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Traumatic masturbation syndrome may be an important cause of erectile dysfunction in pre-mature ejaculation patients

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Abstract

We aimed to investigate of whether atypical masturbation behaviour is a predisposing factor in ED aetiology in pre-mature ejaculation (PE) patients. In addition to demographic data, self-estimated intravaginal ejaculatory latency time (IELT) was prospectively questioned in 2,572 patients between the ages of 18 and 60 who applied with the complaint of pre-mature ejaculation between March 2018 and May 2020. The masturbation habits of the patients were questioned with open-ended questions. After the exclusion criteria, 1,819 patients were evaluated. One thousand one hundred-fifty (63.2%) of patients were classified as lifelong PE, 369 (20.3%) were acquired PE, while 300 (16.5%) were natural-variable PE. According to the IIEF score, 714 patients (39.3%) had ED associated with PE. Eighty-eight per cent of men declared that they had masturbated in the last 4 weeks. Atypical masturbatory behaviours such as 'through clothes' and 'rubbing in prone position' were significantly higher in patients with ED (13% vs. 9%, $p = .04$ and 11% vs. 7%, $p = .02$ respectively). Atypical masturbatory behaviours are also seen in a significant part of the pre-mature ejaculation population and increase the rate of erectile dysfunction accompanying PE. This situation draws attention to the necessity of questioning masturbation habits, especially in the combination of PE and ED.

KEYWORDS
erectile dysfunction, pre-mature ejaculation, traumatic masturbation syndrome

1 | INTRODUCTION

Erectile dysfunction (ED) is defined as the inability to achieve or maintain an adequate erection for satisfactory sexual performance (NIH Consensus & Conference, 1993). Pre-mature ejaculation (PE) is a three-dimensional condition that includes short intravaginal ejaculatory latency time (IELT), lack of ejaculation control and related stress and anxiety (Porst et al., 2007).

Although the true prevalence of pre-mature ejaculation (PE) is not known clearly, it is estimated to affect 20%–30% of men regardless of age and ethnicity (McMahon et al., 2008). For the diagnosis of PE, the definition updated by the International Society for Sexual Medicine (ISSM) in 2014 is accepted. According to this definition, PE is categorised as lifelong and acquired (Serefoglu et al., 2014). From the first sexual intercourse; ejaculation that always takes place before or within about one minute after vaginal penetration defines lifelong PE. If the IELT decreases to 3 min or less, it is called acquired PE (Serefoglu et al., 2014). Apart from these two definitions, there are two more subgroups as 'natural-variable PE' and 'subjective PE'. Natural-variable PE is a situation that one can live with at different times and with a different partner. This is considered a variation of normal sexual experience. In subjective PE, the ejaculation time is actually 5 min or more. However, these individuals have a perception of shorter duration and lack of control (Waldinger & Dave, 2019).

In addition to determining subgroups in pre-mature ejaculation patients, another important issue that needs to be investigated is erectile dysfunction accompanying PE which is seen in 23%–30% of patients. In these patients, ejaculation occurs before the penis reaches full rigidity (Hatzimouratidis et al., 2010). In men with both PE and ED, the American Urological Association recommends treating the patient's ED first (Montague et al., 2004). Because of the complex mechanism of sexual dysfunction and the frequent coexistence of these two problems, patients should be evaluated in a wide perspective under the umbrella of sexual dysfunction. In this context, it is very important to do a detailed background inquiry from the first sexual experience, including masturbation habits, as well as erection and ejaculation status (Althof et al., 2013).

The role of masturbation, which is often ignored and not questioned much by clinicians, on sexual dysfunction has started to be questioned more with the definition of traumatic masturbation syndrome (TMS) (Sank, 1998), which was first described by Dr. Lawrence Sank. Patients with TMS present with the habit of masturbating by lying on the bed in a prone position and rubbing their penis on the bed, pillow or hands. More common complaints in patients with TMS are anorgasmia, erectile dysfunction and lack of sexual desire.

It is known that TMS causes different sexual disorders, especially erectile dysfunction. However, there are no data about the necessity of questioning TMS in pre-mature ejaculation patients, which constitute an important branch of sexual dysfunction and its relation with erectile dysfunction, and its prevalence in this group. For this purpose, we investigated the effects of masturbation habits on the presence of ED in patients with PE and we thought that this would contribute to elucidating the aetiology of ED in PE patients.

2 | MATERIAL AND METHOD

2.1 | Study design

A thirteen-item questionnaire including open- and closed-ended questions was filled out prospectively to 2,572 patients aged 18–60 who applied to our clinic between March 2018 and May 2020 with the complaint of pre-mature ejaculation. Age, smoking status and alcohol consumption, lifestyle and nutritive habits, marital status, homo/heterosexuality status and duration of relationship were examined. Self-estimated IELT was questioned and IIEF-5 was filled out in all patients. Patients with an IIEF score of 22 or less were considered as having ED. The patients were asked for detailed information about whether they have masturbated or not, in the last 4 weeks. At questions, related to masturbation methods, which have more than one answer option and type (open- or closed-ended); which method they prefer primarily or which one they enjoy more was asked to be answered. They were asked to elaborate the method they chose; in an open-end manner. Those who have an IELT more than 2 min had less than six months or had an irregular relationship, had more than one partner, homo-bisexual patients, chronic disease, physical disability or neurological deficits were excluded from the study. After the exclusion criteria, 1,819 patients were evaluated. Medical history (including sexual history) of all patients was questioned, and a complete physical examination was performed for all patients. In addition, vital signs (fever, pulse and blood pressure) and laboratory tests (complete blood count, biochemistry analysis and urine analysis) and electrocardiogram (12 leads) were also performed. The masturbation behaviours expressed as open-ended in the questionnaire were divided into subgroups such as type, frequency, location, concentration method and atypical behaviours by analysing the data by an urologist. The possible effects of traumatic masturbation on ED in patients with PE were investigated by analysing the data.

2.2 | Statistical analyses

Statistical analyses of the values were carried out using SPSS (Statistical Package for Social Sciences) 22.0 statistical software package. The distribution of masturbatory behaviours and erectile function status of the patients was compared using the chi-squared test. We used binary logistic regression to obtain odds ratios (OR) to compare estimates for patients who reported or did not report ED according to IIEF-5 scores. We also present ORs adjusting for selected baseline characteristics: age, lifestyle and nutritive habits. Statistical significance was considered as $p < .05$ for all analyses.

2.3 | Ethical committee approval

This study was approved by the Dr. Lütfi Kırdar Kartal City Hospital Ethics Committee (Registration number: 514/190/6). The study was conducted in accordance with the Declaration of Helsinki and Good Clinical Practice.

3 | RESULTS

Table 1 shows the age, smoking and alcohol consumption status, lifestyle and nutritive habits and marital status of men diagnosed with pre-mature ejaculation. According to the clinical evaluation considering the symptoms, duration of disease and IELT of the patients, 1,150 (63.2%) of them were classified as lifelong PE, 369 (20.3%) as acquired PE, while 300 of them (16.5%) were classified as natural-variable PE. Eighty-eight per cent of men declared that they had masturbated in the last 4 weeks. ED was found in 75 (33.6%) of 223 and 639 (40%) of 1596 in masturbating and nonmasturbating patients respectively. The rate of masturbation in patients with and without ED was 89.5% and 86.6% respectively. There was no significant difference in terms of masturbation between the two groups ($p = .07$).

Table 2 shows the relationship between masturbatory behaviours and ED in patients reported masturbation. Accordingly, the use of lubricant was significantly higher in patients with normal erectile functions (11% vs. 15%, $p = .03$). Traumatic masturbatory

TABLE 1 Baseline characteristics: Age, smoking status, alcohol consumption, lifestyle, nutritive habits and relationship/marital status of the patients with self-reported PE

Age, median (IQR)	32 (27–39)
Smoking status, *n* (%)	
No	756 (41.6%)
Rarely	185 (10.2%)
Yes	878 (48.3%)
Alcohol consumption, *n* (%)	
No	856 (47.1%)
Rarely	372 (20.5%)
Once a month	238 (13.1%)
Once a week	202 (11.1%)
Two-three times a week	126 (6.9%)
Everyday	25 (1.4%)
Lifestyle, *n* (%)	
Inactive	250 (13.7%)
Semi-active	1,223 (67.2%)
Exercise regularly	346 (19%)
Nutritive habits, *n* (%)	
Unhealthy	214 (11.8%)
Rather	764 (42%)
Healthy	841 (46%)
Marital/ relationship status, *n* (%)	
(Lasting at least 6 months),	
Married	1,107 (60.9)
In a relationship	712 (39.1%)

Abbreviations: IQR, Interquartile range; PE, pre-mature ejaculation.

TABLE 2 The distributions and crosstabs in total 1596 patients who had masturbated in the last 4 weeks

	No ED *n* (within no ED%)	ED *n* (within ED%)	*p* (No ED vs. ED)
Masturbation type			
Dry	523 (55%)	321 (50%)	.091
Lubricant	139 (15%)	69 (11%)	.030
Soap/shampoo	276 (29%)	191 (30%)	.651
Masturbator	8 (0.8%)	3 (0.5%)	.386
Concentration method			
Fantasise	292 (31%)	193 (30%)	.896
Watch pornography	652 (68%)	417 (65%)	.232
Location			
In bed/sofa	326 (34%)	197 (31%)	.177
In toilet/bath	454 (47%)	279 (44%)	.138
Frequency			
More than once a week	353(37%)	231 (36%)	.765
Atypical behaviours			
Trough clothes	93 (9%)	83 (13%)	.041
Rubbing in prone position	73 (7%)	71 (11%)	.017
Pressure on penis	155 (16%)	124 (20%)	.057

behaviours such as 'through clothes' and 'rubbing in prone position' were significantly higher in patients with ED (13% vs. 9%, $p = .04$ and 11% vs. 7%, $p = .02$ respectively). Masturbation with pressure on penis was more common in patients with ED, but no statistically significant difference was found (20% vs. 16%, $p = .06$). At least one atypical masturbatory behaviour was found in 468 (25.7%) of 1,819 pre-mature ejaculation patients.

As shown in table 3, we used logistic regression to further investigate which factors were independently associated with erectile functions in those who reported pre-mature ejaculations. After adjustment for age, lifestyle and nutritive habits, reported ED was significantly associated with traumatic masturbatory behaviours that through clothes, rubbing in prone position and pressure on penis with 1.42 (95% CI 1.03–1.91, $p = .03$), 1.55 (95% CI 1.01–2.17, $p = .01$) and 1.39 (95% CI 1.07–1.80, $p = .01$) odds ratio values respectively.

4 | DISCUSSION

Masturbation is a sexual activity commonly experienced by people of almost all ages throughout life. Looking at human history, there are depictions of male and female masturbation in pre-historic rock paintings. The Sumerians, one of the oldest tribes, believed that masturbation increased sexual power for both men and women (Dening, 1996). This act which has been carried out since the beginning of human history began to be considered immoral and unhealthy at the end of the 18th century. The negative comments about masturbation in Richard von Krafft-Ebing's (Von & Kraft-Ebing, 1965) famous book Psychopathia Sexualis in 1886 influenced the views of ordinary people and medical professionals against masturbation for many years. For many years, sexual intercourse was perceived as the only healthy sexual behaviour.

Masturbation was blamed for homosexuality, insanity, infertility and various other mental and physical disorders at that time (Bullough, 2002). These negative attitudes and views towards masturbation became increasingly tolerant throughout the 20th century. When the statistical findings of Alfred Kinsey emerged in 1948 and 1953, masturbation was found to be fairly common in the general population. Almost all men (92%) reported that they masturbated (Kinsey et al., 1953).

Over the years, as the frequency of masturbation has gradually increased (Dekker & Schmidt, 2003), the effects of incorrect masturbation on sexual dysfunctions were also questioned. However, there appears to be few studies in the literature regarding the potential harmful effects of incorrect masturbation incorrect on male sexual function (Corona et al., 2010; Dekker & Schmidt, 2003; Gerressu et al., 2008; Perelman, 2006; Sank, 1998).

TABLE 3 Selected factors associated with erectile functions, traumatic masturbation types and their frequencies, crude and adjusted odds ratios for reporting ED in pre-mature ejaculation patients

	n (within ED patients%)	Crude OR (95% CI)	Adjusted OR (95% CI)
Age		$p = .002$	$p = .001$
35 years ≥	424 (36.5%)	*Reference*	*Reference*
35 years <	290 (44.1%)	1.37 (1.13–1.66)	1.40 (1.15–1.71)
Lifestyle		$p = .0003$	$p = .004$
Exercise regularly/semi active	590 (37.6%)	*Reference*	*Reference*
Inactive	124 (49.6%)	1.63 (1.25–2.14)	1.54 (1.14–1.97)
Nutritive habits		$p = .026$	$p = .033$
Healthy/rather	615 (38.3%)	*Reference*	*Reference*
Unhealthy	99 (46.3%)	1.39 (1.04–1.85)	1.37 (1.18–2.02)
Atypical behaviours			
Through clothes		$p = .034$	$p = .030$
No	631 (38.5%)	*Reference*	*Reference*
Yes	83 (46.6%)	1.40 (1.03–1.91)	1.42 (1.04–1.94)
Rubbing in prone position		$p = .015$	$p = .012$
No	642 (38.4%)	*Reference*	*Reference*
Yes	72 (48.6%)	1.52 (1.08–2.13)	1.55 (1.01–2.17)
Pressure on penis		$p = .040$	$p = .013$
No	587 (38.2%)	*Reference*	*Reference*
Yes	127 (44.7%)	1.31 (1.01–1.69)	1.39 (1.07–1.80)
Total	714 (39.3%)		

Note: Odds ratio (OR) adjusted for age, exercise and nutritive habits via logistic regression modelling.

We used DSM five criteria for classification of pre-mature ejaculation and used estimated IELT. The estimated IELT correlated well with IELT measured using a stopwatch, but we included patients under 2 min because it overestimated the duration by an average of 1.2 min (Lee et al., 2015). The majority of patients were lifelong pre-mature ejaculation patients. We attribute this to the fact that our hospital is a reference centre and consists of patients who are generally resistant to treatment.

In our study, we questioned whether the patients had masturbated in the last 4 weeks. Similar inquiries have been made in several large series studies. In a study investigating the masturbation habits of 2,786 erectile dysfunction patients, the rate of masturbating at least once a month in the last 3 months was found to be 61.9% (Corona et al., 2010). In the 'British probability' questionnaire between the ages of 16 and 44, the rate of masturbation in the last 4 weeks was found to be 73% (Janssen et al., 2007). We found this rate as 88% for a period of 4 weeks in PE patients. In addition, we did not observe any difference between the groups in terms of masturbation rates according to the presence of ED. The high rates of masturbation in our country; it raises the question of whether it is due to differences in age, ethnicity, marital status, etc. with other studies, or because of the high rate of masturbation in patients with PE. Since there was no control group in our study, we did not have an answer to this question, but we think it is important because it is the first data in the literature for PE patients.

After pornography-induced erectile dysfunction (PIED) and decreased libido were first defined in 2007 (Carvalheira et al., 2015), many studies have shown that pornography is associated with sexual dysfunction, including difficulty with orgasm, preference for pornography over partners and adverse effects on the partner (Stewart & Szymanski, 2012; Sun et al., 2015). In another study, it was shown that the frequency of watching porn and masturbation increased in men with decreased sexual desire (Landripet & Štulhofer, 2015). In a study investigating the masturbation habits of adolescents with sexual partners, the rate of individuals with a frequency of 2 or more masturbation per week was found to be 49.1% (Robbins et al., 2011). In our study, this rate was 37% for more than one masturbation per week. It has been reported that increased masturbation frequency may be related to hypersexuality, serum testosterone levels (Randolph et al., 2015), not being able to enjoy sexual and general life and delayed ejaculation states (Perelman, 2006; Zimmer & Imhoff, 2020). We investigated the effects of concentration methods such as fantasy, watching porn, frequency of masturbation, location of masturbation and equipment used for masturbation on ED risk in PE patients, and we found that there was no difference between the groups. The fact that other masturbation habits other than atypical masturbation habits are similar to this degree between the groups supports the view that TMS should be questioned as an important pre-disposing factor except PE.

Due to factors such as social taboos, shyness, embarrassment and guilt, it is not always possible for patients to discuss their sexual life, especially masturbation, comfortably with their doctor (Bronner & Ben-Zion, 2014; Corona et al., 2010; Nicolai et al., 2013). The fact

that clinicians are not very willing to inquire in detail may cause disruption of aetiology-oriented treatment in most patients. In our routine evaluation and study, we used both closed- and open-ended questions in addition to validated questionnaires evaluating sexual dysfunction in detail. While taking the detailed history of the patient with sexual dysfunction, it is recommended to question the manner and habits of masturbation (Althof et al., 2013). In our study, we asked him to choose the most preferred type of masturbation among many types of masturbation described as closed-ended and describe this method as open-ended. In our opinion, we obtained more detailed and understandable results with this method compared with mutual verbal discussion. In a study of four cases, Bronner recommends questioning about unusual forms of masturbation in addition to taking a comprehensive sexual history. In treatment, it has been shown that teaching a healthy masturbation style similar to the real sexual experience (such as using lubricant) improves sexual functions and provides benefit in establishing healthy relationships with the partner (Bronner & Ben-Zion, 2014). In our study, the significantly low rate of ED in patients using lubricant during masturbation supports these data.

Sank defined traumatic masturbation syndrome in his case study and stated that masturbation in the prone position increases sexual dysfunction and especially ED (Sank, 1998). This study increased awareness of atypical masturbation behaviours and initiated an initiative called 'healthy strokes' (http://www.healthystrokes.com) to help men live a healthy sex life and enjoy their sexuality. In several studies of Perelman, where similar results were observed, he stated that 'idiosyncratic masturbation style, increased masturbation frequency (more than 3 times a week) and atypical sexual fantasies during masturbation may cause sexual dysfunction and especially delayed ejaculation (Perelman, 2005, 2006; Perelman & Rowland, 2006). In particular, he pointed out that behaviours that do not imitate his sexual experience with his partner are one of the most important causes in aetiology. However, there are no studies in the literature on the effects of atypical masturbating behaviours on pre-mature ejaculation, which constitutes the largest patient population of sexual dysfunction and its association with erectile dysfunction is well known. In our study we planned for this purpose, we showed that atypical masturbating behaviours are seen in a significant part of the pre-mature ejaculation population and increase the rate of erectile dysfunction accompanying PE. This situation draws attention to the necessity of questioning masturbation habits, especially in the combination of PE and ED.

Due to the lack of studies with large series on atypical masturbation or traumatic masturbation syndrome and the studies are generally based on case reports, we could not determine clear diagnostic criteria for diagnosis. Therefore, we asked the patients to describe their masturbation habits in the questionnaire as open-ended, and we did not want them to be limited to close-ended patterns. In this way, we revealed a mapping not only of atypical masturbation behaviours but also of all masturbation types. We evaluated all behaviours that do not imitate normal sexual intercourse as atypical masturbation and divided them according to the certain subheadings under this roof. At this point, our criticism is that we could not include the results of this in the study, since we could not provide standardisation about the severity and duration of exposure due to open-ended answers.

The study has some other limitations. These are (a) while the rate of masturbation was questioned based on the last 4 weeks, there was no time limit in questioning masturbation types and habits. For this reason, there are no data on how long and at what time interval he was exposed to traumatic masturbation. (b) The lack of a control group consisting of healthy individuals in the study, and therefore, the inability to show the effects of TMS on the incidence of pre-mature ejaculation should be stated as another deficiency. (c) Another issue is that we did not consider previous treatment for PE, ED and TMS as an exclusion criterion. We thought that this would affect the study results minimally, so we were able to reach high patient numbers which may be the most powerful aspect of the study. Also, the fact that the study was conducted on a subject about which there is not much information in the literature reflects another strength of our article.

5 | CONCLUSION

This study shows that after adjustment for age, lifestyle and nutritive habits, reported ED was significantly associated with traumatic masturbatory behaviours that through clothes, rubbing in prone position and pressure on penis. We think that this study is beneficial as it is the first large-scale study in the literature investigating masturbation habits in sexual dysfunction patients. In addition, it will contribute to the literature in terms of showing ED rates in Turkish male population with PE and determining possible risk factors that may cause this.

CONFLICT OF INTEREST

Authors declare that there is no conflict of interest between all authors.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author, Kafkasli, A. upon reasonable request.

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