Premature Ejaculation
Changing Perspectives For An Old Problem
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**Premature Ejaculation (PE)** is a medical condition that has been the subject of research and speculation for over a century, and is often named the most common sexual dysfunction among men. Despite this, PE is still a marginalised condition that is relatively unlikely to be discussed in a visit to a doctor. The recent development of new treatment options and clear evidence-based definitions for PE has coincided with the evolution of knowledge about the underlying aetiology. This article endeavours to summarise these numerous and complex developments, while highlighting some areas that are still a matter of dispute and ambiguity.

**Types of Premature Ejaculation**

Premature ejaculation can manifest itself in varying manners in different individuals, and as such, distinction has been made between different subtypes of premature ejaculation. Many authors recognise two categories: "lifelong" or "primary" PE, which is present from the time of first intercourse, and "acquired" or "secondary" PE, which has an onset after a period of intercourse with normal ejaculatory timing and control.¹,²

This distinction is essential because acquired PE often results from other factors such as erectile dysfunction, and as such, the treatment course tends to favour targeting the underlying conditions. Some authors have also proposed two additional categories: "natural variable premature ejaculation" for irregularly occurring PE and "premature-like ejaculatory dysfunction" for patients who perceive PE when time to ejaculation is within the normal range.³,⁴ For the purposes of this review, the focus will be on lifelong and acquired PE.

**Prevalence of Premature Ejaculation: A Problem of Definition**

The definition of PE has historically been ambiguous. The fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) from the American Psychiatric Association describes it as “the persistent or recurrent onset of orgasm and ejaculation with minimal sexual stimulation before, on, or shortly after penetration, and before the person wishes it”.⁵

The unclear definition of PE means that the actual prevalence of PE has been the subject of widely variable estimates – ranging from as low as 3% to as high as 30%.⁶,⁷ In 2007, a less ambiguous definition for lifelong PE was agreed upon by the International Society for Sexual Medicine (ISSM), which took into consideration three elements: time to ejaculation using intravaginal ejaculation latency time (IELT), an inability to delay ejaculation, and negative personal consequences. The ISSM³ definition for premature ejaculation is thus characterised by:

1. ejaculation which always or nearly always occurs prior to or within about one minute of vaginal penetration;
2. inability to delay ejaculation on all or nearly all vaginal penetrations; and
3. negative personal consequences, such as distress, bother, frustration and/or avoidance of sexual intimacy.

An upcoming DSM-V definition is expected to specifically incorporate short ejaculation latency.⁸,⁹

**Aetiology**

Until relatively recently, theories of the underlying causes for premature ejaculation have focused on psychological and behavioural aetiologies.¹⁰ While there is some truth to this theory as psychological issues can certainly contribute, it has become clear that PE is, in fact, often due to one or several of a myriad of different reasons. One of the most interesting developments in the past couple of decades was the discovery that neurophysiological factors may play a central role in lifelong PE, and that other physiological issues are major contributors to acquired PE.⁵
**Insufficient serotonergic signaling**

There are many different neurophysiological processes involved in male sexual arousal, but it has become clear that ejaculation is primarily triggered by sympathetic transmission. Peripherally, ejaculation results following a series of muscular contractions; each contraction is initiated by activation of alpha-1 adrenoceptors. The precise mechanism of many serotonin receptors – also known as 5-hydroxytryptamine (5-HT) receptors – playing a role in ejaculation is not clearly understood, but 5-HT plays a regulatory role centrally, and the net effect of 5-HT is inhibitory to ejaculation; hence, the serendipitous use of selective serotonin re-uptake inhibitors (SSRIs) for the treatment of PE. The involvement of several subtypes of 5-HT receptors produces a more complicated picture. Recent genetic studies have also indicated a significant correlation between 5-HT2C mutations and PE.

**Penile hypersensitivity**

One of the earliest suggested physiological aetiologies of PE was that afflicted individuals have an unusually sensitive glans, leading to excessive stimulation during intercourse. In 1996, Xin et al tested the sensitivity of both the glans penis and penis shaft of men with primary premature ejaculation. Men with primary premature ejaculation had significantly more sensitive penises than the control group as measured by vibration perception thresholds.

**Hyperthyroidism**

A statistically significant link was found between hyperthyroidism and PE. Among 34 hyperthyroidism patients, the rate of self-assessed PE was found to be 50%, but following resolution of thyroid issues, this rate was reduced to just 15%, and the average IELT increased two-fold from before treatment. The mechanism is unknown, but it was proposed that thyroid hormones could have some kind of direct effect or, alternatively, an indirect effect through other psychological co-morbidities (such as anxiety).

**Prostatic “pathologies”**

Another alternative explanation proposed is that PE could result from infection or inflammation of the prostate. High frequencies of prostatic inflammation and bacterial prostatitis were found among men with PE when compared to the general population, and antibiotic therapy appears to be somewhat effective in the treatment of PE. This is an example of acquired PE.

**Erectile dysfunction**

As many as 50% PE subjects appear to suffer from erectile dysfunction (ED). Several hypotheses have been suggested to explain this link. Any performance anxiety due to fear of being unable to gain or maintain an erection could contribute to excess sympathetic nervous stimulation and thereby promote PE. It is also plausible that a patient suffering from ED may try to complete intercourse quickly due to the risk of losing their erection. It has also been suggested that a PE patient may make attempts to reduce their degree of arousal during intercourse to try to delay ejaculation, and perhaps this reduction in arousal affects their erectile capacity.

**Psychological factors**

Many psychological factors have been hypothesised to contribute to premature ejaculation. Many of these have been the subject of speculation: behavioural conditioning from early rushed sexual experiences during adolescence, a history of sexual abuse, depression, or even relationship issues. However, there is a paucity of research regarding these factors.

**Anxiety**

Anxiety is one psychological condition that has been clearly linked to premature ejaculation. Corona et al found a very strong correlation between anxiety symptoms and moderate to severe PE in a sample of 755 patients presenting to an outpatient sexual health clinic.

**Treatments**

Despite a long history, and the high frequency with which PE occurs, it has been long believed that PE was simply a psychological problem and accordingly, treatments were generally limited to counselling and behavioural treatments. This field has recently undergone rapid evolution. We now understand that the causes of PE may run deeper than psychological barriers, and accordingly, treatments have evolved from psychological therapy to pharmaceutical treatments. Many advances have identified several safe treatment options of varying efficacy – now including oral pharmacotherapy – in addition to behavioural and topical treatments.

**Behavioural**

The simplest treatment methods are behavioural. The “stop-start” technique involves stimulating to just before the point of ejaculation either in partner activities or during masturbation and then stopping. The goal of this therapy is to allow the man to get used to the feeling of impending ejaculation and to learn to control it.

The “squeeze” technique is similar to “stop-start”, but when a man feels he is about to ejaculate, he or his partner squeezes the shaft of the penis just below the glans to prevent ejaculation, until the feeling subsides.

Both of these behavioural options have shown some efficacy (ranging from 9.8% to 64%, respectively) in short-term studies, but upon long-term follow-up,
they appear to be very prone to recurrence of PE.

Pharmacological – Topical Agents

The use of topical agents to control premature ejaculation has the benefit of little risk of systemic side effects and a purely "on-demand" nature. Perhaps the most common topical agents are local anaesthetic creams; they are very effective in controlling premature ejaculation. However, there is some risk of dulling sexual pleasure for both the man and his partner during intercourse, and this makes the use of local anaesthetics somewhat less desirable.

Pharmacological – Selective serotonin reuptake inhibitors

While there has been some success treating PE with other oral agents such as monoamine oxidase inhibitors, antipsychotics, sympatholytic drugs and opioids, the efficacy and low side effect profile of selective serotonin reuptake inhibitors (SSRIs) has made them the current drug of choice of the treatment of PE. There are many different SSRIs available that have been approved for the treatment of depression, as well as a relatively new drug – dapoxetine – that has been specifically approved by several countries for the treatment of premature ejaculation. Traditional SSRIs are effective in treating PE when taken daily though they tend to have longer half-life in the body. In contrast, dapoxetine has a considerably shorter half-life, reaches peak concentrations sooner, and is therefore suitable for on-demand treatment of PE. The relative efficacy of dapoxetine in comparison to other SSRIs is a matter of debate. Some authors have pointed out that clinical trials of paroxetine have produced increases in IELT of greater than 10-fold compared to the approximately three-fold increases produced by dapoxetine. However, without any randomised trials specifically comparing the two, it is difficult to accurately determine whether there is a major difference in efficacy.

Psychotherapy

Another treatment for premature ejaculation that has been shown to be effective both on its own, as well as when combined with other therapies, is the use of either individual or couple counselling. If available, the use of counselling, in combination with pharmacotherapy, is potentially very useful.

Conclusions

Premature ejaculation is an exciting and rapidly evolving area of research and treatment. It is clearly a complex condition that can be either inherited or acquired, encompasses physiological, psychological and social factors, and has a profound impact on affected individuals. The options for treatment are as diverse as they are numerous, and recent work has shown that SSRIs are a simple, effective, and relatively safe intervention for most patients with PE.

References


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