Yoga in Premature Ejaculation: A Comparative Trial with Fluoxetine

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ABSTRACT

Introduction. Yoga is a popular form of complementary and alternative treatment. It is practiced both in developing and developed countries. Use of yoga for various bodily ailments is recommended in ancient ayurvedic (ayus = life, veda = knowledge) texts and is being increasingly investigated scientifically. Many patients and yoga protagonists claim that it is useful in sexual disorders. We are interested in knowing if it works for patients with premature ejaculation (PE) and in comparing its efficacy with fluoxetine, a known treatment option for PE.

Aim. To know if yoga could be tried as a treatment option in PE and to compare it with fluoxetine.

Methods. A total of 68 patients (38 yoga group; 30 fluoxetine group) attending the outpatient department of psychiatry of a tertiary care hospital were enrolled in the present study. Both subjective and objective assessment tools were administered to evaluate the efficacy of the yoga and fluoxetine in PE. Three patients dropped out of the study citing their inability to cope up with the yoga schedule as the reason.

Main Outcome Measure. Intravaginal ejaculatory latencies in yoga group and fluoxetine control groups.

Results. We found that all 38 patients (25–65.7% = good, 13–34.2% = fair) belonging to yoga and 25 out of 30 of the fluoxetine group (82.3%) had statistically significant improvement in PE.


Key Words. Premature Ejaculation; Yoga; Fluoxetine; Nonpharmacological Treatment; Complementary and Alternative Treatments

Introduction

Premature ejaculation (PE) is the most common sexual disorder of young males. Normative data suggest that men with an intravaginal ejaculatory latency time of less than 1 minute have “definite” PE, while men with intravaginal ejaculatory latency times of between 1.0 and 1.5 minutes have “probable” PE [1]. Prevalence rates of 20–30% have been reported [2].

PE is generally defined as the occurrence of ejaculation prior to the wishes of both sexual partners. This broad definition, thus, avoids specifying a precise duration for sexual relations and reaching a climax.

An occasional instance of PE may not be cause for concern, but if the problem occurs with more than 50% of attempted sexual relations, a dysfunctional pattern should be suspected and appropriate diagnostic and therapeutic measures must be initiated.
A number of treatment options are used for PE. Although selective serotonin reuptake inhibitors (SSRIs) have the potential to improve the quality of life for men with PE and their partners [3–5], patients’ satisfaction and drug side effects may remain to be a problem. New treatments are therefore desirable. Because the condition has stigma and patients may not be aware that medical treatment options are available, nonpharmacological treatment options seem preferable.

Yoga is a popular nonpharmacological intervention. There are many types of yoga: hatha yoga is an element of raja yoga and deals mainly with physical postures and breathing. Karma yoga emphasizes spiritual practice to help the individual “unify” body, mind, and heart through certain practices in daily life and work. Bhakti yoga, a devotional form, generally encompasses chanting, reading of scriptures and worship practices. We focused mainly on hatha yoga by various asanas. An asana is a particular posture of the body, which is both steady and comfortable. In yoga, there are more than a hundred classical poses, and these probably have as many variations. These can be subdivided into two categories: active and passive. Active poses are supposed to tone specific muscle and nerve groups, and benefit organs and the endocrine glands. The passive poses are employed primarily in meditation, relaxation, and pranayama practices. We employed both active and passive poses during the present study (see Figure 1).

Each posture, or asana, is held for a period of time and is synchronized with the breath. Generally, a yoga session begins with gentle asanas and works up to the more vigorous or challenging postures. A full yoga session includes exercises of every part of the body, pranayama (prana = life; breath control practices), relaxation, and meditation.

Yoga is a popular nonpharmacological treatment method for a number of conditions, and there are claims of it being effective in bodily disorders including the sexual ones; we thought it worthwhile to investigate its efficacy and to compare it to fluoxetine, a commonly used SSRI for PE.

### Materials and Methods

We studied 68 patients (Table 1) attending the outpatient department of a tertiary care psychiatric hospital in North Delhi. A detailed history of each patient was taken. A general physical examination of all systems was performed. After establishing the diagnosis using Diagnostic and Statistical Manual IV, the patients were offered to choose between pharmacological (capsule fluoxetine–fluoxetine group) and nonpharmacological (yoga–yoga group) treatments. Three patients opted out of the study citing inability to adhere to the yoga regime. Because these opted out of the yoga group before the study began, we did not include them in the final analysis.

The wives of the patients were briefed about starting the stopwatch once the penetration began and then to stop it once the husbands ejaculated. They was asked to note down the intra-ejaculatory latencies in seconds in a diary.

Those who opted for drugs were given fluoxetine capsule (group 1) in dose of 20–60 mg/day as a single dose, while for those who opted for yoga (group 2) the protocol was explained (Table 2). The patients were encouraged to report any side effects occurring during the course of treatment in both groups.

Patients included in the study had PE, were fluoxetine naïve, had no history of trauma, diabetes, hypertension, or any other chronic physical or mental disorder. There was no history of substance abuse. The patients were not on any concurrent medications and had unremarkable general physical examinations. The mean age of onset of PE was 28 years and the mean duration was 1.7 ± 1.5 years.

The patients were briefed by a sexologist and a yoga expert about the protocol they had to follow over 12 weeks (Tables 2 and 3). They were told to practice 12 asanas and 2 pranayamanams for 1 hour/day. The patients were examined after 4 and 8 weeks, respectively. Their intravaginal ejaculatory latencies were noted and analyzed.

Although the average suggested duration was 1 hour, it was not rigidly fixed, and the patients were told to practice yogasanas depending upon their stamina. This was because in yoga, the advice generally given was that the patients should not exert themselves. Three repetitions of each asana were suggested. Differential relaxation was taught to the patients once they finished their daily yoga protocol with a breathing technique called as anulom-vilom (breathing via alternative nostrils) and

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Demographic data</th>
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<tbody>
<tr>
<td>38 cases</td>
<td>Mean age = 38.9 ± 10.1 years</td>
</tr>
<tr>
<td>30 controls</td>
<td>Mean age = 38.6 ± 9.2 years</td>
</tr>
</tbody>
</table>

Total number = 68; age range = 22–58 years; mean duration of premature ejaculation = 1.7 ± 1.5 years.
shavasan (Sanskrit—shav = a dead body, lying dead). That means in the end, the patients performed breathing as mentioned and laid still for few minutes. In this, they were able to relax those muscles, which were stretched during yoga. That is why this is named as “differential relaxation.” All patients were told to practice mehabbed mudra, which included doing perineal and pubococygeal exercises for 10–15 seconds at a time and for 15–20 times a day. They could do it anywhere including at their workplace, while, e.g., traveling, reading, or watching TV.

Statistical Analysis
Statistical analysis was performed using SPSS version 10 (SPSS Inc., Chicago, IL, USA). Paired
Agnisar mudra
Sanskrit—agni = heat; a series of rapid "abdominal lifts"

Viparita karani mudra
Sanskrit—viparita = opposite, karani = posture; "legs-up-the-wall pose"

Paschimottoanana
Sanskrit—paschim = working on posterior

Veerasan
A typical sitting posture of soldiers

Ardhmatsyendra mudra
Sanskrit—ardha = half, matsyendra = name of a yogic practitioner, mudra = posture; "half spinal twisting" exercises

Kapal bhati
Sanskrit—kapal = skull, bhati = bright; "forehead brightener"

Vajrasan
Sanskrit—vajra = diamond

Yog mudra
Yog = after Yogis, mudra = posture; "symbol of yoga"

Bhujangasan
Sanskrit—bhujang = snake, asana = posture; serpent-like posture

Dhanurasan
Sanskrit—dhanu = bow, asana = posture; to adopt a bow-like posture

Halasan
Sanskrit—halas = "plow posture"

Sarvang asana
"Shoulder stand"

Gomukhasan
Sanskrit—gomukh = cow’s mouth

Veerasan
A typical sitting posture of soldiers

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Sanskrit—bhujang = snake, asana = posture; serpent-like posture

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Viparita karani mudra
Sanskrit—viparita = opposite, mudra = posture; "legs-up-the-wall pose"

Sarvang Asana
"Shoulder stand"

Shava asana
It involves lying relaxed, eyes closed with arms placed on both sides of the body. It relaxes muscles that are stretched during yogic exercises. In practical terms, this means a posture in which patients lay still with superior and inferior extremities asunder and perform slow deep breathing with a relaxed mind.

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Results
We found that all 38 patients in the yoga group had subjective (Table 4) and statistically significant ($P < 0.0001$) improvement (Table 5). Twenty-five of 30 patients of fluoxetine (82.3%) had clinical improvement in PE (Table 5, $P < 0.001$). The patients were interviewed at the end of the 4th and 8th weeks. Results in both groups at the 4th week did not achieve statistical significance, while those of the 8th week were significant ($P < 0.001$—see Table 5). A subjective evaluation was carried out by asking the wife to rate the husband’s performance and her satisfaction after the end of the study period (Table 4). A side-effect profile of fluoxetine based upon patients reporting adverse effects was prepared (Table 6). None of the side effects, however, required drug discontinuation.

$t$-test was used to calculate the $P$ value. A $P$ value of less than 0.05 was considered significant.

Discussion
PE is an extremely common disorder affecting young males. SSRI, like fluoxetine, is a commonly used treatment option for PE [6,7]. Although SSRIs offer several advantages like convenience of administration and acceptable therapeutic response, they have disadvantages like failure in many patients and unacceptable side effects. Moreover, drug prescription requires a visit to a sexologist or psychiatrist, an idea with which many patients of PE may not be fully comfortable. This is due to stigma with PE. It has been said that most patients remain unaware that PE is a medical condition. A nonpharmacological treatment option in PE should, thus, presumably be a welcome idea.

Table 3  Brief description of yogasanas used in the present study

<table>
<thead>
<tr>
<th>Yogasanas followed in the protocol</th>
<th>Sanskrit: meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kapal bhati</td>
<td>kapol = skull, bhati = bright</td>
</tr>
<tr>
<td>Vajrasan</td>
<td>vajra = diamond</td>
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<tr>
<td>Paschimottansana</td>
<td>paschim = working on posterior</td>
</tr>
<tr>
<td>Veerasan</td>
<td>veeras = sitting posture</td>
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<td>Ardhmatsyendra mudra</td>
<td>ardh = half, matsyendra = name of yogic practitioner, mudra = posture</td>
</tr>
<tr>
<td>Viparita karani mudra</td>
<td>viparita = opposite, mudra = posture</td>
</tr>
<tr>
<td>Sarvang Asana</td>
<td>sarvang = shoulder</td>
</tr>
<tr>
<td>Shava asana</td>
<td>shava = cow’s mouth</td>
</tr>
</tbody>
</table>

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An online medical dictionary defines yoga as “a way of life that includes ethical precepts, dietary prescriptions, and physical exercise.” A large survey shows that about one in every five adults has used at least one such therapy in the last 1 year [8].

Pranayama is the method of “proper” breathing. “The way” we breathe is supposed to have an effect on the nervous system. By regulating the breath and increasing oxygenation to the brain cells, it is supposed to “strengthen” the voluntary and involuntary nervous systems. At the beginning of each of yoga, pranayama practice is performed in order to prepare patients for the asanas that follow.

The present study is an attempt to explore the therapeutic potential of yoga as a nonpharmacological treatment in PE and to compare it to fluoxetine, a known treatment option. Fluoxetine had a response rate of 83.3%, which is in agreement with some of the previously reported studies [9,10]. One of these studies [11] included 175 patients (98 males, 77 females) between age group 19–76 years who belonged to the heterogenous group. The study evaluated anxiety scores using the State Trait Anxiety Inventory and showed that scores dipped significantly after yogic exercises. The same study showed that a measurable decline in anxiety scores could be achieved as early as within 10 days if the patients adopt healthy lifestyle interventions consisting mainly of asanas, pranayama and relaxation techniques [11]. Others have reported that yoga promotes well-being, improves quality of life [12], and has an antidepressant effect [13]. Additional mechanisms contributing to a state of calm alertness include increased parasympathetic drive, calming of stress response systems, neuroendocrine release of hormones, and thalamic generators [13]. Relaxation induced by meditation helps to stabilize the autonomic nervous system with a tendency toward parasympathetic dominance. Physiological benefits, which follow, may help practitioners become more resilient to stressful conditions and may reduce a variety of important risk factors for various diseases, especially cardiorespiratory diseases [14]. Two published clinical trials in obsessive compulsive disorder, an anxiety disorder using a specific form of yoga known as kundalini yoga, have been described. This is a form of yogic exercise consisting of yogic kriyas, mantra chanting, following a particular dietary pattern, etc. [15]. A recent meta-analysis, however, has concluded that although results of studies involving yoga were positive, the methodology adopted was poor; hence, deriving conclusions were difficult. It emphasized the need of future well-designed studies in this regard [16].

The yogasanas selected in the present study, in addition to their general putative health benefits, were primarily aimed at improving the muscle tone and plasticity of the pelvic and perineal muscles. Asanas supposedly improve blood flow to

<table>
<thead>
<tr>
<th>Satisfactory type</th>
<th>Number</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Good</td>
<td>25</td>
<td>65.8%</td>
</tr>
<tr>
<td>Fair</td>
<td>13</td>
<td>34.2%</td>
</tr>
<tr>
<td>Poor</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table 5 Intravaginal ejaculatory latencies of various study groups*

<table>
<thead>
<tr>
<th>Group</th>
<th>Before</th>
<th>After</th>
<th>t value</th>
<th>df</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>29.9 ± 15.1</td>
<td>64.1 ± 29.4</td>
<td>5.65</td>
<td>58</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>2</td>
<td>33.2 ± 17.9</td>
<td>112.8 ± 35.6</td>
<td>12.29</td>
<td>74</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

*Scores are expressed as mean ± standard deviation.

Table 6 Adverse effects of fluoxetine in the present study (N = 30)

<table>
<thead>
<tr>
<th>Adverse drug reaction</th>
<th>Number of patients (N)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nausea</td>
<td>14</td>
<td>46.6</td>
</tr>
<tr>
<td>Vomiting</td>
<td>4</td>
<td>13.3</td>
</tr>
<tr>
<td>Anxiety</td>
<td>4</td>
<td>13.3</td>
</tr>
<tr>
<td>Insomnia</td>
<td>8</td>
<td>26.6</td>
</tr>
</tbody>
</table>
these muscles and thus aid in their better contraction. This is probably responsible for local effect of yogasanas in the present study. Studies have shown that yoga can improve muscular efficiency [17,18]. In one such study [17], 42 volunteers were taken and their oxygen utilization during yogic and conventional exercises were studied. The study concluded that a yogic practitioner is likely to perform better on tasks such as cycling at average pace, walking at average speed, and tailoring, etc. Decreased fatigue and increased endurance were shown in another study after 6 months of training in yogic exercises [18].

It has been observed that a regular practitioner of yoga shows parasympathetic dominance [11]. Stimulation of the sympathetic nerves causes contraction of epididymis, ejaculatory ducts, and seminal vesicles, and leads to ejaculation of semen. Increasing parasympathetic stimulation is assumably beneficial in enhancing ejaculatory control. We report a significant therapeutic effect of yoga in PE. This is in line with earlier studies, which have reported the efficacy of yogic exercises in the treatment of physical disorders [13–15].

What are the potential advantages of yoga as a treatment option in PE? It is popular with good acceptability, nonpharmacological, has no costs involved, and patients could be treated without medical or psychiatric intervention. Additionally, it could offer other associated health benefits as well to the patients [19,20]. Studies have shown that yogic exercises can reduce basal cortisol, catecholamines, metabolic rate, sympathetic activity, and oxygen consumption. Parasympathetic activity has been shown to increase [20].

Physical efficiency, autonomic functions, body flexibility, and biochemical profile have been noted to improve following yogasanas [19]. A study involving 48 Indian soldiers found that performance on isometric exercises was better after yoga training as measured by electromyography and spring pulling capacity [19].

Yogic exercises have been found to be useful in a variety of “mind–body” problems. PE is often perceived as a lifestyle problem [21], thus providing a window for such therapeutic interventions. Studies have shown that sufferers of PE have higher prevalence of lifestyle problems that can affect the individual at both emotional and physical levels.

Nonpharmacological treatment options, e.g., behavioral therapy and psychotherapy, have long been the mainstay of the treatment of PE [22]. These could be cumbersome and can have limited efficacy indicating that other nonpharmacological treatments could be desirable. Although yoga was found to be a well-tolerated and effective treatment option for PE, the therapeutic response was delayed by 8 weeks. This is in contrast to SSRIs, which produce symptomatic relief by the 3rd or 4th week. Some form of counseling on the part of the physician and patience on part of patients may be required for satisfactory results.

The etiology of PE is multifactorial; hence, failure to appreciate this makes the diagnosis difficult and the treatment harder. Therefore, treatment of PE is undergoing change in recent times and it is suggested that an integrated approach should be adopted [23]. This combination therapy has become more relevant as patients relapse [23] frequently after taking drugs and has side effects like dry mouth, nausea, drowsiness, and reduced libido. Its use may also facilitate the development of other sexual dysfunctions, such as anejaculation and erectile dysfunction [24]. Furthermore, it has been considered that because PE involves both psychosocial [25] and physiological components [26], both should be addressed. It is hoped that such a combination approach would result in prolonged ejaculatory latency, improved treatment satisfaction, and superior long-term outcome. We have tried to explore the possibility of yoga as a nonpharmacological treatment in PE. This is because, as stated earlier [22], nonpharmacological treatments have been important treatment options in this condition. A significant therapeutic benefit of yoga is reported in the study.

**Conclusions**

PE is the most common male sexual disorder that is both underdetected and undertreated. It is often distressing and patients do not come forward for treatment easily. This is due to shyness, stigma, feeling of inferiority, and shame in front of the partner. Yoga seems to be a well-tolerated, safe and effective nonpharmacological treatment option for PE. The present study reinforces that the “mind–body” interventions could be beneficial in stress-related mental and physical disorders. Because ours is a pilot study with a small sample size, it would be worthwhile to do more studies involving a large number of patients in a double-blind manner to establish yoga as a nonpharmacological treatment option for PE.

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Conflict of Interest: None declared.

References