Journal of Health and Rehabilitation Research 2791-156X JHRR

For contributions to JHRR, contact at email: editor@jhrlmc.com

Original Article

Efficacy of Tramadol V/S Paroxetine for the Management of Premature Ejaculation Patients

Naresh Kumar Valecha*[1], Shahzad Ali[1], Saeed Ahmed Khan[1], Khizer Ali[1], Abdul Mujeeb[1], Afaque Hyder Shah[1]

[1]Department of Urology and Transplantation-JPMC-Karachi

Corresponding Author: Naresh Kumar Valecha; Associate Professor; Email: Valechanaresh74@mail.com

Conflict of Interest: None.

Valecha NK., et al. (2023). 3(2): DOI: https://doi.org/10.61919/jhrr.v3i2.217

ABSTRACT

Background: Premature ejaculation (PE) is a common sexual dysfunction in men, impacting relationships and quality of life. Current treatments include selective serotonin reuptake inhibitors (SSRIs) and opioid receptor agonists, but their comparative efficacy is not well-established.

Objective: To compare the efficacy of tramadol (an opioid receptor agonist) with paroxetine (an SSRI) in the treatment of PE.

Methods: This randomized control trial was conducted at Jinnah Postgraduate Medical Center, Karachi, from October 2020 to April 2021. Male patients aged 18-55 years, diagnosed with PE, were included. Exclusion criteria were erectile dysfunction, substance abuse, psychiatric illnesses, and ongoing PE treatment. Participants were divided into two groups: one receiving tramadol and the other paroxetine, taken 2-4 hours before intercourse. Efficacy was measured using Intravaginal Ejaculation Latency Time (IELT) over a six-week period. Data were analyzed using SPSS version 21, with a p-value of <0.05 considered significant.

Results: 200 participants were included, with 100 in each treatment group. Tramadol showed a higher efficacy (89% efficacy) compared to paroxetine (73% efficacy), with a significant p-value of 0.004. Stratified analyses by age, BMI, and duration of relationship also indicated higher efficacy for tramadol across different subgroups.

Conclusion: Tramadol demonstrated superior efficacy in delaying ejaculation compared to paroxetine in the treatment of PE. These findings suggest that tramadol may be a more effective alternative for PE management, although further research is needed to confirm these results and explore long-term outcomes.

Keywords: Premature Ejaculation, Tramadol, Paroxetine, Sexual Dysfunction, Randomized Control Trial.

INTRODUCTION

Premature ejaculation (PE), a prevalent sexual dysfunction, affects approximately 20% to 40% of men globally (1). This condition not only impairs sexual satisfaction but also leads to significant mental distress and strained interpersonal relationships. The definition and characterization of PE remain elusive, with no universally accepted diagnostic criteria. The International Society of Sexual Medicine (ISSM) defines PE as 'persistent or recurrent early ejaculation occurring before or within one minute of vaginal penetration, associated with marked distress or interpersonal difficulty' (2).

PE is classified into two types: primary (lifelong) and secondary (acquired), with a higher prevalence observed in the latter (3,4). The management strategies for PE include both non-pharmacological and pharmacological approaches. Pharmacologically, treatments encompass selective serotonin reuptake inhibitors (SSRIs), antidepressants, opioid receptor agonists, 1-adrenoreceptor antagonists, phosphodiesterase type 5 inhibitors, and local anesthetic agents (3,5,6,7), though none are officially recommended for PE treatment (9). Among SSRIs, paroxetine has been particularly effective in delaying ejaculation, applicable for both on-demand and daily use (4,8-11). However, there have been cases where SSRIs did not achieve the desired results (12,13). Tramadol, an opioid receptor agonist, has also been reported as effective in the treatment of PE (11,14).

Despite the existence of studies on the on-demand use of paroxetine versus tramadol for PE management (11-14), there is a noticeable lack of comprehensive local data. The aim of this study is to compare the efficacy of paroxetine versus tramadol in the treatment of PE, providing vital insights for local healthcare professionals and enhancing the quality of care for patients with PE.

© 2023 et al. Open access under Creative Commons by License. Free use and distribution with proper citation.

Journal of Health and Rehabilitation Research 2791-156X JHRR

MATERIAL AND METHODS

This randomized control trial was conducted in the Department of Urological Surgery and Transplantation at Jinnah Postgraduate Medical Center, Karachi, from October 26, 2020, to April 25, 2021. The study enrolled male patients aged between 18 and 55 years. Inclusion criteria encompassed married individuals in a stable relationship for a minimum of six months and experiencing uncontrolled ejaculation within one minute before or after vaginal penetration. Exclusion criteria were set to omit patients with erectile dysfunction, substance abuse (including alcohol and addictive drugs), loss of libido, psychiatric illnesses, and neurological diseases. Additionally, patients undergoing current treatment for PE were excluded.

Eligible participants meeting the inclusion criteria were divided into two groups, A and B, through a randomized allocation process. Group A participants were prescribed tramadol, whereas group B participants received paroxetine. Both medications were to be taken 2 to 4 hours before intercourse on an on-demand basis. Participants were instructed to engage in sexual intercourse three times per week over a six-week period.

Follow-up assessments were scheduled after six weeks, during which the last six Intravaginal Ejaculation Latency Times (IELTs) were recorded for each patient to evaluate the treatment outcomes. The data collected were entered and analyzed using SPSS version 21. Statistical measures such as mean and standard deviation, percentages, and frequencies were calculated for numerical data including age, duration of disease, and Body Mass Index (BMI). A p-value of less than 0.05 was considered statistically significant for the purposes of this study.

RESULTS

The results presented in these tables offer insightful findings on the efficacy of Tramadol versus Paroxetine in the treatment of premature ejaculation (PE).

In Table 1, which compares the overall efficacy between the two groups, it's evident that Tramadol exhibits a higher efficacy rate. Out of 100 participants in the Tramadol group, 89 (89%) reported positive outcomes, compared to 73 (73%) in the Paroxetine group. This difference is statistically significant, as indicated by a p-value of 0.004, suggesting that Tramadol may be more effective in the general population of this study.

The stratification of efficacy by age groups in Table 2 reveals interesting patterns. Among younger participants (aged 18-40 years), 90.6% in the Tramadol group reported efficacy, slightly higher than the 81.6% efficacy rate in the Paroxetine group. However, this difference was not statistically significant (p=0.153). In contrast, among older participants (over 40 years), Tramadol maintained a higher efficacy rate (87.2%) compared to Paroxetine (64.7%), with this difference being statistically significant (p=0.010).

In Table 3, the data stratified by Body Mass Index (BMI) shows a similar trend. Participants with a BMI of 16-24 kg/m² showed an efficacy rate of 82.2% for Tramadol and 62.8% for Paroxetine, with a significant difference (p=0.041). For participants with a BMI greater than 24 kg/m², the efficacy rate was higher in the Tramadol group (94.5%) compared to the Paroxetine group (80.7%), and this difference was also statistically significant (p=0.025).

Table 1 Comparison of Efficacy Between Groups

Group	Efficacy (Yes)	Efficacy (No)	P-value
Tramadol (n=100)	89 (89.0%)	11 (11.0%)	0.004
Paroxetine (n=100)	73 (73.0%)	27 (27.0%)	-

Table 2 Stratification of Age Group with Efficacy Between Groups

Age Group	Treatment	Efficacy (Yes)	Efficacy (No)	P-value
18- 40 (n=102)	Tramadol	48 (90.6%)	5 (9.4%)	0.153
	Paroxetine	40 (81.6%)	9 (18.4%)	-
>40 (n=98)	Tramadol	41 (87.2%)	6 (12.8%)	0.010
	Paroxetine	33 (64.7%)	18 (35.3%)	-

Table 3 Stratification of Body Mass Index with Efficacy Between Groups

BMI [kg/m²]	Treatment	Efficacy (Yes)	Efficacy (No)	P-value
16- 24 (n=88)	Tramadol	37 (82.2%)	8 (17.8%)	0.041

© 2023 et al. Open access under Creative Commons by License. Free use and distribution with proper citation.

Journal of Health and Rehabilitation Research 2791-156X JHRR

BMI [kg/m²]	Treatment	Efficacy (Yes)	Efficacy (No)	P-value
	Paroxetine	27 (62.8%)	16 (37.2%)	-
>24 (n=112)	Tramadol	52 (94.5%)	3 (5.5%)	0.025
	Paroxetine	46 (80.7%)	11 (19.3%)	-

Table 4 Stratification for Duration of Relationship with Efficacy Between Groups

Duration [months]	Treatment	Efficacy (Yes)	Efficacy (No)	P-value
6- 18 (n=120)	Tramadol	59 (90.8%)	6 (9.2%)	0.017
	Paroxetine	41 (74.5%)	14 (25.5%)	-
>18 (n=80)	Tramadol	30 (85.7%)	5 (14.3%)	0.099
	Paroxetine	32 (71.1%)	13 (28.9%)	-

Finally, Table 4 focuses on the duration of the relationship as a factor. For relationships lasting 6-18 months, the efficacy of Tramadol was 90.8%, significantly higher than Paroxetine's 74.5% (p=0.017). For relationships longer than 18 months, the efficacy rates were 85.7% for Tramadol and 71.1% for Paroxetine, but this difference was not statistically significant (p=0.099).
Overall, the results indicate that Tramadol generally shows a higher efficacy rate than Paroxetine in treating PE across different age groups, BMI categories, and relationship durations. The statistical significance of these findings varies across different stratifications, suggesting that factors like age and BMI may influence the effectiveness of these treatments.

DISCUSSION

The study undertaken investigated the efficacy of tramadol compared to paroxetine in treating premature ejaculation (PE), a condition that affects men of all ages without a definitive organic cause (15,16). PE significantly impacts sexual satisfaction for couples, emphasizing the importance of effective treatment strategies to enhance the quality of sexual life (17). Given the uncertainty surrounding the etiology of PE, there is no standardized treatment, leading to a diverse range of therapeutic approaches including behavioral therapy, sexual education, and pharmaceutical treatments (18).
Traditionally, tramadol and sildenafil are not first-line treatments for PE, yet reports suggest tramadol's effectiveness in improving PE and increasing satisfaction levels. Selective serotonin reuptake inhibitors (SSRIs) like paroxetine and dapoxetine are recommended by ISSM guidelines for their minimal side effects and ability to delay ejaculation. The mechanism of action for tramadol in delaying ejaculation, though not fully understood, is thought to involve its activity on μ-opioid receptors and as a serotonin and norepinephrine reuptake inhibitor. Paroxetine operates by interacting with tryptamine at postsynaptic membrane receptors, contributing to delayed ejaculation (19).
The findings of this study reveal tramadol's superiority over paroxetine in delaying ejaculation. This is in line with studies by Ur Rehman et al. (20) and Hamidi-Madani et al. (19), which reported similar outcomes. In contrast, Zhang et al. (21) found paroxetine to be more effective, particularly in combination with other treatments. Furthermore, a meta-analysis by Wu et al. indicated that neither tramadol nor paroxetine significantly affected mean IELT, positioning tramadol as a safe and effective alternative for PE (7). This view is supported by research from Kanyar et al., Saleem et al., and Safarinejad and Hosseini et al., suggesting tramadol as an alternative treatment option, especially for prolonged usage (11,12,22). Alghobary et al. reported long-term use of paroxetine to be more effective than tramadol (23), while Bar-Or et al. demonstrated the effectiveness of a 62 mg tramadol dose compared to placebo (14), contrasting with the 50 mg dose used in this study.
A limitation of this study is the exclusion of certain parameters such as satisfaction level, ejaculation distress, control over ejaculation, and drug-related adverse effects, which are essential for a comprehensive evaluation of PE treatment. This limitation underscores the necessity for more in-depth, controlled randomized trials to confirm these findings and broaden the understanding of PE treatment.
The study suggests that tramadol is significantly more effective in the treatment of PE compared to paroxetine. However, considering the diverse outcomes in the existing literature and the limitations of this study, further research is warranted. Future studies should aim to include a broader range of evaluation parameters to provide a more comprehensive insight into the treatment options for PE.

© 2023 et al. Open access under Creative Commons by License. Free use and distribution with proper citation.

Journal of Health and Rehabilitation Research 2791-156X JHRR

CONCLUSION

this study presents tramadol as a potentially more effective treatment for premature ejaculation compared to paroxetine. The implications of these findings are significant for clinical practice, suggesting that tramadol could be considered as a viable alternative in the pharmacological management of PE. However, the diverse outcomes observed in related studies highlight the need for further research. Future investigations should focus on a broader array of treatment parameters to fully understand the implications of these findings for patient care and treatment selection in the field of sexual medicine.

REFERENCES

1. Premature ejaculation. European association of urology guidelines 2013.
2. Serefoglu EC, McMahon CG, Waldinger MD, et al. An evidence-based unified definition of lifelong and acquired premature ejaculation: report of the second International Society for Sexual Medicine Ad Hoc Committee for the Definition of Premature Ejaculation. J Sex Med. 2014;11:1423-1441
3. Mohee A, Eardley I. Medical therapy for premature ejaculation. Ther Adv Urol. 2011;3 (5):211-22.
4. Gameel TA, Tawfik AM, Abou-Farha MO, Bastawisy MG, El-Bendary MA, El-Gamasy AE. On-demand use of tramadol, sildenafil, paroxetine and local anaesthetics for the management of premature ejaculation: a randomised placebo-controlled clinical trial. Arab J Urol. 2013;11(4):392-7.
5. Serefoglu EC, McMahon CG, Waldinger MD, Althof SE, Shindel A, Adaikan G, et al. An evidence based unified definition of lifelong and acquired premature ejaculation: report of the second International Society for Sexual Medicine ad hoc committee for the definition of premature ejaculation. J Sex Med 2014;11(60:1423-41.
6. Ho TT, Le MT, Truong QV, Nguyen VQ, Cao NT. Premature ejaculation and erectile dysfunction in male partners of infertile couples: prevalence and correlation. Fertil Reprod. 2019;1(03):126-30.
7. Wu T, Yue X, Duan X, Luo D, Cheng Y, Tian Y, et al. Efficacy and safety of tramadol for premature ejaculation: a systematic review and meta-analysis. Urology. 2012;80(3):618-24.
8. Ozcan L, Polat EC, Otunctemur A, Ozbek E. Duloxetine, dual serotonin and norepinephrine reuptake inhibitor, versus paroxetine, selective serotonin reuptake inhibitor, in the treatment for premature ejaculation. Int Urol Nephrol. 2015;47:283-287.
9. Gao J, Peng D, Zhang X, Hao Z, Zhou J, Fan S, et al. Prevalence and associated factors of premature ejaculation in the Anhui male population in China: evidence-based unified definition of lifelong and acquired premature ejaculation. Sex Med. 2017;5(1):e37-43.
10. Pryor JL, Althof SE, Steidle C, et al. Efficacy and tolerability of dapoxetine in treatment of premature ejaculation: an integrated analysis of two double-blind, randomised controlled trials. Lancet (London, England). 2006;368:929-937.
11. Kaynar M, Kilic O, Yurdakul T. On-demand tramadol hydrochloride use in premature ejaculation treatment. Urology. 2012;79:145-149.
12. Safarinejad MR. Once-daily high-dose pindolol for paroxetine-refractory premature ejaculation: a double-blind, placebo-controlled and randomized study. J Clin Psychopharmacol. 2008;28:39-44.
13. Pereira-Lourenço M, Brito DVE, Pereira BJ. Premature ejaculation: from physiology to treatment. J Family Reprod Health. 2019;13:120-131.
14. Bar-Or D, Salottolo KM, Orlando A, Winkler JV. A randomized double-blind, placebo-controlled multicenter study to evaluate the efficacy and safety of two doses of the tramadol orally disintegrating tablet for the treatment of premature ejaculation within less than 2 minutes. Eur Urol. 2012;61:736-743.
15. Porst H, Montorsi F, Rosen RC, Gaynor L, Grupe S, Alexander J. The premature ejaculation prevalence and attitudes (PEPA) survey: prevalence, comorbidities, and professional help-seeking. Eur Urol. 2007;51:816-823.
16. Giuliano F, Clément P. Serotonin and premature ejaculation: from physiology to patient management. Eur Urol. 2006;50:454-466.
17. Giuliano FA. Tramadol for the treatment of premature ejaculation. Eur Urol. 2012;61(4):744-5.
18. Montague DK, Jarow J, Broderick GA, Dmochowski RR, Heaton JP, Lue TF, et al. AUA guideline on the pharmacologic management of premature ejaculation. J Urol 2004;172: 290–4.
19. Hamidi-Madani A, Motiee R, Mokhtari G, Nasseh H, Esmaeili S, Kazemnezhad E. The efficacy and safety of on-demand tramadol and paroxetine use in treatment of life long premature ejaculation: a randomized double-blind placebo-controlled clinical trial. J Reprod Infertil. 2018;19(1):10.

© 2023 et al. Open access under Creative Commons by License. Free use and distribution with proper citation.

Journal of Health and Rehabilitation Research 2791-156X JHRR

20. Ur Rehman MF, Imran Zaidi A, Ul Haq T, Rafique S, Ali F. Comparison of the Efficacy of Tramadol and Paroxetine in the Management of Premature Ejaculation. Cureus. 2020 Sep 29;12(9):e10725. doi: 10.7759/cureus.10725.

21. 21.Zhang D, Cheng Y, Wu K. Paroxetine in the treatment of premature ejaculation: a systematic review and meta-analysis. BMC Urol. 2019;19:2 https://doi.org/10.1186/s12894-018-0431-7.

22. Salem EA, Wilson SK, Bissada NK, Delk JR, Hellstrom WJ, Cleves MA. Tramadol HCL has promise in on-demand use to treat premature ejaculation. J Sex Med. 2008;5(1):188-93.

23. Alghobary M, El-Bayoumy Y, Mostafa Y, Mahmoud el-HM, Amr M. Evaluation of tramadol on demand vs. daily paroxetine as a long-term treatment of lifelong premature ejaculation. J Sex Med. 2010;7(8):2860-7.

24. Patrick DL, Althof SE, Pryor JL, et al. ejaculatory disorders: premature ejaculation: an observational study of men and their partners. J Sex Med. 2005;2:358–367

© 2023 et al. Open access under Creative Commons by License. Free use and distribution with proper citation.