

Orientation of Dental Professionals in India towards Integrative Medicine: A Cross-Sectional Survey

BALASUBRAMANIAN MADHAN¹, HARITHEERTHAM GAYATHRI², MIRNA GARHNAYAK³, ESLAVATH SEENA NAIK⁴

ABSTRACT

Introduction: There is a growing demand on our health care system, including Dentistry, to shift from a bio-medical approach to Integrative model of care. The attitudes of health professionals towards Integrative Medicine (IM) are an important factor that influences this transition.

Aim: The aim of this study was to evaluate and compare the orientation of the dental professionals in India towards the principles and practice of Integrative Medicine.

Materials and Methods: A cross-sectional survey was conducted on 286 dental faculty and postgraduate students from three dental schools in India. The participants voluntarily and anonymously completed the 'Integrative Medicine-30' questionnaire, a 30 item self-report instrument that measures the health care provider's orientation towards Integrative Medicine in five subscales. Data analysis included summary statistics and intergroup comparisons by gender and professional status with independent samples Mann-Whitney U test.

Results: The overall orientation of the dental professionals towards IM was almost neutral. While the use of learning resources on Complementary and Alternative Medicine was lower, they showed a more positive orientation towards patient-centred care. Compared to postgraduate students of Dentistry, the dental faculty were more oriented towards IM (median score of 82 vs. 79.5, $p < 0.01$), especially in terms of learning from alternate paradigms (14 vs. 12, $p < 0.01$) and safety of Complementary and Alternative Medicine (13 vs. 12, $p < 0.01$). Females scored better than males both in terms of overall orientation (82 vs. 78, $p < 0.01$) and towards patient-centred care (12 vs. 11, $p < 0.001$).

Conclusion: The results highlight the impending need to improve the orientation of dental professionals in India towards the principles and practice of IM.

Keywords: Attitude, Complimentary therapies, Dental faculty, Dental students

INTRODUCTION

The realization that no one system of medicine can address all the health care needs of the modern society has led to the rise of medical pluralism. Though unparalleled in tackling acute diseases, allopathy has limitations when it comes to illness prevention, health promotion and the management of chronic diseases [1,2]. Also, there is an ever-growing concern about the adverse effects of chemical drugs and the need for more accessible care [1,2]. These have led to the increase in the utilization of services from other health care systems collectively referred to as 'Complementary and Alternative Medicine' (CAM).

The status report on the use of complimentary therapies in India has noted that traditional medicine is the only available source of health care for almost 65% of the general population [1,2]. The WHO statistics indicate that the percentage of population using CAM ranges from 40 to 90%, with the developing countries showing higher rates than developed ones [1]. The favourable global response to CAM is evident from the remarkable increase in the regulatory and promotion councils for CAM, budget allocations, mainstreaming of CAM in healthcare, CAM related research and publications, CAM schools and medical schools offering CAM education and treatments [1-5]. With the limitations of Bio-medicine and the impact of CAM becoming more apparent, the call for a paradigm shift towards Integrative Medicine (IM) is strengthening.

The medical world has demonstrated varying levels of acceptance of the Complementary, Alternative and Integrative Medicine (CAIM) systems. More than 90% of medical students surveyed in a Singapore medical school believed that conventional medicine can benefit from CAM ideas and methods [6]. In contrast, only a quarter of the medical students in Nepal reported favourable attitudes towards CAM and the majority were neutral [7]. A recent literature

review reported that physicians held more negative attitudes towards CAM than other health care professionals including nurses, public health professionals, dieticians, social workers, medical/nursing school faculty, and pharmacists [8]. Faculties teaching or intending to integrate CAM into their teaching were reported to harbour more positive attitudes and use CAM modalities more often than the medical students [9]. Age, gender, education, training, personal experience and practice environment are other variables known to influence the orientation and use of CAM by the medical professionals and students [8-13].

Being analogous and intimate to Medicine, Dentistry cannot remain insulated from the impact of CAM. A recent study found more than three quarters of the patients attending a dental school to have used at least one CAM technique in the past one year [14]. A cross-sectional study in Malaysia found that the dental students agreed on the professional need for knowledge on CAM and supported their integration in the dental curriculum [15]. Acupuncture for local anaesthesia, guided relaxation and imagery to reduce dental phobia, biofeedback, Transcutaneous Electric Nerve Stimulation and massage therapies for TMJ disorders are few of the CAM techniques currently popular in Dentistry [16]. Natural and herbal mouth rinses such as tulsi, neem, pomegranate, green tea etc. serve as effective, economical and safe alternates to chemical mouthwashes [17]. Despite many such beneficial products and techniques, CAM has not been well received in Dentistry and very little has been done to explore the possibilities and barriers in integrating them into mainstream dental care. Given that, the attitudes of dental professionals towards CAM are an important factor in this transition and that there is virtually no information about the same, the current study was undertaken to evaluate and compare the orientation of dental professionals in India towards the principles and practice of Integrative Medicine.

MATERIALS AND METHODS

A target sample of the study comprised 180 postgraduate students and 170 faculty members of dentistry from three private dental schools in India; Institute of Dental Sciences (Bhubaneswar), Meghna Institute of Dental Sciences (Nizamabad) and Rajasthan Dental College and Hospital (Jaipur). All the postgraduate students were pursuing the Master of Dental Surgery (MDS) course in one of the nine specialties of Dentistry as approved by the Dental Council of India and the entire dental faculty included in the study had completed their MDS in at least one of the specialties of Dentistry.

The survey form used in the study consisted of three sections. The first section described the purpose of the survey and instructions for participants. The personal information section enquired their professional status (postgraduate student/faculty) and gender (female/male). The name and the specialty of the participant were omitted to maintain anonymity and reduce acquiescent response.

This was followed by the Integrative Medicine questionnaire (IM-30), a 30-item self-reported measure devised by Hsiao et al., [18]. (available at <http://onlinelibrary.wiley.com/doi/10.1111/j.1475-6773.2005.00425.x/supinfo>). It evaluates the health care provider's orientation towards IM in five subscales; awareness and openness to working with practitioners from other paradigms (ten items), readiness to refer patients to other paradigms (seven items), learning from alternate paradigms (five items), patient-centred care (three items), and safety of integrative medicine (five items). Each item in the instrument is scored on a 4 or 5 point Likert scale. This questionnaire needed less than five minutes of administration time, demonstrated good reliability (alpha of 0.9 for the whole scale and 0.7 or above for all the subscales) and has been tested for construct validity [18]. As the Indian norms are not available for this instrument, the interpretations in this study were based on the hypothetical median scores for each domain and the whole instrument considered representing a neutral orientation. The hypothetical median was calculated as {Lowest possible score + highest possible score/2}. The lowest possible, highest possible and the hypothetical median scores for each domain and the whole instrument are given in [Table/Fig-1].

Subscales (Hypothetical Median score & Range of possible scores)		Postgraduate Student (n=148)	Dental Faculty (n=138)	Sig [†]	Female (n=145)	Male (n=141)	Sig [†]	Overall (n=286)
Awareness & openness 25.5 10 - 41	Mean Median SD	24.52 25 3.94	25.53 25 5.39	NS	25.40 25 4.22	24.60 25 5.16	NS	25.01 25 4.72
Readiness to refer 17.5 7 - 28	Mean Median SD	17.66 17 3.53	17.93 18.00 3.41	NS	17.61 17 3.52	17.96 18 3.43	NS	17.79 18 3.47
Learning 15 5 - 25	Mean Median SD	12.85 12 2.71	14.41 14 3.95	***	13.95 13 3.70	13.24 13 3.14	NS	13.60 13.00 3.45
Patient Centred Care 9 3 - 15	Mean Median SD	11.47 11 2.47	11.14 11.00 2.60	NS	11.93 12 2.34	10.67 11 2.58	***	11.31 11.00 2.54
Safety 12.5 5 - 20	Mean Median SD	11.93 12 2.60	12.88 13.00 2.73	***	12.53 12 2.87	12.24 12 2.52	NS	12.39 12.00 2.70
Total 79.5 30 - 129	Mean Median SD	78.42 79.5 7.74	81.90 82 10.68	**	81.44 82 9.45	78.73 78 9.23	**	80.10 80.5 9.42

[Table/Fig-1]: Overall and groupwise data for the Integrative Medicine -30 questionnaire.

[†] - Independent samples Mann-Whitney U test
NS - Non-significant, ** - p < 0.01, *** - p < 0.001

After obtaining permission from the administrative heads of these dental schools, the printed forms were distributed to the participants in November 2014. A verbal reminder was passed on after a week and all the completed forms returned within next two weeks were included for the study. As the participation was voluntary and anonymous, the study was exempted from ethical clearance in these dental schools.

STATISTICAL ANALYSIS

The data entry was performed and verified independently by two operators. Summary statistics were calculated for the whole scale and each subscale of IM-30. As the data failed to satisfy the normality criteria (Shapiro-Wilk Test), inter-group comparisons based on gender and professional status were made with Independent samples Mann-Whitney U test. The alpha level for all the tests was set at 0.05 and IBM® SPSS® Statistics Version 20 was used for the data management.

RESULTS

Two hundred and eighty six usable forms were returned yielding a response rate of 81.7%. 51.7% were postgraduate students (n=148) and the rest (n= 138) were dental faculty members. Females constituted 50.7% (n=145) of the total sample.

The overall and groupwise data for the whole scale and all the subscales is presented in [Table/Fig-1]. As the total score and subscale scores for awareness and openness, readiness to refer and safety are very near the hypothetical median, the orientation of the dental professionals in these regards could best be described as neutral. While the use of learning resources on CAM was lower (13 vs subscale median of 15), the current sample exhibited a more positive orientation towards patient centred care (11 vs. subscale median of 9).

Groupwise comparison based on professional status [Table/Fig-1] revealed that the dental faculty scored higher than the postgraduate students in the total score (median of 82 vs 79.5, p< 0.01) and in the subscales related to learning (14 vs 12, p< 0.01) and safety (13 of 12 vs 79.5, p< 0.01) of CAM. Statistically significant differences were also noted in the gender-based comparisons. Females were more oriented towards patient-centred care than males (median of 12 vs 11, p< 0.001). The overall orientation towards IM was also higher in the female professionals (82 vs 78, p< 0.01).

DISCUSSION

There is a growing demand on the health care system to shift from a bio-medical orientation to an Integrative care. The unfavourable attitude of the allopathic health care professionals and students towards CAM is seen as a significant barrier to this transition. As the status quo among dental professionals in India is unknown, the current study evaluated and compared the orientation of the postgraduate students and faculty of dentistry towards Integrative Medicine.

The results indicated that the orientation of the dental professionals towards IM was largely neutral. Lack of any similar studies has precluded the possibility of comparison. Studies comparing the attitudes of medical students and professionals with those from other health care sciences like nursing, pharmacy, physiotherapy etc. have shown a relatively more positive attitude in the latter [8,19].

The postgraduate students showed a lesser orientation towards IM than the faculty. A lesser score in the learning subscale is a significant contributor towards this effect. The curriculum followed in most dental schools across India has virtually nothing related to CAM throughout the period of study. Hence, it is logical that the students would have a lesser need, time and motivation to use the learning resources on CAM. On the contrary, Lie and Boker found no difference in the total number of CAM information resources

used by the medical students, interns and the faculty with internet being the most frequently used [9]. Another domain in which the postgraduate students showed a less favourable orientation was regarding the safety of CAM treatments. This scepticism could have probably resulted from the lack of adequate knowledge and exposure to CAM therapies. In a survey involving all Dutch medical schools, nearly three-quarters of the respondents described that their knowledge on CAM was limited and more research was needed to establish their effectiveness and safety [20]. A positive correlation has also been reported between educational exposure to CAM and its perceived usefulness in health science students [19]. Hence integrating CAM into the curriculum right from initial stages of professional training appears to be the need of the hour.

Females in the study exhibited a higher orientation towards IM than males primarily because of a more positive orientation towards patient centred care. An earlier study on postgraduate orthodontic students in India has, reported that the females were more considerate of the role of psychosocial factors in health and the importance of good doctor-patient relationship [21]. However, the overall attitudes towards patient-centred care were not different from males.

LIMITATIONS

The study is not without limitations. The lack of Indian norms for the instrument forced the use of hypothetical median score as a reference value representing neutral orientation. Availability of the psychometric properties of the instrument in the regional population could have facilitated more meaningful interpretation of the data. Further, the faculty included in the study varied in their experience from a neophyte to senior level professors. The influence of experience, if any, on the orientation towards IM has not been investigated in this study. Another possible area of exploration would be the evaluation of the differences in the orientation of dental professionals from different specialties.

CONCLUSION

The following are the salient conclusions from this study that evaluated and compared the orientation of the dental professionals towards integrative medicine:

1. The orientation of the dental professionals towards IM was by far neutral.
2. As compared to the postgraduate students, the dental faculty exhibited a slightly higher orientation towards IM, especially in learning from alternate paradigms and safety of CAM.
3. Female professionals showed a more positive orientation towards patient-centred care than males.

The need to improve the orientation of the Indian dental professionals towards IM by appropriate professional exposure to CAM modalities cannot be over-emphasized.

ACKNOWLEDGEMENT

We sincerely thank John Wiley and Sons for permitting the free use of IM-30 questionnaire in our study.

REFERENCES

- [1] WHO Traditional Medicine Strategy 2002–2005 [Internet]. 1st ed. Geneva: World Health Organization; 2002 [cited 8 December 2015]. Available from: http://www.wpro.who.int/health_technology/book_who_traditional_medicine_strategy_2002_2005.pdf
- [2] Priya R, Shweta AS. Status and role of AYUSH and local health traditions under the National Rural Health Mission. New Delhi: National Health Systems Resources Centre, MOHFW; 2010.
- [3] Institute of Medicine (US) Committee on the Use of Complementary and Alternative Medicine by the American Public. Complementary and Alternative Medicine in the United States. Washington (DC): National Academies Press (US); 2005.
- [4] Brokaw JJ, Tunnicliff G, Raess BU, Saxon DW. The teaching of complementary and alternative medicine in U.S. medical schools: a survey of course directors. *Acad Med*. 2002;77:876-81.
- [5] Spector ML, Kummert CM, Holmes DC. Complementary and alternative medicine in predoctoral dental curricula: an exploratory survey of U.S. dental schools. *J Dent Educ*. 2013;77:1610-15.
- [6] Yeo AS, Yeo JC, Yeo C, Lee CH, Lim LF, Lee TL. Perceptions of complementary and alternative medicine amongst medical students in Singapore - a survey. *Acupunct Med*. 2005;23:19-26.
- [7] Shankar PR, Subish P, Das B, Dubey AK, Upadhyay DK. Student attitude towards integrative medicine in a medical college in Western Nepal: a questionnaire-based study. *Journal of the American Association of Integrative Medicine - Online* [Internet]. 2006 [cited 8 December 2015]; Available from: <http://www.aaimedicine.com/jaaim/jun06/attitude.php>
- [8] Sewitch MJ, Cepoiu M, Rigillo N, Sproule D. A literature review of health care professional attitudes toward Complementary and Alternative Medicine. *Complement Heal Pract Rev*. 2008;13:139-54.
- [9] Lie DA, Boker J. Comparative survey of Complementary and Alternative Medicine (CAM) attitudes, use, and information-seeking behaviour among medical students, residents & faculty. *BMC Med Educ*. 2006;6:58.
- [10] Verhoef MJ, Sutherland LR. Alternative medicine and general practitioners. Opinions and behaviour. *Can Fam Physician*. 1995;41:1005-11.
- [11] Riccard CP, Skelton M. Comparative analysis of 1st, 2nd, and 4th year MD students' attitudes toward Complementary Alternative Medicine (CAM). *BMC Res Notes*. 2008;1:84.
- [12] Berman BM, Singh BB, Hartnoll SM, Singh BK, Reilly D. Primary care physicians and complementary-alternative medicine: training, attitudes, and practice patterns. *J Am Board FamPract*. 1998;11:272-81.
- [13] Furnham A, McGill C. Medical students' attitudes about complementary and alternative medicine. *J Altern Complement Med*. 2003;9:275-84.
- [14] Spector ML, Fischer M, Dawson DW, Holmes DC, Kummert C, Nisly NL, et al. Complementary and alternative medicine usage by patients of a dental school clinic. *Spec Care Dentist*. 2012;32:177-83.
- [15] Babar MG, Syed SH, Naing CM, Hamzah NH. Perceptions and self-use of complementary and alternative medicine (CAM) among Malaysian dental students. *Eur J Integr Med*. 2012;4:e63-69.
- [16] Andrews EK. Complementary and alternative medicine techniques available for dentistry [Internet]. 2010 [cited 8 December 2015]. Available from: <http://www.dentalcare.com/media/en-US/education/ce357/ce357.pdf>
- [17] Kukreja BJ, Dodwad V. Herbal Mouthwashes – A gift of nature. *International Journal of Pharma and Bio Sciences*. 2012;3:46-52.
- [18] Hsiao AF, Hays RD, Ryan GW, Coulter ID, Andersen RM, Hardy ML, et al. A Self-Report Measure of clinicians' orientation toward Integrative Medicine. *Health Serv Res*. 2005;40:1553-69.
- [19] Baugniet J, Boon H, Ostbye T. Complementary/alternative medicine: comparing the view of medical students with students in other health care professions. *Fam Med*. 2000;32:178-84.
- [20] Kolkman E, Visser A, Vink AM, Dekkers W. CAM-education in the medical curriculum: Attitude towards and knowledge of CAM among Dutch medical students. *Eur J Integ Med*. 2011;3:17-22.
- [21] Madhan B, Rajpurohit AS, Gayathri H. Attitudes of postgraduate orthodontic students in India towards patient-centered care. *J Dent Educ*. 2011;75:107-14.

PARTICULARS OF CONTRIBUTORS:

1. Additional Professor and Head, Department of Dentistry, Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry, India.
2. Senior Lecturer, Department of Periodontics, Sri Venkateshwarra Dental College Hospital & Research Centre, Puducherry, India.
3. Reader, Department of Prosthodontics, Institute of Dental Sciences, SOA University, Bhubaneswar, Odisha, India.
4. Professor and Head, Department of Orthodontics, Meghna Institute of Dental Sciences, Nizamabad, Telangana, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Balasubramanian Madhan,
C-03, Guna Jeni Appt, Aziz Nagar, Puducherry – 605010, India.
E-mail: madhanb@hotmail.com

FINANCIAL OR OTHER COMPETING INTERESTS: None.

Date of Submission: **Nov 12, 2015**

Date of Peer Review: **Dec 03, 2015**

Date of Acceptance: **Jan 07, 2016**

Date of Publishing: **Feb 01, 2016**