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Awareness Of Anti Insomnia Therapy With Zolpidem Among Dental Students

Research Article

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Abstract

Introduction: Zolpidem is indeed an imidazopyridine medication used for short-term insomnia care. Zolpidem's motor and cognitive profile was equivalent to that of temazepam and equal or superior to other benzodiazepines, notably flunitrazepam or triazolam.
Aim: This research was conducted to estimate the awareness of dental students about anti-insomnia therapy with Zolpidem.
Materials and Method: A cross-sectional analysis with a self-designed questionnaire was performed, with ten questions distributed amongst 100 dental students. The questionnaire tested insomnia knowledge of Zolpidem treatment, its sedative hypnotic effects, action mechanism and side effects. We documented and evaluated the responses.
Results: 9% of the respondents were aware of the Zolpidem therapy for insomnia, 7% were aware of the sedative hypnotic property of Zolpidem, 5% were aware of the mechanism of action of Zolpidem and 4% were aware of the side effects of Zolpidem.
Conclusion: The awareness about the use of Zolpidem therapy for managing insomnia is very less among dental students. Increased awareness programs and sensitization and continuing dental education programs along with greater importance to the curricular modifications should be incorporated to improve the awareness levels.

Keywords: Awareness; Zolpidem; Insomnia.

Introduction

Zolpidem is also an imidazopyridine medication prescribed for short-term management of insomnia. Evidence have also shown that zolpidem's hypnotic effectiveness is generally equivalent to that of benzodiazepines flunitrazepam, flurazepam, temazepam, nitrazepam, and triazolam, and also nonbenzodiazepine hypnotic drugs including zopiclone or trazodone in the care of patients suffering from insomnia [1-3].

Zolpidem is very well accepted in people with insomnia, although vomiting, lightheadedness and drowsiness are usually the most severe adverse effects. Even though zolpidem caused several other impairment of the motor and cognitive functions the first couple hours upon administration, it also had few impacts day after. In this regard it was analogous or superior to flunitrazepam and flurazepam in patients with sleeplessness and similar to other benzodiazepines. Zolpidem seems to possess limited capability for abuse [3-5]. This research was conducted to estimate the awareness of dental students about anti-insomnia therapy with Zolpidem.

Materials and Method

A cross-sectional analysis with a self-designed questionnaire was performed, with ten questions distributed amongst 100 dental students. The questionnaire tested insomnia knowledge of Zolpidem treatment, its sedative hypnotic effects, action mechanism and side effects. We documented and evaluated the responses.

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Results

9% of the respondents were aware of the Zolpidem therapy for insomnia (Fig 1), 7% were aware of the sedative hypnotic property of Zolpidem (Fig 2), 5% were aware of the mechanism of action of Zolpidem (Fig 3) and 4% were aware of the side effects of Zolpidem (Fig 4).

Discussion

Among patients with recurrent insomnia, the morning after administering the drug, zolpidem 10 mg/day displayed psychomotor effects similar to or less than those of flunitrazepam or flurazepam. A few other psychomotor as well as memory loss was reported in the first few minutes after intervention with zolpidem in healthy subjects, however these consequences were usually not detected 6 hours after ingestion. Zolpidem's motor and cognitive profile was analogous to that seen in temazepam and similar to or better than other benzodiazepines in human volunteers, such as flunitrazepam but also triazolam as well as the nonbenzodiazepine zopiclone. Zolpidem has induced greater psychomotor as well as memory damage than the next hypnotic nonbenzodiazepine, zaleplon, usually for up to 5 hours after voluntary drug administration [6, 7].

For most cases, Zolpidem has no adverse effects on breathing other than harmful effects for people with obstructive sleep apnea. Zolpidem is absorbed rapidly and a mean average serum concentrations of 121 µg/L is achieved 1.6 hours after quite a 10mg dose. Despite several doses the medication will not build up. Zolpidem is rapidly metabolized by a number of cytochrome isoenzymes from P450 to 3 passive metabolites, mainly CYP3A4. Zolpidem does have a shorter half-life of withdrawal 2.5 hours after quite a dosage of 10mg [8].

Research in elderly patients for insomnia have indicated that zolpidem does have an equal effectiveness in this population to

Figure 1. Awareness of Zolpidem therapy for insomnia.

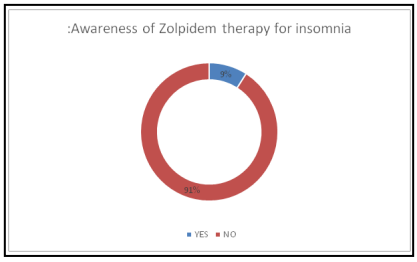


Figure 2. Awareness of the sedative hypnotic property of Zolpidem.

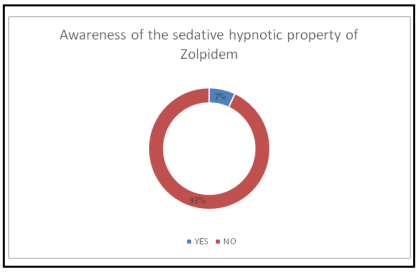


Figure 3. Awareness of the mechanism of action of Zolpidem.

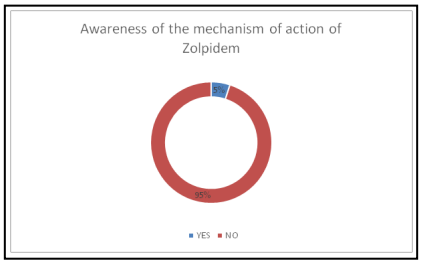
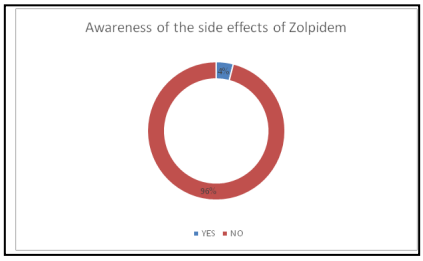


Figure 4. Awareness of the side effects of Zolpidem.



flunitrazepam, lorazepam and triazolam. There was zero evidence of addiction developing to hypnotic effects of zolpidem in a variety of clinical trials of 3 to 6 month period and usually deemed self-assessments of the patients. Nonetheless, published studies have reported resistance to zolpidem's hypnotic therapy in humans, generally with psychiatric conditions, taking the medication for intervals of up to many years at high doses [9, 10].

Zolpidem is well tolerated in patients with insomnia, including the elderly. The most common adverse events generally include nausea, dizziness and drowsiness. In patients with insomnia, the next-day effects and adverse events profile of zolpidem were generally comparable to those of benzodiazepine and non-benzodiazepine hypnotics. Zolpidem appears to have a low potential for abuse. Drowsiness or somnolence was the most common symptom of zolpidem overdose. Fatalities have been reported in patients taking an overdose of zolpidem: where full details are available there was usually a concomitant overdose of other drugs [11, 12].

Few clinically relevant drug reactions were identified in healthy participant trials between zolpidem and fluoxetine. It is recommended that zolpidem be administered orally for insomnia treatment shortly until bedtime. Zolpidem is generally at a daily recommended dose of 10 mg/day in adults. However, there is little indication of resistance to the hypnotic impact of zolpidem, or relapse insomnia or withdrawal symptoms following discontinuation of the medication when administered as prescribed (10mg/day for more than 1 month) or for prolonged periods [13, 14].

Conclusion

The awareness about the use of Zolpidem therapy for managing insomnia is very less among dental students. Increased awareness programs and sensitization and continuing dental education programs along with greater importance to the curricular modifications should be incorporated to improve the awareness levels.

References

[1]. Sanger DJ, Depoortere H. The pharmacology and mechanism of action of zolpidem. CNS Drug Rev 1998; 4(4): 323–40.PubmedPMID: 29200233.

[2]. Depoortere H, Zivkovic B, Lloyd KG, Sanger DJ, Perrault G, Langer SZ, et al. Zolpidem, a novel nonbenzodiazepine hypnotic. I. Neuropharmacological and behavioral effects. J PharmacolExpTher 1986; 237(2): 649–58. PubmedPMID: 2871178.

[3]. Walsh JK, Schweitzer PK, Sugerman JL, Muehlbach MJ. Transient insomnia associated with a 3-hour phase advance of sleep time and treatment with zolpidem. J ClinPsychopharmacol 1990 Jun; 10: 184–9.Pubmed PMID: 2198296.

[4]. Roth T, Roehrs T, Vogel G. Zolpidem in the treatment of transient insomnia: a double-blind, randomized comparison with placebo. Sleep 1995 May; 18: 246–51.Pubmed PMID: 7618022.

[5]. Sivakumar N, Ganapathy D, Pandurangan KK, Velayudhan A. Awareness on Commonly used Sedatives Hypnotic in Dental Practices among Dental Students. Journal of Pharmaceutical Research International. 2020 Aug 26:188-96.

[6]. Uchiumi M, Sugiyama T, Suzuki M. Effects of a single dose of zolpidem, triazolam and nitrazepam on daytime sleepiness. Jpn J Neuropsychopharmacol 1994; 16: 45–56.

[7]. Morgan PJ, Chapados R, Chung FF, Gauthier M, Knox JW, Le Lorier J. Evaluation of zolpidem, triazolam, and placebo as hypnotic drugs the night before surgery. J ClinAnesth 1997 Mar; 9: 97–102.Pubmed PMID: 9075032.

[8]. Blois R, Gaillard JM, Attali P, Coquelin JP.Effect of zolpidem on sleep in healthy subjects: a placebo-controlled trial with polysomnographic recordings. ClinTher 1993 Sep–Oct; 15: 797–809.Pubmed PMID:8269446.

[9]. Patat A, Trocherie S, Thebault JJ,Rosenzweig P, Dubruc C, Bianchetti G, et al. EEG profile of intravenous zolpidem in healthy volunteers. Psychopharmacology 1994 Feb; 114: 138–46.Pubmed PMID: 7846196.

[10]. Guieu JD, Derambure PH, Dujardin K, Sediri H, Jacquesson JM, de La Giclais B. Effects of a simple dose of zolpidem, zopiclone, flunitrazepam and placebo on sleep EEG microstructure [abstract]. J Sleep Res 1996; 5 Suppl. 1:81.

[11]. Monti JM, Attali P, Monti D, Zipfel A, de la Giclais B, Morselli PL.Zolpidem and rebound insomnia — a double-blind, controlled polysomnographic study in chronic insomniac patients. Pharmacopsychiatry 1994 Jul; 27: 166–75.Pubmed PMID: 7972349.

[12]. Scharf M, Vogel G, Kaffeman M, et al. Dose-response of zolpidem in elderly patients with chronic insomnia . Sleep Res 1991; 20: 84.

[13]. Dujardin K, Guieu JD, Leconte-Lambert C, Leconte P, Borderies P, de La Giclais B. Comparison of the effects of zolpidem and flunitrazepam on sleep structure and daytime cognitive functions: a study of untreated insomniacs. Pharmacopsychiatry 1998 Jan; 31: 14–8.PubmedPMID: 9524979.

[14]. Parrino L, Boselli M, Spaggiari MC, Smerieri A, Terzano MG. Multidrug comparison (lorazepam, triazolam, zolpidem, and zopiclone) in situational insomnia: polysomnographic analysis by means of cyclic alternating pattern. ClinNeuropharmacol 1997 Jun; 20: 253–63.PubmedPMID: 9197949.