AlQalam
Alq J Med App Sci
https://journal.utripoli.edu.ly/index.php/Alqalam/index eISSN 2707-7179

Original article

Endodontic Treatment During Pregnancy: Knowledge of General Dental Practitioners and Interns in Zliten, Libya

Idris Mehdawi[1]*, Abdulrzag Gajoum[2], Walid Benbubaker[1]

[1]Libyan Authority for Scientific Research, Tripoli, Libya
[2]Department of Conservative Dentistry and Endodontics, Faculty of Dentistry, Alasmarya Islamic University, Zliten, Libya

ARTICLE INFO

Corresponding Email. *idr_meh@yahoo.com*

Received*: 02-06-2024*
Accepted*: 27-07-2024*
Published*: 30-07-2024*

Keywords*. Pregnancy, Endodontics, Knowledge, Dental Interns, General Dentists.*

ABSTRACT

This study was conducted to assess the knowledge of dental interns and general dentists about providing endodontic treatment to pregnant patients in Zliten-Libya. A descriptive, cross-sectional study was conducted using self-administered, closed ended questionnaire which was circulated among 127 dental interns and general dentists in Zliten-Libya. The questionnaire included demographical items and questions relative to the participant's knowledge regarding the endodontic treatment during pregnancy. The analysis of data was carried out using SPSS 26. 84% of survey participants indicated the second trimester as the safest period for endodontic treatment. 95% of respondents considered the need for a specific chair position among which 58% identified the correct one. 72% and 65% of respondents indicated the safety of local anaesthetics with vasoconstrictors and use of aspiration technique, respectively. 22% of respondents identified the toxicity of bupivacaine. 64% of respondents considered the safety of either root canal irrigants or intra-canal medicaments. The obturation materials were considered safe by 74% of respondents. 49% of respondents indicated the safety of radiographic examination among which 67% preferred RVG technique. 58% of respondents preferred acetaminophen for pain control. Dental interns and general dentists in Zliten exhibited a sufficient knowledge regarding the safety of endodontic treatment during pregnancy and required to improve their knowledge particularly regarding the safety of some local anaesthetics and radiographic examination during endodontic treatment.

Cite this article. *Mehdawi I, Gajoum A, Benbubaker W. Endodontic Treatment During Pregnancy: Knowledge of General Dental Practitioners and Interns in Zliten, Libya. Alq J Med App Sci. 2024;7(3):634-642. https://doi.org/10.54361/ajmas.247328*

INTRODUCTION

Pregnancy is a physiological phenomenon that induces several changes in the woman's body, including the oral cavity [1]. The correlation between pregnancy and the status of oral health has been well established [2]. The incidence of periodontal diseases increases during pregnancy, mainly due to hormonal changes, and may result in preterm birth and/or low birth weight [3]. In addition, due to xerostomia, vomiting, and high consumption of sugar-rich foods, the risk of dental caries is increased during pregnancy [4]. Therefore, maintaining oral health during pregnancy is a critical issue. Prevention and control of the spread of odontogenic infection is one of the main objectives of endodontic treatment. The rate of infection spreading is higher among pregnant patients [5,6], mainly due to the adverse effects of pregnancy on the immune response [7]. The odontogenic infections in pregnancy may result in deep-space infections with subsequent adverse effects and potential complications for either pregnant women or fetus [8]. In addition, pregnant women

frequently present with odontogenic pain as a chief complaint, particularly after the first trimester [9]. The pain induces stress, which provokes the release of adrenal catecholamines and subsequently leads to peripheral vasoconstriction and a decrease in fetal blood supply [10]. Untreated cases may result in pulpal necrosis, periapical inflammation, and infection, with potential adverse effects on either pregnant women or fetus. Periodontitis and periradicular pathosis have been correlated with preeclampsia [11], which is associated with a high risk of poor maternal outcomes, including premature birth [12]. Endodontic treatment, therefore, should not be deferred during the pregnancy period; however, several special precautions must be considered during the management of pregnant women. These specific considerations correlated to treatment time schedule, patient position, radiation exposure, and drug prescription. To avoid any teratogenic effects on the fetus, endodontic treatment should be ideally performed during the second trimester after the period of complete fetal organogenesis [13]. Odontogenic pain and infection, however, should be urgently treated irrespective of the gestational period [14,15].

The correct and safe chair positioning of a pregnant patient is a determinant factor in preventing supine hypotensive syndrome, which occurs from the compression of the gravid uterus on the inferior vena cava and aorta [13]. This complication could be prevented by positioning the patient on a dental chair in semi-reclined position with an elevated right hip by 10–12 cm [16]. Endodontic treatment requires the use of local anesthetics and exposing the patient to the ionizing radiation of dental x-rays. In addition, prescriptions for certain drug categories may be required to control pain and/or infection. Local anesthetics, particularly lidocaine and prilocaine are considered safe for either pregnant women or fetus [17]. Performing radiographs for pregnant patients is relatively safe for either the fetus or mother; certain precautions, however, should be considered, including the use of high-speed films, digital radiography, protective lead aprons, thyroid collars, and accurate directing of radiation [16]. Analgesics and non-steroidal anti-inflammatory drugs (NSAIDs) are usually prescribed for the management of pain. Despite the safety of some analgesics, such as acetaminophen, the drug prescription should be avoided during pregnancy, particularly during the first 13 weeks of pregnancy [18]. Abuse of drug prescription and administration during pregnancy, rather than performing more definitive clinical treatment, adversely affects the fetus and/or the mother [15].

General dental practitioners are usually uncertain regarding performing endodontic treatment for a pregnant patient [19]. This is mainly due to fear of the collateral effects of the dental treatment on the fetus and pregnant mother [20]. Several studies have been carried out in different countries regarding the knowledge of general dental professionals during endodontic treatment of pregnant patients [15, 21, 22]. Based on our knowledge, there is no data available in Libya regarding the knowledge of general dental professionals or dental interns regarding the endodontic treatment during pregnancy. Therefore, the objective of this study was to assess the knowledge among general dental practitioners and dental interns regarding practicing endodontic treatment for pregnant patients in Zliten-Libya.

METHODS

Study design

This descriptive, cross-sectional study was conducted using self-administered, closed ended survey questionnaire modified from previous study [15].

Data collection

The questionnaire composed of 16 questions, 4 demographical and 12 relatives to the participant's knowledge regarding the management of pregnant patient during endodontic treatment. The survey questionnaire was hand distributed to the respondents and the study was carried out between June 2023 to September 2023. The study included general dental practitioners working in private and governmental dental clinics and dental interns in dental internship training program in faculty of dentistry, Alasmarya Islamic University, Zliten-Libya. The questionnaire was circulated among 127 dental interns and general dentists. The dental specialists or general dental practitioners not registered in local dental syndicate are excluded from the surveying. The study also excluded any incompletely answered questionnaire. The study was voluntary for all of the participants. A guarantee of confidentiality was made regarding the participants privacy. The ethical approval of the study was obtained from the scientific and ethical committee of the National Research Centre for Tropical and Transboundary Diseases, Zintan-Libya.

Statistical analysis

The data was entered into an Excel spreadsheet, and SPSS 26 (IBM, Armonk, NY, USA) was used for the analysis. Descriptive statistics were used to ascertain the frequency and the percentage of the participants responses. The impact of graduation on the respondents' answers was evaluated using Chi-square test ($p < 0.05$).

RESULTS

Among the 127 distributed questionnaires, a total of 100 participants completed and submitted the survey, with an overall response rate of 79%. Table 1. shows the demographic data of the survey participants. 29% of respondents were males, whereas 71% were females. The majority of survey participants (93%) exhibited an age range of 26–35 years, while 6.0% had an age range of 36–45 years. Only 1.0% of respondents had an age of > 45 years. The working experience for general dental practitioners was < 2 years for 7.0%, 2–5 years for 30%, 6-10 years for 29%, and >10 years for 34%. The survey participants comprised 49% interns and 51% general dental practitioners.

Table 1. The demographic characteristics of the study participants (%).

Demographic characteristics		(%)
Age Group	26-35	93%
	36-45	6.0%
	> 45	1.0%
Gender	Male	29%
	Female	71%
Working experience (years)	2<	7.0%
	2-5	30 %
	6-10	29%
	> 10	34%
Groups	Interns	49%
	General dentists	51%

Table 2: The participants 'responses (%) on questions regarding the practice of endodontic treatment in pregnant patients.

Question	Answer options	%
What is the safest trimester for endodontic treatment?	First trimester	3.0
	Second trimester	84
	Third trimester	6.0
	First and third trimesters	4.0
	None of the above	3.0
Does the pregnant patient require any specific chair position?	Yes	95
	No	4.0
	I don't know	1.0
Indicate the suitable chair position for pregnant patient?	Supine position	30
	Seated with her right hip elevated 10-12 cm	58
	I don't know	12
local anaesthetics with vasoconstrictors safe?	Yes	72
	No	24
	I don't know	4.0
Should the aspiration technique be always performed before administering local anesthetics?	Yes	65
	No	29
	I don't know	6.0
Which of the following local anesthetics is not safe during pregnancy?	Lidocaine	22
	Bupivacaine	22
	Prilocaine	25
	None of the above	31
Which of the following is considered a safe endodontic irrigant?	Sodium hypochlorite	20
	Chlorhexidine	11
	EDTA	5.0
	All of the above	64
Is the use of intra-canal medicaments between the appointments strictly contraindicated?	Yes	18
	No	64
	I don't know	18

Table 2. shows the participants responses (%) to questions regarding the practice of endodontic treatment during pregnancy. The majority of survey respondents (84%) indicated the second trimester as the safest period for endodontic treatment. Only 3.0%, 6.0%, and 4.0% of survey participants considered the first, third, and first/ third trimesters as safe periods for endodontic treatment, respectively. Endodontic treatment was considered unsafe by only 3.0% of respondents. No significant correlation was found between the graduation and the responses (Pearson's chi-square p value= 0.09, p>0.05).

The vast majority of respondents (95%) indicated the need of a pregnant patient for a specific chair position. 4.0% of participants did not consider specific chair position for pregnant patients while 1.0% unaware of it. No significant correlation was found between the graduation and the responses (Pearson's chi-square p value= 0.065, p>0.05). The most suitable chair position for pregnant patients was identified by 58% and 30% of respondents as semi-reclined with the right hip elevated by 10–12 cm and supine positions, respectively. 12% of survey participants were unaware about specific chair position for pregnant patients. No significant association was found between the graduation and the responses (Pearson's chi-square p value= 0.19, p>0.05).

The majority of survey participants (72%) indicated the safety of using local anaesthetics with vasoconstrictors for pregnant patients. 24% of respondents considered unsafety of local anesthetic with a vasoconstrictor, while only 4.0% were unaware of its safety. The association between the graduation and the responses was statistically significant (Pearson's chi-square p value= 0.001, p<0.05). 65% of respondents indicated that aspiration technique should always be performed before administration of local anaesthesia. 29% of the respondents did not always use the aspiration technique, while 6.0% were unaware about it. The association between the graduation and the responses was not statistically significant (Pearson's chi-square p value= 0.62, p>0.05). 22%, 22% and 25% of respondents considered lidocaine, bupivacaine and prilocaine as unsafe local anaesthetics for pregnant patients, respectively. All the former local anaesthetics were marked safe by 31% of survey participants. The association between the graduation and the responses was found to be statistically significant (Pearson's chi-square p value= 0.041, p<0.05). 20% and 11% of survey participants considered only sodium hypochlorite and chlorhexidine as safe root canal irrigants, respectively. EDTA was identified as the only safe root canal irrigant by an extremely low percentage of respondents (5.0%). 64% of respondents considered the safety of all former irrigants. The association between the graduation and the responses was statistically not significant (Pearson's chi-square p value= 0.063, p>0.05). 64% of respondents considered the use of intra-canal medicaments between appointments a safe procedure. 18% considered the unsafety of using intra-canal medicaments during pregnancy, while an equal percentage of respondents (18%) were unaware of their safety. The association between the graduation and the responses was statistically significant (Pearson's chi-square p value = 0.021, p<0.05).

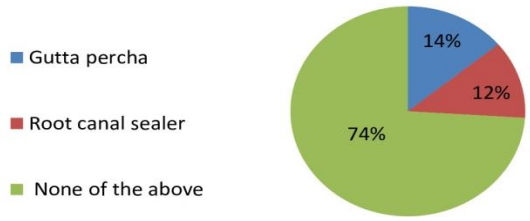

Figure 1. Survey participants responses (%) to the question regarding the toxic effects of root canal obturation materials (gutta percha and sealers) on pregnant patients.

The majority of survey participants (74%) considered the safety of both gutta percha and root canal sealers for pregnant patient. Gutta percha and root canal sealers were identified as toxic materials for pregnant patients by only 14% and 12% of respondents, respectively (Figure 1). The association between the graduation and the responses was statistically not significant (Pearson's chi-square p value= 0.063, p>0.05).

49% of respondents considered the safety of radiographic examination during pregnancy while 42% not. Only 9.0% of survey participants were unaware of about the safety of radiographs (Figure 2 a). The association between the graduation and the responses was statistically significant (Pearson's chi-square p value= 0.002, p<0.05). Among the respondents that considered the safety of dental radiographs, the majority (67%) preferred use of radiovisiography (RVG). 16% and 9.6% of survey participants preferred orthopantomogram (OPG) and cone beam computed tomography (CBCT), respectively. Only 7.4 % of respondents preferred all the former radiographic techniques (Figure 2b). The association between the graduation and the responses was statistically not significant (Pearson's chi-square p value= 0.17, p>0.05).

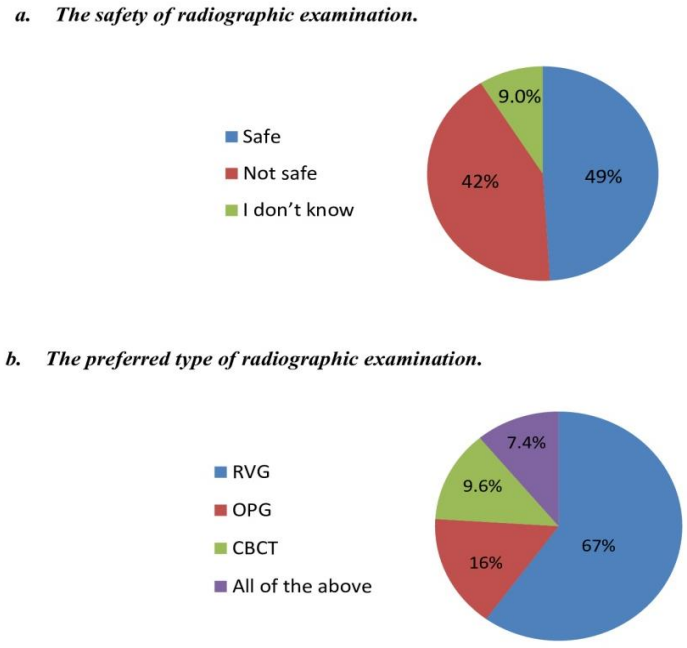

Figure 2 a and b. Survey participants responses (%) to the questions regarding the dental radiographic examination of pregnant patients.

Figure 3. shows the respondents answers (%) on the drug prescription for pain management during first and third trimesters of pregnancy. 58% of respondents indicated acetaminophen, while 29% and 6.0% preferred non-steroidal anti-inflammatory drugs (NSAIDs) and aspirin, respectively. Only 7.0% of respondents indicated the prescription of all the former drugs. The association between the graduation and the responses was statistically not significant (Pearson's chi-square p value= 0.52, p>0.05).

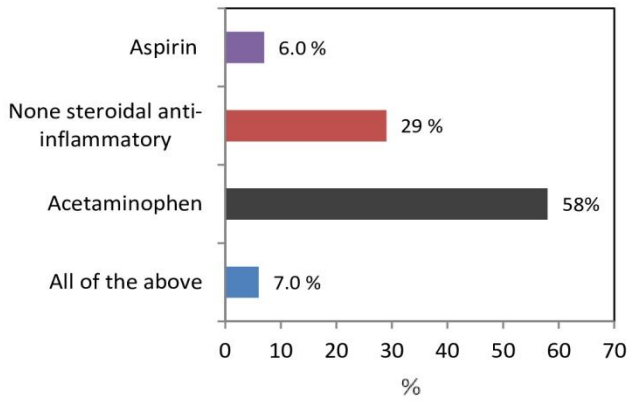

Figure 3. Survey participants responses (%) to the question regarding drugs prescribed for pain control during first and third trimesters.

DISCUSSION

The main objectives of endodontic treatment during pregnancy are to control the disease processes**,** maintain the proper healthy oral status and avoid any complications or threats for either the mother or the growing fetus [18]. Dental services during pregnancy are low worldwide [23-26], pregnant patients however, frequently attend the dental clinics mainly for emergency treatment to relief pain and/or infection. Considering certain guidelines, endodontics is a safe treatment during pregnancy [27,28]. However, if possible, only emergency cases should be treated. This reduces the risk of collateral effects of pain and/or infection on either the mother or the developing fetus [18]. Therefore, the awareness and knowledge of dentists regarding the endodontic treatment during pregnancy is of fundamental importance. This

study was aimed to collect data from interns and general dentists in Zliten-Libya regarding the basic knowledge required for the management of pregnant patients during endodontic treatment.

The survey questionnaire was circulated to 127 general dental practitioners and interns, collected from 100 respondents with an overall response rate of 79%. A similar study conducted in Saudi Arabia reported a high response rate of 81.8% [21]. The Majority of respondents (84%) in this study rendered the second trimester as the safest period for endodontic treatment, the finding which is in agreement with a previous similar study [21,22,29,30].

In the first trimester, the period of foetal organogenesis, is the most crucial phase during pregnancy [16]. Therefore, elective dental procedures, including endodontic treatment, should be either postponed until after delivery or delayed to the second trimester [31]. By second trimester the organogenesis of fetus is completed and endodontic treatment could be safely performed and completed [32]. Despite lack of risk on fetus, it is recommended to avoid endodontic treatment during third trimester, mainly due to anxiety and uncomfortable belly volume of pregnant patient [33]. Emergency endodontic treatment, to relief pain or swelling, however could be performed for pregnant patient, irrespective of pregnancy timing [18].

Supine positioning of a pregnant patient on a dental chair during the second and third trimesters leads to supine hypotension syndrome, which occurs due to the compression of the gravid uterus on the inferior vena cava [34]. Supine hypotension syndrome leads to hypotension, nausea, dizziness, and syncope [16]. This could be avoided by positioning the patient in semi-reclined position with the right hip elevated by 10–12 cm or in full left lateral position [35]. This survey study demonstrated that the majority of respondents (95%) were aware of the need for pregnant patients to be in a specific chair position. In addition, the proper chair position has been identified by the majority of survey participants (58%). These findings are in accordance with identical earlier studies conducted in Nepal [21] and Saudi Arabia [22].

The US Food and Drug Administration (FDA) classified the drugs, including the local anaesthetics, according to their potential teratogenic effects on the fetus into five categories (A, B, C, D, and X) [27]. Drugs under A and B are considered safe drugs, and different whether they have been tested on humans or not. The C and D drug groups included the drugs with unavoidable teratogenic effects and evident positive fetal risk, respectively. The X drug group involved drugs that were completely prohibited for pregnant patients. Local anesthetics containing vasoconstrictors exhibit slow blood absorption, prolonged effect, and reduced toxicity, therefore, they are recommended during the treatment of pregnant patients [19]. The vasoconstrictor (epinephrine) used with local anaesthetics is categorized according to FDA under the C drug group [36]. The local anaesthetics with vasoconstrictors, however, are considered safe during pregnancy as long as the proper dose and technique of injection are guaranteed [36,37]. To avoid the risk of intravascular injection, the aspiration technique is strictly recommended during the administration of local anaesthetics [38,39]. The majority of the participants in this study agreed regarding either the safety of local anaesthetics containing vasoconstrictors (72%), or the use of aspiration technique (65%). In accordance with our study, the majority of interns and general dental practitioners considered the safety of local anaesthetics with vasoconstrictors [22]. Lidocaine and prilocaine are considered B-drug category [19] and have been documented as safe drugs during pregnancy [40,41]. Bupivacaine is considered under the C drug category [36] and has been reported to induce fetal bradycardia, therefore, it is contraindicated during pregnancy [37,42]. Only 22% of survey respondents identified the toxicity of bupivacaine. It is evident that the majority of our study participants are unaware of the toxicity of bupivacaine for pregnant patients.

Canal preparation and shaping, by using manual or rotary instruments, are critical issues for a successful endodontic treatment. This is, however, not sufficient for the complete eradication of microbial contamination of root canals, mainly due to the complex anatomy of the root canal system [43]. Therefore, to achieve proper canal disinfection, the use of various canal irrigants and, in some cases, intra-canal medicaments is crucial [44]. The majority of our survey participants (64%) considered the safety of using of intra-canal medicaments for pregnant patients. In accordance with our findings, the majority of general dental practitioners and interns recognized the safety of using intra-canal medicaments during the endodontic treatment of pregnant patients [21,22]. It is evident that the participants in the present study are aware of the safety of using intra-canal medicaments during pregnancy.

In the current study, irrespective of the irrigant type, the majority of respondents (64%) indicated the safety of root canal irrigants for pregnant patients. In addition, the majority of survey participants (74%) considered the safety of obturation materials (gutta percha and root canal sealers) during pregnancy. In agreement with the results of the present study, the majority of dental interns and general dentists identified the safety of either the root canal irrigants or the obturation materials [15,22].

Radiographic examination is an important tool throughout the stages of endodontic treatment. Despite known hazards of ionizing radiation overdose on the fetus [45], dental x-ray is considered safe [32]. However, several precautions and protective measures should be taken for pregnant patient during exposure to dental x-rays [46]. In the present study, less

than half of respondents (49%) considered the safety of exposing a pregnant patient to dental x-rays during endodontic treatment. These findings are in contrast with other studies that reported the confidence of general dental practitioners and interns of exposing pregnant patients to dental x-rays during endodontic treatment [15,22]. More than 1/3 of respondents (42%) considered unsafety of dental x-rays during endodontic treatment of pregnant patients, while 9.0% unaware about its safety. It is evident that the participants of our study unaware regarding the safety of dental x-rays during endodontic treatment of pregnant patients.

The majority of our study participants (67%) prefer RVG during endodontic treatment for pregnant patients. These finding is in agreement with previous study that indicated the preference of general dental practitioners for using RVG during endodontic treatment of pregnant patients [21]. The results of the present study showed that a low percentage of respondents prefer OPG and CBCT for pregnant patients. Considering the varying protective measures for the pregnant patient, no evidence correlates the dental x-ray to any fetal hazards, even with panoramic radiographs [47].

Pregnant women exhibited a high risk for pain [48]; therefore, analgesics are commonly prescribed during pregnancy [49]. According to the ADF classification (see above), acetaminophen is considered a category B drug [50]. If administered in therapeutic doses, acetaminophen is the safest minor analgesic for pregnant patients [51]. The majority of respondents (58%) in the present study identified acetaminophen as the drug of choice for pain management during first and third trimesters. In agreement with our findings, the majority of dentists and dental interns indicated acetaminophen for pain relief during pregnancy [22,30,48]. According to the ADF, NSAIDs are considered category B in the first and second trimesters and category D during the third trimester [51]. NSAIDs have been linked to an enhanced risk of cardiac septal defects in early pregnancy and are also strictly contraindicated during the third trimester [16]. Our results showed that less than one-third of participants (29%) indicated non-steroidal NSAIDs for pain control during first and third trimesters. These results are in agreement with a previous report which indicated that the majority of general dental practitioners and interns knew about the contraindication of NSAIDs for pregnant patients [22]. In the present study, only 6.0% of respondents considered aspirin for pain relief during pregnancy. Aspirin is considered by the ADF as C and D categories in early pregnancy and the third trimester, respectively; therefore, it should be avoided during pregnancy [52]. The majority of the participants in our study are aware of their drug of choice to alleviate pain during first and third trimesters of pregnancy.

CONCLUSION

The findings of our study demonstrate that the majority of the survey participants exhibited sufficient knowledge regarding the safety of endodontic treatment during pregnancy. This includes the timing of endodontic treatment, the need for specific chair position, the safety of local anaesthetics containing vasoconstrictors, the significance of aspiration technique, the safety of either root canal irrigants, intra-canal medicaments and obturation materials. In addition, the respondents were aware of the most suitable analgesics used for pain control. The majority of survey participants, however, were unaware regarding the toxicity of bupivacaine and safety of radiographic examination during pregnancy. Graduation exhibited an impact only on the responses to questions relative to safety of local anaesthetics, intra-canal medicaments and radiographic examination. It is crucial to incorporate guidelines in the study curriculum (for interns) and in continuous education courses (for general dentists) regarding the radiographic examination and safety of some local anesthetics for pregnant patient. This may improve dental services for pregnant patients, including endodontic treatment.

Acknowledgments

The authors express their profound gratitude to the survey participants for their valuable contribution.

Conflicts of Interest

There are no conflicts of interest.

REFERENCES

1. Motosko CC, Bieber AK, Pomeranz MK, Stein JA, Martires KJ. Physiologic changes of pregnancy: A review of the literature. Int J Womens Dermatol. 2017;3(4):219-224.
2. Hemalatha VT, Manigandan T, Sarumathi T, Aarthi Nisha V, Amudhan A. Dental considerations in pregnancy-a critical review on the oral care. J Clin Diagn Res. 2013;7(5):948-953.
3. Sitholimela C, Shangase L. The association between periodontitis and pre-term birth and/ or low birth weight: a literature review. SADJ. 2013;68 (4):162-166.
4. Silk H, Douglass A, Douglass J, Silk L. Oral health during pregnancy. Am Fam Physician. 2008;77(8):1139–1144.
5. Mor G, Cardenas I. The immune system in pregnancy: A unique complexity. Am J Reprod Immunol. 2010;63(6): 425–

433.
6. Nuriel-Ohayon M, Neuman H., Koren O. Microbial Changes during Pregnancy, Birth, and Infancy. Front Microbiol. 2016;7:1031.
7. Pazos M, Sperling RS, Moran TM, Kraus TA. The influence of pregnancy on systemic immunity. Immunol Res. 2012;54(1-3):254-261.
8. Wong D, Cheng A, Kunchur R, Lam S, Sambrook PJ, Goss AN. Management of severe odontogenic infections in pregnancy. Aust Dent J. 2012;57(4):498-503.
9. Krüger MS, Lang CA, Almeida LH, Bello-Corrêa FO, Romano AR, Pappen FG. Dental pain and associated factors among pregnant women: an observational study. Matern Child Health J. 2015;19(3):504-510.
10. Araújo LP, Xavier SR, Hartwig AD, Azevedo MS, Pappen FG, Romano AR. Endodontic treatment during pregnancy: case series and literature review. RGO, Rev Gaúch Odontol. 2022;70:e20220005.
11. Le QA, Akhter R, Coulton KM, Vo NTN, Duong LTY, Nong HV. et al., Periodontitis and preeclampsia in pregnancy: A systematic review and meta-analysis. Matern Child Health J. 2022;26(12):2419-2443.
12. Hung TH, Hsieh TT, Chen SF. Risk of abnormal fetal growth in women with early- and late-onset preeclampsia. Pregn Hypertens. 2018;12:201–206.
13. Naseem M, Khurshid Z, Khan H A, Niazi F, Niazi S, Zafar MS. Oral health challenges in pregnant women: recommendations for dental care professionals. Saudi J Dent Res. 2016;7(2):138–146.
14. Yenen Z, Ataçağ T. Oral care in pregnancy. J Turk Ger Gynecol Assoc. 2019;20(4):264-268.
15. Ibhawoh L, Enabulele J. Endodontic treatment of the pregnant patient: Knowledge, attitude and practices of dental residents. Niger Med J 2015;56(5):311-316.
16. Kurien S, Kattimani VS, Sriram RR, Sriram SK, Rao V K P, Bhupathi A. et al. Management of pregnant patient in dentistry. J Int Oral Health. 2013;5(1):88-97.
17. Zhou X, Zhong Y, Pan Z, Zhang J, Pan J. Physiology of pregnancy and oral local anesthesia considerations. PeerJ. 2023;11:e15585.
18. Little JW, Falace DA, Miller CS, Rhodus NL. Dental Management of the medically compromised patient. 7th ed. St. Louis: C.V. Mosby; 2008;268-78, 456.
19. Lee JM, Shin TJ. Use of local anesthetics for dental treatment during pregnancy; safety for parturient. J Dent Anesth Pain Med. 2017;17(2):81-90.
20. Ilea A, Lazăr AC, Morar AE, Boșca AB, Băbțan AM, Petrescu N. et al. Assessment of dentists' knowledge concerning the management of pregnant women in the dental office. Biomed J Sci & Tech Res. 2019 ;15(2):1-9.
21. Shrestha L, Kayastha PK, Singh A. Knowledge of general dentists in provision of endodontic treatment to pregnant women in chitwan. J Nepal Dent Assoc. 2021;21(32):19-24.
22. Aboalshamat K, Abdulrahman S, Alowadi J, Al-Mutairy N, Fairak M, Alraithi N. et al. Endodontic treatment in pregnancy: knowledge, attitudes, and practices of dentists and interns in Jeddah, Saudi Arabia. Open Dentistry Journal. 2020;14(1): 211-218.
23. Gaffield ML, Gilbert BJC, Malvitz DM, Romaguera R. Oral health during pregnancy: an analysis of information collected by the pregnancy risk assessment monitoring system. J Am Dent Assoc. 2001;132(7):1009–1016.
24. Hullah E, Turok Y, Nauta M, Yoong W. Self-reported oral hygiene habits, dental attendance and attitudes to dentistry during pregnancy in a sample of immigrant women in North London. Arch Gynecol Obstet. 2008;277(5):405-409.
25. Thomas NJ, Middleton PF, Crowther CA. Oral and dental health care practices in pregnant women in Australia: a postnatal survey. BMC Pregnancy Childbirth 2008;8(13):1–6.
26. Dinas K, Achyropoulos V, Hatzipantelis E, Mavromatidis G, Zepiridis L, Theodoridis T. et al. Pregnancy and oral health: utilization of dental services during pregnancy in northern Greece. Acta Obstet Gynecol Scand. 2007;86(8):938–944.
27. Kuzekanani M. Latest concepts in endodontic management of pregnant patients. Int J Dent. 2023;2023:9714515.
28. Khan SA, Hassan AU, Iqbal Z, Hassan M. Endodontic management of acute dental pain among pregnant patients. J Pak Dent Assoc. 2021;30(1):7-11.
29. Aljulayfi IS, Alrusayni A, Alqahtani, SM, Hamam, MK. Awareness of dental interns in managing cases of pregnant women in Saudi Arabia. Saudi J Dent Res. 2015;6:26-29.
30. Swapna L, Alanazi E, Aldoji A, Koppolu P, Alqerban A. et al. Awareness of dental interns to treat pregnant patients. Open Access Maced J Med Sci. 2019;7(19):3265-3269.
31. Garg N, Garg A. Pregnancy considerations in dentistry. Indian J Res Dent. 2014;1:8-11.
32. Giglio J, Lanni S, Laskin D, Giglio N. Oral health care for the pregnant patient. J Can Dent Assoc. 2009;75(1):43–48.
33. Fagoni TG, Andrade de Vasconcelo R, Cardos PE, Gomes APM, Carlos HRC, Gonçalves SHF. et al. Dental treatment for the pregnant patient. Braz Dent Sci. 2014;17(3):3-10.
34. Duvekot JJ, Peeters LL. Renal hemodynamics and volume homeostasis in pregnancy. Obstet Gynecol Surv. 1994;49(12):830-839.
35. California Dental Association Foundation. American College of Obstetricians and Gynecologists District IX. Oral health during pregnancy and early childhood: Evidence-based guidelines for health professionals. J Calif. Dent Assoc. 2010;38:391–403.
36. Ilyas A, Jennings J, Banner L, Matzon J. Wide-awake surgery with local anesthesia and epinephrine is safe. Orthopedics.

2020;43(6):e529–e532.
37. Haas DA, Pynn BR, Sands TD. Drug use for the pregnant or lactating patient. Gen Dent. 2000;48(1):54-60.
38. Haas DA. An update on local anesthetics in dentistry. J Can Dent Assoc. 2002;68(9):546-451.
39. Rathi C, Chandak M, Chandak M, Bajaj P, Chandak P. A review on safety endodontic management in pregnancy. Int J Res Pharm Sci. 2020;11(4):5192-5197.
40. American Academy of Pediatrics Committee on Drugs. Transfer of drugs and other chemicals into human milk. Pediatrics 2001; 108(3):776-789.
41. Hagai A, Diav-Citrin O, Shechtman S, Ornoy A. Pregnancy outcome after in utero exposure to local anesthetics as part of dental treatment: A prospective comparative cohort study. J Am Dent Assoc. 2015;146(8):572-580.
42. Hilgers KK, Douglass J, Mathieu GP. Adolescent pregnancy: A review of dental treatment guidelines. Pediatr Dent. 2003; 25(5): 459-467.
43. Arias A, Peters OA. Present status and future directions: canal shaping. Int Endod J. 2022;55(3):637–655.
44. Zou X, Zheng X, Liang Y, Zhang C, Fan B, Liang J. et al. Expert consensus on irrigation and intracanal medication in root canal therapy. Int J Oral Sci. 2024;16(1):23.
45. Toppenberg K, Hill D, Miller D. Safety of radiographic imaging during pregnancy. Am Fam Physician. 1999;59(7):1813-8,1820.
46. Committee Opinion No. 569: oral health care during pregnancy and through the lifespan. Obstet Gynecol. 2013;122(2 Pt1):417-422.
47. Braimoh OB, Ilochonwu NA. Knowledge of dental practitioners on the management of oral conditions in pregnancy in South Nigeria. European J Gen Dent. 2014;3(2):150-154.
48. Fenig E, Mishaeli M, Kalish Y, Lishner M. Pregnancy and radiation. Cancer Treat Rev. 2001;27(1):1-7.
49. Krüger MSM, Lang CA, Almeida LHS, Bello-Corrêa FO, Romano AR, Pappen FG. Dental pain and associated factors among pregnant women: an observational study. Mater Child Health J. 2015;19(3):504-510.
50. Daw JR, Hanley GE, Greyson DL, Morgan SG. Prescription drug use during pregnancy in developed countries: A systematic review. Pharmacoepidemiol Drug Saf. 2011; 20(9):895-902.
51. Servey J, Chang J. Over-the–counter medications in pregnancy. Am Fam Physician. 2014;90(8):548-555.
52. Scialli AR, Ang R, Breitmeyer J, Royal MA. A review of the literature on the effects of acetaminophen on pregnancy outcome. Reprod Toxicol. 2010;30(4):495-507.

المعالجة اللبية اثناء الحمل: معرفة اطباء الاسنان المتدربين والعموميين في زليتن- ليبيا

ادريس المهدوي[1], عبد الرزاق قاجوم[2], وليد بن بوبكر[1]

[1]الهيئة الليبية للبحث العلمي, طرابلس, ليبيا
[2]قسم العلاج التحفظي وعلاج الجذور, كلية طب وجراحة الاسنان , الجامعة الاسمرية الإسلامية, زليتن, ليبيا

المستخلص

الهدف من هذه الدراسة هو تقييم معرفة أطباء الاسنان المتدربين والعموميين بشأن المعالجة اللبية للمرضى الحوامل في زليتن – ليبيا .أجريت هذه الدراسة الوصفية المقطعية باستخدام استبيان ذو نهاية مغلقة وذاتي الإدارة جرى تعميمه على 127 من المتدربين في طب الأسنان وأطباء الأسنان العموميين في زليتن - ليبيا. يشتمل الاستبيان علي بنود ديموغرافية وأسئلة تتعلق بالجوانب المختلفة التي تختص بمعرفة المشاركين بشأن المعالجة اللبية أثناء الحمل. تم تحليل البيانات باستخدام SPSS 26. أشار 84% من المشاركين في الدراسة الاستقصائية إلى أن الفصل الثاني من الحمل هو الفترة الأكثر أماناً للمعالجة اللبية. أكد 95% من المشاركين في الاستبيان حاجة المرضى الحوامل الي الجلوس في وضعية خاصة علي كرسي الاسنان بينما 58% منهم تعرف علي وضعية الجلوس الصحيحة. 72% و 65% من المشاركين بالدراسة اختاروا الامان للمخذر الموضعي المحتوي علي قابض للأوعية واستخدام تقنية السحب, علي التوالي. 22% من المستجيبين للدراسة تعرفوا علي سمية bupivacaine و 64% اعتبروا ان غسولات القنوات اللبية والعلاجات الداخلية للقنوات مواد امنة. مواد حشو العصب اعتبرت امنة من 74% من المشاركين. 49% من المشاركين اختاروا ان استخدام الفحص الاشعاعي هو امن وفضل 67% منهم اختبار ال RVG. 58% من المشاركين بالدراسة فضلوا وصف acetaminophen لعلاج الالم للمرضي الحوامل. المعرفة لأطباء الاسنان المتدربين والعموميين بشان المعالجة اللبية الامنة خلال فترة الحمل تعتبر كافية ولكن هناك حاجة لتطوير هذه المعرفة خاصة فيما يتعلق بمدي امان بعض مواد التخذير الموضعية والكشف الاشعاعي خلال المعالجة اللبية.

الكلمات المفتاحية. الحمل، المعالجة اللبية، ألمعرفة، أطباء الأسنان المتدربين، اطباء الاسنان العموميين.