

The Active Imagination Technique for Bruxism Treatment

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Abstract—The research purpose was to evaluate the effect of Active Imagination Technique (AIT) for bruxism treatment. This project was approved by the Ethics Committee on Human Research (CAAE: 05619512.9.0000.0109). Twenty-one volunteers using interocclusal splint completed the study. Initially they filled in a questionnaire about their condition, composed of objective questions on signs and symptoms. Following they were underwent a single session of AIT. After 15 days, the volunteers met again the same initial questionnaire. The results were compared and showed that the vast majority had pain symptoms, difficulty opening the mouth, pain when chewing, reduced, some of the participants abandoned the interocclusal splint during the evaluate period. It is concluded that the technique can be used in bruxism treatment. Results seem to be promising and demonstrates the need of highlighting Active Imagination Technique since it points a possibility of bruxism cure and that is unprecedented.

Keywords—Active Imagination, bruxism, orofacial pain, treatment.

I. INTRODUCTION

THE masticatory system has several activities, divided into functional and parafunctional. The functional or physiological includes acts of chewing, talking and swallowing and are controlled by protective reflexes and muscles. Among the parafunctional is included bruxism which is related to muscle hyperactivity, that can cause tooth wearing, lesions in the support structures [1], temporomandibular joint (TMJ) disorders, and headaches [2]. Acquired unconsciously, occurs during daytime periods, but is more frequent during sleep [3].

The most frequent result of bruxism is fatigue, which is the inability to resist for a certain time to a sustained effort showing no signs and symptoms of pain or discomfort [2]-[4]-[5]. Postural muscles, located in the cervical region of the spine, may manifest some chronic pain and future permanent changes [2].

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Stress and psychological variables are commonly related to bruxism, however some studies show that are flaws in this relationship. It seems like bruxists are characterized by being focused on performing activities with a strong will to achieve success when compared to control individuals and not anxiety disorder [6].

It is important to determine which factors, specifically, are related to each patient, to choose the appropriate treatment among the various existing therapeutic modalities, or an association of two or more treatments [7].

Due to bruxism multifactorial nature, several lines of treatment have been proposed as the dental treatments besides pharmacological and psychological.

In dentistry, the most used treatment for bruxism are stabilizing interocclusal splint (muscle relaxing). They are frequently used as diagnosis device and/or, treatment of major importance for the clinic. The interocclusal splint is a removable appliance usually made of colorless acrylic resin, chemically or thermally activated, which covers the occlusal / incisal teeth in one of the arches, creating an appropriate occlusal contact with the antagonist teeth and a better condyle relationship [8]. These splints provide the patient greater comfort important for teeth protection, hypertrophied muscle relaxation, also preventing TMJ overloads [9]. It is important to note that the interocclusal splint, can also act only as palliative, when other factors besides occlusal are involved.

The treatment should be directed to the cause when it involves psychological problems like stress, anxiety and depression. Currently, there is great concern in psychological techniques, among which there is a rarely used one that is the Active Imagination (AIT), developed by CG Jung (1875-1961), which relates to an inner journey that involves turning the unconscious into conscious with the help of dream, fantasies and imagination [10].

Essentially it is a dialogue to be engaged with the different parts of ourselves that live in the unconscious, seeking to discover and transform the psychic causes of illnesses through four stages of the technique.

II. OBJECTIVE

The purpose of this study was to evaluate the efficacy of active imagination psychological technique for bruxism treatment in patients who, in this case, use the interocclusal splint for symptoms relief.

III. METHODOLOGY

This project was examined and approved by the Ethics Committee on Human Research (CAAE: 05619512.9.0000.0109). Twenty one volunteers completed the study. They filled in a questionnaire about their condition related to bruxism, composed of objective questions on signs and symptoms expressed in numerical form, in the form of a visual analogue scale, and compared with questionnaire data completed after therapy. Thereafter, they underwent a single AIT session of 1 hour in duration with a qualified professional (psychologist), at Paranaense University (UNIPAR- Cascavel-Paraná - Brazil). After 15 days, the volunteers answered the same question again. The results of both questionnaires were compared and expressed statistically.

Questionnaires were expressed and administered to patients before and 15 days after to Active Imagination Therapy.

Name _____

Date: _/ _/ _ Sex: () F () M Age: _ years Birth: _/ _/ _

1 - Do you have difficulty, pain, or both to open his mouth, for example, when yawning?

() Yes () No

2 - Your jaw gets "stuck", "locked" or out of place?

() Yes () No

3 - Do you have difficulty, pain when chewing or both, talk or use your jaws? () Yes () No

4 - Do you notice noises in your jaw joint? () Yes () No

5 - Their jaws are stiff, tight or worn regularly? () Yes () No

6 - Do you have pain in or around the ears, cheeks or temples.

() Yes () No

7 - Do you have headaches, neck pain or teeth often?

() Yes () No

Where: () headache b () c-neck pain () pain in the teeth

8 - Have you suffered any recent trauma to the head, neck or jaw? () Yes () No

9 - Have you noticed any recent change in your bite?

() Yes () No

10 - Have you made any recent treatment for unidentified problem in the jaw joint?

() Yes () No

11 - He used some device?

() Yes () No where:

12 - Do you feel that your teeth have eroded in recent times?

() Yes () No

13 - Uses interocclusal splint?

() Yes () No How long?

14 - After you start using the board reduced the pain?

() Yes () No

15 - Can specify a number in its index of anxiety 0 to 10 (0 minimum and maximum 10)?

16 - What do you feel when it is / was not using the interocclusal splint?

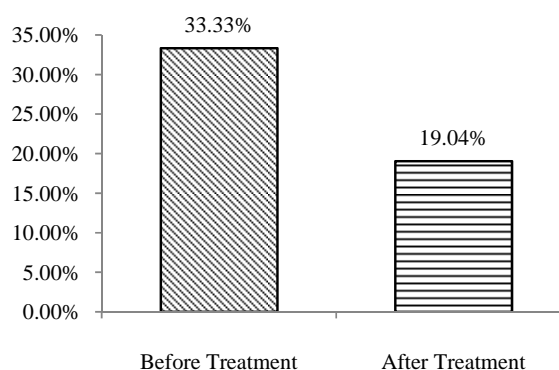
The subjects selected for the study were bruxists patients whose signs and symptoms of bruxism were softened by the use of interocclusal splint mainly at night during sleep when bruxism manifests itself with higher incidence.

All volunteers were informed about the methodology to be used and the benefits they would have, with the possibility of symptoms reduction and even the chance of not having to use of the interocclusal splint to sleep any longer and then signed the consent form.

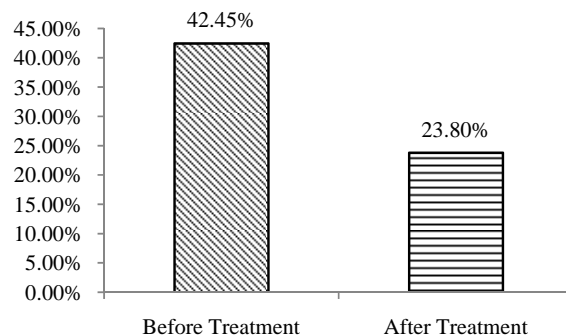
IV. RESULT

Out of the 21 volunteers, 18 (85.7%) were female and 3 (14.28%) were male.

When asked about difficulties, pain or both to open their mouth, the results are expressed in Fig. 1(a). Referring to the fact the jaw get "stuck", "locked" or out of place, the answers were as follows, in Fig. 1 (b).



(a)



(b)

Fig. 1 (a) Show, the difficulties, pain or both to open the mouth before and after the treatment (b) Show the fact the jaw get "stuck", "locked" or out of place before and after the treatment

About difficulties, pain or both when chewing, talking or using their jaws, the answers were expressed in Fig. 2 (a). Regarding the presence noises in the jaw joint, the answers were expressed in Fig. 2 (b).

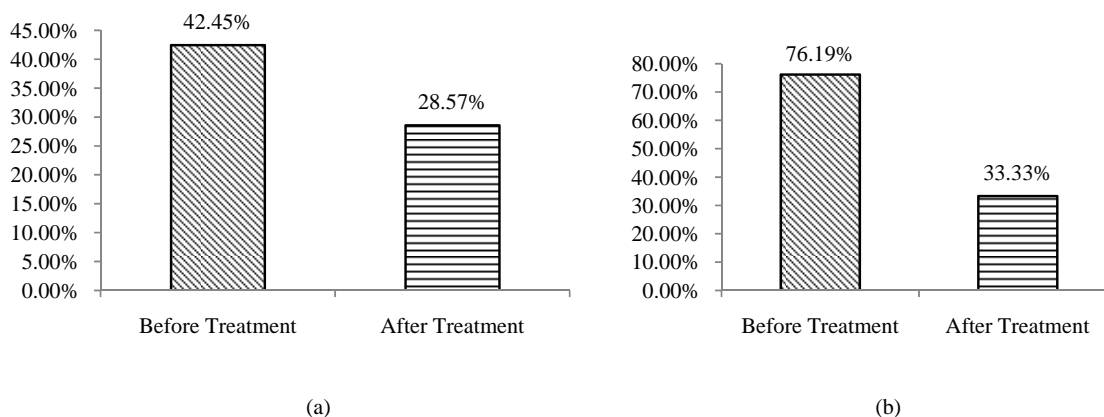


Fig. 2 (a) Show difficulties, pain or both when chewing or talking or using the jaws (b) Show the presence of noises in the jaw joint before and after the treatment

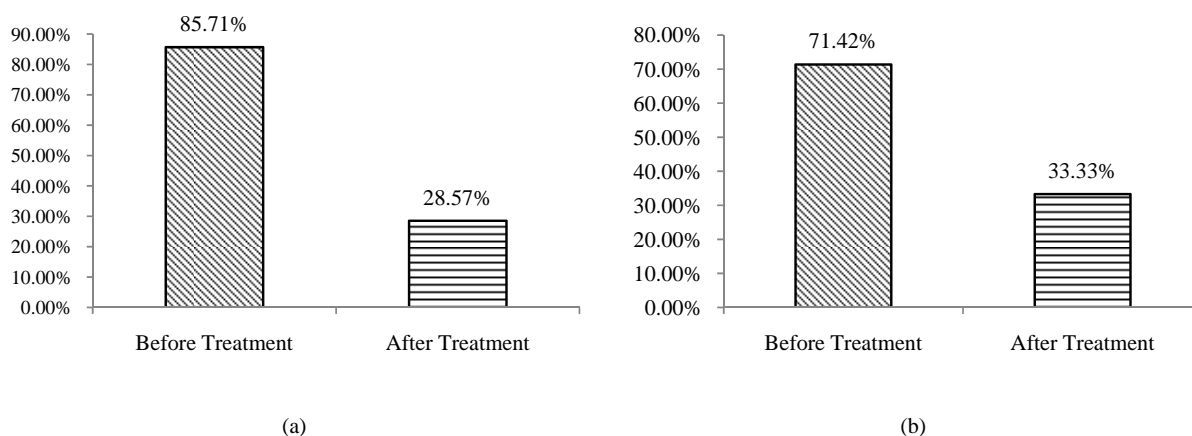


Fig. 3 (a) Show, jaw become stiff, tight or weary regularly before and after the treatment (b) Show the presence of pain in or around the ears, cheeks or temples before and after the treatment

Referring to the jaw become stiff, tight or weary regularly, the answers are expressed on Fig. 3(a). About presence of pain in or around the ears, cheeks or temples, the responses are on Fig. 3(b).

When asked about recent trauma to the head, neck, or jaw, no one reported such event. When asked about the use of interocclusal splint, 100% responded that they wore it before treatment and over a period of time that varied widely among them. A month after the treatment, only 33.33% of the participants were wearing the splint. Regarding the presence of frequent headaches, neck pain or toothache, the answers are expressed on Fig. 4.

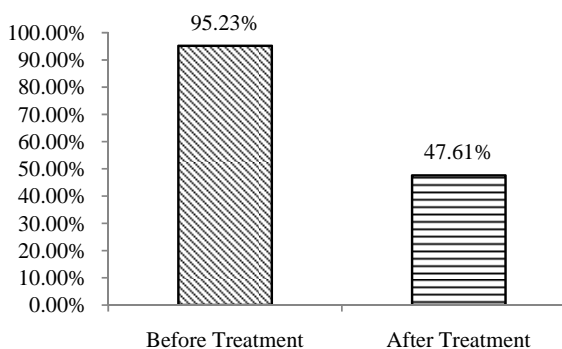


Fig. 4 Shows the presence of headaches, neck pain or toothache before and after treatment

When asked about the feeling they have when they do not wear the splint after therapy, the responses are expressed on Fig. 5.

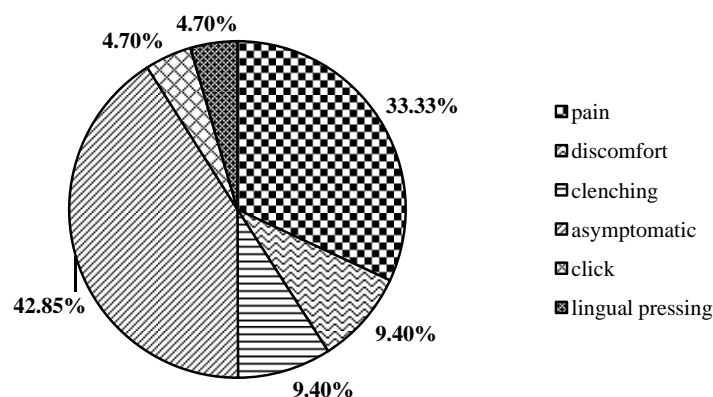


Fig. 5 Shows the feelings after therapy

V. DISCUSSION

Clinical diagnosis of bruxism is accomplished by evaluating the signs and symptoms presents. In dentistry treatment, that is recommended in addition to occlusal adjustments, restorations, orthodontics, is the use of intra-oral braces, generally worn by patients for long period [11].

In terms of psychological aspects, individuals with bruxism are more vulnerable to stress, anxiety and to the development of psychosomatic symptoms. Anxiety, stress, negative emotions and frustrations cause increased of muscle hyperactivity, reduction of salivary secretion during sleep and subsequent increase of teeth grinding episodes during sleep. This feature is more prevalent in adult patients who are under emotional stress, which are hyperactive, aggressive or have a compulsive personality [11].

In this research, the selected patients had been treated with dental therapy and were wearing interocclusal splint. The return of signs and symptoms after discontinuing use of the interocclusal splint was what motivated the volunteer's participation. The glimpse of these patients with the possibility of breaking free from the interocclusal splint, addressing the unconscious nuclei related to bruxism, through AIT was with motivated the development of a scientific research evaluating the effectiveness of the AIT in remission of bruxism and consequently its signs and symptoms. The technique of Active Imagination: by Sonia Regina Lyra: JUNG (1875-1961) taking "hermeneutics as soil-specific analytical psychology", develops a psychological technique for searching and understanding of the symbol he called Active Imagination, having as a model the writings of St. Ignatius of Loyola. For the Swiss psychologist, the answer that could be given by the pictures that emerged from the unconscious was lacking on the exercises. Widespread in his complete works, but not systematized, the concept ended up being revised in the 80s by Robert Johnson and published in the book: *The key to the Inner Realm - INNER WORK* (1987) [12]. Johnson extended the method based on his own experience whithnow, with innovations due to new experiences also we extended the technique.

Active Imagination is essentially a dialogue to be engaged with the different parts of ourselves that live in the unconscious. You talk to the images and they respond. These images that appear are, in fact, living symbols and the essence of this technique is the conscious participation of the individual in imaginative experience.

The main purpose of the technique is to provide communication between the inner perception and the unconscious parts of which often cut ourselves off and that appear in daily life in the form of symptoms, concerns, passive fantasies, etc. In this study the volunteers had a reasonable response in reducing the bruxism symptoms after submitted to AIT.

When practicing Active Imagination things change in psyche, the symptoms became altered, the imbalances between the attitudes of the inner perception and the unconscious values are remediated, and the complementary opposites can be gathered because the specific function of the symbol is the transformation of the psychic energy. For example, we have something vague that bothers us, a conflict, an irritation or a symptom that appears as if it were physical biological. Of course, all symptoms are equally physical-biological, but mostly these are expressions of complex conflicts of the psyche. A literary example of Active Imagination is *The Divine Comedy* of Dante, or *JOB: réponse to Jung* and the movie *Two Lives* (original title: *Disney's the kid*).

It is an excellent working tool for psychologists, psychiatrists, physical therapists, homeopaths and other health professionals. But it can also be learned by interested in working with their inner contents in the path to individuation proposed by Jung.

Part of the procedure adopted for this research consist in criticizing, extending and deepening the technique of Active Imagination created by Jung and systematized by Johnson, (even though it has been applied and commented on by a few other authors) based on the large amount of patients already treated by me (Sonia Regina Lyra) in private practice, as well

as the large amount of courses on the subject by this autor. It is also desirable to rethink the Active Imagination, as it is presented in the book *Psychotherapy* (1999) by Marie Louise von Franz. For the world-renowned Jungian analyst who is the author of several works it can be difficult for someone to experience the true active imagination.

VI. CONCLUSION

The results of both questionnaires were compared and showed that the vast majority of participants had pain symptoms, difficulty opening the mouth, pain when chewing, reduced after the Active Imagination session, many participants abandoned the interocclusal splint during the study period.

It is concluded that the technique psychotherapeutic Active Imagination can be used in bruxism treatment. Results seem to be promising since this work's success was evident even being held only an one-hour session for each participant.

It must to be emphasized that the dentistry treatment on bruxists as a part of the treatment for correct restoration of the masticatory function. The criteria for patients evaluation should also be taken into consideration as well as pharmacological treatment in specific cases.

This research demonstrates the need of highlighting Active Imagination Technique since it points a possibility of bruxism cure and that is unprecedented.

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