

Management of Acute Dental Pain during Pregnancy - A knowledge assessment of Dentists at University Hospital

ZUNAIRA IQBAL¹, ASIF HANIF², SALMAN ASHRAF KHAN³, AMINA RASHID⁴, AROOJ UL HASSAN⁵, SALEEM RANA⁶, AMINA TARIQ⁷

¹PG scholar, Department of Allied Health Sciences, UOL & Registrar, Department of Operative Dentistry, University college of Medicine and Dentistry, University of Lahore

²Professor of Biostatistics, Institute of Allied Health Sciences, University of Lahore

³Associate Professor, Department of Operative Dentistry, University College of Medicine and Dentistry, University of Lahore

⁴Demonstrator, Department of Community and Preventive Dentistry, Akhter Saeed Medical & Dental College, Lahore

⁵Associate Professor, Department of community and preventive dentistry, University College of Medicine and Dentistry, University of Lahore

⁶Professor, Institute of Allied Health Sciences, University of Lahore

⁷Postgraduate Research Coordinator, University College of Medicine & Dentistry, University of Lahore

Correspondence to Amina Tariq, Email: aminatariq8@gmail.com, Cell: 0309-6950408

ABSTRACT

Aim: The purpose of the study was to explore the knowledge of the dentists regarding effective acute dental pain management among pregnant women.

Methodology: Descriptive cross-sectional study design was conducted in the Operative Department, Dental Hospital at The University of Lahore. Sample size was 378 as in a Pakistani study. Non-probability convenient sampling technique was used to collect data. As descriptive statistics and data was analysed

Results: Among 378 dentists, 122 (32.3%) had excellent knowledge and 143(37.8%) had good knowledge while 113 (29.9%) dentists had poor knowledge regarding management of acute dental pain during pregnancy

Conclusion: Majority of the dentists reported good knowledge to deal pregnant patients with regards to procedure preferences.

Keywords: Pregnant patients, Text books, Trimester, Dental pain management

INTRODUCTION

Pregnancy is associated with various physical and hormonal changes which directly influences the female's organ systems, including the mouth.¹ During pregnancy, altered oestrogen and progesterone level increase the penetrability of oral vascular structures and reduce immunocompetence, accordingly expanding the propensity for inflammation.²

Pregnant females are more vulnerable to gingivitis, tooth mobility, dental caries and erosion, and hence ought to get suitable preventive oral medical services. Pregnant females likewise also require emergency dental treatments due to episodes of acute dental pain³.

It is a very common observation that during pregnancy, establishment of some lesions in the oral cavity occur and if they already exist they become worse which has very adverse effects later on too⁴. Due to the cariogenic organisms prevailing in the mother there are chances of transmission to the offspring which can cause dental caries in the offspring even after the birth of child⁵. So this means that for the pregnant women, it is very important to seek preventive measures and rehabilitative ways to restore the oral health for herself as pre and postnatal care. During pregnancy, the higher risk of dental problems is associated with the changes occurring in hormonal secretions which prolong and become worse due to the delay in treatment of oral condition⁶. Therefore, it is the need of hour to pay attention to improve screening methods as well as enhance referral services in pregnant patients and among those who are in preconception stage⁷.

Due to the negative effects of oral health related problems such as periodontal disease on the pregnancy outcomes, the conceptualization of dental consultation at preconception stage is becoming popular⁸.

It is the most important thing which plays vital role in seeking dental care by the pregnant women⁹. Many of the dental practitioners also act as barriers between the dental care seeking and pregnant women. According to Huebner and his colleagues⁹, low payment plans become the barrier between the pregnant patients and oral health care counselling reported by almost 71% of dental health care providers. Time constraints were the concerns of about 11% dental health providers for counselling pregnant women about oral health care. In a research study done on gynecologists concluded that 77% of oral health care providers refused to give dental treatment to the pregnant patients¹⁰.

Although, majority of the dentists rate screening during pregnancy as significant but while practicing, dentists consider the use of radiographs, having periodontal surgery, using amalgam as restorative material, and giving pain medicines as harmful and dangerous for pregnant women as well as their fetus. Occasionally, it was found that dentists may postpone the exposure of pregnant patients to dental care until fears related to risks for the fetus and mother are eradicated.¹¹ In a study about 86% of dental practitioners were enthusiastic to deliver dental treatment to patients in prenatal conditions, about 35% picked the 2nd trimester as the appropriate time to have a radiograph, about 33% recommended amoxicillin, about 76% recommended paracetamol as safe medication during pregnancy, whereas 54% preferred the usage of local anesthesia with vasoconstrictor. It was also reported that

Received on 13-02-2021

Accepted on 23-05-2021

about 43.7% dentists were not in favour of giving treatment to a pregnant patient during entire period of pregnancy, about 46% thought that amalgam usage for restoration is safe during prenatal condition, about 70% favored composite and Glass Ionomer Cement usage, about 34% chosen second trimester as best suited to execute endodontic treatment however about 32% considered it safe to undergo the treatment in any trimester and about 35% stated that performing dental extractions are safe during all trimesters. Overall, the study explored the lack of knowledge among the dental practitioners working in Karachi with regards to the dental treatment of pregnant women.¹² Considering the importance of prenatal oral health care, studying the knowledge assessment of the dentists in acute dental pain management and treatment selection among pregnant patients is the need of hour in developing countries such as Pakistan. Necessity to conduct this study was felt as due to the problem faced by the pregnant patients in seeking dental treatments affects pregnancy in terms of preterm birth or low birth weight which are commonly observable issue in Pakistan. The results of this study will be served as identifier of gap in the rehabilitation of dental issues prevailing in pregnant women due to the level of knowledge of the dentists. Precisely, the study will be helpful in identifying the areas to be improved with regards to knowledge of dentists while treating pregnant women. The aim of the study was to explore the knowledge of the dentists regarding effective acute dental pain management among pregnant women.

MATERIAL AND METHODS

Descriptive cross-sectional study design was conducted in the Operative Department, Dental Hospital at The University of Lahore. Sample size was 378 as in a Pakistani study. Non-probability convenient sampling technique was used to collect data.

Inclusion Criteria

- The age range between (2-60 years)
- Both genders
- Dentists with any qualification
- Dentists doing clinical practice

Exclusion Criteria

- Pregnant dentists
- Consultants.
- Dentists not practicing or have left the practice were not included in the study

Procedure: After approval of the research proposal by the IRB, concerned hospital was approached by the researcher for collection of data. Approval from the MS of the concerned hospital was obtained and data collection procedure was started. Brief research introduction along with the purpose of the study was provided to every individual who was the participant of research after approaching them in different departments of Hospital. Consent forms were got signed by the participants of the study. Then questionnaire was given to the participants to record responses.

Data Analysis: Data was entered manually in SPSS version 23. As descriptive statistics, data was analysed to get frequencies and percentages.

RESULTS

Among 378 dentists, 315(83.3%) were 25-32 years old, 49(13%) were 33-40 years old and only 14(3.7%) dentists were 41-50 years old. among 378 dentists, 160(42.3%) were male while more than half 218(57.7%) were female dentists. As far as qualification is concerned, among 378 dentists, 318(84%) dentists were graduates while 60(16%) were postgraduates. Among 378 dentists, majority 305 (80.6%) had 1-5 years' work experience, 57(15.1%) had 6-10 years' experience, 7(1.9%) had 11-15 years' experience and 9(2.4%) dentists had 16-20 years' experience.

Among these dentists, 246 (65.1%) had knowledge that dental treatment is recommended in all trimesters, 235 (62.2%) had ever refused to treat gravid women, 323(85.4%) said elective procedures can be performed during pregnancy, 308 (81.5%) dentists perform non-surgical endodontic therapy on pregnant patients, 311 (82.3%) dentists were aware that simple extraction can be safely performed in pregnant patient if needed, 308 (81.5%) believed that anesthesia 2% lignocaine with 1:100,000 adrenaline is safe in pregnancy, 217(57.4%) had knowledge that antibiotics can be prescribed during pregnancy, 116 (30.7%) said that aspirin can be prescribed during pregnancy, 209 (55.3%) dentists were aware that ibuprofen is safe in 3rd trimester, 301 (79.6%) had knowledge that maintaining periodontal health is an important part of healthy pregnancy and 283 (74.9%) dentists have ever recommended single digital periapical radiograph with lead apron to pregnant patient.

Table 1: Knowledge assessment of dentists regarding treatment of pregnant patients

Knowledge assessment	Yes		No	
	Freq.	%age	Freq.	%age
Is dental treatment recommended in all trimesters	246	65.1	132	34.9
Have you ever refused to treat gravid women	235	62.2	143	37.8
Can elective procedures be performed during pregnancy	323	85.4	55	14.6
Do you perform non-surgical endodontic therapy on pregnant patients	308	81.5	70	18.5
Can simple extraction be safely performed in pregnant patient if needed	311	82.3	67	17.7
Is anesthesia 2% lignocaine with 1:100,000 adrenaline safe in pregnancy	308	81.5	70	18.5
Can antibiotics be prescribed during pregnancy	217	57.4	161	42.6
Can aspirin be prescribed during pregnancy	116	30.7	262	69.3
Is ibuprofen safe in 3rd trimester	209	55.3	169	44.7
Is maintaining periodontal health an important part of healthy pregnancy	301	79.6	77	20.4
Have you ever recommended single digital periapical radiograph with lead apron to pregnant patient	283	74.9	95	25.1

Table 2: Source of knowledge regarding treatment of pregnant patients

Primary source of knowledge	Frequency	%age
Textbook	65	17.2
Internet	131	34.7
Review article	95	25.1
Guidelines and recommendations	87	23.0

Table 3: Range of knowledge for treatment of pregnant patients

Knowledge level	Frequency	%age
Excellent	122	32.3
Good	143	37.8
Poor	113	29.9

DISCUSSION

The aim of the study was to explore the knowledge of dentists regarding effective acute pain management among pregnant women. Secondly, it was aimed to compare the knowledge level among dentists' qualification regarding effective acute pain management during pregnancy.

Study highlighted that most of the dentists (80.6%) had up to 5 years work experience while only 19.4% dentist had more than 5 years work experience. Almost similar results were reported by a study carried out by Nasir and his partners (2017) who asserted that mainstream of dentists (85.6%) had up to 5 years work experienced and only 14.4% had more than 5 years work experience¹⁴.

Among dentists participated in the study, 65.1% were in favor of dental treatment in all trimesters whereas 86.5% dentists were willing to provide dental treatment to pregnant patients reported in a study conducted by Nasir and associates in 2017 which showed higher number of dentists were willing to treat pregnant patients¹⁴. 62.2% had ever refused to treat gravid women whereas 43.3% did not favor providing treatment to a pregnant patient during any trimester according to Nasir and associates.¹⁴ 85.4% reported elective procedures can be performed during pregnancy, 81.5% dentists perform non-surgical endodontic therapy on pregnant patients, 82.3% dentists were aware that simple extraction can be safely performed in pregnant patient if needed, contrary to this Nasir et al. reported that 35.3% dentists said it was safe to perform dental extractions at any time¹⁴. 81.5% believed that anesthesia 2% lignocaine with 1:100,000 adrenaline is safe in pregnancy whereas according to Nasir et al¹⁴, 54% favored the use of local anesthesia with vasoconstrictor. 57.4% had knowledge that antibiotics can be prescribed during pregnancy whereas 33.5% prescribed amoxicillin reported in the study.¹⁴ 30.7% said that aspirin can be prescribed during pregnancy. Nasir et al.¹⁴ reported that 76.7% considered paracetamol safe during pregnancy, which was different from the results of current study that 55.3% dentists were aware that ibuprofen is safe in 3rd trimester. 79.6% had knowledge about maintaining periodontal health is an important part of healthy pregnancy and 74.9% dentists stated that they have recommended single digital periapical radiograph with lead apron to pregnant patient once or more which showed that about 25.1% dentists did not know about the safety of dental radiographs in pregnant patients. These results showed higher number of dentists have knowledge as compared to the results of the study performed by Tantradi and Madanshetty in 2013 which reported 89% of dentists do not have knowledge about safety of radiographs during pregnancy.¹⁶ 35.3% chose the second trimester as the best time to take a radiograph which was quite low as compared to the results of the current study¹⁴.

Primary source of knowledge among majority of dentists (34.7%) was internet, followed by review articles

(25.1%), guidelines & recommendations (23%) and textbooks (17.2%). Among 378 dentists, 32.3% had excellent knowledge and 37.8% had good knowledge while 29.9% dentists had poor knowledge regarding management of acute dental pain during pregnancy.

CONCLUSION

In conclusion, 32.3% had excellent knowledge and 37.8% had good knowledge while 29.9% dentists had poor knowledge regarding management of acute dental pain during pregnancy.

REFERENCES

- Gajendra S, Kumar JV. Oral health and pregnancy: a review. *New York State dental journal*. 2004; 70: 40-4.
- Romero BC, Chiquito CS, Elejalde LE, Bernardoni CB. Relationship between periodontal disease in pregnant women and the nutritional condition of their newborns. *Journal of periodontology*. 2002; 73: 1177-83.
- Shivakumar KM, Patil S, Kadashetti V, Suresh KV, Raje V. Prevalence of orofacial pain in pregnant women: a cross-sectional study. *Indian journal of multidisciplinary dentistry*. 2017; 7: 101-5.
- Pirie M, Cooke I, Linden G, Irwin C. Dental manifestations of pregnancy. *Obstetrics & gynecology*. 2007; 9: 21-6.
- Berkowitz RJ. Acquisition and transmission of mutans streptococci. *Journal of the California dental association*. 2003; 31: 135-8.
- Russell SL, Mayberry LJ. Pregnancy and oral health: a review and recommendations to reduce gaps in practice and research. *MCN: the American journal of maternal child nursing*. 2008; 33: 32-7.
- Breedlove G. Prioritizing oral health in pregnancy. *Kansas nurse*. 2004; 79: 4-6.
- Task Force on Periodontal Treatment of Pregnant Women, American Academy of Periodontology. American Academy of Periodontology statement regarding periodontal management of the pregnant patient. *Journal of periodontology*. 2004; 75: 495.
- Huebner CE, Milgrom P, Conrad D, Lee RS. Providing dental care to pregnant patients: A survey of Oregon general dentists. *Journal of the American dental association*. 2009; 140: 211-22.
- Morgan MA, Crall J, Goldenberg RL, Schulkin J. Oral health during pregnancy. *Journal of maternal-fetal & neonatal medicine*. 2009; 22: 733-9.
- Al-Sadhan R, Al-Manee A. Dentists' opinion toward treatment of pregnant patients. *Saudi dental journal*. 2008; 20: 24-30.
- Nasir A, Asghar S, Ahmed SA, Rashid E, Ikram S, Moin F. Knowledge of dentists regarding dental treatment during pregnancy in Karachi. *Pakistan oral & dental journal*. 2017; 37(1): 137-41.
- Mehdipour A, Danesh M, Pouretmadi A, Jafari Nodoushan Z, Shabani Ghazikeelaye M. Evaluation of dentists' and gynecologists' knowledge, attitude, and practice regarding oral and dental care during pregnancy in Qom, Iran, in 2017. *Archives of hygiene sciences*. 2019; 8(3): 163-71.
- Nasir A, Asghar S, Ahmed SA, Rashid E, Ikram S, Moin F. Knowledge of dentists regarding dental treatment during pregnancy in Karachi. *Pakistan oral & dental journal*. 2017; 37(1): 137-41.
- George A, Ajwani S, Bhole S, Dahlen HG, Reath J, Korda A, et al. Knowledge, attitude and practises of dentists towards oral health care during pregnancy: a cross sectional survey in New South Wales, Australia. *Australian dental journal*. 2017; 62: 301-10.
- Tantradi P, Madanshetty P. Knowledge of dental interns about management of dental needs of pregnant patients. *Journal of education and ethics in dentistry*. 2013; 3(2): 76-80.
- Jayabalan J, Muthusekhar MR. Knowledge of dental care of pregnant women: an assessment among interns in dental college. *Drug invention today*. 2020; 14(2): 163-84.
- George A, Ajwani S, Bhole S, Dahlen HG, Reath J, Korda A, et al. Knowledge, attitude and practises of dentists towards oral health care during pregnancy: a cross sectional survey in New South Wales, Australia. *Australian dental journal*. 2017; 62: 301-10

