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Pyshotropic Drugs: Side Effects on Mouth

Emanuela Carla dos Santos[1], Eliana Cristina Fosquiera[2], Aline Cristina Batista Rodrigues Johann[3], Mariana Rinaldi[2], Patrícia Vida Cassi Bettega[2] and Ana Maria Trindade Gregio*[4]

[1]*Master student in Stomatology, Pontifical Catholic University of Parana, Brazil*

[2]*Doctorate student in Stomatology, Pontifical Catholic University of Parana, Brazil*

[3]*Departament of Oral Patology, Pontifical Catholic University of Parana, Brazil*

[4]*Departament of Pharmacology, Pontifical Catholic University of Parana, Brazil*

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***Corresponding author:** Ana Maria trindade Grégio Hardy, Department of Pharmacology, Pontifical Catholic University of Parana, Brazil, Email: anamaria.gregio@gmail.com

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Modern life, globalization, informatization and all technical and scientific resources brought to man a better quality and longer life expectancy, but with such progress emerged diseases hitherto little studied, afflicting a significant percentage of the population. Depression is commonly accompanied by anxiety disorders such as phobias, panic disorder, generalized anxiety disorder (GAD), obsessive compulsive disorder (OCD), and acute posttraumatic stress. These are also chronic psychiatric conditions, severe and recurrent, with an estimated prevalence of around 29% that result in functional impairment, associated with significant social costs, since the treatment thereof include psychological therapy and Central nervous system (CNS) depressant drugs, called psychotropic drugs. These drugs, such as antidepressants, have been widely reported since the 1980s to date WHO 2012 [1-5].

Among these diseases, affective disorders might be highlight. These are characterized by changes in mood (depression, anxiety or mania) and thought disorders. Depression constitutes the most common form of this event, ranging from mild to severe, which is sometimes accompanied by hallucinations and delusions (psychotic depression). Many studies work with the hypothesis that depression comes from deficiency of monoamines (norepinephrine and serotonin), and the most appropriate treatment is to increase the supply of these neurotransmitters in the central nervous system. Other statistics show that depression has increased due to the increased life expectancy. It is common in the elderly population. The treatment of psychiatric disorders and affection disorders is mainly antidepressants, antipsychotics and anxiolytics [5-8].

Several authors have also reported that patients with psychiatric disorders such as depression complain of dry mouth. Depressive changes where the dry mouth is present are 20% more frequent in women than in men. The most common age is between 30 and 59 years. Drug mechanism of action on the central nervous system for treating depression consists on the reuptake of the neurotransmitter, the inhibition of neurotransmitter degradation, and increase in the bonding time with the central receptors and/or increase neurotransmitter synthesis. However, pharmacologically, these drugs promote adverse reactions and side effects to the patient that uses this medication, especially for prolonged use [9-12].

Such drugs have been investigated by the scientific community, due to the increase and continuous prescription, and obviously the reporting of undesirable effects by the patients. The study of the relation structure-activity (REA) led to the discovery that certain receptors for such monoamines - Beta1 and alpha2-adrenergic systematically undergo a down-regulation following chronic treatment with antidepressants. This has been demonstrated in experimental animals by reducing the number of binding sites as well as reduction in functional response to agonists. These findings do not explain the theory of deficiency of monoamines, but corroborate the unwanted effects of these drugs, so adding the functional loss of the theory of activity of the adrenergic and cholinergic receptors present in the salivary glands, promoting hyposalivation (dry mouth), urinary retention, constipation, bladder atony, bowel atony, xerophthalmia (dry eyes) and even insomnia and agitation at the beginning of treatment.

The appearance of patients in medical and dental office with dry mouth and dry eyes complaint has been constant, because of these medicines. It is noteworthy that hypo salivation may experience some symptoms like burning mouth, loss of taste, angular cheilitis, difficulty in speaking and swallowing, and when worsens led to the increase in the number of caries, oral candidiasis, halitosis and periodontal disease. The therapeutic approach of the patient with xerostomia (dry mouth) varies according to individual characteristics. The treatment is to relieve symptoms, prevent or correct any sequelae of salivary dysfunction and also stimulating the production and release of salivary secretion by glands. But it is an empirical therapy, because literature does not explain much about this. The use of artificial saliva, mouthwashes, increased fluid intake and citrus drinks can collaborate, but these are palliative treatment.

Drugs that stimulate the release of salivary secretion are the best therapy, that is, the drugs that activate the expulsion of the stored saliva in the salivary glands. The inconvenient of this therapy is the appearance of systemic side effects such as diarrhea, sweating, vomiting, and stomach discomfort. Studies have been conducted at the Pontifical Catholic University of Parana in Pharmacology and Pathology Laboratory - Odontology, which has investigate a medicinal plant, an alkaloid with secretagogue action (stimulating secretions) in the innovation formulation, for treatment of hyposalivation and causes no side effects, because its use is local, not promoting systemic action.

This formulation is innovative because there is no similar in the pharmaceutical market, besides this topical application, used in the oral cavity. In the USA and some countries of Europe, patients with hyposalivation and/or dry mouth are treated with Salagen, but in tablet form and oral solution. Because of its systemic use there are a number of side effects, mainly secretagogue action, that increase body secretions. Finally, we highlight the importance of these studies in the Pathology and Pharmacology Laboratory of PUCPR and also further studies at the University of Toledo in the Department of Pharmacology (Pharmacy College) - Toledo – US to clarify the new formulation and the psychotropic drugs effect on mouth. Further studies should be published in the future reporting this action mechanism.

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