






# Evaluation of the quality of life of patients with premature ejaculation (lifelong and acquired)

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## SUMMARY

**OBJECTIVE:** The aim of this study was to evaluate the quality of life of patients with lifelong and acquired premature ejaculation and to examine its relationship with depression and anxiety.

**METHODS:** Between February 2017 and January 2018, a total of 175 patients with premature ejaculation and 132 control men who applied to the urology department of the training and research hospital with the complaint of Premature Ejaculation were included. Patients were divided into three groups according to International Society for Sexual Medicine (ISSM) criteria as follows: Group 1, lifelong premature ejaculation; Group 2, acquired premature ejaculation, and Group 3, control group without premature ejaculation. A detailed medical history of patients was obtained and physical examinations were performed. Intravaginal ejaculation latency time (IELT) was recorded and patients were administered International Erectile Function Index-5 (IIEF-5), Premature Ejaculation Diagnostic Tool (PEDT), Sexual Health Inventory for Men (SHIM), Beck Depression Inventory (BDI), State-Trait Anxiety Inventory (STAI)-1 and STAI-2, and Short Form-36 (SF-36).

**RESULTS:** The mean mental component score (MCS) of the SF-36 was  $51.65 \pm 6.57$  in the lifelong premature ejaculation group,  $49.33 \pm 8.65$  in the acquired premature ejaculation group, and  $61.12 \pm 11.09$  in the control group ( $p < 0.0001$ ). The mean physical component score (PCS) was  $50.99 \pm 7.43$  in the lifelong premature ejaculation group,  $48.32 \pm 11.58$  in the acquired premature ejaculation group, and  $55.17 \pm 8.10$  in the control group ( $p < 0.0001$ ). Quality of life of premature ejaculation patients as assessed by SF-36 was lower in the subscales of physical functioning, general health perception, vitality, and role limitations due to emotional functioning, compared to the control group.

**CONCLUSIONS:** Lifelong and acquired premature ejaculation patients deteriorate their quality of life: the deterioration in these patients' quality of life also negatively affects their depression and anxiety states.

**KEYWORDS:** Premature ejaculation. Ejaculation. Quality of life. Latency time.

## INTRODUCTION

Premature ejaculation (PE) is a common sexual disorder in men and approximately one in three men suffer from PE, of which underlying mechanisms have not yet been fully well understood<sup>1</sup>. Based on the 2014 definition of the International Society for Sexual Medicine (ISSM), PE is stated as the inability to control or delay ejaculation, resulting in dissatisfaction or distress for the patient. It is classified as lifelong or acquired PE. Lifelong PE is defined as ejaculation that always or almost always occurs prior to or within 1 min of vaginal penetration from the first sexual experience, while acquired PE is a clinically significant and disturbing decline in the ejaculation time, often up to 3 min<sup>2</sup>.

In the literature, psychological negative effects occur in men with PE and in their female partners, including anxiety, depression, and distress. Psychosocial or interpersonal distress caused by PE can affect the quality of life (QoL) of men and their partner relationships, self-respect, and self-confidence. This situation can create an obstacle for men who is not in a relationship in establishing new relationships<sup>3,4</sup>.

In recent years, as the awareness of individuals on sexual attitudes has increased, more attention is paid to the impact on the QoL for patients and sexual partners with PE. Both patients and their partners complain of decreased sexual self-respect, self-esteem, and QoL<sup>5</sup>.

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Although there are studies investigating the relationship between PE and QoL in the literature, there is no clear consensus. The aim of this study was to evaluate the QoL of patients with lifelong and acquired PE and to examine its relationship with depression and anxiety.

## METHODS

### Ethical compliance

The study was approved by the Istanbul Training and Research Hospital Ethics Committee. Written informed consent of each patient was obtained.

### Study design and study population

This prospective study was conducted with male patients suffering from PE who applied to the urology clinic of a training and research hospital between February 2017 and January 2018 and patients presenting for reasons other than PE. Patients who applied with the complaint of PE and sexually active male patients who applied to the urology outpatient clinic with the complaint of PE were included in the study. Inclusion criteria were being a male over the age of 18, having regular sexual intercourse within the past 6 months, and being volunteer to participate in the study. Patients with erectile dysfunction (ED), receiving medical treatment for PE, taking neuropsychiatric drugs such as SSRIs and tranquilizers within the past 6 months, and having undergone pelvic surgery were excluded from the study. A total of 12 patients refused to participate in the study. Also, 25 patients were excluded from the study for various reasons: 10 patients use SSRIs, 8 patients had concomitant ED, and 7 patients undergone pelvic surgery.

The patients were divided into three groups according to the ISSM PE criteria as follows: (patients with IELT <1 min and lifelong complaints lifelong PE, IELT <3 min and patients with PE later on acquired PE): Group 1, lifelong PE, n=62; Group 2, acquired PE, n=113; and Group 3, control group without PE, n=132. A detailed medical history of the patients was obtained and physical examinations were performed. Intravaginal ejaculation latency time (IELT) of the patients was recorded and the patients were administered the International Erectile Function Index-5 (IIEF-5), Premature Ejaculation Diagnostic Tool (PEDT), Sexual Health Inventory for Men (SHIM), the Beck Depression Inventory (BDI), the State-Trait Anxiety Inventory (STAI)-1 and STAI-2, and Short Form-36 (SF-36) surveys. The information of the participants was filled in by face-to-face interview with the urologist.

### Assessment tools and outcome measures

The PEDT is a five-item tool to evaluate frequency, control, minimal stimulation, distress, and interpersonal difficulties. PEDT consists of five questions. The total score ranges from 2 to 22. A total score  $\leq 9$  excludes a diagnosis of PE<sup>6</sup>. The Turkish validity and reliability studies of the PEDT were carried out by Şerefoglu et al.<sup>7</sup>.

The IIEF-5 is used to assess ED status. The IIEF-5 questionnaire includes questions 1–5 of the IIEF, which consists of 15 questions, in total<sup>8</sup>. Each question was evaluated with a percentage Likert scale. The total score to be obtained from the questionnaire is between 5 and 25. Linguistic validation was done by Turunç et al.<sup>9</sup>. An IIEF-5 score lower than 21 is considered ED. The SHIM questionnaire consists of five questions. The scores between 18 and 25, 14 and 17, and 10 and 13 are considered normal, mild, and moderate ED, respectively, while a score of  $\leq 9$  is considered severe ED according to the total score obtained from the survey<sup>9</sup>.

Participants' IELTs were recorded as estimated.

The BDI is a 21-question multiple-choice tool used to measure the severity of depression. Depression levels according to the total score obtained from the scale are expressed<sup>10,11</sup>. The score to be taken from each question varies between 0 and 3. The total score obtained from the scale varies between 0 and 63. A score above 9 is indicated as depression, while 10–16 points as mild, 17–29 as moderate, and 30–63 points as severe depression. Linguistic validation was made by Hisli Sahin<sup>12</sup>.

The STAI-1 and STAI-2 consist of 20 items. The total score ranges from 20 to 80. A high score indicates a high level of anxiety<sup>13</sup>. The linguistic validity was performed by Öner and Le Compte in 1983<sup>14</sup>. It is a Likert-type scale that measures state and trait anxiety levels separately with 20 questions. High scores indicate high anxiety levels, and low scores indicate low anxiety levels. There are two types of statements in Trait Anxiety Inventories. Direct statements express negative emotions, and reversed statements express positive emotions. The reversed statements in the State Anxiety Inventory are items 1, 2, 5, 8, 10, 11, 15, 16, 19, and 20. The reversed statements in the Trait Anxiety Inventory constitute items 21, 26, 27, 30, 33, 36, and 39. After the total weights of the direct and reversed statements are found separately, the total weight score of the reverse statements is subtracted from the total weight score obtained for the direct statements. A predetermined and unchanging value is added to this number. This constant value is 50 for the State Anxiety Inventory and 35 for the Trait Anxiety Inventory. The most recent value is the individual's anxiety score. The State Anxiety Inventory (State Anxiety Scale) is a very sensitive tool for evaluating abruptly changing emotional reactions. The Trait

Anxiety Inventory (SDS), which consists of 20 items in the second part of the inventory, aims to measure the continuity of the anxiety that the person generally tends to experience. Score ranges from 20 (low anxiety) to 80 (high anxiety).

As of 1990, 149 items were identified in previous studies including more than 22,000 individuals. The SF-20, a 20-item form, was first prepared using a factor analysis. However, the SF-36 form was developed by increasing the number of items to 36 items to increase the number of psychometric characteristics included and enhance the scope<sup>15</sup>. We used SF-36 for QoL of the participants. SF-36 is a test consisting of 36 items filled by the patient himself to obtain information about the health status of the person. SF-36 provides the opportunity to evaluate the health status of the person with eight subparameters. These subparameters are Physical function, Body pain, Limitation due to physical problems, Emotional well-being, Social function, Energy/Fatigue, General health perception, Mental health. The higher the score, the higher the QoL. With the mental and physical collection of these eight subdimensions, mental component score and physical component score emerge. Linguistic validation of the SF-36 was done by Kocyyigit et al.<sup>16</sup>.

### Statistical analysis

Statistical analysis was performed using the SPSS version 25.0 software (IBM Corp., Armonk, NY, USA). Descriptive data were expressed in mean±standard deviation (SD), median (min-max) or, number and frequency, where applicable. The distribution of the variables was assessed using the Kolmogorov-Smirnov test. One-way analysis of variance (ANOVA) and Kruskal-Wallis tests were used to evaluate between groups and a post-hoc analysis was performed using the Tukey's and Mann-Whitney U honestly significant difference tests. A  $p < 0.05$  was considered statistically significant.

## RESULTS

A total of 307 patients were included in the study. The mean age of the patients was 34.44 years (SD: 16.67) (min-max: 21–55), and the mean body mass index was 27.1 kg/m<sup>2</sup> (SD: 12.6) (min-max: 19.6–32.7). There was a statistically significant difference among the groups in terms of age ( $p=0.004$ ), PEDT ( $p < 0.0001$ ), IELT ( $p < 0.0001$ ), IIEF-5 ( $p < 0.0001$ ), BDI ( $p < 0.0001$ ), STAI-1 ( $p=0.01$ ), and STAI-2 ( $p < 0.0006$ ) scores (Table 1).

The QoL was assessed using the SF-36. The mean mental component score (MCS) of the SF-36 was 51.65 (SD: 6.57) in the lifelong PE group, 49.33 (SD: 8.65) in the acquired PE group, and 61.12 (SD: 11.09) in the control group ( $p < 0.0001$ ). The mean physical component score (PCS) was 50.99 (SD: 7.43) in the lifelong PE group, 48.32 (SD: 11.58) in the acquired PE group, and 55.17 (SD: 8.10) in the control group ( $p < 0.0001$ ) (Table 2). The QoL of the patients with PE was lower in the subscales of physical functioning, general health perception, vitality, and role limitations due to emotional functioning, compared to the control group (Table 3).

## DISCUSSION

In this comparison, we assessed the QoL of patients with lifelong and acquired PE. The results demonstrated that the anxiety scores of the lifelong PE patients were higher than those in the control group and the acquired PE group. In addition, patients with acquired PE had lower erection functions compared to other groups. Also, a significant decrease was observed in the QoL scores of the patients with PE compared to the control group. The QoL in the subscales of physical functioning, general health perception, and role limitations due to emotional

**Table 1.** Characteristics of the population and results of the questionnaires applied to patients with premature ejaculation and control group.

	Lifelong PE (n=62)	Acquired PE (n=113)	Control (n=132)	p
Age (years)	35.1±6.2	35.8±4.8	33.1±5.6	0.004
BMI (kg/m <sup>2</sup> )	25.8±3.4	27.6±3.6	26.6±3.6	0.4
Sexual intercourse frequency (per week)	2.2±1.1	2.1±1.1	2.5±1	0.0001
PEDT	19 (10)	19 (9)	8 (6)	0.0001
IELT (s)	52 (65)	61 (50)	300 (360)	0.0001
IIEF-5	22.4±7	18.1±7.2	26.2±6	0.0001
SHIM	17.8±5.8	13.6±5.2	21.1±4.1	0.0001
BDI	8 (8)	11 (13)	5.2 (8.7)	0.0001
STAI-1	45.1±7.1	43.1±8.2	40.2±6.3	0.01
STAI-2	46±7	42.8±7.2	42.7±7.8	0.0006

ANOVA and Kruskal-Wallis test were used. PE: premature ejaculation; BMI: body mass index; PEDT: premature ejaculation diagnostic tool; IELT: intravaginal ejaculation latency time; IIEF-5: international index of erectile function-5; SHIM: sexual health inventory for men; BDI: Back Depression Inventory; STAI: State Trait Anxiety Inventory.

**Table 2.** QoL assessment of the premature ejaculation patients and control group.

	Acquired PE	Lifelong PE	Control	p
SF-36, MCS (mean)	49.33±8.65	51.65±6.57	61.12±11.09	0.0001
SF-36, PCS (mean)	48.32±11.58	50.99±7.43	55.17±8.10	0.0001

ANOVA test and post-hoc Tukey's test were used. PE: premature ejaculation; MCS: mean mental component score; PCS: physical component score.

**Table 3.** Comparison of premature ejaculation patients and control group.

	Acquired PE	Lifelong PE	Control	p
Physical function	83.3±13.8	88.2±17.1	89.9±16.2	0.001
Role limitations due to physical functions	79.3±28.3	80.9±29.6	81.9±31.3	0.35
Pain	20 (25)	20 (56)	18 (4)	0.37
General perception of health	64.4±19.1	64.7±18.1	70.6±19.3	0.04
Energy/vitality	54.2±19.1	52.5±21.7	60.3±20.4	0.046 ANOVA
Social function	81.2±21.1	83.1±21.9	85.5±17.3	0.28
Role limitations due to emotional problems	69.7±34.6	78.4±32	78.8±30.4	0.04
Mental health	58.3±17	65.9±17.7	65.8±19.1	0.46 ANOVA

Kruskal-Wallis, one-way ANOVA, post-hoc Tukey's, and Mann-Whitney U tests were used. PE: premature ejaculation.

functioning decreased significantly in the lifelong PE group, compared to the acquired PE group.

In our study, the most important adverse effect of sexual dysfunctions was impaired QoL in the PE patients. In a 2002 study, about half of the patients participating in the study had symptoms of PE, and 65% of the patients were not sexually satisfied<sup>17</sup>. The patients with PE reported an increase in various negative effects, including decreased self-esteem, mental preoccupation, psychological distress, interpersonal difficulties, and intense feelings of shame/guilt, anxiety/tension, and fear of failure<sup>18</sup>.

The effects of PE on the QoL are not only affected to patients, but they also pose a problem to their partners. Psychological distress, decreased sexual satisfaction, and interpersonal difficulty are among the effects experienced by partners of PE patients. In a study, it was shown that both patients and their spouses experienced almost equal distress, triggering other problems in their relationship<sup>19</sup>.

Comorbid conditions such as ED, prostate infection or inflammation, and hormonal imbalance have been thought to play a role in the etiology of PE, particularly of acquired PE<sup>20</sup>. The level of depression and anxiety increase in acquired PE patients, thereby resulting in an increased severity of depression and anxiety with performance anxiety<sup>21</sup>. In the present study, the IIEF scores were lower ( $p<0.0001$ ) and the BDI ( $p<0.0001$ ) and the STAI-1 ( $p=0.01$ ) and STAI-2 ( $p<0.0006$ ) scores were

higher in the acquired PE group. These results are consistent with the literature<sup>21</sup>.

There have been previous studies evaluating the QoL in PE. McCabe<sup>3</sup> evaluated the relation between intimacy and the QoL and sexual dysfunction based on the responses to 36 items using the Personal Assessment of Intimacy in Relationships (PAIRS) test. A validated QoL scale was also used. The authors suggested that the QoL of men with sexually dysfunction was lower. In another study, Rowland et al.<sup>22</sup> examined a total of 207 male patients and their female partners and found that the QoL of both patients and their partners was low. In a recent prevalence study conducted in Egypt, the frequency of PE was 26.7% and PE had a negative effect on QoL in both patients and their partner<sup>23</sup>. In this study, it was also reported that the QoL scores were lower in young patients. In our study, we divided the patients in to two groups as lifelong PE group and acquired PE group and compared them with the control group without PE. The findings of the study stated that the QoL in the lifelong and acquired PE groups was lower than that the control group and that the QoL of the acquired PE patients was lower than the lifelong PE patients. This finding can be attributed to the higher tendency of the patients with acquired PE to anxiety and depression.

Nonetheless, there are some limitations to this study. First, we made the evaluation of IELT of the patients based on an estimation without using an objective measurement tool. Another limitation is that the QoL of female partners was unable to be

evaluated. Finally, the other forms of PE, i.e., natural variable and subjective PE, were not included in the study.

## CONCLUSIONS

PE is a condition that impairs the QoL of individuals. Both lifelong PE and acquired PE complaints decrease the QoL of patients. However, the impairment in the QoL is more pronounced in patients with acquired PE. Further, larger studies are needed to confirm these findings and to draw a firm conclusion regarding the effect of PE on QoL.

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