

AWARENESS OF MEDICAL APPLICATIONS OF MODAFINIL THERAPY AMONG DENTAL STUDENTS

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Abstract

Modafinil was initially evolved by a French neurophysiologist Professor Michel Jouvet. Modafinil started with the late 1970s creation of a progression of benzhydryl sulfinyl mixes, including adrafinil that was used in the management of narcolepsy in 1986. Modafinil is fundamentally utilized for its antisomnic function. The aim of the survey is for assessing the awareness of medical applications of Modafinil therapy amongst dental students. A cross sectional study was done with a self-administered questionnaire with 10 questions circulated among 100 dental students. The questionnaire assessed the awareness about Modafinil therapy in medical applications, their medicinal uses, antisomnic activity, mechanism of action and side effects. The responses were recorded and analysed. 94 % of the respondents were not aware of medical uses of Modafinil therapy. 83 % were not aware of antisomnic activity therapy. 90 % were not aware of the mechanism of action of Modafinil therapy. 85% were not aware of side effects of Modafinil therapy. The awareness about the use of Modafinil therapy in medical applications 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, Modafinil therapy, dental students

Introduction

Modafinil was initially evolved by a French neurophysiologist Professor Michel Jouvet. Modafinil started with the late 1970s creation of a progression of benzhydryl sulfinyl mixes, including adrafinil that was used in the management of narcolepsy in 1986. Modafinil is fundamentally utilized for its antisomnic function. Modafinil is the essential metabolite of adrafinil, coming up short on the polar - OH bunch on its terminal amide, (Ballas et al., 2002) and has comparative movement to the parent drug yet is considerably more generally utilized.

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Modafinil was avowed by the U.S. Food and Drug Administration for the management of narcolepsy and in 2003 for sleep issues and obstructive sleep apnea/hypopnea(Camacho & Stein, 2002; Jha et al., 2008).

The activity of modafinil for narcolepsy and sleep-wake issue stays obscure. Modafinil goes about as an atypical, particular, and powerless dopamine inhibitor which in a roundabout way initiates the arrival of orexinneuropeptides and histamine from the horizontal nerve center and tuberomammillary core, separately all of which may add to increased arousal.Modafinil and its evidential metabolite, modafinil acid, might be measured in urine,plasma or serum to screen dose in those accepting the medication restoratively, to affirm an analysis of harming in infirmary patients or to aid the legal examination of vehicular criminal traffic offenses. (Elliott & Swick, 2015; Taylor & Russo, 2000)

Modafinil is hypothesised to work in a localised mode, utilizing histamine,hypocretin, gamma-aminobutyric acid,epinephrineand glutamate. It is a biotolerant medication with low disposition for abuse and is often used for divergent indications.(Mehlman, 2009)This study was done with aim to assess the awareness about the medical applications of Modafinil among dental students.

Materials and method

A cross sectional study was done with a self-administered questionnaire with 10 questions circulated among 100 dental students. The questionnaire assessed the awareness about Modafinil therapy in medical applications ,their medicinal uses,antisomnic activity ,mechanism of action and side effects.The responses were recorded and analysed.

Results

94 % of the respondents were not aware of medical uses of Modafinil therapy (Fig 1) .83 % were not aware of antisomnic activity therapy (Fig 2).90 % were not aware of the mechanism of action of Modafinil therapy (Fig 3) .85% were not aware of side effects of Modafinil therapy (Fig 4).

Fig.1:Awareness of medical uses of Modafinil therapy

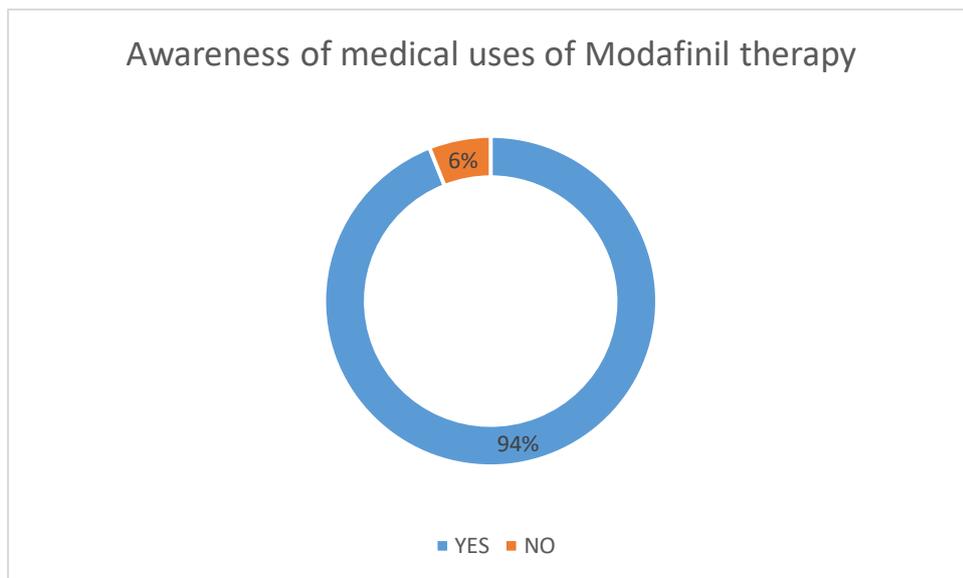


Fig.2: Awareness of anti somnic activity of Modafinil therapy

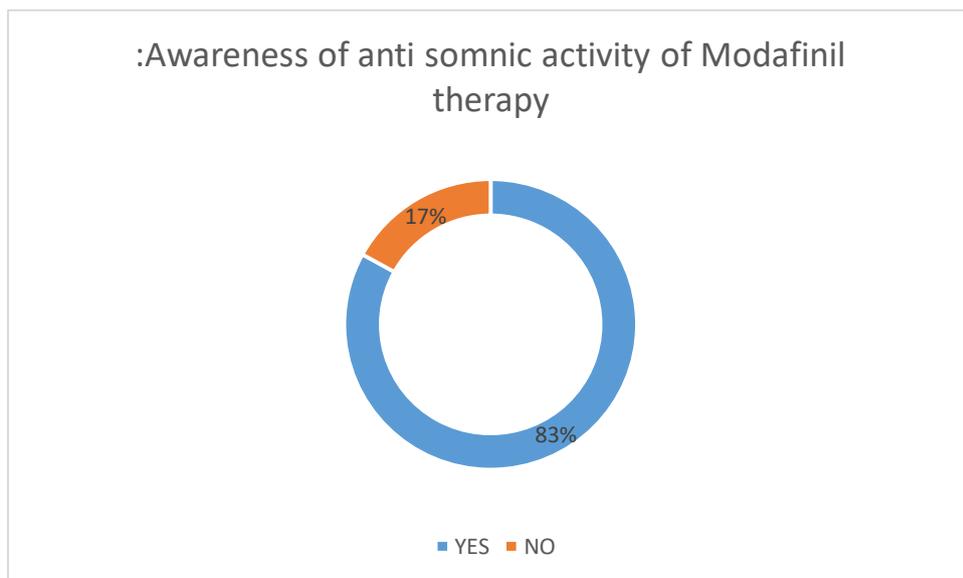


Fig.3: Awareness of mechanism of action of Modafinil therapy

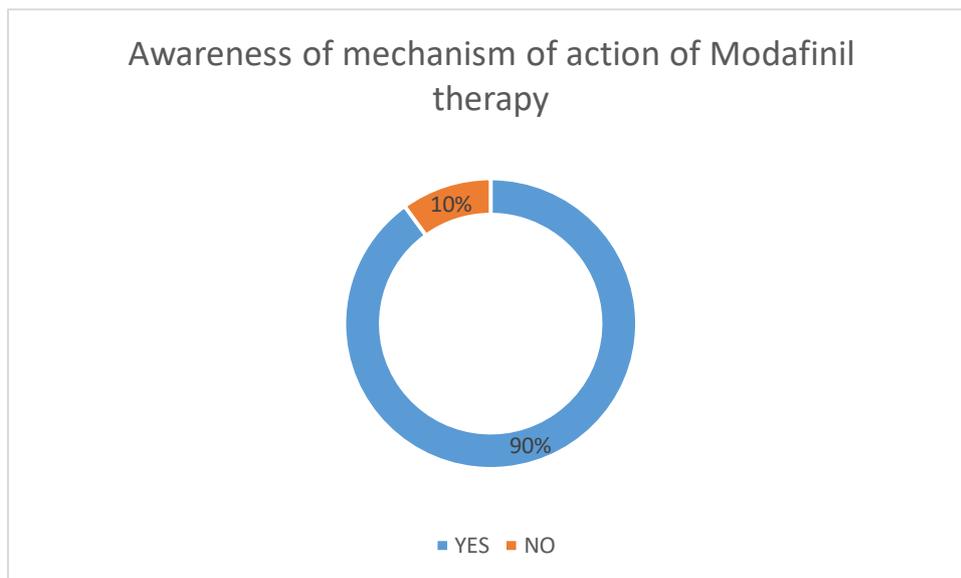
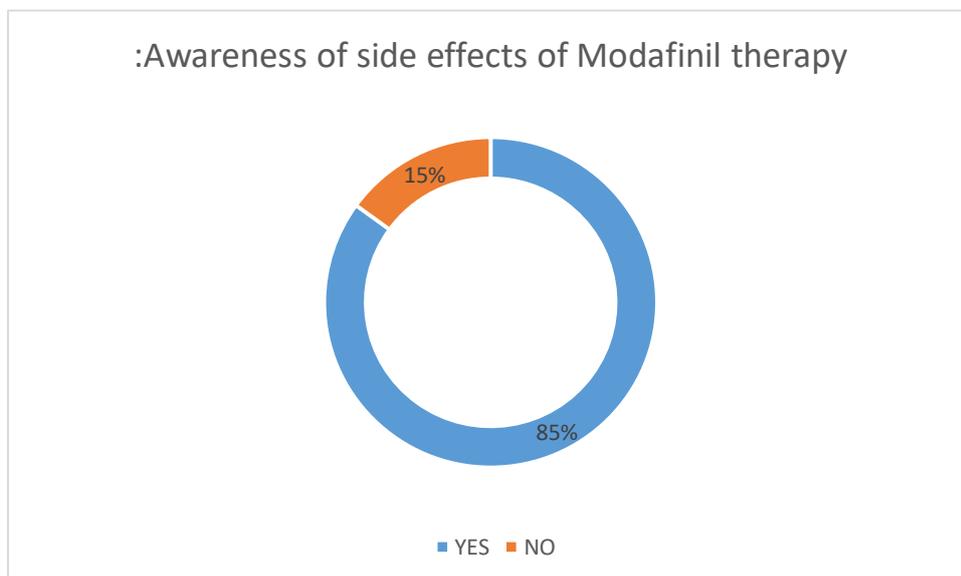


Fig.4: Awareness of side effects of Modafinil therapy



Discussion

Modafinil is a useful medication with an enormous possibility in psychiatry and general medication. Rewarding day sleepiness is perplexing, and deciding the exact idea of the sleep issue is imperative. Modafinil might be a compelling operator in several sleep conjunctures. Until now, the most grounded proof among off-mark utilizes

exists for the utilization of modafinil in a lack of ability to concentrate consistently scatter, postanaesthetic sedation, and cocaine reliance and withdrawal and also as an aide to antidepressant medication for depression.

In sleep-deprived people, modafinil improves state of mind, weakness, sleepiness and cognizance to a comparable degree as caffeine however has a more extended term of activity. Proof for improved perception in non-sleep-deprived sound volunteers is contentious. Modafinil improves excess sleepiness and sickness seriousness in each of the three issues for which it is endorsed by the US FDA, for example narcolepsy, shift-work sleep issue and obstructive sleep apnoea with leftover over the top sleepiness in spite of ideal utilization of consistent positive aviation route pressure (CPAP). (Rush et al., 2002; Wisor, 2013)

Modafinil was useful for depressing side effects in bipolar disorder in a study that prohibited patients with stimulant-initiated mania. A solitary portion of modafinil may rush recuperation from general sedation after day medical procedure. A solitary portion of modafinil reinforced the capacity of crisis room doctors to go to instructional talks following a night move, yet didn't improve their capacity to commute home and caused sleep aggravations subsequently. Modafinil had a significant misleading impact on results, for example, weakness, over the top sleepiness and despondency in patients with horrible mental unhealthiness, significant depressive disorder, schizophrenia, post-polio exhaustion and various sclerosis diseases (Connolly et al., 2015).

Modafinil has been used non-restoratively as a "smart drug" by understudies, office workers and warriors. As a 'smart drug' it as far as anyone knows increases mental fixation and stays away from rest, attributes which attract understudies, specialists in the corporal and tech domains, aeronautics based military workforce, masters, truck operators and call-center employees. (Eckart, 2006)

Modafinil and armodafinil have been concentrated as a supplement to antipsychotic prescriptions in the management of schizophrenia. They have been reliably appeared to have no impact on positive side effects or psychological execution. A 2015 meta-investigation found that modafinil and armodafinil may marginally lessen contrary indications in individuals with intense schizophrenia, however it doesn't seem valuable for individuals with the condition who are steady, with high negative manifestation scores. (Eckart, 2006) Among drugs exhibited to be compelling for diminishing negative side effects in blend with enemies of psychotics, modafinil and armodafinil are among the less effective sizes. (Andrade et al., 2015)

Modafinil is utilized off-mark in studies with individuals with side effects of chemotherapy subjective impedance, otherwise called "chemobrain", yet a 2011 survey found that it was no better than placebo. It is in use in various sclerosis related exhaustion, yet the subsequent proof was feeble and equivocal. (Portela et al., 2011)

General sedation is required for some medical procedures, yet there might be waiting weakness, sedation, or potentially laziness after medical procedure has finished that goes on for a considerable length of time to days. In outpatient environment wherein patients are released home after medical procedure, this sedation, weariness and periodic unsteadiness is risky and modafinil had been tried for its utilization in these conditions. (Mankad et al., 2010)

Modafinil actuates and hinders a few cytochrome P450 isoenzymes and has the potential for cooperating with various drugs . The modafinil portion ought to be decreased in the old and in patients with hepatic sickness. Alertness is required in patients with extreme renal deficiency as a result of considerable increments in levels of modafinil acid. Regular unfavorable occasions with modafinil incorporate insomnia, cerebral pain, nausea, anxiety and hypertension. Diminished hunger, weight reduction have been accounted for with more noteworthy recurrence in kids and young people, most likely because of the higher portions utilized. Modafinil have mild addictive potency in few patients(Lavault et al., 2011).

Conclusion

The awareness about the use of Modafinil therapy in medical applications 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.

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Conflict of Interest:

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