

Knowledge and Attitude of Obstetricians about the Effects of Oral Health, Dental Care and Management among Pregnant Ladies in Omdurman Maternity Hospital and Gynecological Omdurman Military Hospitals, Sudan in 2020

Dalia Ahmed Gasm El Seed^{1*}, Rawan Nassir Ahmed², Samar Sid Ahmed Albadri²

¹Assistant Professor of Periodontology in Periodontics Department in Napata College, Program of Dentistry, Sudan

²Faculty of Dentistry, Karary University, Omdurman-Sudan

DOI: [10.36347/sjds.2024.v1i101.001](https://doi.org/10.36347/sjds.2024.v1i101.001)

| Received: 10.12.2023 | Accepted: 16.01.2024 | Published: 19.01.2024

*Corresponding author: Dalia Ahmed Gasm El Seed

Assistant Professor of Periodontology in Periodontics Department in Napata College, Program of Dentistry, Sudan

Abstract

Original Research Article

Background: Every expectant mother should receive a comprehensive oral health education and risk assessment. Numerous reports have shown an association between oral diseases and preterm, low birth weight. The aim of this study was to assess the knowledge and attitude of obstetricians about the effects of oral health, dental care and management among pregnant ladies in Omdurman Maternity Hospital and Gynecological Omdurman Military Hospitals, Sudan in 2020. **Methods:** This cross sectional study involved a survey of 100 obstetricians (male and female) from Omdurman maternity hospital and military hospital, the data derived from this research has been collected by self-administered questionnaire. Data has been analyzed using SPSS version 23. **Result:** This study included 100 participants 52% female and 48% male. The age of the participants started from 25 years old with the most of the respondents aged between (25 and 35 years old) and the result showed that 92% of obstetricians referred their patients to dentists, 84% believed that gingival disease affects birth weight, 40% agreed that abortion is the effect of oral disease in pregnancy. **Conclusions:** In this study regarding the knowledge and attitude of obstetricians about dental care during pregnancy we found that 92% of obstetricians referred their patients to dentists, 40% agreed that abortion is the effect of oral disease in pregnancy and 36% believed that gingival bleeding is the effect of pregnancy on oral health.

Keywords: Knowledge, Attitude, Obstetricians, Dental Care, Pregnant.

Copyright © 2024 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Oral health is an important part of general health and affects the whole body [1].

During pregnancy, there is an increase in the hormones estrogen and progesterone. These hormones have been found to affect periodontal disease progress and wound healing. Both these hormones lead to increased gingival vascularization and decreased immune response. During pregnancy, there is increase in some types of microorganisms (Provetella species) which tend to utilize the steroidal hormones of pregnancy for their growth. These microorganisms increase the tendency of the gums to bleed and worsen gingival inflammation. As a result, pregnant patients have severe gingival inflammation even with reasonably low plaque levels [2]. Some periodontal diseases occur during

pregnancy, such as pregnancy gingivitis, benign oral masses (like pregnancy epulis), gomphiiasis, dental erosion, tooth decay, pericoronitis, and periodontitis, may have a negative impact on oral health [3].

Maintaining good oral health is important for pregnant women as they are more vulnerable to developing oral diseases. This is due to the complex physiological changes and potential changes in eating patterns experienced throughout pregnancy, which increase susceptibility to developing oral diseases [4].

There is an association between periodontal diseases in pregnancy and adverse pregnancy outcomes such as preeclampsia, low birth weight, and preterm birth [5].

Citation: Dalia Ahmed Gasm El Seed, Rawan Nassir Ahmed, Samar Sid Ahmed Albadri. Knowledge and Attitude of Obstetricians about the Effects of Oral Health, Dental Care and Management among Pregnant Ladies in Omdurman Maternity Hospital and Gynecological Omdurman Military Hospitals, Sudan in 2020. Sch J Dent Sci, 2024 Jan 11(1): 1-6.

However, many pregnant women do not realize the significance of oral health to themselves and their fetuses and rarely seek the diagnosis and treatment of oral diseases during pregnancy [6].

There are many factors that influence whether a pregnant woman seeks oral health care, including difficulty accessing medical treatment, a lack of awareness of oral health care, lack of understanding of dental treatment during pregnancy, and fear that dental treatment will endanger fetal health. It is therefore important that pregnant women understand the changes to their gingiva and teeth that occur during pregnancy, strengthen their oral hygiene habits, and treat existing oral problems quickly in order to maintain good oral health during pregnancy and avoid prolonging any oral diseases [6].

It is very important for pregnant women to maintain good oral health and practice proper oral hygiene during pregnancy to prevent such complications from happening. Pregnant women may not have adequate information regarding the importance of oral care and the complications associated with neglecting oral care during pregnancy [7]. Information and guidance from obstetricians is an essential part of quality antenatal care [8].

If pregnant women require dental attention, prompt treatment or referral is essential to restoring oral health and promoting optimal pregnancy outcomes. For these reasons, obstetricians play a very important role in ensuring pregnant women's oral health is maintained [9]. Obstetricians may not understand their role in maintaining oral health during pregnancy and may

subsequently neglect oral health, which puts their patients at risk of developing oral diseases [9].

Knowledge of obstetricians regarding oral care during pregnancy will increase attention toward the oral health of pregnant women and awareness of signs or symptoms that require further education, attention or dental referral [10].

In order to deliver adequate and standard prenatal care, any pregnant woman should recognize oral health care as an integral part of her overall prenatal care [2].

The aim of this study was to assess the knowledge and attitude of obstetricians about the effect of oral health, dental care, and management among pregnant ladies in Omdurman Maternity Hospital and Gynecological Omdurman Military Hospitals, Sudan in 2020.

METHODS

This cross sectional study hospital base was done using convenience methods among 100 obstetricians who were willing to participate in the study during the study period at the Omdurman Maternity Hospital and Gynecological Omdurman Military Hospitals in Sudan. Data was collected by a modified self-administrated questionnaire that included a demographic part (age, gender, residence) and another part which included personal information of obstetricians regarding the oral health of pregnant ladies. Data was analyzed with the aid of Microsoft excel software and the SPSS version 23 Statistical Software Program. The Chi square test is used for categorical variables [11, 12].

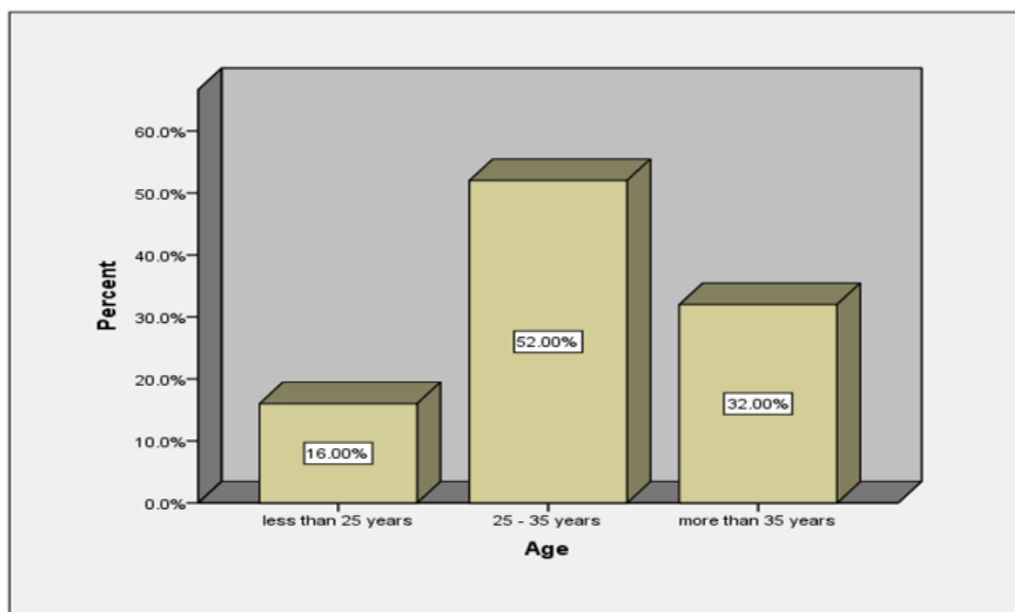


Figure 1: The obstetrician's Age

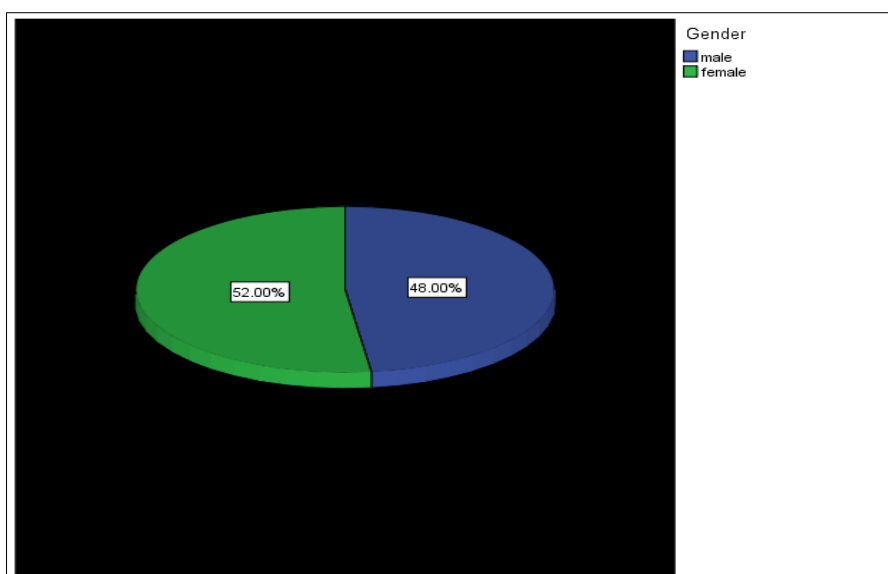


Figure 2: The obstetrician's gender

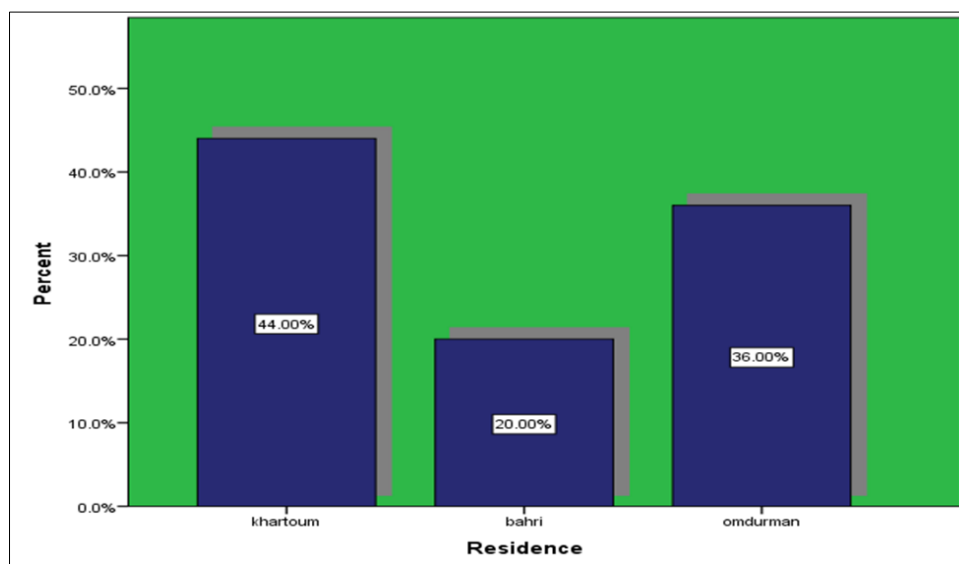


Figure 3: The obstetrician's residence

Table 1: Knowledge and Attitude of obstetricians about pregnant ladies oral health

Obstetricians and pregnant ladies oral health	Yes	No
Obstetricians refer their patients to dentists	92%	8%
Oral examination as an integral part of maternal health	84%	16%
Changes in oral health during pregnancy	80%	20%
Major or minor oral Surgery during pregnancy	28%	72%
Susceptibility to gingival inflammation during pregnancy.	76%	24%
The gingival diseases affect the birth weight of the child.	85%	15%

Table 2: Effect of oral disease in pregnancy out come

Effect of oral disease in pregnancy out come	Frequency	Percent
Preterm birth	16	16.0 %
Low birth weight	12	12.0 %
Abortion	40	40.0 %
Pre-eclampsia	4	4.0 %
Most or all of the above	28	28.0 %
Total	100	100.0 %

Table 3: Effect of pregnancy on oral health

Effect of pregnancy on oral health	Frequency	Percent
Gingival enlargement	32	32.0 %
Gingival bleeding	36	36.0 %
Excess tooth decay	12	12.0 %
Most or all of the above	20	20.0 %
Total	100	100.0 %

Table 4: Safe oral health intervention during pregnancy

Safe oral health intervention during pregnancy	Frequency	Percent
Dental examination	30	30.0%
X ray safety protocol	6	6.0%
Dental extraction	4	4.0%
Scaling	4	4.0%
Local anesthetics	8	8.0%
Most or all of the above	48	48.0%
Total	100	100 %

Table 5: Source of knowledge regarding oral health

Source of knowledge regarding oral health	Frequency	Percent
University	8	8.0%
Colleges	4	4.0%
Media	32	32.0%
Most or all of the above	56	56.0%
Total	100	100.0%

RESULTS

In this study, the population consisted of 100 obstetricians, 52% females, and 48 % males. The age range was between 25 and 35 years in 25% of the participants, as seen in figures 1 and 2. 44% of participants in this study came from Khartoum, 36% were Bahri and 20% were from Omdurman, as found in figure 3. In this study regarding the knowledge and attitude of obstetricians about pregnant ladies oral health, 92% of obstetricians referred their patients to dentists, 84% of obstetricians thought that oral examination is an integral part of maternal health, 80% of obstetricians believed that there are changes occur in dental health during pregnancy, 72% of obstetricians did not advise major or minor oral surgery during pregnancy, 76% of obstetricians believed that there is a great susceptibility to gingival inflammation during pregnancy and 85% believed that gingival diseases affect the birth weight of the child as seen in table 1. The majority of obstetricians (40%) agreed that abortion is the effect of oral disease in pregnancy, followed by preterm birth (16%), low birth weight (12%), pre-eclampsia (4%) and or a combination of all of them by 28% as seen in table 2. In our study, 36% of obstetricians believed that gingival bleeding is the most common effect of pregnancy on oral health followed by gingival enlargement (32%), and excessive tooth decay by (12%) as seen in table 3. Our finding showed that the majority of obstetricians agreed that the safest oral health intervention during pregnancy is most or all of the mentioned options (48%), which were dental examination followed by local anesthetics, x-ray safety protocol, dental extraction and scaling as shown in table 4. When we asked about the source of knowledge

regarding oral health, 56% of the obstetricians said that most or all of the options which were media, universities and colleges as seen in table 5.

DISCUSSION

This descriptive cross sectional study was done among obstetricians to assess their knowledge and attitude about the effect of dental care and management among pregnant ladies, and the result showed that 92% of obstetricians prefer to refer their patients to dentists. This result was in agreement with a study done by Alizadeh *et al.*, whose result was that 86.7% of obstetricians and midwives believed that it was necessary to refer pregnant women to the dentist [13].

In the present study, most of the participants 84 % believed that oral examination is an integral part of maternal health, and this result was in agreement with a study done by Mahin Bakhshi *et al.*, whose result was that 80% of obstetricians also think oral examination is an integral part of maternal health [14].

The greatest proportion of the respondents thought that there are changes that occur in dental health during pregnancy and this is in agreement with Al Halal *et al.*, results that showed that, regarding whether there is a possible connection between the health of the teeth and gums and pregnancy, almost all the gynecologists stated yes, there is a connection [15].

The result of this study demonstrated that 72% of obstetricians did not advise major or minor surgery during pregnancy, and this was in agreement with Popli

et al., who reported that 77% of the participants did not advise major or minor dental surgery during pregnancy [11].

In a study by Strafford *et al.*, however, 66% of obstetricians stated that dental operations are feasible in all trimesters [16].

Regarding susceptibility to gingival inflammation during pregnancy, the majority of the obstetricians stated yes, it increases the likelihood of gingival inflammation. The result of a study conducted by Al Halal *et al.*, was consistent with the present study regarding whether pregnancy increases the likelihood of gingival inflammation [15].

The majority of obstetrician believed that gingival disease affects the birth weight of the child, and this was in agreement with the Wen *et al.*, study, which states that the exacerbation of inflammatory processes causes the shift of the uterus from a quiescent to a contractile state, which may result in low birth weight [17].

Our finding showed that most of the obstetricians agreed that abortion is the effect of oral disease in pregnancy. This was in disagreement with Suri *et al.*, study, which showed that low birth weight is the most common effect of oral disease in pregnancy [12].

The majority of obstetricians (36%) believed that gingival bleeding was the effect of pregnancy on oral health. This was in agreement with Al Halal *et al.*, who stated that the majority of the participating gynecologists thought pregnancy increased the tendency for the gingiva to bleed [15].

This study showed that the majority of obstetricians (48%) agreed that the safest oral health intervention during pregnancy was all of the options given, in which the dental examination was higher than other options, followed by local anesthetics, x-ray safety protocol, dental extraction and scaling. This is consistent with a study conducted by Alizadeh *et al.*, in which 80% of participants found it safe to have dental treatments during pregnancy [13].

In the present study, the majority of obstetricians gained their information about oral health from most or all of the mentioned options, which were media, universities and colleges. The results of a study conducted by Alizadeh stated that the oral health information resources of the participants, with the highest percentage belonging to continuous medical education [13].

Treatment of the pregnant patient has the potential to affect the lives of two individuals (the mother and the unborn fetus). Certain principles must be considered by obstetricians regarding dental care and

management in the treatment of the pregnant patients so that they benefit the mother while minimizing the risk to the fetus.

CONCLUSIONS

In this study regarding the knowledge of obstetricians about dental care during pregnancy, we found that 92% of obstetricians refer their patients to dentist, 40% agreed that abortion is the effect of oral disease in pregnancy and 36% believe that gingival bleeding is the effect of pregnancy on oral health.

RECOMMENDATION

- Collaboration between dentists and obstetricians for more essential treatments for the benefit of patients.
- We recommend training courses to raise the knowledge of obstetricians and correct all the false beliefs they have.
- We also recommend the availability of dental clinics in maternal hospitals.

REFERENCES

1. Deo, P. N., & Deshmukh, R. (2019). Oral microbiome: unveiling the fundamentals. *J. Oral. Maxillofac. Pathol*, 23, 122–8.
2. Hashim, R., & Akbar, M. (2014). Gynecologists' knowledge and attitudes regarding oral health and periodontal disease leading to adverse pregnancy outcomes. *Journal of International Society of Preventive and Community Dentistry*, 4, 166-172.
3. Kobylińska, A., Sochacki-Wójcicka, N., Dacyna, N., Trzaska, M., Zawadzka, A., Gozdowski, D., ... & Olczak-Kowalczyk, D. (2018). The role of the gynaecologist in the promotion and maintenance of oral health during pregnancy. *Ginekologia Polska*, 89(3), 120-124.
4. Nuriel-Ohayon, M., Neuman, H., & Koren, O. (2016). Microbial changes during pregnancy, birth, and infancy. *Front Microbiol*, 7, 1031.
5. Komine-Aizawa, S., Aizawa, S., & Hayakawa, S. (2019). Periodontal diseases and adverse pregnancy outcomes. *J Obstet Gynaecol Res*, 45, 5–12.
6. Lyu, J., Zhang, X., Nie, X., Wei, L., & He, H. (2019). A cross-sectional study of the knowledge, attitudes, and behaviors of obstetricians, gynecologists, and dentists regarding oral health care during pregnancy. *Ann Palliat Med*, 10(4), 4242.
7. Yenen, Z., & Ataçağ, T. (2019). Oral care in pregnancy. *J Turk Ger Gynecol Assoc*, 20, 264–8.
8. Solnes Miltenburg, A., van der Eem, L., Nyanza, E. C., van Pelt, S., Ndaki, P., Basinda, N., & Sundby, J. (2017). Antenatal care and opportunities for quality improvement of service provision in resource limited settings: A mixed methods study. *PloS one*, 12(12), e0188279.
9. Al Agili, D. E., & Khalaf, Z. I. (2023). The role of oral and prenatal healthcare providers in the promotion of oral health for pregnant women. *BMC Preg Childbirth*, 23, 313.

10. Sajjan, P., Pattanshetti, J. I., Padmini, C., Nagathan, V. M., Sajjanar, M., & Siddiqui, T. (2015). Oral health related awareness and practices among pregnant women in Bagalkot District, Karnataka, India. *J Int Oral Health*, 7, 1–5.
11. Popli, H. P., Kumar, V. D., Khatib, M. S., Ameer, B., Peerzade, S. M., & Reddy, S. K. (2022). Knowledge, Attitude and Practices among Gynecologists Regarding Oral Health of Expectant Mothers of South Bengaluru, Karnataka. *Int J Clin Pediatr Dent*, 15(1), 85-89.
12. Suri, V., Rao, N. C., & Aggarwal, N. (2014). A study of obstetricians' knowledge, attitudes and practices in oral health and pregnancy. *Educ Health (Abingdon)*, 27(1), 51-4.
13. Alizadeh, L., Allahyari, E., & Khazaei, F. (2019). An Evaluation of Knowledge, Attitude, and Practices of Obstetricians and Midwives Concerning Oral Health of Pregnant Women in Birjand in 2019. *Avicenna J Dent Res*, 11(4), 125-130.
14. Bakhshi, M., Tofangchiha, M., Bakhtiari, S., & Ahadiyan, T. (2019). Oral and Dental Care During Pregnancy: A Survey of Knowledge and Practice in 380 Iranian Gynaecologist. *Journal of International Oral Health*, 11(1), 21.
15. AlHalal, H., Albayyat, R. M., Alphaed, N. K., Fatani, O., & Fatani, B. (2023). Knowledge, Attitude, and Practice Regarding Periodontal and Dental Diseases During Pregnancy Among Obstetricians and Dentists in King Saud University Medical City. *Cureus*, 15(10), e47098.
16. Strafford, K. E., Shellhaas, C., & Hade, E. M. (2008). Provider and patient perceptions about dental care during pregnancy. *J Matern Fetal Neonatal Med*, 21(1), 63-71.
17. Wen, X., Fu, X., Zhao, C., Yang, L., & Huang, R. (2023). The bidirectional relationship between periodontal disease and pregnancy *via* the interaction of oral microorganisms, hormone and immune response. *Front. Microbiol*, 14, 1070917.