores the importance of two domains as factors, cofactors, or sexual consequences of premature ejaculation: libido (Q1) and frequency of full erections (Q2). It then examines the intravaginal ejaculation latency time (IELT) (Q4) [14] and difficulties in prolonging intercourse (Q5). Finally, it explores the psychorelational impact of premature ejaculation with five questions: male (Q6) and female (Q7) satisfaction, frequency of female orgasm (Q8), confidence in successful completion of intercourse (Q9), and presence of anxiety/depression/stress during sexual activity, as self-reported by the patient (Q10). It is based on a 5-point Likert scale, with a total cutoff of 35 to define premature ejaculation (specificity, 94.4%; positive predictive value, 96.4; negative predictive value, 95.6).

An additional patient-reported outcome (PRO) measurement may give an important and noninterchangeable evaluation of premature ejaculation, assessing the perception of and satisfaction with ejaculatory control, and satisfaction with sexual intercourse. Furthermore, many clinicians consider the stopwatch IELT measurement (the basis of CIPE) to be impractical in clinical use. A new PRO questionnaire was therefore recently administered to a large population of 1587 men and their partners [15••]. This consisted of five double (subject and partner) questions (control over ejaculation, satisfaction with sexual intercourse, severity of premature ejaculation, personal distress, and interpersonal difficulties) based on an International Index of Erectile Function (IIEF)-like 4-week figure. These 10 questions can be simplified, just like the IIEF-5, to the CIPE-5 (Q4–7 and Q10 closely related to premature ejaculation on the basis of a binary logistic regression), allowing a definition of mild ($\geq$15), moderate (10–14) or severe ($\leq$9) premature ejaculation. While PRO elicited a more complete response from men and their partner than IELT alone, the reliability, predictivity, and specificity of these measures in assessing premature ejaculation have not yet been established.

Having obtained these numbers, it remains to be seen what is the 'normal' IELT. Does the average (around 10 min) necessarily mean the normal? The choice of a cutoff value for premature ejaculation diagnosis is still a matter of

discussion. In a recent paper [16••], we proposed a new definition of premature ejaculation according to which it is diagnosed on the basis of the pathological IELT, measured by the stopwatch method, with a feeling of loss of voluntary control and/or distress or relational disturbances as measured by PRO. From this definition, two different forms of premature ejaculation arise: 'objective' premature ejaculation (which is defined 'severe' when ejaculation occurs before penetration or with an IELT $\leq$ 15 s, 'moderate' with an IELT $\leq$ 1 min, and 'mild' with an IELT $\leq$ 2 min), and 'subjective' premature ejaculation, when the loss of voluntary control is experienced with distress by the male or both the partners.

Regional differences in premature ejaculation prevalence

Many regional differences in the prevalence of premature ejaculation exist. In the GSSAB study, premature ejaculation was the most commonly reported dysfunction in men and was most frequent in the Asian, Central/South American, and non-European Western clusters [17•]. Its reported prevalence in east Asia (China, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore, Taiwan, and Thailand) was 29.1% and in Central/South America (Mexico and Brazil) 28.3% [7••]. Its prevalence in Brazil was recently confirmed by other researchers [12•,18]. Clear cultural reasons for the higher prevalence in these areas have been observed. Although Asians appear to be sexually conservative, male-orientated, and with low sexual activity [19], in east Asia, a region strongly influenced by the Tantra philosophy, the sexual importance of the female orgasm has traditionally been high and premature ejaculation is frequently perceived as a great problem. In fact, an association between premature ejaculation and female anorgasmia has been demonstrated [12•,18]. This is typified in China by the association of ejaculation with the Yang vital male principle, and the female orgasm as an essential part of the Ying principle. The prevalence rates for these regions are similar to those reported for highly developed countries such as the United States and Canada, where the feminist revolution of the 1960s also placed a cultural importance on female sexual satisfaction. Similarly, in Central and South America, sex is regarded as very important and female sexuality is fully accepted; this may offer some explanation for the relatively high prevalence of premature ejaculation reported in this region. Rowland *et al.* [20••] have found similar, if not higher, prevalence in a recent study based on the US population in the knowledge networks research population (KNRP). Of the 1158 participants who met the selection criteria, 377 (32.5%) ejaculated before they wished.

Premature ejaculation was reported in 20.7% of 1608 Turkish patients attending a urology clinic for various reasons [21•]. In contrast, the Middle Eastern/African regions (Algeria, Egypt, Morocco, South Africa, and Turkey) showed the lowest prevalence (12.4%) in the GSSAB survey. Interestingly, this may partly be due to circumcision, as this procedure is often the cause of glans penis keratinization and desensitization. Circumcision may not significantly affect individual ejaculatory control in adult men, but when considering a population of millions of males circumcised in childhood, it could have measurable sexological effects. Many US males, however, are circumcised, and yet they have a higher prevalence of premature ejaculation. This might demonstrate how the perception of premature ejaculation may have been influenced by the feminist revolution, which changed the US awareness regarding premature ejaculation to a far higher degree than that of Middle Eastern societies. The influence of additional cultural factors in the Middle East, which may affect the perception of ejaculatory dysfunction and could explain the presence of 'psychological' premature ejaculation is also worth considering. Compared with much of Europe, this region consists of predominantly Muslims and patriarchal societies, where women occupy a low social position. For this reason, premature ejaculation may actually be perceived as a sign of virility rather than a disorder. In conservative Muslim societies, however, premature ejaculation may be due to frustration caused by late marriage, or it can be a consequence of the guilt about extramarital activity, masturbation or homosexuality, all of which are outlawed by Islam.

Premature ejaculation was reported in as many as 66% of 307 patients of 20 German family physicians [22]. The GSSAB study, however, failed to confirm such high prevalence. In fact, premature ejaculation prevalence in Europe falls between that of east Asia and Middle East/Africa, and there appears to be a little difference in premature ejaculation prevalence between southern (21.5%) and northern Europe (20.7%). Given the overall global prevalence of premature ejaculation (21.4%), Europe may be considered as the world's most representative region. This may be due to the following factors: good equilibrium between male and female social requirements, religious influences, the awareness of sexual dysfunction, ability to admit sexual failure, and trust in the efficacy of professional help. The similar prevalences of premature ejaculation in the more Protestant, supposedly more puritan northern Europe and the Catholic South also suggest that a little influence is exerted by religious attitudes; at least in Europe this finding may also reflect the homogenization of European cultures as a consequence of globalization.

Other factors affecting premature ejaculation prevalence

Erectile dysfunction may be a comorbidity, a cause or an effect of premature ejaculation [23]. In fact, the GSSAB

data showed a slightly different prevalence pattern for erectile dysfunction than for premature ejaculation in the different regions, ranging from a low of 12.9% in southern Europe to a high of 27.5% in east Asia. Such results support a clear geographical disassociation in the prevalence of these dysfunctions.

The GSSAB demonstrated that infrequent sex tends to be associated with the likelihood of premature ejaculation, thus confirming the common opinion that a greater period of sexual abstinence is positively correlated with shorter ejaculation.

Education has a negative correlation with premature ejaculation. Men without a college education are twice as likely to report this problem in Central/South America and the Middle East. Financial problems also elevate the likelihood of reporting premature ejaculation in the Middle East, but not in other regions [7••].

Open questions and conclusion

An agreement regarding the name of this symptom does not exist: it is classically known as *ejaculatio praecox*, precocious ejaculation or premature ejaculation, but its renomination as early or rapid ejaculation has also been suggested, with captious arguments. An epidemiological consequence is quite obvious; it is impossible to establish accurately the prevalence of a symptom lacking both a widely accepted name and an evidence-based definition. This explains the great differences in the percentages reported in Table 1 [24,25]. Furthermore, premature ejaculation is frequently a self-reported, self-rated complaint, making it difficult to appreciate its real epidemiology. In addition, the fact that in some couples premature ejaculation is diagnosed on the basis of distress rather than as an objective symptom complicates the matter even further. Another problem is the relative inconstancy of the symptom in many patients. It is a common clinical experience to find patients reporting premature ejaculation as not present on all sexual occasions and/or not with all partners.

Table 1. Prevalence of premature ejaculation in various conditions

	Prevalence of premature ejaculation (%)	Reference
Overall prevalence	21.4	[7••]
	~30	[5]
	32.5	[20••]
	40	[6]
In patients attending a sexological clinic	28.4	[4••]
In patients attending a urology clinic	20.7	[21•]
In patients attending family physicians	66	[22]
In patients with erectile dysfunction	30	[4••]
In patients with prostate inflammation/infection	61.5	[3]
In drug misusers, prior to drug use	37.5	[24]
In hemodialysis patients	31.6	[25]

Another open question is the comorbidity of premature ejaculation with other sexual symptoms. As many men confuse premature ejaculation and erectile dysfunction, premature ejaculation may be mistaken for impotence, as demonstrated in the GSSAB study, in which vascular disease, which is highly associated with erectile dysfunction but not with premature ejaculation, was also apparently correlated with premature ejaculation [7••].

The association of premature ejaculation with young age and sexual abstinence still needs to be empirically confirmed. No clear data on the relative prevalence of lifelong and acquired premature ejaculation are available.

This epidemiological problem opens therapeutic dilemmas. Premature ejaculation is both clearly under-reported and under-treated because the true prevalence is unknown and no approved pharmacological therapy exists. Although a success rate of 60–95% (not confirmed in clinical practice) has been claimed for behavioral approaches to sexual dysfunction, the field of psychosexology has only recently taken seriously the task of scientifically demonstrating the efficacy of sex therapies, particularly for premature ejaculation [26]. This stresses the need for the medicalization of premature ejaculation.

The real prevalence can be assessed only after a large consensus conference, taking into account the different opinions of medical sexologists, urologists, endocrinologists, and psychosexologists and reaching a universally accepted definition. Although there is a growing arsenal of effective pharmacological therapies – even though not designed for purpose – with new therapies forthcoming, the cure or full recovery of patients after the administration of drugs for delaying ejaculation is not yet known. On the basis of certain epidemiological data, the ideal therapy for premature ejaculation (discreet, on-demand use, effective from the first dose, with rapid onset of action, no interruption of spontaneity, and no sexual side effects) will be used, when available, with evidence-based criteria. This is one of the most important challenges for sexual medicine.

Acknowledgements

Our compliments and gratitude to Paola Minelli for her secretarial work and to Ms Marie-Hélène Hayles and Ms Rosaria Caruso for adapting their English expertise to our needs. This paper was partially supported by the Italian Ministry of Research and Education grant, by the CIPE grant and by the PRIN 2002 and 2003 grants.

References and recommended reading

Papers of particular interest, published within the annual period of review, have been highlighted as:

- • of special interest
- •• of outstanding interest

Additional references related to this topic can also be found in the Current World Literature section in this issue (p. 413).

1 Jannini EA, Simonelli C, Lenzi A. Disorders of ejaculation. J Endocrinol Invest 2002; 25:1006–1019.

2 Waldinger MD. The neurobiological approach to premature ejaculation. J Urol 2002; 168:2359–2367.

3 Screponi E, Carosa E, Di Stasi SM, *et al.* Prevalence of chronic prostatitis in men with premature ejaculation. Urology 2001; 58:198–201.

4 •• Corona G, Petrone L, Mannucci E, *et al.* Psycho-biological correlates of rapid ejaculation in patients attending to an Andrologic Unit for Sexual Dysfunctions. Eur Urol 2004; 46:615–622.
This paper outlines an innovative use of a sexological inventory (SIEDY) to study the epidemiology of premature ejaculation as well as its relational consequences and organic causes.

5 Laumann EO, Pail A, Rosen RC. Sexual dysfunction in the United States: prevalence and predictors. JAMA 1999; 281:537–544.

6 Frank E, Anderson C, Rubistein D. Frequency of sexual dysfunction in 'normal' couples. N Engl J Med 1978; 299:111–115.

7 •• Laumann EO, Nicolosi A, Glasser DB, *et al.* Sexual problems among women and men aged 40–80 y: prevalence and correlates identified in the Global Study of Sexual Attitudes and Behaviors. Int J Impot Res 2005; 17:39–57.
This is the largest epidemiological study in sexual medicine. From this 'parent' article, many others have been produced and more are forthcoming.

8 • Moreira ED Jr, Brock G, Glasser DB, *et al.* Help-seeking behaviour for sexual problems: the Global Survey of Sexual Attitudes and Behaviors. Int J Clin Pract 2005; 59:6–16.
This article deals with the attitudes of peoples from various countries in seeking help for sexual symptoms.

9 Kinsey AC, Pomeroy WB, Martin CE. Sexual behavior in the human male. Philadelphia: W.B. Saunders; 1948.

10 MCCA, the Multi Country Concept Evaluation and Assessment of PE incidence study. The Alza Corporation, data on file; 2002.

11 •• Montorsi F. Prevalence of premature ejaculation: a global and regional perspective. J Sex Med 2005; 2 (Suppl 2):96–102.
This is an excellent, recent, comprehensive review of epidemiological data on premature ejaculation. See also Ref. [16••].

12 • Sotomayor M. The burden of premature ejaculation: the patient's perspective. J Sex Med 2005; 2 (Suppl 2):110–114.
This is an interesting review article dealing with the psychological perspective of the patient and the partner.

13 • Yuan YM, Xin ZC, Jiang H, *et al.* Sexual dysfunction of premature ejaculation patients assayed with Chinese Index of Premature Ejaculation. Asian J Androl 2004; 6:121–126.
This paper describes the first psychometric test to elicit premature ejaculation.

14 Waldinger MD. Towards evidence-based drug treatment research on premature ejaculation: a critical evaluation of methodology. Int J Impot Res 2003; 15:309–313.

15 •• Patrick DL, Althof SE, Pryor JL, *et al.* Premature ejaculation: an observational study of men and their partners. J Sex Med 2005; 2:358–367.
This paper outlines a very interesting change of perspective in defining and evaluating premature ejaculation prevalence. Here, it is defined and measured using a PRO elicited from men and their partners.

16 •• Jannini EA, Lenzi A. Ejaculatory disorders: epidemiology and current approaches to definition, classification and subtyping. World J Urol 2005; 23:68–75.
This review article proposes new definitions of premature ejaculation.

17 • Nicolosi A, Laumann EO, Glasser SB, *et al.* Sexual behavior and sexual dysfunctions after age 40: the Global Study of Sexual Attitudes and Behaviors. Urology 2004; 64:991–997.
The aim of this epidemiological study is to assess the importance of sex and the prevalence of sexual dysfunction among middle-aged and older adults throughout the world.

18 Abdo C. Descobrimiento sexual dõ Brasil. Saõ Paulo: Editorial Summus; 2004.

19 Nicolosi A, Glasser DB, Kim SC, *et al.* Sexual behaviour and dysfunction and help-seeking patterns in adults aged 40–80 years in the urban population of Asian countries. Br J Urol Int 2005; 95:609–614.

20 •• Rowland D, Perelman M, Althof S, *et al.* Self-reported premature ejaculation and aspects of sexual functioning and satisfaction. J Sex Med 2004; 1:225–232.
The article gives the urologist the correct sexological perspective in evaluating premature ejaculation.

21 • Kuru AF, Sahin H, Akay AF, Bircan MK. Premature ejaculation rates and treatment needs in males aged 20 years and over attending urology outpatient clinic. Int Urol Nephrol 2004; 36:579–581.
This is one of the few articles dealing with young patients with premature ejaculation.

22 Aschka C, Himmel W, Ittner E, Kochen MM. Sexual problems of male patients in family practice. J Fam Pract 2001; 50:773–778.

23 Jannini EA, Lombardo F, Lenzi A. Correlation between ejaculatory and erectile dysfunction. Int J Androl (in press).

24 La Pera G, Giannotti F, Taggi F, Macchia T. Prevalence of sexual disorders in those young males who later become drug abusers. J Sex Marital Ther 2003; 29:149–156.

25 Aslan G, Arslan D, Cadvar C, *et al.* Analysis of premature ejaculation in hemodialysis patients using the International Index of Erectile Dysfunction. Urol Int 2003; 70:59–61.

26 Jannini EA, Simonelli C, Lenzi A. Sexological approach to ejaculatory dysfunction. Int J Androl 2002; 25:317–323.