

CLINIC AND MANAGEMENT OF SMOKING ABSTINENCE LITERATURE REVIEW

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Abstract: Introduction: Nicotine is an agonist of the nicotinic subtype of acetylcholinergic receptors, with a half-life of two hours. Approximately 25% of the nicotine inhaled during smoking reaches the bloodstream, through which it reaches the brain within 15 seconds. It is believed to produce positive reinforcement by activating the dopaminergic pathway and the limbic system (PLANETA. 2005). **Objective:** Review the clinical and management of smoking abstinence. **Result:** Behavioral therapy is the most widely accepted and proven psychological therapy for smoking. Replacement therapies use a short maintenance period of 6 to 12 weeks, often followed by a gradual reduction period of another 6 to 12 weeks (SILVEIRA, 2021). **Conclusion:** All nicotine replacement therapies double cessation rates, supposedly because they reduce withdrawal (SILVEIRA, 2021).

Keywords: Tobacco control; Tobacco cessation devices; Nicotine.

INTRODUCTION

Nicotine is an agonist of the nicotinic subtype of acetylcholinergic receptors, with a half-life of two hours. Approximately 25% of the nicotine inhaled during smoking reaches the bloodstream, through which it reaches the brain within 15 seconds. It is believed to produce positive reinforcement by activating the dopaminergic pathway that projects from the ventral tegmental area to the cerebral cortex and limbic system. In addition to providing positive reinforcement by activating the dopaminergic reward system, nicotine causes an increase in circulating norepinephrine and epinephrine concentrations and the release of vasopressin, β -endorphin, adrenocorticotrophic hormone (ACTH) and cortisol. These hormones are believed to contribute to the basic stimulatory effects of nicotine on the Central Nervous System (PLANETA. 2005).

The presence of bronchial hyperreactivity in COPD is frequently found, being called “chronic obstructive asthmatic bronchitis” by some. The “asthmatic” component of the obstruction can be reversed with bronchodilators and, mainly, with the use of inhaled corticosteroids (PLANETA. 2005).

Smokers often also have biatrial and right ventricular overload, called Cor pulmonale, which is a dysfunction of the right ventricle resulting from a pulmonary disorder (PLANETA. 2005).

The main mechanism is chronic hypoxia. Pulmonary arterioles respond to hypoxia with vasoconstriction. This response is physiological in that it diverts pulmonary blood flow to well-ventilated alveoli. However, if alveolar hypoxia is generalized (due to poor ventilation), most of the vessels will suffer constriction, promoting Pulmonary Arterial Hypertension (PAH). Subsequently, the worsening of PAH occurs due to a combination of endothelial hyperplasia and muscular hypertrophy, leading to remodeling of the wall of the small pulmonary arteries. When systolic pulmonary arterial pressure reaches values > 50 mmHg (normal up to 20 mmHg), the right ventricle may enter systolic failure, due to the excessive increase in afterload. The consequences of right ventricular failure are: (1) increased central venous pressure; (2) systemic congestion; (3) low cardiac output, contributing to the fatigue of these patients (PLANETA. 2005).

Withdrawal symptoms can develop within 2 hours of consuming the last cigarette; they usually peak within the first 24 to 48 hours and can last for weeks or months. Common symptoms include an intense craving for tobacco, tension, irritability, difficulty concentrating, drowsiness and paradoxical insomnia, reduced heart rate and blood pressure, increased appetite and weight gain, reduced motor performance and increased

muscle tension (MONTEIRO, 2023).

For patients who are ready to stop smoking, it is best to set a start date for the cessation. Brief counseling must focus on the need for medication or group therapy, concerns about weight gain, high-risk situations, ending the ready availability of cigarettes, and so on. Because relapse is often rapid, the first phone call or follow-up visit must occur 2 to 3 days after the discontinuation date. These strategies have proven to be twice as successful as personal initiative rates without assistance (MONTEIRO, 2023).

Behavioral therapy is the most widely accepted and proven psychological therapy for smoking (SILVEIRA, 2021).

All nicotine replacement therapies double cessation rates, presumably because they reduce withdrawal. Replacement therapies use a short maintenance period of 6 to 12 weeks, often followed by a tapering period of another 6 to 12 weeks (SILVEIRA, 2021).

Resin-nicotine gum is an over-the-counter product that releases nicotine through chewing and oral absorption. They are available in 2 mg, for individuals who smoke less than 25 cigarettes/day, and in 4 mg, for those who smoke more than 25 cigarettes/day. Smokers must only use 1 to 2 units of chewing gum per hour up to a maximum of 24 units per day after abrupt cessation (SILVEIRA, 2021).

Nicotine lozenges release nicotine and are also available in 2 and 4 mg formulations; They are especially useful for patients who smoke a cigarette immediately upon waking up. Generally speaking, 9 to 20 lozenges/day are used for the first 6 weeks, with dosage reduction thereafter. The lozenges provide the highest level of nicotine of all nicotine replacement products. Users need to suck on the tablet until it dissolves without swallowing it. Side effects include insomnia, nausea, heartburn, headache and hiccups (HIRATA, 2020).

Nicotine patches, also sold without a prescription, are available in 16-hour preparations, without tapering, and 24- or 16-hour preparations, with tapering. The patches are administered each morning and produce blood concentrations about half those of smoking. There is a lot of acceptance, and the main adverse effects are skin rashes and, with 24-hour use, insomnia. Using chewing gum and patches in high-risk situations increases smoking cessation success rates by another 5 to 10%. After 6 to 12 weeks, the patch is discontinued because it is not intended for long-term use).

Nicotine nasal spray, available only by prescription, produces nicotine concentrations in the blood that are more similar to those obtained when smoking cigarettes and appears to be particularly useful in the case of highly addictive smokers. The spray, however, causes rhinitis, watery eyes and coughing in more than 70% of patients. Although initial data suggests a risk of abuse, new experiments have not confirmed this hypothesis (HIRATA, 2020).

A nicotine inhaler, a prescription-only product, is designed to supply the lungs with nicotine, but the substance is actually absorbed in the upper part of the throat. It delivers 4 mg per cartridge, and the resulting nicotine levels are low. Its main advantage is to provide a behavioral substitute for smoking. It doubles abandonment success rates. These devices require frequent inhalations – around 20 minutes to extract 4 mg of nicotine – and present minor adverse effects (HIRATA, 2020).

Non-nicotine therapy can help smokers with philosophical restrictions on the notion of replacement therapy and smokers who have not had success with replacement therapy (SILVEIRA, 2021).

Bupropion is an antidepressant medication with both dopaminergic and adrenergic

actions. Its use begins at 150 mg per day for 3 days, increasing to 150 mg twice a day for 6 to 12 weeks. Daily dosages of 300 mg double the rates of quitting the habit in smokers with and without a history of depression. In one study, the combination of bupropion and nicotine patch showed higher rates than either method alone. Adverse effects include insomnia and nausea, but are rarely significant. No seizures occurred in smoking experiments. It is worth highlighting that nortriptyline appears to be effective for smoking cessation and is recommended as a second drug option (SANTOS, 2023).

MATERIAL AND METHODS

The search was carried out in the PubMed database and was limited to articles between 2005 and 2024 that met the criteria of being literature reviews and case reports.

Next, the keywords in the article titles were analyzed and those whose themes best fit our objective were selected.

A total of 5 articles were selected for full reading.

DISCUSSION

Most clinicians and smokers prefer abrupt cessation, but as there is no data that suggests abrupt cessation is better than gradual cessation, the patient's preference for gradual cessation must be respected (MONTEIRO, 2023).

CONCLUSION

Behavioral therapy is the most widely accepted and proven psychological therapy for smoking (SILVEIRA, 2021).

All nicotine replacement therapies double cessation rates, presumably because they reduce withdrawal. Replacement therapies use a short maintenance period of 6 to 12 weeks, often followed by a tapering period of another 6 to 12 weeks (SILVEIRA, 2021).

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