Premature ejaculation: definition, epidemiology and treatment

MIKE KIRBY

Mike Kirby discusses how various definitions of premature ejaculation have made it difficult to evaluate the prevalence and epidemiology of the condition.

Premature ejaculation (PE) is an important topic because of the high prevalence and the stress that it causes to both sufferer and partner alike. Other ejaculatory disorders include delayed ejaculation and orgasmic disorders, painful ejaculation and post-orgasmic pain, anejaculation, reduced ejaculatory volume disorders and retrograde ejaculation.

The first report on PE was in 1887, which was a practical treatise on impotence and sterility and allied disorders of the male sexual organs.\(^1\) Rapid ejaculation is the most common form of male sexual dysfunction, sometimes referred to as ejaculation praecox. The sexual response cycle consists of four different stages: desire, arousal, orgasm and resolution. In men, the fourth stage of orgasm is usually coincident with ejaculation and it is disruption of this fourth stage that is described as ejaculatory dysfunction (Figure 1).

DEFINITION OF PREMATURE EJACULATION

Many definitions have been proposed for PE and this has caused problems with understanding the prevalence and epidemiology of the condition. In 1980, the American Psychiatric Association\(^2\) defined the condition as follows: 'Ejaculation occurs before the individual wishes because of recurrent and persistent absence of reasonable voluntary control of ejaculation and orgasm during sexual activity'. Over subsequent years the definition was revised several times and finally adopted by DSM-IV-TR in 2000\(^3\) as:

- the persistent or recurrent ejaculation with minimal sexual stimulation before, on or shortly after penetration and before the person wishes it. The clinician must take into account the factors that affect the duration of the excitement phase, such as age, novelty of the sexual partner or situation and recent frequency of sexual activity
- the disturbance causes marked distress or interpersonal difficulty

**Figure 1. Premature ejaculation compared with the normal male sexual response\(^4,5,0\)**

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PE is not exclusively a result of the direct effects of a substance (e.g. withdrawal from opioids).

This definition has been used as the starting point for most epidemiological studies on PE over the past ten years or so. The International Society for Sexual Medicine (ISSM) reviewed their evidence-based definition of PE in 2014, describing lifelong PE as:

- a male sexual dysfunction characterised by ejaculation that always or nearly always occurs prior to, or within about one minute, of vaginal penetration
- 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.

One minute should not be used as an absolute cut-off, as many men will seek treatment for lifelong PE with intravaginal ejaculation latency times (IELT) of up to two minutes and the clinician needs to bear in mind the DSM-IV definition, which makes the point that the duration of the excitement phase, age, novelty of the sexual partner, the situation and the frequency of sexual activity should all be considered.

The parameter of IELT was introduced by Waldinger and co-workers in 1994; it was defined as the time between intravaginal entry and the beginning of intravaginal ejaculation. In 1998, the stopwatch technique, which had been proposed previously by Tanner in 1973, allowed the female partner to measure IELT during intercourse in a four-week period. One would think that this would interfere with normal sexual function and be quite intrusive on the relationship. However, research suggests that patients do not object to the use of a stopwatch.

The subgrouping of PE into lifelong and acquired was proposed by Godpodinoff in 1989. The ISSM now proposes a joint definition. There are two other important PE syndromes in men who consult with concerns about PE:  

- lifelong PE (LPE)
- acquired PE (APE)
- natural variable PE (NVPE)
- premature-like ejaculatory dysfunction (PLED).

In men with LPE, the ejaculation occurs in the majority of cases (80 per cent) within 30–60 seconds, or between one and two minutes (20 per cent). This will have been the situation since the first sexual encounter with nearly every woman with whom sexual intercourse has taken place. 

Ejaculation occurs too early in nearly every episode of sexual intercourse and remains rapid throughout the lifetime of the subject, suggesting a neurobiological/genetic cause.

In 2014, the ISSM proposed a single, unified definition of both LPE and APE, based on the mutual constructs of time from penetration to ejaculation, the inability to delay ejaculation and negative personal consequences. However, APE has an additional key defining component, the presence of a clinically significant and bothersome reduction in latency time (often to around 3 minutes or less). This syndrome occurs at some point in a man’s life and follows normal ejaculation.

### BOX 1. Symptoms of the four premature ejaculation (PE) syndromes used in the classification of men with complaints of PE

<table>
<thead>
<tr>
<th><strong>LIFELONG PE</strong></th>
<th>Most cases (80 per cent) occur within 30–60 seconds, less (20 per cent) between 1 and 2 minutes</th>
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<tbody>
<tr>
<td></td>
<td>Starts from about the first sexual encounter</td>
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<tr>
<td></td>
<td>Occurs with almost every woman</td>
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<tr>
<td></td>
<td>Occurs too early in almost every intercourse</td>
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<tr>
<td></td>
<td>Remains rapid throughout lifetime (neurobiological/genetic cause)</td>
</tr>
<tr>
<td></td>
<td>Intravaginal ejaculation latency time (IELT) is short (&lt;2 minutes)</td>
</tr>
</tbody>
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<thead>
<tr>
<th><strong>ACQUIRED PE</strong></th>
<th>PE occurs at some point in the man’s life</th>
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<tbody>
<tr>
<td></td>
<td>Normal ejaculation experienced previously</td>
</tr>
<tr>
<td></td>
<td>Onset may be gradual or sudden</td>
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<tr>
<td></td>
<td>May result from urological/thyroid dysfunctions or psychological/relationship problems</td>
</tr>
<tr>
<td></td>
<td>Ejaculation time may be short or normal</td>
</tr>
</tbody>
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<table>
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<tr>
<th><strong>NATURAL VARIABLE PE</strong></th>
<th>Early ejaculations are inconsistent and irregular</th>
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<tr>
<td></td>
<td>Ability to delay ejaculation may be diminished/lacking</td>
</tr>
<tr>
<td></td>
<td>The impression of reduced control of ejaculation</td>
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<tr>
<td></td>
<td>Psychotherapy should be considered first-line</td>
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<table>
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<tr>
<th><strong>PREMATURE-LIKE EJACULATORY DYSFUNCTION</strong></th>
<th>IELT is normal/longer</th>
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<tbody>
<tr>
<td></td>
<td>Subjective perception of inconsistent/consistent rapid ejaculation</td>
</tr>
<tr>
<td></td>
<td>Ability to delay ejaculation may be diminished/lacking</td>
</tr>
<tr>
<td></td>
<td>Imagined PE or lack of control of ejaculation</td>
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<tr>
<td></td>
<td>The preoccupation is not better accounted for by another mental disorder</td>
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</tbody>
</table>
experiences previously. The onset is either sudden or gradual. APE may be the result of urological/thyroid dysfunctions or psychological/relationship problems. In NVPE, the ejaculation time may be short or normal. Early ejaculations are inconsistent and occur irregularly. However, the ability to delay ejaculation may be diminished or lacking, giving the impression of reduced control of ejaculation. Psychological support should be considered as first-line treatment in these men. Premature-like ejaculatory dysfunction has been described when the IELT is in the normal range or may even be of longer duration. Subjective perception of consistent or inconsistent rapid ejaculation occurs. The ability to delay ejaculation may be diminished or lacking and there may be imagined early ejaculation or lack of control of ejaculation. Consideration should be given as to whether the preoccupation with ejaculation is not better accounted for by another psychiatric disorder. These definitions are helpful from a clinical point of view, because they all have different characteristics and may well require different approaches to management. Based on this classification, Serefoglu et al. investigated distribution and associated factors in men attending outpatients in the general population of Turkey. The researchers reported that after assessing the severity of syndromes, which were measured by patient-reported outcomes, the complaint of PE was more severe in men with APE, whereas it was least severe in men with PLED. Gao and colleagues used Waldinger’s classification to investigate the prevalence and factors associated with PE and the four PE syndromes in China between 2011 and 2012. 3016 men were evaluated; 25.8 per cent complained of PE. It was found that patients with PE were older and more likely to smoke, had more comorbidities and a higher body mass index than patients without the complaint. Similar findings were also found in patients with APE compared with other PE patients and the rates of counselling by a doctor in men with LPE and APE were higher than those in men with NVPE and PLED. Based on their findings, the researchers speculated that the four PE syndromes have different characteristics and should be managed separately. Their findings further confirmed the view of Waldinger and the data found by Serefoglu, that the prevalence of NVPE and PLED in the general population is higher than that of LPE and APE, but the rates of consulting a doctor are lower in men with NVPE and PLED, which is not surprising. The prospect that underlying genetic differences may account for PE in certain men is intriguing. In 1998, a high PE prevalence was reported among first-degree male relatives of Dutch men with LPE, with an IELT of less than a minute. This generated a hypothesis of a genetic cause for LPE, suggesting a neurobiological cause rather than a psychological one. There is, of course, biological plausibility for this explanation. These first reports were subsequently supported by studies based in Finland. One study by Jern et al. identified male twins between the ages of 33 and 43 years, of whom 91 were identical and 110 complete twin pairs. Results showed a moderate genetic influence (28 per cent) for PE but not on delayed ejaculation. Further evidence came from another study by Jern et al., who investigated a large number of male twins (3946, mean age 29.9 years) and their siblings. Again, a significant moderate genetic effect was found for PE (28 per cent), but there was no clear-cut familial effect for delayed ejaculation. There are some common features of men with LPE in both the serotonin-transporter-gene-linked polymorphic region (5-HTTLPR) and the dopamine transporter protein (DAT). When erectile dysfunction (ED) occurs in conjunction with PE it can lead to performance anxiety, and fear of losing the erection can contribute to early ejaculation. It is therefore important to enquire about erectile difficulties in men presenting with PE. From the stopwatch studies, PE is characterised by a short ejaculation latency time, with approximately 90 per cent of men having an IELT of less than 60 seconds. However, 5–10 per cent of men without PE ejaculate in less than two minutes, whereas up to one-third of men with PE ejaculate within a timeframe of two to five minutes, providing a significant overlap of men with and without PE (Figure 2). Stopwatch timing is not necessary to make a diagnosis, because the patient’s or partner’s self-report correlates significantly with the objective measurement. For the clinician evaluating, the key enquiry should be related to the ability to control ejaculation and the effect on the person and their partner of early ejaculation leading to detrimental consequences for the relationship and often withdrawal from sexual activity altogether.

**Epidemiology of Premature Ejaculation**

With varying definitions of PE, it is difficult to evaluate the various prevalence studies. Many studies conducted in the past have reported conflicting results, especially in the primary care setting, varying between 2 and 31 per cent. Nathan re-analysed 22 general population sex surveys to assess the prevalence and distribution of psychosexual dysfunctions as defined by DSM-III. The prevalence of PE was in the order of 35 per cent. Other general population prevalence estimates have reported rates from 4 to 39 per cent, although most estimates fell between 22 and 38 per cent. In the trials that used the DSM-IV-TR definition, PE has been recognised as the
most common male sexual dysfunction, with a prevalence of 20–30 per cent. McMahon et al. evaluated 4997 men in the Asia-Pacific countries, of whom two-thirds were younger than 46 years. Self-reported PE was in fact more prevalent than self-reported ED: 13 versus 8 per cent. A study in Greece of 522 men reported that 58.4 per cent of men declared early ejaculation disorders and using the ISSM criteria, the prevalence of LPE was 17.7 per cent. Investigators in Turkey enquired about the proportion of men who were not satisfied with their ejaculation times (in other words, men who were complaining of PE). The men were randomly selected by proportion sampling, according to their postal code lists. The prevalence of LPE, APE, NVPE and PLED was 2.3, 3.9, 8.5 and 5.1 per cent, respectively, confirming Waldinger’s impression that most men who report PE in prevalence studies have NVPE and PLED.

In spite of relatively high prevalence rates, PE is the disorder for which patients are least likely to seek professional assistance. The problem may therefore be more common than is currently estimated. Most patients who present to an outpatient clinic with a complaint of PE suffer from LPE or APE. We need to be aware that in primary care and sexual health clinics, doctors are dealing with a much lower prevalence than that reported in surveys.

**MANAGEMENT OF PREMATURE EJACULATION**

The British Society for Sexual Medicine has produced a useful algorithm for the management of this prevalent and important condition; it recommends taking a careful and detailed medical and sexual history, asking six important questions about the PE and an enquiry about ED (Box 2). The history may suggest a need for a physical examination to exclude urological causes such as prostatitis, endocrine causes such as thyroid dysfunction (particularly hyperthyroidism) and neurological causes.

The algorithm suggests specific management plans according to the type of PE determined by the history taking. In the majority of patients, research has shown that in head-to-head studies, pharmacotherapy is generally superior to behavioural therapy, even in APE (Box 3).

There is a consensus that behavioural therapy is ineffective in LPE, which, in some cases, is genetic with neurobiological causes. Long-term studies have shown poor results after initial success.

Combination therapy is superior to monotherapy. For many men, the optimum approach is a combination of the stop-start technique, cognitive behavioural therapy and pharmacotherapy as required. The aim should be to prolong the ejaculatory latency time. Behavioural treatments include the ‘stop-start’ technique and the ‘squeeze’, on the background that PE occurs because the man fails to be aware of the sensations of heightened arousal and to recognise the feelings of ejaculatory inevitability.

The use of topical anaesthetics such as lidocaine or prilocaine can be helpful but may be associated with significant penile hypoanaesthesia and possible transvaginal absorption. Condoms can also be used and are effective, particularly when combined with local anaesthesia.

The introduction of selective serotonin-reuptake inhibitors (SSRIs) has revolutionised the management of PE. Daily treatment has been shown to be effective once the drug has reached steady state, but benefit may occur earlier. On-demand treatment is less effective than daily treatment but has fewer side-effects.

**BOX 2. Points to cover when taking a patient/partner history for premature ejaculation**

- Establish presenting complaint
- Time taken to ejaculate after vaginal penetration
- Perceived degree of ejaculatory control
- Degree of patient/partner distress
- Onset and duration of premature ejaculation
- Psychological history
- Medical history

Figure 2. Intravaginal ejaculation latency times overlap between subjects with and without premature ejaculation (PE), especially in the 1– to 4-minute timeframe.
None of the long-acting SSRIs is licensed for this indication, but they have been widely used.44 Dapoxetine (Priligy) is a short-acting SSRI developed principally for the treatment of PE. It can be used on demand, taken a few hours before expected sexual activity and is the first SSRI drug to be licensed for this indication. It should be started at a dose of 30mg and is most effective at a dose of 60mg; it is well tolerated.45

It is unlikely that phosphodiesterase-5 inhibitors will significantly delay ejaculation in men with PE without ED. However, they are useful in men with ED and secondary PE, where men ejaculate quickly because they are not confident they can maintain their erection.46 It is important to enquire about and manage ED if it is a significant issue.

Tramadol is also an unlicensed approach when pain coexists.47 Tricyclic antidepressants are an off-label approach.48 Multidimensional treatment using drug treatment and sexual counselling involving the partner is an effective approach. Withdrawal of drug therapy should be attempted after a few weeks, especially in APE.

Declaration of interests: none declared.

REFERENCES


