



Advantages and Disadvantages of Endodontic Management

Fharreeha Fathima Anees^a and Dinesh Premavathy^{b*}

^a *Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai -600077, India.*

^b *Department of Anatomy, Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai-600077, India.*

Authors' contributions

This work was carried out in collaboration between both authors. Author FFA did the study designing, data collection, analysis interpretation and manuscript preparation. Author DP did the data verification, interpretation, correcting manuscript. Both authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i60B34967

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/79146>

Original Research Article

Received 20 October 2021

Accepted 25 December 2021

Published 27 December 2021

ABSTRACT

Introduction: Root canal treatment is a sequence of treating infected pulp of the tooth which is intended to result in elimination of infection and protecting and restoring the tooth from future microbial invasion.

Aim: The aim of the present study is to create awareness among outpatients on the advantages and disadvantages in before and after root canal treatment.

Materials and Methods: The questionnaire based survey was conducted among 101 patients in Saveetha Dental College and Hospitals. The participants range from 20-56 years above Main objective of performing root canal treatment is to eliminate bacteria from the infected root canal system/ remove the inflamed pulp tissue and close it with biological material. Root canal treatment done well then regardless of the number of visits, will create a favorable environment for healing.

Results: The observed results in the present study were depicted in pie charts and results were analysed using SPSS.

Conclusion: The recent advances in endodontics technology attract dental material a lot as they complete the root canal treatment in a couple of days periapical tissue undergoes a lot of changes.

[≡] Senior Lecturer;

*Corresponding author: E-mail: dineshp.sdc@saveetha.com;

Keywords: Root canal treatment; endodontics; biological material; create awareness; novel method.

1. INTRODUCTION

Root canal treatment is a treatment sequence for the infected pulp of the tooth which is intended to result in elimination of infection and protection of the decontaminated tooth from future microbial invasion. Endodontics is a branch of dentistry that deals with diseases of the tooth root and tooth pulp. The process involves an interaction of knowledge and experience of various outcomes and balancing risk benefits that occur due to root canal treatment [1].

Root canal treatment has more methods and techniques, different types of anesthesia [1,2]. It is very important to note the fact that providing and informing the patients about the advantages of root canal for to retaining it [2] and when coming to tooth problems, stress plays a major role [3]. In some cases it has been proven that income , dental cost and insurance statis dental cost and insurance status have become dental ear factors why patients have become resistant to see the dentist [4].

Anxiety is more common in women [5] . The positive impact and outpact of root canal treatment was to be shown regardless of the cultural background of the patients or the measure used to differ them [6] [7–14]. In a study, there was an extensive has extensive

knowledge and research experience that has translate into high quality publications [15–29] hence, the aim of this study was to evaluate the knowledge and awareness of patients in the samples of Saveetha Dental College patients to assess the reason they choose root canal treatment and to assess their problems [30].

2. MATERIALS AND METHODS

The questionnaire based survey was conducted among 101 patients in Saveetha Dental College. The participants range from 20-56 years above. After explaining the experimental procedure and making the participant fully aware of the role they play in the project. The institutional analysis was done to analyse knowledge, attitude, awareness of the patients exposed to root anal treatment. The survey was online through online based google forms. The questionnaire contained questions on demographic details also. Method of sampling was simple random sampling. The responses were collected and tabulated in the excel sheet and analyzed. The data was entered in spss version 23 and the results are present in the bar graph and pie chart. The chi square test "monte carlo "was used to analyze and compare the knowledge and awareness of root canal treatment. The following questionnaire were used.

Chart 1. Questionnaire

Serial number	Questions	Options
1	Did you pain after root canal treatment	Yes , no ,maybe
2	Why did you choose root canal treatment over tooth extraction	Less painful, for no gap between teeth
3	Did you know root canal treatment could result in a weaker tooth after treatment	Yes , no ,maybe
4	Did you know root canal treatment could prevent gap in the mouth	Yes , no ,maybe
5	How to maintain hygienic way in root canal treatment	Eating healthy, drinking water, use chewing gum
6	Did you sleep before day of the treatment	Yes , no ,maybe
7	Did you feel stress out before day of the treatment	Yes , no ,maybe
8	Did you get expected outcome after treatment	Yes , no ,maybe
9	Did you consume antibiotics after treatment	Yes , no
10	Did you have any swelling and tenderness in nearby gums before treatment	Yes , no
11	We're you aware of tooth filling	Yes , no

3. RESULTS

The present study has observed 32% are aged 22-35 years, 22% are aged 36-45 years 14% are aged 20 -22 , 16% are aged 46- 55 years , 9 % are aged 5 and 8% are aged 55 above . Fig. 1. The present study observed that in Fig 2 did you expect outcome out of the treatment 78% yes 22 said no and 1% said maybe pearson chi square test shows p value is 0.269 ($p > 0.05$) hence it is statistically not significant .Fig 3 shows a bar graph representing the association between gender and did you get a hygienic way for root canal treatment responses. The majority of the females are maintaining hygienic ways for cooperating with root canal treatment. It was supported by Pearson chi square test shows p value is 0.029 ($p > 0.05$) which is significant (Fig. 4) shows a bar graph representing the association between gender and did you get a root canal treatment that could result in weaker teeth after treatment responses. Pearson chi square test shows p value is 0.032 ($p > 0.05$) hence it is statistically significant Fig 5 shows a bar graph representing the association between gender and did you get a root canal

treatment that could result in weaker teeth after treatment responses Pearson chi square test shows p value is 0.048 ($p > 0.05$) hence it is statistically significant.

4. DISCUSSION

The branch of endodontics is a fast growing specialty with the availability of recent advances including various tools used to treat infected teeth effectively and recent advances reducing the time of treatment. The most common cause of seeking dental treatment is pain, for the alleviation of which a root canal treatment might be carried out. People with high dental fear have more probability to delay or avoid dental visiting, and a number of fearful people regularly cancel or fail to show for appointment.

It has been noted that trying to manage patients with dental fear is a source of considerable stress for many dentists [31–34]. In current study we found that the pain was the most important patients’ concerns associated with root canal treatment (Fig. 1-5).

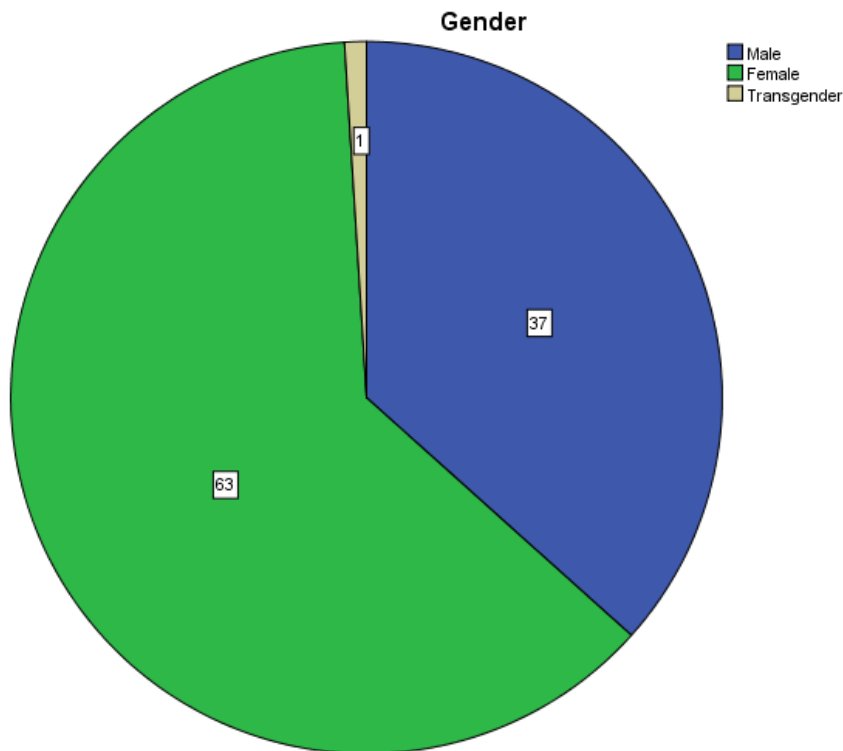


Fig. 1. Shows the responses to the gender male is 37 %, female is 63%and transgender is 1% . male is blue colour , female is green and yellow is transgender

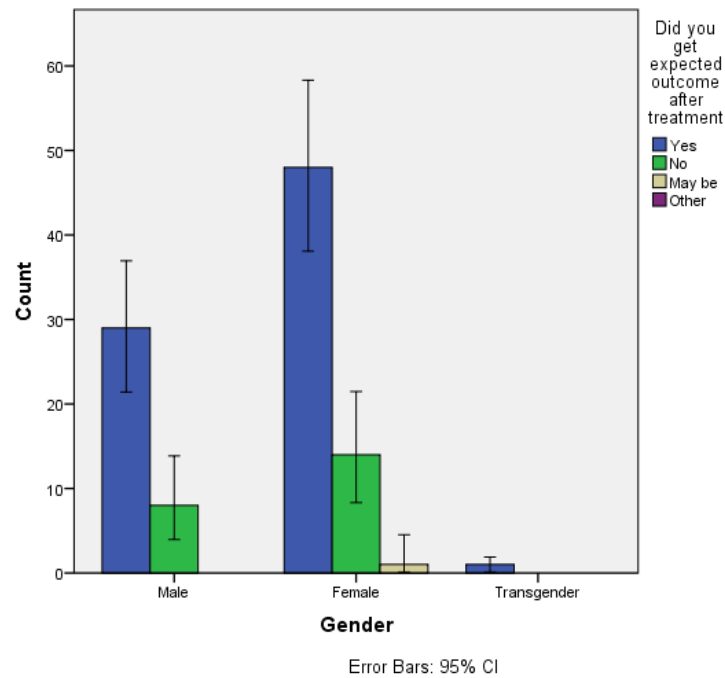


Fig. 2. Shows a bar graph representing the association between genders and did you get expected treatment responses. x axis represents gender and the y axis represents the number of responses for the amount of overall activity . Blue represents yes, green represents no and yellow represents may be. Majority of the participants are females in which Pearson chi square test shows p value is 0.029 (p value> 0.05) which is significant

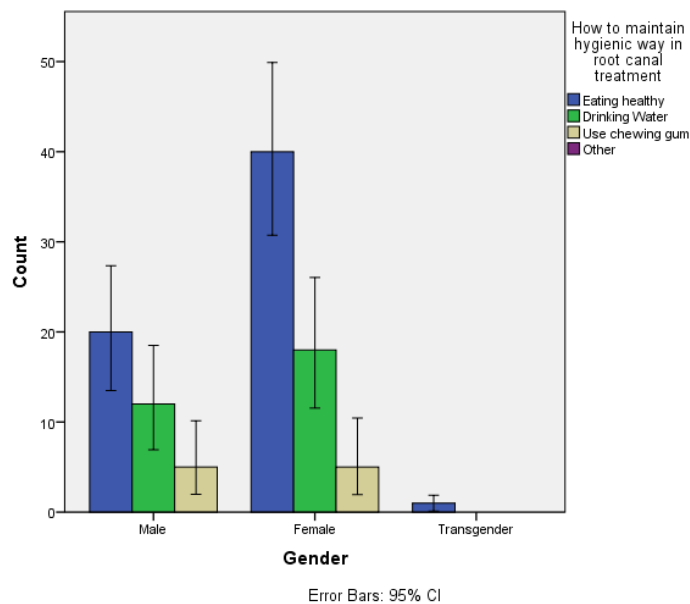


Fig. 3. Shows a bar graph representing the association between genders and did you get a hygienic way for root canal treatment responses. x axis represents gender and the y axis represents the number of responses for the amount of overall activity . Blue represents eating healthy, green represents drinking water , and yellow represents chewing gum . The majority of the females are into maintaining hygienic ways to root canal treatment. Pearson chi square test shows p value is 0.269 (p value> 0.05) hence it is statistically not significant

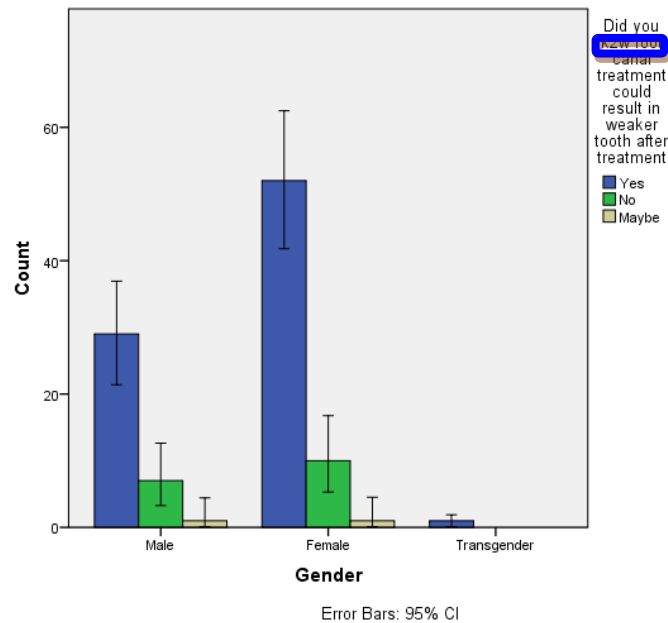


Fig. 4. Shows a bar graph representing the association between gender and did you get a root canal treatment that could result in weaker teeth after treatment responses. x axis represents gender and the y axis represents the number of responses for the amount of overall activity . Blue represents yes, green represents no, and yellow represents maybe. The majority of the females are into did you root canal treatment could result in weaker teeth. Pearson chi square test shows p value is 0.032 (p value> 0.05) hence it is statistically significant

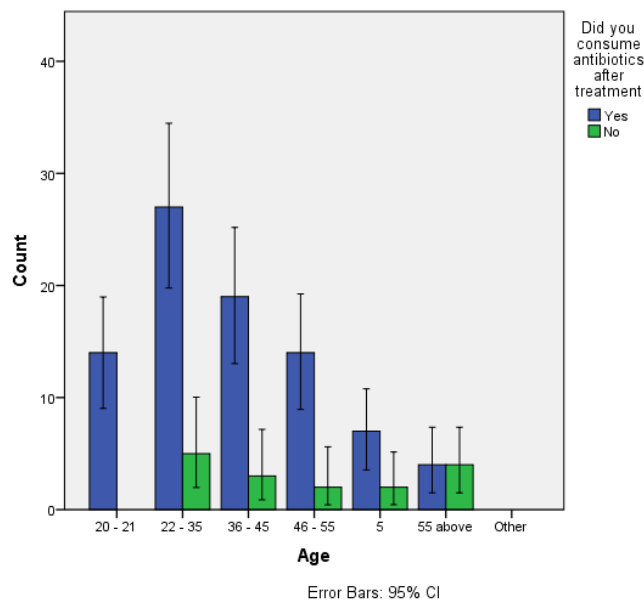


Fig. 5. Shows a bar graph representing the association between gender and did you get a root canal treatment that could result in weaker teeth after treatment responses. x axis represents gender and the y axis represents the number of responses for the amount of overall activity . blue represents yes , green represents no , and yellow represents maybe .in the age group 22 - 35 years are into did u consume antibiotics after the treatment pearson chi square test shows p value is 0.048(p value> 0.05) hence it is statistically significant

The knowledge about endodontic treatment came from various sources including visit to the dental clinic, print and online media, friends and relatives. In addition, patients can benefit from many forms of local anesthesia, and the use of nitrous oxide, which according to recent reports, enhances the effect of their actions. Costs associated with endodontic treatment are still debatable. Patients often stress that they are too high but adequate to the complexity of the treatment. Nevertheless, more than half of respondents are willing to pay a higher amount to avoid tooth loss, similarly as in the previous study (31–33). The limitation of the study is having small sample size, hence the study further extend for large sample size and interpret, further scope of this study by having more data the proper assessment on advantages and disadvantages in before and after root canal treatment can be taken.

5. CONCLUSION

From this study, it is concluded that patients underwent root canal treatment were aware about advantages and disadvantages of before and after the root canal treatment. So the present study might be helpful for people for better understanding the procedures of endodontic treatments.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

The study approved by Institutional Review Board, Saveetha Dental College and Hospitals, Saveetha Institute of Technical Medical Sciences.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Hajjaj FM, Salek MS, Basra MKA, Finlay AY. Non-clinical influences on clinical decision-making: a major challenge to evidence-based practice [Internet]. *Journal*

- of the Royal Society of Medicine. 2010;103:178–87.
Available: <http://dx.doi.org/10.1258/jrsm.2010.100104>
2. Janczarek M, Cieszko-Buka M, Bachanek T, Chalas R. Survey-Based Research on Patients' Knowledge About Endodontic Treatment [Internet]. *Polish Journal of Public Health*. 2014;124. Available: <http://dx.doi.org/10.2478/pjph-2014-0030>
3. Eli I, Schwartz-Arad D, Bartal Y. Anxiety and Ability to Recognize Clinical Information in Dentistry [Internet]. *Journal of Dental Research*. 2008;87:65–8. Available: <http://dx.doi.org/10.1177/154405910808700111>
4. Jamieson LM, Mejia GC, Slade GD, Roberts-Thomson KF. Predictors of untreated dental decay among 15-34-year-old Australians [Internet]. *Community Dentistry and Oral Epidemiology*. 2009;37:27–34. Available: <http://dx.doi.org/10.1111/j.1600-0528.2008.00451.x>
5. Humphris GM, Dyer TA, Robinson PG. The modified dental anxiety scale: UK general public population norms in 2008 with further psychometrics and effects of age. *BMC Oral Health* [Internet]. 2009;9:20. Available: <http://dx.doi.org/10.1186/1472-6831-9-20>
6. Dugas NN, Lawrence HP, Teplitsky P, Friedman S. Quality of life and satisfaction outcomes of endodontic treatment. *J Endod* [Internet]. 2002;28(12):819–27. Available: <http://dx.doi.org/10.1097/00004770-200212000-00007>
7. Sekar D, Lakshmanan G, Mani P, Biruntha M. Methylation-dependent circulating microRNA 510 in preeclampsia patients. *Hypertens Res* [Internet]. 2019;42(10):1647–8. Available: <http://dx.doi.org/10.1038/s41440-019-0269-8>
8. Princeton B, Santhakumar P, Prathap L. Awareness on Preventive Measures taken by Health Care Professionals Attending COVID-19 Patients among Dental Students. *Eur J Dent* [Internet]. 2020;14(S 01):S105–9. Available: <http://dx.doi.org/10.1055/s-0040-1721296>

9. Logeshwari R, Rama Parvathy L. Generating logistic chaotic sequence using geometric pattern to decompose and recombine the pixel values. *Multimed Tools Appl* [Internet]. 2020;79(31-32):22375–88. Available: <https://link.springer.com/10.1007/s11042-020-08957-9>
10. Johnson J, Lakshmanan G, MB, RMV, Kalimuthu K, Sekar D. Computational identification of MiRNA-7110 from pulmonary arterial hypertension (PAH) ESTs: a new microRNA that links diabetes and PAH. *Hypertens Res* [Internet]. 2020;43(4):360–2. Available: <http://dx.doi.org/10.1038/s41440-019-0369-5>
11. Paramasivam A, Priyadharsini JV, Raghunandhakumar S, Elumalai P. A novel COVID-19 and its effects on cardiovascular disease. *Hypertens Res* [Internet]. 2020;43(7):729–30. Available: <http://dx.doi.org/10.1038/s41440-020-0461-x>
12. Pujari GRS, Subramanian V, Rao SR. Effects of *Celastrus paniculatus* Willd. and *Sida cordifolia* Linn. in Kainic Acid Induced Hippocampus Damage in Rats. *Ind J Pharm Educ* [Internet]. 2019;53(3):537–44. Available: <http://www.ijper.org/article/1002>
13. Rajkumar KV, Lakshmanan G, Sekar D. Identification of miR-802-5p and its involvement in type 2 diabetes mellitus. *World J Diabetes* [Internet]. 2020;11(12):567–71. Available: <http://dx.doi.org/10.4239/wjd.v11.i12.567>
14. Ravisankar R, Jayaprakash P, Eswaran P, Mohanraj K, Vinitha G, Pichumani M. Synthesis, growth, optical and third-order nonlinear optical properties of glycine sodium nitrate single crystal for photonic device applications. *J Mater Sci: Mater Electron* [Internet]. 2020;31(20):17320–31. Available: <http://link.springer.com/10.1007/s10854-020-04288-5>
15. Danda AK, Tatiparthi MK, Narayanan V, Siddareddi A. Influence of Primary and Secondary Closure of Surgical Wound After Impacted Mandibular Third Molar Removal on Postoperative Pain and Swelling—A Comparative and Split Mouth Study [Internet]. *Journal of Oral and Maxillofacial Surgery*. 2010;68:309–12. Available: <http://dx.doi.org/10.1016/j.joms.2009.04.060>
16. Ezhilarasan D, Apoorva VS. Syzygium cumini extract induced reactive oxygen species-mediated apoptosis in human oral squamous carcinoma cells. *Journal of Oral* [Internet]; 2019. Available: https://onlinelibrary.wiley.com/doi/abs/10.1111/jop.12806?casa_token=C4uWVZMx0yEAAAAA:CPIWBxBQnmvoXmzxYQXXM6nl4nR8HUMYxCo37GzrAQJJdL-M7gRq-v486-2XJPak6hIF-3imkaxzZA
17. Kumar MS, Vamsi G, Sripriya R, Sehgal PK. Expression of matrix metalloproteinases (MMP-8 and -9) in chronic periodontitis patients with and without diabetes mellitus. *J Periodontol* [Internet]. 2006;77(11):1803–8. Available: <http://dx.doi.org/10.1902/jop.2006.050293>
18. Mehta M, Deeksha, Tewari D, Gupta G, Awasthi R, Singh H, et al. Oligonucleotide therapy: An emerging focus area for drug delivery in chronic inflammatory respiratory diseases. *Chem Biol Interact* [Internet]. 2019;308:206–15. Available: <http://dx.doi.org/10.1016/j.cbi.2019.05.028>
19. Neelakantan P, Subbarao C, Subbarao CV, De-Deus G, Zehnder M. The impact of root dentine conditioning on sealing ability and push-out bond strength of an epoxy resin root canal sealer. *Int Endod J* [Internet]. 2011;44(6):491–8. Available: <http://dx.doi.org/10.1111/j.1365-2591.2010.01848.x>
20. Praveen K, Narayanan V, Muthusekhar MR, Baig MF. Hypotensive anaesthesia and blood loss in orthognathic surgery: a clinical study. *Br J Oral Maxillofac Surg* [Internet]. 2001;39(2):138–40. Available: <http://dx.doi.org/10.1054/bjom.2000.0593>
21. Samuel SR, Acharya S, Rao JC. School Interventions-based Prevention of Early-Childhood Caries among 3-5-year-old children from very low socioeconomic status: Two-year randomized trial. *J Public Health Dent* [Internet]. 2020;80(1):51–60. Available: <http://dx.doi.org/10.1111/jphd.12348>
22. Menon S, Ks SD, R S, S R, S VK. Selenium nanoparticles: A potent chemotherapeutic agent and an elucidation of its mechanism. *Colloids Surf B Biointerfaces* [Internet]. 2018;170:280–92. Available: <http://dx.doi.org/10.1016/j.colsurf.2018.06.006>
23. Mohan M, Jagannathan N. Oral field cancerization: an update on current

- concepts. *Oncol Rev* [Internet]. 2014;8(1): 244.
Available:<http://dx.doi.org/10.4081/oncol.2014.244>
24. Sureshbabu NM, Selvarasu K, Jayanth KV, Nandakumar M, Selvam D. Concentrated Growth Factors as an Ingenious Biomaterial in Regeneration of Bony Defects after Periapical Surgery: A Report of Two Cases [Internet]. *Case Reports in Dentistry*. 2019;2019: 1–6.
Available:<http://dx.doi.org/10.1155/2019/7046203>
25. Ashok BS, Ajith TA, Sivanesan S. Hypoxia-inducible factors as neuroprotective agent in Alzheimer's disease. *Clin Exp Pharmacol Physiol* [Internet]. 2017 Mar;44(3):327–34.
Available:<https://onlinelibrary.wiley.com/doi/10.1111/1440-1681.12717>
26. Avery C, Zabel D. *The Flexible Workplace: A Sourcebook of Information and Research* [Internet]. Greenwood Publishing Group. 2001:210.
Available:<https://play.google.com/store/books/details?id=9Kz7H-ke4PAC>
27. Nasim I, Neelakantan P, Sujeer R, Subbarao CV. Color stability of microfilled, microhybrid and nanocomposite resins—An in vitro study. *J Dent* [Internet]. 2010 ;38:e137–42.
Available:<https://www.sciencedirect.com/science/article/pii/S0300571210001399>
28. DeSouza SI, Rashmi MR, Vasanthi AP, Joseph SM, Rodrigues R. Mobile phones: the next step towards healthcare delivery in rural India? *PLoS One* [Internet]. 2014;9(8):e104895.
Available:<http://dx.doi.org/10.1371/journal.pone.0104895>
29. Sekhar CH, Narayanan V, Baig MF. Role of antimicrobials in third molar surgery: prospective, double blind, randomized, placebo-controlled clinical study. *Br J Oral Maxillofac Surg* [Internet]. 2001;39(2): 134–7.
Available:<http://dx.doi.org/10.1054/bjom.2000.0557>
30. Doumani M, Abdulrab S, Samran A, Doumani A, Layous K, Özcan M. The Influence of Different Obturation Systems on the Fracture Resistance of Endodontically Treated Roots. An in Vitro Study [Internet]. *Brazilian Dental Science*. 2017;20:6.
Available:<http://dx.doi.org/10.14295/bds.2017.v20i1.1348>
31. Stenebrand A, Wide Boman U, Hakeberg M. Dental anxiety and symptoms of general anxiety and depression in 15-year-olds [Internet]. *International Journal of Dental Hygiene*. 2013;11: 99–104.
Available: <http://dx.doi.org/10.1111/j.1601-5037.2012.00551.x>
32. Bahadori M, Ravangard R, Asghari B. Perceived Barriers Affecting Access to Preventive Dental Services: Application of DEMATEL Method [Internet]. *Iranian Red Crescent Medical Journal*. 2013;15: 655–62.
Available:<http://dx.doi.org/10.5812/ircmj.11810>
33. Bahadori M, Alimohammadzadeh K, Abdolkarimi K, Ravangard R. Factors Affecting Physicians' Attitudes Towards the Implementation of Electronic Health Records Using Structural Equation Modeling Modeling (SEM) [Internet]. *Shiraz E-Medical Journal*. 2017;18.
Available:<http://dx.doi.org/10.5812/semj.13729>
34. Armfield JM, Stewart JF, Spencer AJ. The vicious cycle of dental fear: exploring the interplay between oral health, service utilization and dental fear. *BMC Oral Health* [Internet]. 2007;7:1.
Available: <http://dx.doi.org/10.1186/1472-6831-7-1>

© 2021 Anees and Premavathy; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
<https://www.sdiarticle5.com/review-history/79146>