

Brazilian Scientific Research about Acupuncture in Dentistry: Bibliometric Analysis of the Papers Presented at SBPqO Meetings

A Pesquisa Científica Brasileira Sobre Acupuntura na Odontologia: Análise Bibliométrica dos Trabalhos Apresentados nas Reuniões da SBPqO

José de Alencar Fernandes Neto^a; Pettely Thaise de Souza Santos Palmeira^a; Jhonatan Thiago Lacerda-Santos^a; Ana Luzia Araújo Batista^a; Thamyres Maria Silva Simões^a; Maria Helena Chaves de Vasconcelos Catão^{*a}

^aState University of Paraíba, Graduate Program in Dentistry. PB, Brazil.

*E-mail: mhcvatao@gmail.com

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Abstract

The aim of this study was to investigate the Brazilian scientific production about acupuncture in dentistry, outlining the profile of the works about the subject presented at the Meetings of the Brazilian Society of Dental Research (SBPqO). It was a cross-sectional study, with a quantitative approach, based on secondary data. An analysis of all abstracts presented in the last ten SBPqO Meetings (2009-2018) published in the annals of the event was carried out. For the research the location of the term “acupuntura” or “acupuncture” among the abstracts was realized and the following information was collected: type of institution that carried out the research (public or private), Brazilian region where it was realized, area or specialty of dentistry and whether it involved humans or animals. Of the 26,514 dental research abstracts published in the annals, only 27 papers were experimental studies or systematic reviews about the subject. Of the total, 23 (85.2%) were developed in public institutions, 15 (55.6%) did not receive financial support 20 (74.1%) were carried out in humans and 13 (48.2%) were developed in the Southeast region. Regarding the dental specialty, the majority (70.4%) investigated acupuncture in “Temporomandibular Dysfunction and Orofacial Pain”. Therefore, it can be concluded that few acupuncture studies in dentistry have been developed in the last ten years in Brazil, according to the papers presented at the SBPqO Meetings. Thus, it is suggested that research on the subject be carried out and widely disseminated between the academic and professional milieu.

Keywords: Acupuncture Therapy. Dental Research. Complementary Therapies.

Resumo

O objetivo desse estudo foi investigar a produção científica brasileira sobre a acupuntura na odontologia, traçando o perfil dos trabalhos sobre a temática apresentados nas Reuniões da Sociedade Brasileira de Pesquisa Odontológica (SBPqO). Tratou-se de um estudo transversal, com abordagem quantitativa, a partir de dados secundários. Realizou-se uma análise de todos os resumos apresentados nas últimas dez Reuniões da SBPqO (2009-2018) publicados nos anais do evento. Para pesquisa procedeu-se a localização do termo “acupuntura” ou “acupuncture” entre os resumos e foram colhidas as seguintes informações: tipo de instituição que realizou a pesquisa (pública ou privada), região brasileira onde foi realizada, recebimento de auxílio financeiro, área ou especialidade da odontologia e se envolvia humanos ou animais. Dos 26.514 resumos de pesquisa odontológica publicados em anais, apenas 27 trabalhos tratavam de estudos experimentais ou revisões sistemáticas sobre a temática. Do total, 23 (85,2%) foram desenvolvidos em instituições públicas, 15 (55,6%) não receberam auxílio financeiro, 20 (74,1%) foram realizados em humanos e 13 (48,2%) desenvolvidos na região Sudeste do Brasil. Com relação a especialidade odontológica, a maioria (70,4%) pesquisou sobre a acupuntura na “Disfunção Temporomandibular e Dor Orofacial”. Os achados do presente estudo indicam que poucas pesquisas abordando a acupuntura na odontologia foram desenvolvidas nos últimos dez anos no Brasil, de acordo com os trabalhos apresentados nas Reuniões da SBPqO. Diante disso, sugere-se que pesquisas sobre o tema sejam realizadas e amplamente divulgadas entre o meio acadêmico e profissionais.

Palavras-chave: Terapia por Acupuntura. Pesquisa em Odontologia. Terapias Complementares.

1 Introduction

In the year 2015, the Federal Council of Dentistry (CFO), by means of Resolution CFO-160/2015¹, recognized acupuncture as a dentistry specialty, determining that the therapy consists of the application of the basic concepts of Traditional Chinese Medicine (TCM) as a system of knowledge, applying it as a method for the treatment, prevention and/or maintenance of general health status of the dentistry patient, whenever there are clinical circumstances in which there is the participation of the stomatognathic system structures, respecting the limits of the dental surgeon.

Acupuncture has a long history and has proved to be an effective treatment modality in the field of TCM. Surveys were conducted and there was a gradual acceptance of its therapeutic

effects, although they are not fully understood yet. The scientific evidence of its role in the management of pain is strong, although wider studies and with the best experimental designs should be carried out to verify their application in other areas².

Among the various clinical indications of acupuncture in dentistry are: treatment of temporomandibular disorders³⁻⁵, xerostomia and salivary hypoflow^{6,7}, control of pain^{8,9}, paresthesia^{10,11}, syndrome of oral burning¹² and control of pre-dental care anxiety^{13,14}.

The population has increasingly sought by alternative treatments, and among them, the acupuncture. This ancient Chinese technique has been spreading increasingly in the western world and scientific studies have been carried out in all areas, in an attempt to prove or optimize its efficiency⁸.

Although in recent years, the interest for acupuncture in dentistry has increased^{15,16}, at least in part, due to the published results of its effectiveness, the literature is not extensive and results vary considerably: from no effect to significant improvement^{8,17,18}. Controlled studies published on the effects of acupuncture in dentistry are still relatively few, but those that meet pre-defined methodological criteria are reviewed to assess whether acupuncture is effective in this field¹⁶.

Therefore, the aim of this study was to investigate the Brazilian scientific production about acupuncture in dentistry, outlining the profile of the works about the subject presented at the Meetings of the Brazilian Society of Dental Research (SBPqO).

2 Material and Methods

It was a cross-sectional study, with a quantitative approach, based on secondary data. An analysis of all abstracts presented in the last ten SBPqO Meetings (2009-2018) published in the annals of the event was carried out, available through its website. It was opted for the work of the Meetings of SBPqO, because it is the scientific event that gathers research in dentistry in Brazil the most, considered a congress reference for researchers across the country.

To search the work, it was proceeded to the location of the term “acupuntura” or “acupuncture” among the abstracts. The search tool “Find in Page” of Microsoft Edge 42.17134.1.0, where the files of proceedings were opened, ensured that the terms were identified, even though they were separated by hyphen. Thus, all

abstracts which contained in its title or text one of the two terms could be identified for posterior analysis.

All the jobs that met the following inclusion criteria were included: summaries of experimental research or systematic reviews that clearly addressed the acupuncture in one of the areas of dentistry, developed by an educational institution, and published in the annals from 2009 to 2018, in Portuguese or English. All categories of the annals were assessed, and all data used in this study are of public access.

In abstracts that met the inclusion criteria, the following information was collected: type of institution (public or private), Brazilian region where the research was carried out, granting or not of financial aid, a specialty of dentistry and if research involving humans/animals or whether this was a systematic review. The data were tabulated and analyzed with the support of the software IBM SPSS Statistics version 20.0 (IBM Corp., Armonk, NY, USA).

3 Results and Discussion

Of the 26,514 dental research abstracts published in the annals, only 35 contained the terms in question. After analysis, 27 studies were included in the study, because they are experimental studies or systematic reviews about the theme. The abstracts found in literature reviews, bibliometric studies or those who did not deal with research on acupuncture in some area of dentistry, but that only cited the terms in its structure, were excluded (n=8) (Table 1).

Table 1 - Number of published abstracts, found, excluded, selected and the ratio of the number of abstracts about acupuncture and total summaries, according to year of meetings of SBPqO

Meeting - Year	Published Abstracts	Abstracts found with “acupuntura” or “acupuncture”	Excluded Abstracts	Selected Abstracts	Proportion of abstracts on acupuncture/ Total abstracts
26th - 2009	2,648	4	0	4	1/662
27th - 2010	2,962	3	0	3	1/987.3
28th - 2011	2,873	4	3	1	1/2,873
29th - 2012	16	0	0	0	0/16
30th - 2013	2,804	2	0	2	1/1,402
31st - 2014	2,752	4	2	2	1/1,376
32nd - 2015	2,926	3	1	2	1/1,463
33rd - 2016	3,207	6	1	5	1/641.4
34th - 2017	3,125	6	1	5	1/625
35th - 2018	3,201	3	0	3	1/1,067
Total	26,514	35	8	27	1/982

*The 29th meeting took place in conjunction with the meeting of the *International Association for Dental Research* (IADR).

Source: Data collected by the research, using the annals of meetings of SBPqO.

Of the total, 23 (85.2%) were developed in public institutions, 15 (55.6%) did not receive financial support 20 (74.1%) were carried out in humans and 13 (48.2%) were developed in the

Southeast region. Regarding the dental specialty, 70.4% of the papers were about acupuncture in “Temporomandibular Dysfunction and Orofacial Pain” (Chart 2).

Table 2 - Distribution of works that deal with acupuncture according to the nature of the institution, receiving financial aid, regions, dental specialty and type of study

Variable	N	%
Institution		
Public	23	85.2
Private	04	14.8
Financial support		
Yes	12	44.4
No	15	55.6
Region		
Midwest	03	11.1
Northeast	08	29.6
North	00	0
Southeast	13	48.2
South	03	11.1
Areas/Dental Specialties		
Surgery and Bucco-Maxillo-Facial Traumatology	02	7.4
Temporomandibular dysfunction and Orofacial Pain	19	70.4
Endodontics	02	7.4
Stomatology	01	3.7
Periodontics	03	11.1
Type		
Humans	20	74.1
Animals	06	22.2
Systematic review with meta-analysis	01	3.7
Total	27	100%

Source: Research Data.

With the growing acceptance of alternative medicine in the west, acupuncture is quickly becoming a more popular practice. Today, more people are choosing acupuncture to treat body pains, relieve stress or promote the general health. In postoperative pain control or in the management of temporomandibular dysfunction and facial pain, it became a useful alternative to conventional therapeutic arsenal of the dentist¹⁶.

However, acupuncture can be used to manage many disorders in dentistry, also providing a new hope for patients who cannot be treated with conventional treatment modalities. Some of the conditions for which acupuncture can be used effectively include: dental pain, temporomandibular disorder, anxiety, pain or chronic muscle spasm, atypical facial pain, headache, xerostomia, paresthesia and anesthesia of oral structures¹⁸.

Thayer¹⁵ points out that acupuncture plays an important role in improving the quality of care that can be provided to dental patients, particularly around the management of the vomiting reflex and the treatment of temporomandibular disorders.

Vianna et al.¹⁹ also underline that the acupuncture, used correctly, respecting its limitations, following the recommendations and practiced by trained professionals, tends to bring great benefits also to the dentist, optimizing its working time in the office.

This study showed the small number of Brazilian research that studied the relationship between acupuncture and the dentistry in the country. According to Wong², although the recognition and application of acupuncture in the medical field have progressed

considerably over the last ten years, its development in the dental area is currently at its initial stage and more clinical papers on its possible applications in dentistry can be performed. After its efficacy having been sufficiently evaluated, acupuncture can be implemented as one of the modalities of treatment available for dental patients in a near future.

Based on Resolution CFO-160/2015¹, the specialist in acupuncture must act in health promotion based on scientific conviction, citizenship, ethics and humanization. In addition, it is possible to work in development, participation and the application of research and/or other forms of knowledge production, aiming the qualification and professional practice based on assumptions of Traditional Chinese Medicine, in the field of dentistry.

It must be considered that in Brazil, until the present date, there are 395 specialists in acupuncture, equivalent to only 0.3% of the total number of dental surgeons with specialty dental care²⁰. Since only in 2015 the acupuncture was recognized by the CFO as a specialty dental care, this fact may explain the small number of studies on the theme in the last ten years.

More than half of the studies (55.6%) stated that they did not receive financial aid for the development of the research. Although not all papers require a significant amount to be developed, in most cases, a financial support is essential for the construction and implementation of good studies, since it contributes to the acquisition or maintenance of materials and equipment, dissemination of results and in other forms of investment.

The majority of the work submitted (70.4%) studied the relationship of acupuncture in DTM. According to Gupta et al.²¹, although the therapy may not be useful in the treatment of the disorders, if caused by structural anomalies, such as displacement of the disc and degenerative changes, can help to alleviate the pain and discomfort associated with conditions, especially of muscular origin. It was documented that acupuncture can help in muscle relaxation and reduce muscle spasms, which can result in better conditions and quality of life for patients.

Jung et al.⁴ by means of a systematic review whose objective was to assess the clinical evidence in favor or against the acupuncture and therapies are similar to acupuncture as treatments for the DTM, concluded that the evidence for acupuncture as a symptomatic treatment of TMD is limited and that more rigorous studies are, however, required to establish, with certainty, that acupuncture has therapeutic value for this indication.

Of all the papers on acupuncture presented in the last ten years, only one was a systematic review with meta-analysis. For Galvão and Pereira²² this type of study is a randomized study is consistent to try to clarify controversies and contradictory results, since it supports only in studies of better quality on a given subject. It is a type of research focused on an issue which is well defined, which aims to identify, select, assess and summarize the evidence available.

It is important to consider that in spite of the annual meeting of

the SBPqO being considered the biggest event of dental research in Brazil, papers on acupuncture in dentistry may have been developed in the country and never presented in congress or sent for more specific congresses, such as complementary therapies, for example. Even so, the annals of SBPqO served as a good parameter to evaluate the progress of research on acupuncture in dentistry, showing what is being done about the theme in the country in recent years.

4 Conclusion

In spite of acupuncture being considered an important complementary therapy in dental practice, considering the results found in this study, it is concluded that few studies about acupuncture in dentistry were developed in the last ten years in Brazil, according to the papers presented at meetings of the SBPqO. Thus, it is suggested that research on the subject be carried out and widely disseminated between the academic and professional milieu.

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