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Dental Practice Scenario in a Government Homeopathic Hospital in West Bengal, India

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Abstract

This pilot investigation initiated a research-targeted systematic dental homeopathy data collection in the dental outpatient section in a government homeopathic hospital in West Bengal, India. One conventionally trained dentist and 3 homeopathic doctors collected data from 949 appointments of 411 patients over 3 months. A specifically designed Excel spreadsheet enabled recording of consecutive dental appointments that was subjected to data synthesis and analysis in the end. A total of 87.3% conditions were chronic, and chronic periodontitis was most frequent (27.5%). Positive outcome was observed in 72.3% appointments. Strongly positive outcomes (scores of +2 or +3) were achieved most notably in toothache (84.6%). Single medicines were prescribed in 83.5% encounters, and mostly in tincture form (29.9%). *Arnica montana* constituted of 17.8% prescriptions. Considerable insight was gained into the homeopathic dental practice scenario in West Bengal, India. Positive findings suggest that dental homeopathy is a promising area for research in near future.

Keywords

dentistry, homeopathy, patient-reported outcomes, pilot study, systematic data collection

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Introduction

Homeopathy in dentistry is considered useful in the treatment of teething, dental abscess, toothache, surgical trauma, and nervousness or anxiety.[1] However, the research evidence base in dental homeopathy, though miniscule,[2] is gradually increasing. Until 2013, to our knowledge, 13 randomized controlled trials,[3-15] 4 observational studies,[16-19] and 1 meta-analysis[20] has been published. There also exist 1 systematic review,[21] clinical case reports,[22-24] practice audit reports,[2,25,26] experimental research articles,[27-29] and some remarkable commentaries.[30,31] The inferences drawn were inconclusive; few reported negative results in pain relief,[7,8,11,20] whereas few outcome studies were positive.[2,3,6,16-19]

The treatment of dental diseases has been a significant point of interest for homoeopaths. Minimum intervention and applying a natural approach to general dental practice are the catch phrases of the moment. The dental chapters of repertories have a multitude of rubrics and a myriad of remedies purporting to cure dental ailments.[30] Though homeopathy cannot replace the mechanical art of dentistry, it is undoubtedly a useful adjunct to conventional dentistry and may be used effectively in place of orthodox treatment which may have unpleasant side effects.[31] It is especially important in the context of increasing antibiotic resistance,[32,33] inadequate evidence to support the use of routine scaling,[34] willingness of patients to participate in complementary and alternative medicine trials,[35,36] self-medication tendencies with homeopathic drugs by dental students,[37] and low cost of homeopathic medicines associated with wide social acceptance and minimal chances of toxic effects.[29]

Our work was initiated as a larger scale dental data collection project in the model developed by Mathie and Farrer[2] and later carried out successfully by Farrer et al.[26] This type of research is especially helpful to gain an insight into the dental practice scenario in a government homeopathic school in West Bengal, India, and will help uptake dental randomized controlled trials in the near future. Until 2013, no dental homeopathy specialization course runs in India, and dental homeopathy is practiced in the general homeopathy practice settings. However, since April 2013, an integrative approach

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has been adopted by Mahesh Bhattacharyya Homeopathic Medical College & Hospital, Howrah, West Bengal, India, where a conventionally trained dentist and a homeopathic expert both get involved in the consultation in dental outpatient department running twice weekly. Additional dental aids provided in the hospital include tooth extraction and routine scaling.

Materials and Methods

One dental surgeon (SP) and 3 homeopathic consultants (TNG, PS, PS) contributed to the prescriptions generated in the study. They collected data from consecutive homeopathy appointments of dental patients visiting the dental outpatient clinic of Mahesh Bhattacharyya Homeopathic Medical College & Hospital during the 3-month period, mid-May to mid-August 2013. Individualized homeopathic prescriptions were arrived at by consensus method for those dental conditions and changed subsequently as per principles of homeopathy. Conventional prescriptions were allowed only when required, and if used, they were recorded. A Microsoft Office Excel 2007 spreadsheet enabled recording of all consecutive dental appointments in specified format, as was used in earlier studies.[2,26] The institutional ethics committee of Mahesh Bhattacharyya Homeopathic Medical College & Hospital advised that this institutional record analytic study did not require any ethical approval.

On receipt of the final spreadsheet at the end of the project, the original data were filtered for missing or any likely erroneous data and rectified in consultation with the dentist concerned.

Analysis of outcomes focused on "last" appointments only—that is, on the number of individual periodontal conditions treated, irrespective of whether they were previously treated by the dentist once, twice, or more often. The outcome score recorded at this last follow-up appointment per case during the 3 months was thus the single value analyzed and presented for that patient within the descriptive statistics presented below. Likewise, the homeopathic medicine prescribed at this last recorded appointment was the single one used per case in the data analysis.

Results

The mean value of daily number of patients attended the dental outpatient department during the 3-month period was 38.04 (standard deviation = 10.07) and that in case of the hospital was 319.69 (standard deviation = 64.06); thus, the dental outpatient department contributed to 11.9% of the total hospital patient population. Overall patients' attendance profile in comparison with that of the dental outpatient department is represented in Figure 1.

A total of 949 homeopathy encounters represented data from 411 individual patient conditions, that is, 2.3 encounters per patient were noted. Females predominated (253, 61.6%) in comparison with males (158, 38.4%), with a ratio of 5:8. Patients spanned 9 decades of age, principally 40 to 49 years (114, 27.6%), followed by 50 to 59 years (82, 20%), 30 to 39 years (68, 16.5%), and 60 to 69 years (56, 13.6%). The mean of the 411 ages was 44.85 years (standard deviation = 16.54). The details of the corresponding age profiles are detailed in Table 1.

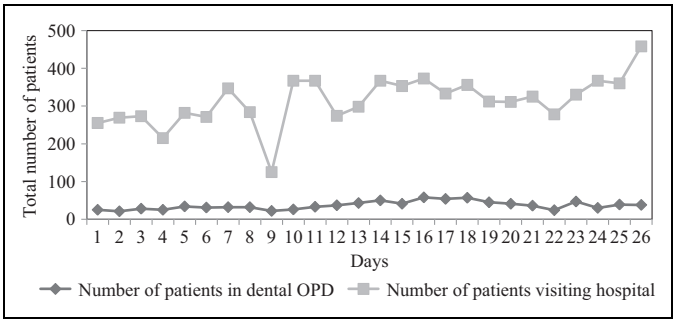

Figure 1. Patients visiting the dental and other outpatient departments in the hospital during mid-May to mid-August 2013.

A total of 19 types of diagnosis were recorded in the 411 patients, out of which 52 (12.7%) were acute and 359 (87.3%) chronic. Most frequently diagnosed dental conditions were chronic periodontitis (113, 27.5%), toothache with decay (65, 15.8%), reversible pulpitis (49, 11.9%), and sensitive cementum (48, 11.7%), gingivitis (32, 7.8%), and acute periodontal abscess (31, 7.5%). A detailed list of conditions treated is recorded in Table 2.

Additional analysis of the data obtained shows that single medicines were prescribed in 792 (83.5%) occasions; polypharmacy, complex, and placebo in 17 (1.8%), 21 (2.2%), and 119 (12.5%) encounters, respectively. A total of 52 different medicines were used, as follows: *Arnica montana* (169, 17.8%); *Plantago major* (105, 11.1%); *Calcarea fluorica* (74, 7.8%); *Mercurius solubilis* (73, 7.7%); *Hecla lava* (44, 4.6%); *Belladonna* (35, 3.7%); *Hepar sulphuris* (30, 3.2%); *Magnesia phosphorica* and *Rhus toxicodendron* (27, 2.8%); *Calendula officinalis* (24, 2.5%); and *Hypericum perforatum* (23, 2.4%). Mother tinctures were prescribed in 284 (29.9%) appointments followed by 30cH (264, 27.8%), 200cH (230, 24.2%), 6X (38, 4%), and 12X (9, 0.9%). Tooth extraction and routine scaling were advised on 121 and 82 occasions, respectively. As reported by the patients themselves, 21 took conventional over-the-counter paracetamol, nonsteroidal anti-inflammatory drugs (mostly diclofenac), along with proton pump inhibitors (mostly pantoprazole and omeprazole) for pain conditions.

There was opportunity to follow-up all the 411 individual cases. Of these 411 follow-ups, there was positive outcome in 297 (72.3%), negative in 46 (11.2%), and no change in 68 (16.5%). For the same 411, scores of +3, +2, and +1 were recorded in 42 (10.2%), 136 (33.1%), and 119 (29%) patients, respectively. Negative outcomes of −3, −2, and −1 were reported in 3 (0.7%), 10 (2.4%), and 33 (8%), respectively. Further details of these data are illustrated in Table 3.

A global summary of outcomes recorded on patient-assessed 7-point Likert-type scales by dental categories is presented in Table 4. The greatest percentage of high positive scores of +2/+3 was most apparent in patients presenting with toothache and mouth-gum problems; the fewest such scores were reported by patients treated for trauma conditions. An equivalent summary of −2/−3 outcomes by dental categories is also presented in Table 4; only few patients had negative

Table 1. Age Profile of the Patients (N = 411).

Age	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89
No. of patients (%)	18 (4.4)	15 (3.7)	29 (7.1)	68 (16.5)	114 (27.6)	82 (20)	56 (13.6)	27 (6.6)	2 (0.5)

Table 2. Most Frequently Treated Dental Conditions/Complaints[a].

Rank	Condition/Complaint	Total Number of Cases (%)
1	Chronic periodontitis	113 (27.5)
2	Toothache with decay	65 (15.8)
3	Reversible pulpitis	49 (11.9)
4	Sensitive cementum	48 (11.7)
5	Gingivitis	32 (7.8)
6	Acute periodontal abscess	31 (7.5)
7	Postsurgery pain	17 (4.1)
8	Oral lichen planus	16 (3.9)
9	Pericoronitis	16 (3.9)
10	Aphthous ulcer	15 (3.6)

[a] A total of 19 different conditions were reported overall; the tabulation lists only those 10 comprising at least 15 cases in each.

Table 3. Outcome Scores by Numbers and Percentage of 411 Follow-Up Cases.

	Number (%) of Follow-Up Patients		
Outcome	Acute	Chronic	Overall
−3	1 (1.9)	2 (0.6)	3 (0.7)
−2	3 (5.8)	7 (1.9)	10 (2.4)
−1	15 (28.8)	18 (5.0)	33 (8)
0	10 (19.2)	58 (16.2)	68 (16.5)
+1	2 (3.8)	117 (32.6)	119 (29)
+2	5 (9.6)	131 (36.5)	136 (33.1)
+3	16 (30.8)	26 (7.2)	42 (10.2)

Table 4. Summary of Outcome Scores of Follow-Up Patients by Dental Category (N = 411).

Category	No. of Final Follow-Ups	No. (%) +2/+3	No. (%) ±1/0	No. (%) −2/−3
PERIO	160	105 (65.6)	51 (31.9)	4 (2.5)
ENDO	97	72 (74.2)	23 (23.7)	2 (2.1)
T-ACHE	65	55 (84.6)	9 (13.8)	1 (1.6)
M&G	63	52 (82.5)	8 (12.7)	3 (4.8)
TR	26	13 (50)	10 (38.5)	3 (11.5)

outcome scores of this magnitude. Table 4 also contains summarized data of +1/0/−1 outcomes; patients with trauma and periodontal complaints were prominent in this category.

Discussion

This study, for the first time, identified a number of chronic and acute dental complaints treated in a homeopathic dental outpatient department in India, as well as the patient-reported changes associated with treatment in each case. However, the small number of participating practitioners prevents generalization of the findings about Indian homeopathic dental practice. A further limitation is that homeopathic consultations carried out with mechanical aids of dentistry preclude suspicion of any causal relationship between reported outcome and treatment. Furthermore, biases, namely, positive selection bias, empathy, seasonal variations, could not be eliminated from this study.

A considerable percentage of patients reported positive outcomes to variable degrees. In the acute cases reported here, the rate of high positive outcomes was noted in cases of acute periodontal abscess, treated mostly with *Mercurius solubilis* and *Hepar sulphuris* in 30cH potencies. In chronic cases, chronic periodontitis, toothache, reversible pulpitis, sensitive cementum, and gingivitis were the most frequently treated conditions and high positive outcomes were recorded in toothache and mouth-gum problems. No or mild changes were observed in postsurgical and periodontal complaints. Use of single medicines in majority of the consultations is similar to the findings reported in our earlier drug utilization study in Mahesh Bhattacharyya Homeopathic Medical College & Hospital.[38] *Arnica montana* and *Plantago major* were used in most of the cases in tincture form and 30cH potencies; however, the use of Hypericum was limited to some extent. It is equally apparent that a number of remedies tended to be selectively used for particular dental conditions. The several clear matches (eg, *Arnica montana* for tooth extraction, *Plantago major* for sensitive cementum, *Hepar sulphuris* and *Mercurius solubilis* for abscess) are consistent with the standard teaching of homeopathic Materia Medica. The overall findings of this study are to a moderate extent similar to earlier outcome audits.[2,25,26]

Among the 13 randomized controlled trials concluded in dental homeopathy, 6 were aimed at alleviating postsurgical complaints like pain, swelling, and bleeding; findings have been positive,[3,5,10] negative,[4,8] and inconclusive.[7] Homeopathic treatment was found having positive effect in treatment of dental neuropathic pain,[6] xerostomia,[9] oral lichen planus,[12] and minor aphthous ulcers[13]; however, result was inconclusive in burning mouth syndrome.[11] The use of Arnica and

Hypericum dominated, prescribed in 8 randomized controlled trials.[3-8,10,11] Nonindividualized "complex" homeopathy (Traumeel S) has also been tested in 1 observational[19] and 2 randomized controlled designs,[14,15] but yielded conflicting evidences in prevention and treatment of radiation and chemotherapy-induced stomatitis and oral mucositis in children undergoing stem cell therapy. Three other observational studies reported significant effects individualized homeopathic treatment of trigeminal neuralgia[16] and mandibular radionecrosis,[18] and Symphytum 5cH in managing complications after dental implant surgery.[17] The meta-analysis including 4 randomized controlled trials by Raak et al[20] concluded that in spite of probable therapeutic potential of Hypericum and Arnica for pain conditions in dental care, the effect was not currently supported by clinical studies. Thus, our study findings corroborates to a great extent with the findings reported above.

Classical homeopathy seemed to possess considerable potential in ameliorating toothache following apical dental root infection[22] and relieving symptoms of spasmodic dysphonia beyond the short-term effects of Botox injections,[23,24] as substantiated by individual case reports.

Few experimental researches were also carried out. The Arnica extract did not demonstrate significant antimicrobial activity against oral pathogens in comparison with the propolis extract.[27] Mercurius solubilis 12cH could not reduce in comparison with water and alcohol control, bacterial growth in alveolitis in Wistar rats, but the microbiotica remained within the parameters of normality.[28] The effects of 5 homeopathic medicines were compared with placebo in prevention of dental caries in rats fed cariogenic diet and none of the groups developed caries; however, microscopy revealed presence of precipitate in the groups treated with homeopathic medicines.[29]

This project clearly points out that homeopathic intervention may influence disease progression but that a much larger and controlled study would be needed to establish the clinical significance of treatment effect, if any.[39]

The current study has successfully piloted a larger-scale systematic data collection from dental homeopathic practice in a hospital setting and highlighted few promising areas of future research. Strongly positive outcomes were prominent both in acute and chronic conditions. Controlled research already seems indicated, particularly in conditions like chronic periodontitis, toothache with decay, reversible pulpitis, sensitive cementum, gingivitis, acute periodontal abscess, and postsurgical pain.

Author Contributions

SG: Concept and design of study, data acquisition, interpretation of data, revising article. SP, TNG: Data acquisition, analysis and interpretation of data. PS: Data acquisition. MK, SS: Concept and design of the study, interpretation of data, drafting and revising article. All authors read and approved the final article.

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Declaration of Conflicting Interests

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Ethical Approval

The institutional ethics committee of Mahesh Bhattacharyya Homeopathic Medical College & Hospital advised that this institutional record analytic study did not require any ethical approval.

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