

Knowledge, Awareness, and Practice of Complementary and Alternative Medicine for Oral Health Care Management among Dental Students

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Abstract

Introduction: Oral health is a contemplation of social, psychological, and physiological factors which are important for our quality of life. CAM represents the group of various medical and health care practices, systems, and products which are not regarded to be a part of conventional medicine. It is considered to be a cheaper and much less side effect. Hence the aim of the study is to assess the knowledge, awareness, and practice of Complementary and Alternative medicine for oral health care management among dental students.

Materials and Method: Data collection was done by questionnaire survey. Study population contains 100 interns and postgraduates from four different dental colleges. Data was entered in Microsoft excel sheet after collection and was analysed using SPSS software. Descriptive statistics were expressed by means of number, frequency, and percentage. Chi-square test was used to find the association between year of study and Number of responses provided by the participants.

Results: The present study reported that 30% of interns and 24% of postgraduates had knowledge regarding oriental medicine/CAM. 30% of interns and 19% of postgraduates knew that hypnosis dentistry can be used to treat anxious patients. 35% interns and 30% postgraduates knew acupuncture can be used as anesthetic and analgesic.

Conclusion: Based on the results of the present study it can be concluded that there was more awareness among interns than post graduates, many studies conducted showed some similar and some opposing results to the present study.

Key words: Complementary and alternative medicine • Oral health care management • Dental students • Innovative analysis

Introduction

Oral health is a contemplation of social, psychological, and physiological factors which are important for our quality of life [1]. Complementary and alternative medicine (CAM) is a broad term that encompasses a wide range of healing therapies and practices [2]. CAM represents the group of various medical and health care practices, systems and products which are not regarded to be a part of conventional medicine. Herbal medication, meditation, massage, hypnosis, acupuncture, music therapy, and many others are some examples of CAM (3). CAM is considered to be cheaper and is a much safer method of treatment than the conventional medicines. Many herbal methods such as use of clove for tooth pain are used by people but they are unaware of many anesthetic, analgesic, antibacterial, antifungal, anti-viral, antiseptic, anti-inflammatory and much more usefulness of this spice [3]. The field of dentistry has begun to utilize herbal properties for soothing tooth pain, canker sores, and gum inflammation. However, it is essential to understand that some have high anti-inflammatory properties which can put a stop to bleeding, which is important in dental treatment [4]. Traditional Chinese medicine (TCM), based on a comprehensive, natural approach, has its own importance in CAM. CAM incorporates acupuncture, herbal therapy, massaging and breathing, and relaxation exercises [5].

Pharmacological control may come as ineffective and not advised. Regarding orofacial pain, various research does exist in the literature on the utilization of CAM. An example for complementary medicine is the usage of aromatherapy time to time i.e., before, during and after the dental procedure. An example for an alternative medicine is the usage of hypnosis in place of

drugs and other medications for pain control [6]. These alternative medication techniques are quickly gaining importance because they have no side effects, considering their origin being natural. Even though CAM is widely used in medical practices it is still remaining for its significant usage in dentistry. CAM are under scientific research for the determination of their effectiveness. CAM may become a standard practice after the scientific determination of its effectiveness [7]. Various CAM procedures are put into use in many countries directly or indirectly. In Japan, in 1972 30 cases of acupuncture anesthesia were reported, and from around 1980, the way of acupuncture investigations moved from anesthetic to analgesic. Anesthetic analgesics is presently being regarded as a way to activate the body's endogenous analgesic system [8]. A rarely explored procedure in clinical hypnosis, which can be put to use with very little risks and side effects. Clinical hypnosis is a technique of deep relaxation, in which the individual becomes even more open and accessible. This comes very handy while handling anxious patients, they calm down and their dental phobia is relaxed making them more suggestible [9]. Many such methods and techniques have proved to be helpful toward better patient management as well as replacement of expensive drugs with many side-effects with much cheaper and safer alternatives.

CAM offers a test kitchen for new approaches to care and care providence, which are now being developed and studied, and has the potential to affect patient quality of life, disease morbidity, cost, and use of health care [10]. Major medical journals are publishing research on the efficiency of specific CAM therapies, physicians are attending enormously continuing medical education courses on CAM, and hospitals are offering CAM services, sometimes through outpatient integrative medicine clinics [11]. Our team has extensive knowledge and research experience that has translated into high quality publications [12-31]. This study is to assess the knowledge, awareness, and practice of complementary and alternative medicine among dental students particularly interns and postgraduates.

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Materials and Method

A descriptive cross-sectional study hospital based study in the Saveetha Dental College and Hospital (Saveetha University) located in Tamil Nadu.

Sample Size Estimation

Sample size was estimated using the manual formula ($N = Z^2 Pq/L^2$) based on the study done by (6) and the total sample size arrived was 100. minimize sampling bias was done by simple random sampling.

Study Population

Study population contains 100 interns and postgraduates from four different dental colleges.

Ethical Approval

Ethical approval was obtained from the Institutional Review Board in Saveetha University.

Data Collection

The First part of the questionnaire contains demographic details. Second part of the questionnaire consists of questions pertaining to knowledge, awareness, and practice of CAM. Independent variables were age, gender, and year of study and dependent variables were knowledge, awareness, and practice of CAM. Data collection can be done by means of online google survey form. Independent variables will be age, gender, and year of study and dependent variables will be knowledge, awareness, and practice of complementary and alternative medicine among dental students particularly interns and postgraduates.

Sampling

Simple random sampling technique was followed.

Statistical Analysis

Data was entered in Microsoft excel sheet after collection and was analysed using SPSS software. Descriptive statistics were expressed by means of number, frequency, and percentage. Chi-square test was used to find the association between variables. The level of statistical significance is at $p < 0.05$. Statistics software was Statistical Software for Social Sciences, SPSS, version 23. Independent variables were age, gender, and year of study and dependent variables were knowledge, awareness, and practice of CAM.

Results

The present study shows the awareness among the dental students of different colleges. Bar graph in Figure 4 shows the association between year of study and number of respondents with knowledge regarding oriental medicine/ CAM. X-axis represents the year of study and Y-axis represents the participants.

The blue and green bars represent the responses no and yes respectively. 24% said yes and 26% said no among the postgraduates whereas 30% said yes and 20% said no among the interns. Chi-square test was done and association was found to be statistically not significant. Pearson's Chi-square value: 1.449, p-value: 0.229, ($p > 0.05$) hence statistically not significant, providing interns have better knowledge than postgraduates. Bar graph in Figure 5 shows the association between year of study and number of respondents with the awareness about various CAM taken by the patients. X-axis represents the year of study and Y-axis represents the participants. The blue and green bars represent the responses no and yes respectively. 23% said yes and 27% said no among the postgraduates whereas 24% said yes and 26% said no among the interns. Chi-square test was done and association was found to be statistically not significant. Pearson's Chi-square value: 0.040, p-value: 0.841, ($p > 0.05$) hence statistically not significant, providing postgraduates have better knowledge than interns. Bar graph in Figure 6 shows the association between year of study and number of respondents with the knowledge of hypnosis being used to treat anxious patients. X-axis represents the year of study and Y-axis represents the participants. The blue, green, and beige bars represent the responses no, yes, and maybe respectively. 19% said yes, 6% said no, and 25% said maybe among the postgraduates whereas 30% said yes, 4% said no, and 16% said maybe among the interns. Chi-square test was done and association was found to be statistically not significant. Pearson's Chi-square value: 4.845, p-value: 0.089, ($p > 0.05$) hence statistically not significant, providing interns have better knowledge than postgraduates.

Bar graph in Figure 7 shows the association between year of study and number of respondents with the knowledge whether acupuncture can be used as anesthetic and analgesic. X-axis represents the year of study and Y-axis represents the participants. The blue and green bars represent the responses no and yes respectively. 30% said yes and 20% said no among the postgraduates whereas 35% said yes and 15% said no among the interns. Chi-square test was done and association was found to be statistically not significant. Pearson's Chi-square value: 1.099, p-value: 0.295, ($p > 0.05$) hence statistically not significant, providing interns have better knowledge than postgraduates. Bar graph in Figure 8 shows the association between year of study and number of respondents with the knowledge whether relaxation techniques may contribute to controlling pain. X-axis represents the year of study and Y-axis represents the participants. The blue and green bars represent the responses no and yes respectively. 35% said yes and 15% said no among the postgraduates whereas 37% said yes and 13% said no among the interns. Chi-square test was done and association was found to be statistically not significant. Pearson's Chi-square value: 0.198, p-value: 0.656, ($p > 0.05$) hence statistically not significant, providing interns have better knowledge than postgraduates.

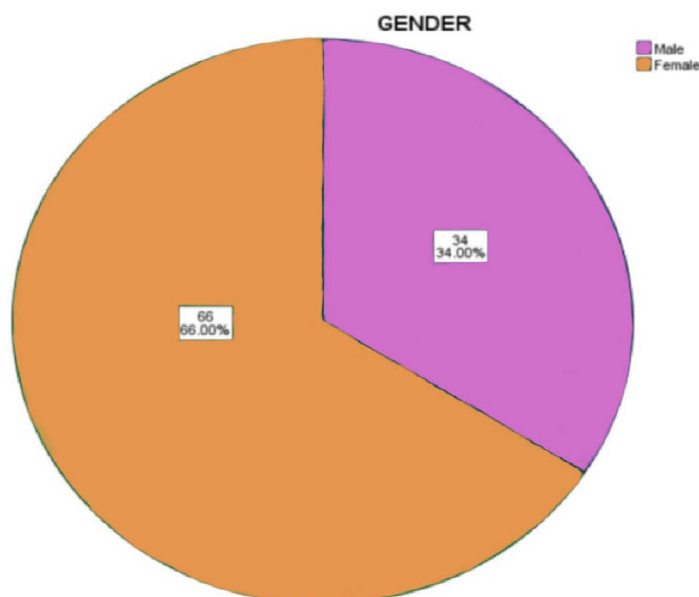


Figure 1. Pie chart showing percentage distribution of male and female respondents. Pink colour represents male and orange colour represents female. 34% were male and 66% were female.

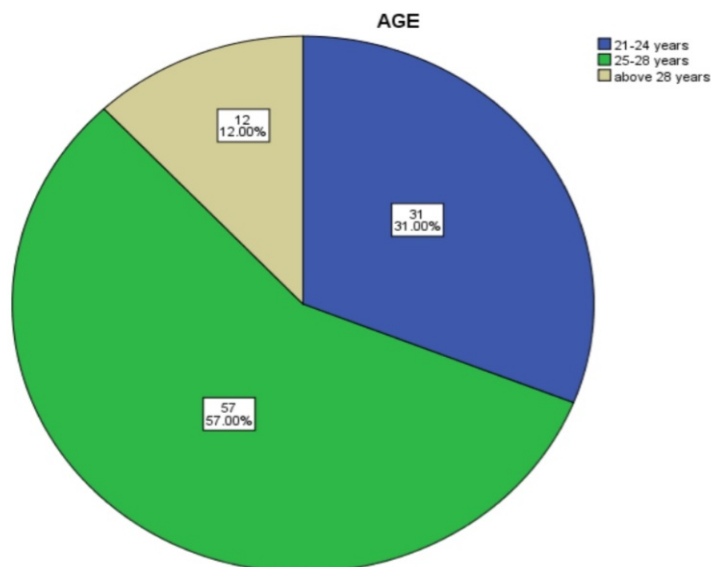


Figure 2. Pie chart showing the percentage distribution of age of the respondents. Blue color represents the age group 21-24 years (31%), green color represents the age group 25-28 years (57%) and beige color represents the age group above 28 years of age (12%).

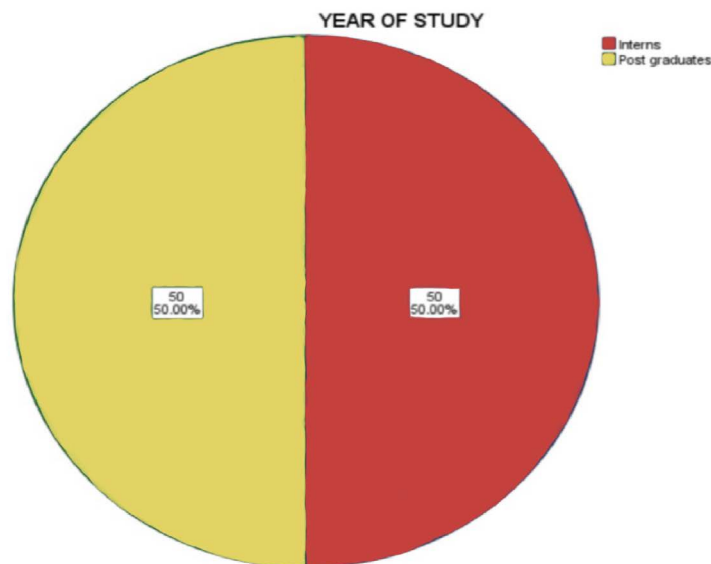


Figure 3. Pie chart showing the percentage distribution of year of study of the respondents. Red colour represents interns (50%) and yellow color represents postgraduates (50%).

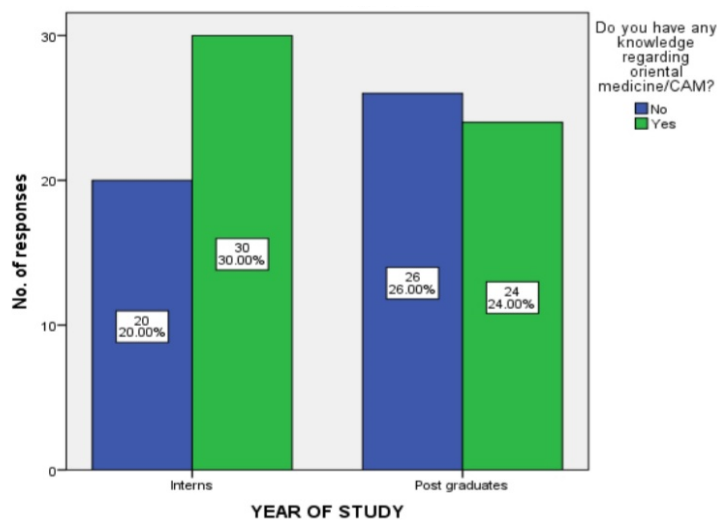


Figure 4. Bar graph showing the association between year of study and number of respondents with knowledge regarding oriental medicine/ CAM. X-axis represents the year of study and Y-axis represents the participants. The light blue and brown bars represent the responses no and yes respectively. 24% said yes and 26% said no among the postgraduates whereas 30% said yes and 20% said no among the interns. Chi-square test was done and association was found to be statistically not significant. Pearson's Chi-square value: 1.449, p-value: 0.229, (p>0.05) hence statistically not significant, providing interns have better knowledge than postgraduates.

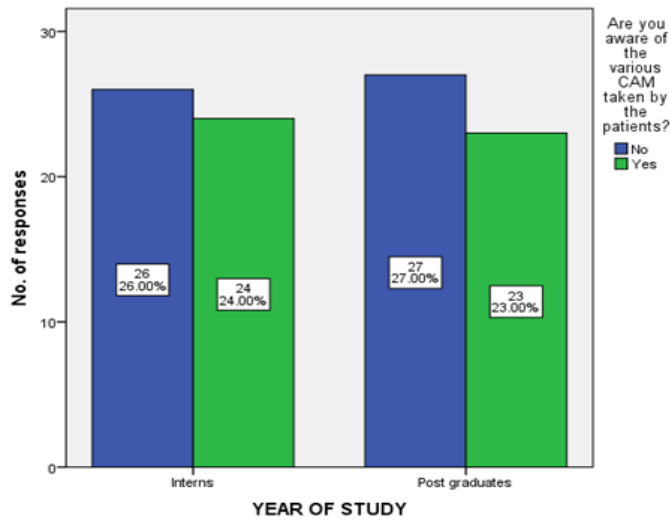


Figure 5. Bar graph showing the association between year of study and number of respondents with the awareness about various CAM taken by the patients. X-axis represents the year of study and Y-axis represents the participants. The yellow and dark purple bars represent the responses no and yes respectively. 23% said yes and 27% said no among the postgraduates whereas 24% said yes and 26% said no among the interns. Chi-square test was done and association was found to be statistically not significant. Pearson's Chi-square value: 0.040, p-value: 0.841, ($p > 0.05$) hence statistically not significant, providing postgraduates have better knowledge than interns.

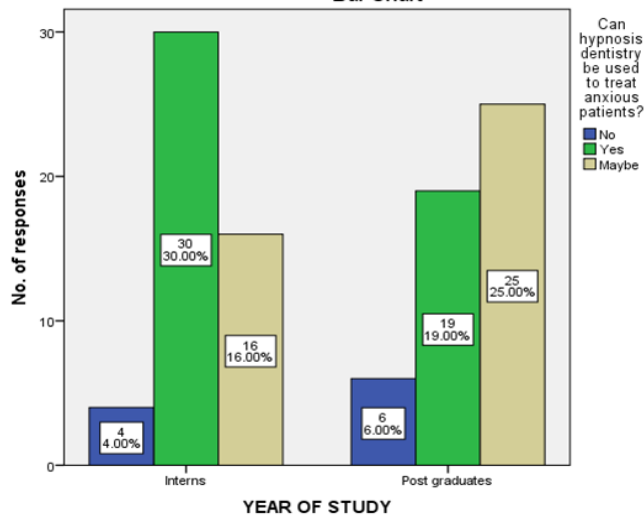


Figure 6. Bar graph showing the association between year of study and number of respondents with the knowledge of hypnosis being used to treat anxious patients. X-axis represents the year of study and Y-axis represents the participants. The light pink, light green, and beige bars represent the responses no, yes, and maybe respectively. 19% said yes, 6% said no, and 25% said maybe among the postgraduates whereas 30% said yes, 4% said no, and 16% samaybe among the interns. Chi-square test was done and association was found to be statistically not significant. Pearson's Chi-square value: 4.845, p-value: 0.089, ($p > 0.05$) hence statistically not significant, providing interns have better knowledge than postgraduates.

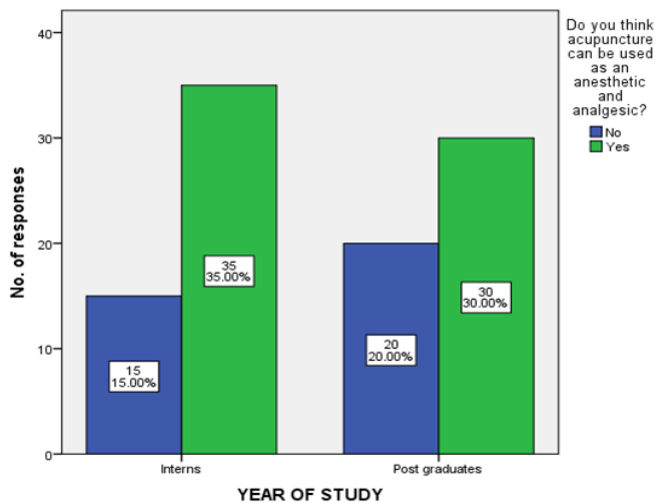


Figure 7. Bar graph showing the association between year of study and number of respondents with the knowledge whether acupuncture can be used as an anesthetic and analgesic. X-axis represents the year of study and Y-axis represents the participants. The grey and light purple bars represent the responses no and yes respectively. 30% said yes and 20% said no among the postgraduates whereas 35% said yes and 15% said no among the interns. Chi-square test was done and association was found to be statistically not significant. Pearson's Chi-square value: 1.099, p-value: 0.295, ($p > 0.05$) hence statistically not significant, providing interns have better knowledge than postgraduates.

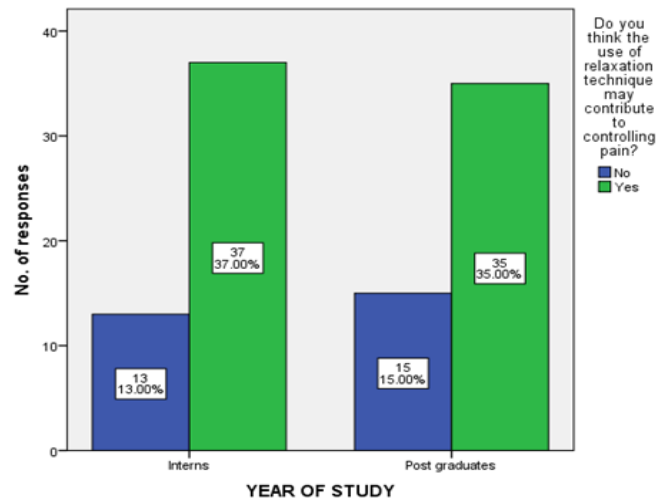


Figure 8. Bar graph showing the association between year of study and number of respondents with the knowledge whether relaxation techniques may contribute to controlling pain. X-axis represents the year of study and Y-axis represents the participants. The dark green and sky blue bars represent the responses no and yes respectively. 35% said yes and 15% said no among the postgraduates whereas 37% said yes and 13% said no among the interns. Chi-square test was done and association was found to be statistically not significant. Pearson's Chi-square value: 0.198, p-value: 0.656, ($p > 0.05$) hence statistically not significant, providing interns have better knowledge than postgraduates.

Discussion

In the present study, the interns were reported to have a little more knowledge about CAM and its contributions than postgraduates from four different colleges. In a previous study, 12% of final year and internship students had knowledge about CAM whereas the present study shows 54% of students had knowledge about CAM. 59.34% of students in the previous study agreed on patients informing the dentists about their CAM history during history taking. While 61% in the present study agreed to the same. 8.66% of students agreed on acupuncture to be used as an anesthetic and analgesic while 65% in the present study agreed to the same. 6% of the students in the previous study agreed that relaxation techniques may contribute to pain controlling while 72% of the students in the present study agreed with the same. 80% of the students in the previous study agreed that CAM courses should be added to UG curriculum while 71% of students in the present study agreed to the same [6].

This previous study showed less awareness of CAM among dental. In another study, 77.3% were aware of CAM while 54% were aware of CAM in the present study. 79.5% in the previous study agreed that it's important to ask patients about their CAM history during history taking while 61% agreed to the same in the present study. 30% of students in the previous study felt hypnosis can be helpful to treat anxious patients while 49% agreed in the present study. 75% of students in the previous study felt the importance of including CAM courses in the UG curriculum while 71% agreed in the present study [3]. This previous study showed more awareness among students than the present study. In a study conducted by Sami H. et al, 62.4% were aware of acupuncture principles [32].

In a study conducted by Peter B. James et al, (98.9%) agreed that knowledge about CAM is important to them as future pharmacists and that CAM should be included in the curriculum while 71% agreed in the present study [33]. In another study conducted by M. Suganya et al, 86.7% were aware of CAM while 54% were aware in the present study. 85% were willing to know more about CAM in the previous study [7] while 36% were interested in the present study. This study co reported more awareness than the present study. In another study conducted by Atsushi Kameyama and Kazuo Toda in Japan, 14% had good knowledge about CAM whereas 54% were aware in the present study, 21% agreed CAM was applied in Japanese clinics in the previous study while 36% agreed CAM was applied in Indian clinics [34]. This study conducted in Japan among two dental colleges reported less knowledge of CAM than in the present study in India.

Most research has focused on clinical and experimental medicine and regulatory issues, to the general neglect of public health dimensions. Public health research must consider social, cultural, political, and economic contexts to expand the contribution of T/CAM to health care systems globally [35].

Conclusion

The study showed fair knowledge of CAM among interns and postgraduates. But measures can be taken to advertise and widespread information and awareness about CAM among dental students as well as the common public. Interns however had better knowledge and awareness about CAM than postgraduates in the study. Public health research must consider social, cultural, political, and economic factors to maximize the contribution of T/CAM to health care systems globally.

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