

Classification and definition of premature ejaculation

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Abstract: Premature ejaculation (PE) is a poorly understood condition and is considered as the most common sexual disorder in men. The ambiguity surrounding PE is in part due to the difficulty in conducting and interpreting research in the absence of a standardised definition that adequately encompasses the characteristics of these patients. An enhanced awareness of sexual dysfunctions in the recent decades has led to an increase in scientific research that has challenged the traditional paradigm regarding PE. This has also enabled to establish a universal definition and classification of the disease. A move to a more evidence based approach has improved the clinicians' ability to define those who need medical treatment, as well as perform further research in this complex condition.

Keywords: Acquired; classification; definition; lifelong; premature ejaculation (PE); subjective; variable

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Introduction

Premature ejaculation (PE) is a poorly understood condition that affects up to 30% of the male population and is considered as the most common sexual disorder in men (1). The ambiguity surrounding PE is in part due to the difficulty in conducting and interpreting research in the absence of a standardised universal definition that adequately encompasses the characteristics of these patients (2). Perceptions regarding what truly is a "normal ejaculation time", as well as variability of socioeconomic and cultural characteristics among men with the complaint of PE have hampered efforts to establish a universal definition and classification of the disease of PE (3).

An enhanced awareness of sexual dysfunction in the recent decades has led to an increase in scientific research that has challenged the traditional paradigm regarding PE and has supported a possible physiological basis (4). Having previously been considered singly as a psychologically disorder, PE is now understood to be far more complex with multiple etiological factors

playing a role in its pathogenesis (5). These advances in understanding PE necessitated the development of an evidence-based definition and classification to enable the scientific community to design methodologically rigorous studies on the topic.

Definition of PE

Since the first report of PE in the medical literature in 1887 (6), several definitions have been proposed, the most recent of which are summarized in *Table 1*.

The first recognisable definition of PE was proposed by Masters and Johnson in 1970, who defined the condition as "The inability of a man to delay ejaculation long enough for his partner to reach orgasm on 50% of intercourse attempts" (9). This definition, although a step in the right direction of raising awareness of the condition, suffered from an important limitation. It encompassed the role of the female partners and therefore could be confounded by the women's ability to climax. Following this, professional bodies and individuals have proposed a number of definitions. Many

Table 1 Recent definitions of PE

Authority or body	Definition
International Society of Sexual Medicine (ISSM) 2014 (2)	Ejaculation that always or nearly always occurs prior to or within about 1 minute of vaginal penetration from the first sexual experience (lifelong PE) or a clinically significant and bothersome reduction in latency time, often to about 3 minutes or less (acquired PE) The inability to delay ejaculation on all or nearly all vaginal penetrations Negative personal consequences, such as distress, bother, frustration, and/or the avoidance of sexual intimacy
Diagnostic and Statistical Manual of Mental Disorders 5 th Edition (DSM-V) (7)	A persistent or recurrent pattern of ejaculation occurring during partnered sexual activity within approximately 1 minute following vaginal penetration and before the individual wishes it ... The symptom ... must have been present for at least 6 months and must be experienced on almost all or all (approximately 75–100%) occasions of sexual activity (in identified situational contexts or, if generalized, in all contexts). The symptoms ... cause clinically significant distress in the individual” and “The sexual dysfunction is not better explained by a nonsexual mental disorder or as a consequence of severe relationship distress or other significant stressors and is not attributable to the effects of a substance/medication or another medical condition
International Statistical Classification of Diseases and Related Health problems 10 th Revision (ICD-10) 2016 (8)	The inability to control ejaculation sufficiently for both partners to enjoy sexual interaction

PE, premature ejaculation.

of these were based on specialists’ opinions rather than evidence, lacked operational criteria and specificity, and had shortcomings in their interpretation by clinicians (10).

In 1980, the American Psychiatric Association (APA) released the Diagnostic and Statistical Manual of Mental Disorders 3rd edition (DSM-3), which was based on the recommendations of opinion leaders of the time (11). The use of ambiguous terminology (e.g., reasonable voluntary control) made the definition open to inter-observer variability and rendered it effectively unusable as a research tool. The subsequent iteration, DSM-IV, aimed to address this deficiency by including a time component with the phrase “short ejaculation time”, but removed control as an important element (12). Therefore, the DSM-IV definition was not specific enough to recommend an actual cut-off time to operationalize the ‘short ejaculation time’.

The International Statistical Classification of Disease 10th edition (ICD-10) was released in 1994, and was the first definition to propose a time limit as part of the definition (13). This proposed that ejaculation 15 seconds or less after penetration constituted PE, although the evidence that supported this cut-off is unclear (14,15). Subsequent definitions have sought to include a suggested time limit to help standardise their application.

Early definitions of PE were criticized for being vague,

open to multiple interpretations and for lacking operational criteria (10). Mounting pressure from regulators including the United States Food and Drug Administration (FDA), and general dissatisfaction with the heterogeneity of the definitions prompted a re-examination. In 2007 (10) and then 2013 (2), the International Society for Sexual Medicine (ISSM) convened a committee of internationally recognised experts to create a definition, which addressed the criticisms levied against previous attempts. They acknowledged that, although ‘lifelong’ and ‘acquired’ PE were different entities, they shared the same common constructs as identified above and therefore by using these, a unifying definition could be worked up. Out of this they identified three domains which appeared to underpin the majority of definitions: (I) short ejaculatory latency; (II) a perceived lack of control; (III) negative personal consequences including distress, frustration, avoidance of intercourse and interpersonal issues (10).

Short ejaculatory latency

The use of ejaculatory latency is an important component in creating a definition that satisfies the need to have an operationalized definition enabling uniformity in application and subsequent research. A number of papers support the use

Table 2 Findings of key publications regarding time to ejaculation in PE

Study	Key findings
Waldinger <i>et al.</i> , 1998 (16)	110 men with lifelong PE whose IELT was measured by the use of a stopwatch 40% of men ejaculated within 15 seconds, 70% within 30 seconds, and 90% within 1 minute
McMahon, 2002 (17)	1,346 consecutive men with PE whose IELT was measured by the use of a stopwatch/wristwatch 77% of men ejaculated within 1 minute
Waldinger <i>et al.</i> , 2007 (18)	88 men with lifelong PE who self-estimated IELT 30% of men ejaculated within 15 seconds, 67% within 30 seconds, and 92% within 1 minute after penetration Only 5% ejaculated between 1 and 2 minutes
Waldinger <i>et al.</i> , 2005 (19)	Stopwatch IELT study in a random unselected group of 491 men in 5 countries IELT had a positively skewed distribution Application of 0.5 and 2.5 percentiles as disease standards; 0.5 percentile equated to an IELT of 0.9 minutes and 2.5 percentile to an IELT of 1.3 minutes
Althof, 1995 (20)	IELT estimations for PE men correlate reasonably well with stopwatch-recorded IELT
Pryor <i>et al.</i> , 2005 (21)	IELT estimations for PE men correlate reasonably well with stopwatch-recorded IELT
Rosen <i>et al.</i> , 2007 (22)	Self estimated and stopwatch IELT as interchangeable Combining self-estimated IELT and PROs reliably predicts PE
Porst <i>et al.</i> , 2010 (23)	Stopwatch IELT was slightly (but significantly) greater for patients with acquired PE vs. lifelong PE (0.9 vs. 0.7 minutes, $P < 0.001$)
McMahon <i>et al.</i> , 2013 (24)	Stopwatch IELT was significantly greater for patients with acquired PE vs. lifelong PE (0.9 vs. 0.7 minutes, $P < 0.001$)
Serefoglu <i>et al.</i> , 2010 (25)	Self-estimated IELT was lowest in men with lifelong PE and highest in men with subjective PE Lifelong PE: 20.47 ± 28.90 seconds (2–120 seconds); acquired PE: 57.91 ± 38.72 seconds (90–180 seconds); variable PE: 144.17 ± 22.47 seconds (120–180 seconds); subjective PE: 286.67 ± 69.96 seconds (180–420 seconds); $P = 0.001$
Zhang <i>et al.</i> , 2013 (26)	Self-estimated IELT follows a continuum among the four PE syndromes Mean self-estimated IELT of 1.65 ± 0.82 minutes in acquired PE patients
Gao <i>et al.</i> , 2013 (27)	Self-estimated IELT follows a continuum among the four PE syndromes Mean self-estimated IELT of 1.84 ± 1.02 minutes in acquired PE patients

PE, premature ejaculation; IELT, intravaginal ejaculatory latency time.

of intravaginal ejaculatory latency time (IELT) shown in *Table 2*.

Data by Waldinger *et al.* and later McMahon suggested that lifelong PE was characterised by an IELT of around 1 minute or less (16,17). Waldinger *et al.* examined 110 men with lifelong PE and demonstrated that 90% of them had IELTs less than 1 minute. Only 10% of these men ejaculated between 1–2 minutes (16). McMahon found similarly that 77% of men with PE ejaculated within 1 minute (17).

A further paper by the Waldinger in 2005 examined the stopwatch IELT of a group of randomly unselected

men across 5 counties, and after examining the 0.5 and 2.5 percentiles corresponded to an IELT of 0.9 and 1.3 minutes respectively (19). Consequently an IELT of 1 minute should capture 80–90% of patients with PE.

Ejaculatory control

The inability to delay or control ejaculation is postulated to be an important factor in PE in a number of studies (see *Table 3*).

Patrick *et al.* found that low ratings for control over

Table 3 Findings of key papers regarding ejaculatory control in PE

Study	Key findings
Grenier and Byers, 1997 (28)	Relatively weak correlation between ejaculatory latency and ejaculatory control ($r=0.31$) Ejaculatory control and latency are distinct concepts
Grenier and Byers, 2001 (29)	Relatively poor correlation between ejaculatory latency and ejaculatory control, sharing only 12% of their variance, suggesting that these PROs are relatively independent
Waldinger <i>et al.</i> , 1998 (16)	Little or no control over ejaculation was reported by 98% of subjects during intercourse Weak correlation between ejaculatory control and stopwatch IELT ($P=0.06$)
Rowland <i>et al.</i> , 2000 (30)	High correlation between measures of ejaculatory latency and control ($r=0.81$, $P<0.001$)
Patrick <i>et al.</i> , 2005 (31)	Men diagnosed with PE had significantly lower mean ratings of control over ejaculation ($P<0.0001$) 72% of men with PE reported ratings of “very poor” or “poor” for control over ejaculation, compared with 5% in a group of normal controls IELT was strongly positively correlated with control over ejaculation for subjects ($r=0.51$)
Giuliano <i>et al.</i> , 2008 (32)	Men diagnosed with PE had significantly lower mean ratings of control over ejaculation ($P<0.0001$). “Good” or “very good” control over ejaculation in only 13.2% of PE subjects compared to 78.4% of non-PE subjects Perceived control over ejaculation had a significant effect on intercourse satisfaction and personal distress IELT did not have a direct effect on intercourse satisfaction and had only a small direct effect on personal distress
Patrick <i>et al.</i> , 2007 (33)	Effect of IELT upon satisfaction and distress appears to be mediated via its direct effect upon control
Rosen <i>et al.</i> , 2007 (22)	Control over ejaculation and subject-assessed level of personal distress are more influential in determining PE status than IELT Subject reporting “very good” or “good” control over ejaculation is 90.6% less likely to have PE than a subject reporting “poor” or “very poor” control over ejaculation

PE, premature ejaculation; IELT, intravaginal ejaculatory latency time.

ejaculation were linked with shorter IELT (31). PE subjects were more likely to give ratings of “poor” or “very poor” control than their non-PE counterparts (72% *vs.* 5%; $P<0.0001$) (31). Of the patients with an IELT of <1 minute, 67.7% reported poor or very poor control compared with 10.2% with an IELT of >1 minute (31).

A number of studies have only demonstrated a moderate or no correlation between IELT and reported ejaculatory control. Grenier and Byers in 1997 and in 2001 demonstrated only a weak correlation between IELT and control, supporting that they were relatively independent factors (28,29).

Negative personal consequences

PE clearly has an effect on the psyche of its sufferer, as well as their partners. A number of studies have examined the relationship of PE to negative personal consequences of which the key papers are listed in *Table 4* with their findings.

In one community-based study examining 1,587 subjects of which 207 were diagnosed using the DSM-IV-TR criteria for PE, 64% in the PE group *vs.* 4% in non-PE group ($P\leq 0.0001$) rated “quite a bit” or “extremely” for personal distress and 31% *vs.* 1% ($P<0.0001$) respectively for interpersonal difficulty (31). The negative effect of PE on patients’ wellbeing has been corroborated by data from McCabe and Rowland as well as others (34,37).

Unfortunately, a review of the available literature did not furnish further recommendations on a unifying evidence-based definition. However, after assimilation of data in 2008, an evidence-based definition of lifelong PE was formulated (10):

- (I) Ejaculation that always or nearly always occurs prior to or within about 1 minute of vaginal penetration; or a clinically significant and bothersome reduction in latency time, often to about 3 minutes or less;
- (II) Inability to delay ejaculation on all, or nearly all,

Table 4 Findings of key papers regarding the negative personal consequences of PE

Study	Key findings
Patrick <i>et al.</i> , 2005 (31)	Using the validated Premature Ejaculation Profile, 64% of men in the PE group vs. 4% in the non-PE group reported personal distress
Giuliano <i>et al.</i> , 2008 (32)	On the Premature Ejaculation Profile, 44% of men in the PE group vs. 1% of men in non-PE group reported personal distress
Rowland <i>et al.</i> , 2007 (34)	Men in highly probable PE group reported greater distress vs. men in non-PE group on Premature Ejaculation Profile scale On the Self-Esteem and Relationship Questionnaire, men with highly probable PE had lower mean scores overall for confidence and self-esteem vs. non PE men
Rowland <i>et al.</i> , 2004 (35)	30.7% of probable PE group, 16.4% of possible PE group, 7.7% of non-PE group found it difficult to relax and not be anxious about intercourse
Porst <i>et al.</i> , 2007 (36)	Depression reported by 20.4% of PE group vs. 12.4% of non-PE group Excessive stress in 28% of PE group vs. 19% of non-PE group Anxiety in 24% of PE group vs. 13% of non-PE group
McCabe, 1997 (37)	Sexually dysfunctional men, including those with PE, scored lower than sexually functional men on all measures of intimacy on the Psychological and Interpersonal Relationship Scale
Symonds <i>et al.</i> , 2003 (38)	68% reported self-esteem affected by PE; decreased confidence during sexual encounters Anxiety reported by 36% (causing PE or because of it) Embarrassment and depression also cited as due to PE
Dunn <i>et al.</i> , 1999 (39)	Strong association of PE with anxiety and depression on the Hospital Depression and Anxiety Scales
Hartmann <i>et al.</i> , 2005 (40)	58% of PE group reported partner's behavior and reaction to PE was positive, and 23% reported it was negative
Byers <i>et al.</i> , 2003 (41)	Men with PE and their partners reported slightly negative impact of PE on personal functioning and sexual relationship but no negative impact on overall relationship

PE, premature ejaculation.

vaginal penetrations;

- (III) Negative personal consequences, such as distress, bother, frustration and/or the avoidance of sexual intimacy.

This definition is not without its own limitations and faults. The definition limited itself to focussing only on vaginal penetration and chose to disregard other sexual activities such as oral/anal sex and masturbation, as well as ignoring the needs of men that have sex with men (MSM). Furthermore, it placed men who complained of PE intermittently or only during a period of their life outside of the definition. These limitations underlined the need for a better understanding of the classification of PE.

Classification of PE

The first attempt to classify PE was by Schapiro in 1943

who identified two groups of patients with PE: (I) type A—"hypotonic", associated with erectile dysfunction and; (II) type B—"sexually hypertonic", with a tendency to ejaculate rapidly from the first act of intercourse (42). These two groups were later relabelled as 'primary or lifelong' and 'secondary or acquired' (43).

The terms 'psychogenic PE' and 'biogenic PE' with further sub-characterisation have also been used, but have failed to gain traction in scientific publications (44,45).

Waldinger and Schweitzer identified a disparity in the prevalence of objectively measured PE i.e., IELTs of <1 minute in the general population (~2.5%) and the subjective self reporting of men with PE with IELT greater than 1 minute in other studies being much higher (19,31,32,46). As a consequence of this, they attempted to rationalise this difference by adding two new subtypes on top of the pre-existing lifelong and acquired PE: variable PE and

Table 5 Classification of PE and potential underlying causes (48,49)

PE variant	Possible aetiology	Prevalence in general population* (%) (27,49)
Lifelong PE	Biological functional disturbance	2.3–3.2
Acquired PE	Medical, psychological and interpersonal causes	3.9–4.8
Variable PE	Normal variant of sexual function	8.5–11.4
Subjective PE	Cultural or abnormal psychological constructs	5.1–6.4

*, Turkish and Chinese populations. PE, premature ejaculation.

subjective PE (14,47). Each of these subtypes appears to have a different aetiology and prevalence rates as shown in *Table 5*.

Conclusions

PE is a complex condition, which still remains incompletely characterised despite advances in our understanding over the last decade. As a consequence, the ability to define and classify the condition has been difficult. A move to a more evidence based approach as applied by the ISSM has improved the clinicians' ability to define those who need treatment, as well as perform further research in this complex condition.

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Footnote

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