Efficacy of type-5 phosphodiesterase inhibitors in the drug treatment of premature ejaculation: a systematic review

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CRD summary
This review found no evidence that phosphodiesterase inhibitors are effective in treating premature ejaculation overall, but there was limited evidence of effectiveness in men with acquired premature ejaculation and erectile dysfunction. In view of the limitations of the evidence and the limited quality assessment in the review, the authors’ conclusions should be treated with caution.

Authors’ objectives
To assess the efficacy of phosphodiesterase-5 inhibitors (PDE-5-Is) in the treatment of premature ejaculation (PE).

Searching
MEDLINE, Web of Science, PICA and EMBASE were searched; the search terms were reported. The authors also searched proceedings of major international and regional scientific meetings (between 1998 and 2005). Chinese language publications were translated and authors were contacted for further information if necessary.

Study selection
Study designs of evaluations included in the review
No inclusion criteria for the study design were specified.

Specific interventions included in the review
Studies of the PDE-5-Is sildenafil, tadalafil and vardenafil were eligible for inclusion. In the included studies, PDE-5-Is were used alone or in combination with a variety of other interventions, such as selective serotonin re-uptake inhibitors (SSRIs), topical lidocaine cream and EMLA (lidocaine-prilocaine) cream. The comparators included other PDE-5-Is, SSRIs and placebo. The duration of the studies ranged from 6 to 156 weeks.

Participants included in the review
The participants were men with PE. A multivariate definition of PE was used in about half of the included studies. Where reported, studies included men with lifelong PE or with either lifelong or acquired PE.

Outcomes assessed in the review
No inclusion criteria for the outcomes were specified. The majority of studies used intravaginal ejaculatory latency time (IELT) as an outcome, together with quantitative patient-reported outcomes.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The authors rated studies according to their compliance with features of an ideal study design: such features included the use of a multivariate definition of PE, a double-blind placebo-controlled study design, differentiation between lifelong and acquired PE, exclusion or treatment as a separate subgroup of men with erectile dysfunction (ED) or other co-morbid sexual disorders, and use of validated objective outcome measures. It was unclear exactly how the studies were graded and how many reviewers carried out the assessment.

Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction.

**Methods of synthesis**

How were the studies combined?
The studies were combined in a narrative.

How were differences between studies investigated?
The studies were grouped by study inclusion criteria and population, intervention and outcome measures. Differences between the studies were discussed in the text.

**Results of the review**

Fourteen studies (n=1,124) were included. Of these, five (n=464) were randomised controlled trials, two (n=65) used a crossover design, and the remainder were non-randomised studies with two or more groups.

Thirteen of the 14 included studies failed to meet criteria of ideal study design. The only double-blind placebo-controlled RCT reported no effect of sildenafil on IELT in men with lifelong PE. Three studies provided evidence of improved IELT compared with baseline in men with PE and ED treated with a PDE-5-I, alone or combined with sertraline.

**Authors' conclusions**

There was no evidence for the effectiveness of PDE-5-Is in the treatment of PE, except in the subgroup of men with acquired PE combined with ED.

**CRD commentary**

This review addressed a clear question with clear though broad inclusion criteria for the participants and interventions. No inclusion criteria were specified for the outcomes or study designs. The authors searched a range of sources and no language restrictions appear to have been applied. Unpublished studies presented as conference abstracts were sought. The methods used for the study selection, validity assessment and data extraction processes were not reported, so the risk of bias and errors during the review process cannot be assessed. The included studies were assessed for validity, but the criteria used did not include important features related to risk of bias. This makes it difficult to assess the quality of the included studies and hence that of the synthesis derived from them.

Adequate details of the primary studies were reported. The studies were synthesised narratively, which was appropriate in view of the broad range of interventions and study designs included. In view of the limitations of the evidence and the limited quality assessment in the review, the authors' conclusions should be treated with caution.

**Implications of the review for practice and research**

Practice: The authors stated that there is no role for PDE-5-Is in the treatment of PE, except for men with PE and co-morbid ED.

Research: The authors stated that further well-designed controlled trials were required to clarify the role of PDE5Is in the treatment of men with ED and acquired PE.

**Bibliographic details**

This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.