

Utilization of Informational Resources in Clinical Decision Making among the Private Dental Practitioners of Odisha

¹Subha S Dany, ²Choubarga Naik, ³Anup K Satpathy

ABSTRACT

Introduction: Dental professionals are required to make decisions with multiple foci, such as diagnosis, prevention, and treatment. So, there is a need for the dentists to make appropriate clinical decisions to provide a best possible care for their patients at an individual level and community at large.

Materials and methods: A cross-sectional questionnaire-based study was designed for all the private dental practitioners of Odisha. Questions regarding demographic data and the utilization of informational resources to support the clinical decision making constitute to the questionnaire. To demonstrate the frequency of responses, descriptive statistics were computed and chi-square test was used for making the comparisons. A p-value <0.05 was considered significant.

Results: Informational resources to support their clinical decision were used by all the specialists (100%) in comparison to 87.2% general dental practitioners. The most commonly utilized informational resources for clinical decision making by all the respondents were discussion with the colleagues (72.8%) followed by information from product manufacturer (65.5%), online journals (52.2%), textbooks (55.8%), continuing dental education (CDE) programs (46.3%), and the least preferred informational resource was printed journals (36.6%).

Conclusion: To provide the best possible care to their patients, an evidence-based approach offers clinicians a convenient method of finding current research to support clinical decisions, answer patient questions, and explore alternative treatments, procedures, or materials. To provide best dental care for their patient, dental students and future graduates should be taught the skills to practice evidence-based dentistry.

Keywords: Decision making, Dentistry, Informational resources, Private practice.

How to cite this article: Dany SS, Naik C, Satpathy AK. Utilization of Informational Resources in Clinical Decision Making among the Private Dental Practitioners of Odisha. *Int J Oral Care Res* 2017;5(4):274-277.

Source of support: Nil

Conflict of interest: None

¹Senior Resident, ²Assistant Professor, ³Professor and Head

¹⁻³Department of Dentistry, Veer Surendra Sai Institute of Medical Sciences and Research, Sambalpur, Odisha, India

Corresponding Author: Choubarga Naik, Assistant Professor Department of Dentistry, Veer Surendra Sai Institute of Medical Sciences and Research, Sambalpur, Odisha, India, Phone: +919337237290, e-mail: choubarga@gmail.com

INTRODUCTION

There is a need for dentists to utilize various resources to seek information and change their clinical practice in accordance with the best evidence available. The information-seeking sources available to dental professionals have diversified over the past few years. The most commonly utilized informational resources by dental professionals to update their knowledge are online databases (e.g., PubMed, Google Scholar), peer-reviewed journals, CDE programs, communication with colleagues, professional organizations, and study clubs.¹⁻³

Evidence-based practice is to bridge the gap between research and practice which has two main goals: Best evidence/research and the transfer of this in practical use. This involves asking evidence-based questions (framing an answerable question from a clinical problem), searching for the best evidence, reviewing and critically appraising the evidence available, and applying this information in the regular clinical practice to provide the best possible care for the patients at an individual level, and this subsequently helps to promote the care of the community at large, which is a prime concern of any public health practitioner. Thus, clinical decisions are made at an early stage of diagnosis by utilizing the best available informational resources and can reduce, limit, and prevent disability.

Literatures from randomized controlled trials, systematic reviews of randomized controlled trials, meta-analysis, cohort studies, case-control studies, and case reports provide established ways to conduct the evidence-based delivery of care.⁴

The dental professionals must be good in finding valid, reliable, current scientific information to achieve an evidence-based practice. Practitioners are facing many obstacles in the implementation of evidence-based decision making. Among these are the poor access to evidence-based information, inefficient information systems, and lack of time.^{5,6}

The increased exposure to mass media, internet, and their influence on the patients regarding dental treatment, techniques, their advantages has become a double-edged sword; thus dentist's responsibility to upgrade his knowledge, skills, and usage of materials has become a concern, and more so with the increased awareness regarding the Consumer Protection Act.⁷

As every dentist can face such a situation of clinical uncertainty in their regular dental practice, and as very less literatures^{8,9} are available, this present study was undertaken with an aim to know the utilization of various informational resources in clinical decision making among private dental practitioners in Odisha. Various objectives were set for achieving the same: To know any difference exist regarding the utilization of informational resources in clinical decision making among the general practitioners and practitioners who limited their practice to a specialty; to know any difference exist with regard to clinical experience on utilization of informational resources in clinical decision making; and to know the sources of information utilized by the practitioners.

MATERIALS AND METHODS

A cross-sectional questionnaire-based study was done. A pilot study was carried out among 40 practicing dentists of Bhubaneswar, Odisha, India, to check the feasibility of the study and validity of the questionnaire used for the study and relevant changes were made in the questionnaire based on the response and recommendations.

Depending on the response rate of the pilot study, sample size for the main study was estimated. So sample size of 225 was estimated with a desired confidence level of 95%. Informed consent was obtained from each dental practitioner before the start of the study. In January 2016 anonymous cross-sectional questionnaire study was conducted among 225 practicing dentists of Odisha, either through direct visits to dental clinics and colleges or via electronic media (e-mail). Practitioners who were contacted through e-mail were reminded regularly till the required sample size was achieved. Ethical clearance was obtained from the Institutional Ethical Committee.

The questionnaire has two parts: First part consists of demographic data and the second part consists of nine closed-ended questions regarding the utilization of informational resources to support the clinical decision making. The investigator has approached the dental clinic and the questionnaire was given to the practitioner during free time after explaining the purpose of the study and it was collected immediately after completion.

After completing the data collection, the data were entered into the Excel sheet for analysis. To demonstrate the frequency of responses, descriptive statistics were computed and Chi-square test was used for making the comparisons. Statistical significance was set at p-value <0.05.

RESULTS

A total of 225 private dental practitioners participated in the study, of which 100 Master of Dental Surgery (MDS) practitioners and 125 Bachelor of Dental Surgery (BDS) practitioners reported that they have utilized the informational resources in clinical decision making and 5 BDS practitioners reported that they have never utilized the informational resources to support their clinical decisions. Prior to analysis, these five records were excluded. The demographic characteristics of the respondents are shown in Table 1. The general dentists comprised 55.56% and the practitioners who limited their practice to a specialty comprised 44.44%. The practitioners with clinical experience of 1 to 5 years are 60.4% and the practitioners with more than 6 years of clinical experience are 39.6%.

Table 2 shows the respondents' use of resources at least once a month for making clinical decisions. Discussion with colleagues and information from product manufacturer were commonly used resources for making clinical decisions (72.8 and 65.5% respectively), whereas CDE programs and printed journals were used the least (46.3 and 36.6% respectively). Neither any statistically significant difference was found for clinical experience ($p = 0.43$) nor between general practitioner and specialist ($p = 0.51$) for resources of decision making.

Table 1: Demographic characteristics of respondents in the study

| Characteristic | Percentage of respondents |
|--------------------------------|---------------------------|
| <i>Clinical experience</i> | |
| 1–5 years | 60.4 |
| 6+ years | 39.6 |
| Total | 100 |
| <i>Education qualification</i> | |
| BDS | 55.56 |
| MDS | 44.44 |
| Total | 100 |

Table 2: Source of information for making clinical decisions

| Source of information | All respondents (%) | By years of clinical experience | | By educational qualification | |
|-------------------------------------------|---------------------|---------------------------------|--------|------------------------------|---------|
| | | 1–5 (%) | 6+ (%) | BDS (%) | MDS (%) |
| Printed journals | 43.6 | 35.7 | 37.4 | 30.2 | 38.7 |
| Online journals | 69.2 | 49.3 | 40.2 | 51.4 | 56.8 |
| CDE programs | 33.3 | 40.7 | 49.1 | 46.6 | 47.4 |
| Discussion with colleagues | 74.4 | 76.7 | 70.3 | 70.1 | 76.6 |
| Information from the product manufacturer | 61.5 | 67.1 | 60.2 | 69.1 | 60.6 |
| Textbooks | 53.8 | 48.1 | 57.1 | 50.7 | 56.2 |
| Chi-square | | p-value = 0.43 | | p-value = 0.51 | |

Table 3: Frequency of utilization of informational resources

| Frequency of utilization | All respondents (%) | By years of clinical experience | | By educational qualification | |
|--------------------------|---------------------|---------------------------------|--------|------------------------------|---------|
| | | 1–5 (%) | 6+ (%) | BDS (%) | MDS (%) |
| Daily | 1.2 | 1.8 | 0.3 | 0 | 3.7 |
| Weekly | 29.8 | 35.8 | 36.1 | 09.2 | 67.9 |
| Monthly | 40.4 | 39.4 | 39.9 | 41.5 | 27.9 |
| Annual | 20.4 | 15.8 | 22.9 | 36.5 | 0.50 |
| Never | 8.2 | 7.9 | 0.8 | 12.8 | 0 |
| Chi-square | | p-value \leq 0.05 | | p-value \leq 0.05 | |

Table 4: Response to the question: “How much have you considered these informational resources to be helpful in clinical decision making?”

| Helpfulness | All respondents (%) | By years of clinical experience | | By educational qualification | |
|--------------|---------------------|---------------------------------|--------|------------------------------|---------|
| | | 1–5 (%) | 6+ (%) | BDS (%) | MDS (%) |
| Very helpful | 46.2 | 46.5 | 35.7 | 41.8 | 52.8 |
| Helpful | 53.8 | 53.5 | 64.3 | 58.2 | 47.2 |
| Not helpful | 0 | 0 | 0 | 0 | 0 |
| Chi-square | | p-value \geq 0.05 | | p-value \geq 0.05 | |

Table 5: Responses to the question: “Is your search for information relevant to clinical practice, efficient, and effective?”

| Efficient and effective | All respondents (%) | By years of clinical experience | | By educational qualification | |
|-------------------------|---------------------|---------------------------------|--------|------------------------------|---------|
| | | 1–5 (%) | 6+ (%) | BDS (%) | MDS (%) |
| Always | 0 | 0 | 0 | 0 | 0 |
| Most of the time | 19.7 | 24.1 | 17.7 | 13.7 | 29.6 |
| Sometimes | 56.4 | 59.5 | 50.2 | 57.6 | 57.8 |
| Never | 23.9 | 16.2 | 32.1 | 28.7 | 12.6 |
| Chi-square | | p-value \geq 0.05 | | p-value \geq 0.05 | |

Regarding the knowledge of the sites where they get the information, it was known to be 58.97% of the respondents, but 53.84% of the respondents do not know the sites where they get the information. A significant difference was found between the general practitioners and specialist for this (p-value \leq 0.05).

Table 3 shows the frequency of utilization of informational resources by the practitioners. Most of the practitioners reported once in a month (40.4%) and weekly (29.8%) utilization of informational resources and 1.2% of the practitioners reported daily utilization of informational resources. For this a statistically significant difference was found, according to their clinical experience and educational qualification (p-value \leq 0.05).

Respondents were asked to rank the helpfulness of various informational resources in clinical decision making (Table 4). Informational sources are helpful in clinical decision making, which was reported by 53.8% of respondents, and none (0%) of the respondents reported that they are not helpful for clinical decision making. For the responses for this question, no significant difference was observed between the years of clinical experience and educational qualification.

The survey inquired whether respondents felt their search for information relevant to the practice of dentistry was efficient and effective always, most of the time, sometimes, or never.

As shown in Table 5, the majority of respondents selected “sometimes” (56.4%), with none of the respondents selecting “always” (0%). For the responses to this question, no significant difference was observed between the years of clinical experience and educational qualification.

DISCUSSION

Patients are becoming much more informed via the widespread use of the Internet and other media resources; as a consequence, patients are demanding treatment options and explanations of the associated potential advantages and disadvantages. Thus, it is necessary for practitioners to base their treatment decisions not only on their experience and preference but also on evidence-based resources. For making intelligent decisions regarding patient care, evidence-based approach assists clinicians in their practice.

In comparison to general dental practitioners (87.2%), 100% of the specialists have utilized the informational resources to support their clinical decision and is in accordance with the study conducted by Straub-Morarend et al⁹ on Iowa dental practitioners in 2011. The reason might be due to the advanced training, analyzing and interpreting of scientific information during their specialty training program.

The technical nature of dentistry warrants a hands-on approach to advancement of clinical skills and knowledge. However, the degree of integration of valid and reliable research into continuing education courses is variable. Continuing education courses that employ strategies to support evidence-based decision making has the potential to provide a framework to address any perceived gaps between evidence and the implementation of evidence in practice. In the present study, many practitioners (46.3%) have attended the CDE programs, as the continuing education activity is so popular that most of the dentists practicing a solo practice may look forward to the opportunity to attend such courses for the interaction with colleagues.⁹ More of practitioners who limited their practice to a specialty have attended the CDE programs when compared with the general practitioners. The reason might be due to the inclusion of CDE programs in the curriculum during their postgraduation for the specialty practitioners.

In the present study, the most commonly utilized informational resources are discussion with the colleagues (72.8%), which is in accordance with the studies conducted by Covington and Craig,¹⁰ Gravios et al,¹¹ Selvi and Ozerkan,¹² where the dentists preferred conventional methods of information access, such as discussion with colleagues, sales representatives, textbooks, and journal articles.

The most frequently utilized informational resources for the clinical decision making in both groups of clinical experience were discussion with the colleagues, which is not in accordance with the study conducted by Haj-ali et al⁸ in 2005 where less experienced practitioners preferred discussion with the colleagues and more experienced practitioners preferred online journals as frequently utilized informational resources for the clinical decision making. The reason might be discussion with colleagues is an efficient and inexpensive approach to answer a clinical problem.

Majority of the practitioners (53.8%) felt that their search for information relevant to clinical practice is efficient and effective most of the time, which is similar to the study conducted by Straub-Morarend et al⁹ on Iowa dental practitioners in 2011, where 62.9% of practitioners felt that it is effective most of the time.

CONCLUSION

To provide the best possible care to their patients, an evidence-based approach offers clinicians a convenient method of finding current research to support clinical decisions, answer patient questions, and explore alternative treatments, procedures, or materials. Thus, it may be essential to establish the fundamentals of evidence-based practice in undergraduate curriculum, which is the foundation for acquiring knowledge with regard to diagnosis, prognosis and treatment, etc. for dental care issues.

Limitations

As the present study was conducted on a smaller sample with very few variables, the results cannot be generalized. Future studies with larger sample and with more detailed study objectives can give a better insight.

REFERENCES

- Schleyer TK. Online continuing dental education. *J Am Dent Assoc* 1999 Jun;130(6):848-854.
- Turpin DL. Study clubs share their secrets of success. *Am J Orthod Dentofacial Orthop* 2010 May;137(5):573-574.
- Botello-Harbaum MT, Demko CA, Curro FA, Brad Rindal D, Collie D, Gilbert GH, Hilton TJ, Craig RG, Wu J, Funkhouser E, et al. Information-seeking behaviors of dental practitioners in three practice-based research networks. *J Dent Educ* 2013 Feb;77(2):152-160.
- Daly B, Watt RG, Batchelor P, Treasure ET. *Essential dental public health*. 1st ed. Oxford University Press; 2002. pp. 107-118.
- Iqbal A, Glennly AM. General dental practitioners' knowledge of and attitudes towards evidence-based practice. *Br Dent J* 2002 Nov;193(10):587-591.
- Bennett N, Casebeer L, Kristofco R, Strasser S. Physicians' internet information-seeking behaviors. *J Contin Educ Health Prof* 2004 Winter;24(1):31-38.
- Prasad S, Menon I, Dhingra C, Anand R. Awareness of consumer protection act among dental health professionals in dental schools of Ghaziabad, India. *J Oral Health Manag* 2013 Dec;12(4):262-268.
- Haj-Ali RN, Walker MP, Petrie CS, Williams K, Strain T. Utilization of evidence-based informational resources for clinical decisions related to posterior composite restorations. *J Dent Educ* 2005 Nov;69(11):1251-1256.
- Straub-Morarend CL, Marshall TA, Holmes DC, Finkelstein MW. Informational resources utilized in clinical decision making: common practices in dentistry. *J Dent Educ* 2011 Apr;75(4):441-452.
- Covington P, Craig BJ. Survey of the information-seeking patterns of dental hygienists. *J Dent Educ* 1998 Aug;62(8):573-577.
- Gravios SL, Bowen DM, Fisher W, Patrick SC. Dental hygienists' information seeking and computer application behavior. *J Dent Educ* 1995 Nov;59(11):1027-1033.
- Selvi F, Ozerkan AG. Information-seeking patterns of dentists in Istanbul, Turkey. *J Dent Educ* 2002 Aug;66(8):977-980.