

Evaluation of the prevalence of Dental pain in pregnant women in Kerman city in 2017

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ABSTRACT

Background and objective: given the importance of oral and dental hygiene on general health and thus the quality of life and due to hormonal changes during pregnancy, this study was conducted to evaluate the prevalence of dental pain in pregnant women in Kerman in order to gain knowledge on the oral and dental hygiene status and the therapeutic needs of pregnant mothers. **Methodology:** This is a descriptive-analytical type of cross-sectional study. A total of 450 pregnant women referred to private and public health centers in Kerman in 2017 were included into the study. In this study, one-step cluster sampling method was used and a checklist was used to collect data. Finally, the data were analyzed by SPSS 21 software using Chi-square at a significant level of less than 0.05. **Results:** A total of 450 pregnant women with a mean age of 28.2 years and a minimum age of 16 and a maximum age of 45 years participated in this study. The mean DMFT index was 7.61 and in the range of 0 to 32. The prevalence of dental pain in women was reported 50.2%, which 10.9% were related to pre-pregnancy, 31.8% were related to during pregnancy, and 7.6% were related to both times. The highest dental pain was reported in the third trimester with a prevalence of 41.8% and the lowest dental pain was reported in the first trimester, which this difference was not statistically significant ($P = 0.41$). The mean of DMFT index was 7.60 ± 2.24 . The mean number of decayed, extracted, and filled teeth was 2.87 ± 2.40 , 2.12 ± 2.47 and 2.61 ± 2.68 , respectively. **Conclusion:** The results of this study revealed that the oral hygiene care status of mothers was not at a desirable level during pregnancy. Given the high prevalence of dental pain in this study, increasing oral and dental hygiene educational programs and preventive interventions in the area of oral and dental hygiene is necessary during pregnancy.

Keywords: Dental Pain, DMFT, Pregnant Women, Prevalence

Introduction

Oral and dental hygiene is one of the important components in general health, which is also important during pregnancy. An important principle in the design of dental treatments for the pregnant patient is the hygiene of the oral environment ^[1]. For this reason, dental and facial pain important in oral and dental

diseases and it is a public health problem that affects the quality of life ^[2]. The prevalence of oral and dental diseases increases during pregnancy, while most oral and dental diseases can be prevented with observing their hygiene ^[3]. In the third trimester of pregnancy, when fetal growth reduces volume capacity of the stomach, pregnant women generally increase the frequency and value of using carbohydrates. These changes are associated with the formation of dental plaque, acid production, and tooth decay ^[4, 5]. The treatment of dental problems during pregnancy has barriers and limitations for the patient and the dentist. Pregnant women often do not usually follow the treatment due to fear and concern of dental treatment as well as low level of knowledge about dental problems, and incorrect perception of dental treatments that affect fetal growth ^[6, 7]. Moreover, many dentists are not sure on the safety of dental procedures in pregnant women ^[4, 8, 9], and gynecologists generally do not recommend dental care during pregnancy ^[10]. Hence, given

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what was stated, it is necessary to gain knowledge about oral hygiene status and therapeutic needs of the pregnant women and the prevalence of dental pain in this group of people and pay attention to the complications of dental decay in pregnant women as untreated dental decay are the most important factor involved in dental pain. As no study has been conducted so far on the prevalence of dental pain in pregnant women in Kerman, the present study was conducted to assess the prevalence of dental pain in pregnant women and evaluate the common dental pains during pregnancy .

Methodology

This is a descriptive- analytical type of a cross-sectional study conducted on pregnant women in Kerman city in 2017. According to the sample size, 450 pregnant women referred to health centers and gynecologists' clinics in each stage of pregnancy participated in this study. One-stage cluster sampling method was used in this study. Accordingly, a list of gynecologists' clinics and health centers that women referred to them to receive pregnancy services were provided. Then, according to the number of centers, a number of centers and clinics were randomly selected as a cluster. Then, the researcher referred to these centers and performed the sampling until he reached the considered sample size. First, the goals of the research were explicitly explained to the pregnant women, and after completing the written consent form (Appendix 1), the subjects participated in the study. To collect and record the required data, a questionnaire and a checklist on the clinical examination were used. The first section of the questionnaire included 7 questions about the demographic characteristics of the subjects including age, educational level, job status, living place, family income, marital status and stage of pregnancy. The second section of the questionnaire included information about the medical and dental history of the subjects. It consisted of 5 questions about dental pain and the use of dental services during pregnancy. The checklist for oral and dental examinations included a dental hygiene index (DMFT) based on the WHO criteria ^[11] and gum hygiene. Dental and gum examinations were performed by a mirror and disposable catheter under the light of a 100 watt lamp by a dentistry student who had received the necessary training in the area of examinations. It should be noted that this project was proposed in the Ethics Committee of the Research Deputy of Kerman University of Medical Sciences and approved under the Ethics Code of (IR.KMU.REC.1396.2053). After collecting questionnaires and the completed checklist from the studied population, the data were encoded and entered into SPSS21 software. Then, they were analyzed using descriptive, including mean, standard deviation, frequency and percent, and chi-square test at the significant level of less than 0.05.

Results

In this study, 450 pregnant women with a mean age of 28.2 years with a minimum age of 16 and a maximum age of 45 years

were studied. The prevalence of dental pain in women was 50.2%, which 10.9% were related to before pregnancy and 31.8% were related during pregnancy and 7.6% were related to both times. Table 1 presents the results obtained from mean and standard deviation of age and DMFT of pregnant women in Kerman city.

Table 1- Mean and standard deviation of age and DMFT of pregnant women in Kerman city in 2017

Variable name	mean	SD	min	max
age	28.5	5.9	16	45
DMFT	7.6	4.2	0	32
decayed tooth	2.8	2.4	0	17
Extracted tooth	2/.1	2.4	0	32
Filled tooth	2.6	2.6	0	18

The results of this study showed no significant relationship between age and DMFT in the pregnant women of Kerman city (Table 2).

Table 2- Difference between mean DMFT and age of pregnant women in Kerman city in 2017

Variable name	status	Mean and SD of DMFT	p-value
age	Under 20 years	6.9 ± 3.6	0.44
	20-30 years	7.8 ± 4.0	
	Over 30 years	7.5 ± 4.4	

The results of this study showed that there was no significant relationship between age and dental pain in the pregnant women of Kerman city (Table 3).

Table 3- Relationship between mean and standard deviation of age and dental pain in pregnant women of Kerman city in 2017

Variable name	status	Mean and SD of age	p-value
Dental pain	yes	28.4 (5.8)	0.74
	no	28.5 (5.9)	

The results of the relationship between DMFT and dental pain in pregnant women are presented in Table 4. The results show that there is a significant relationship between the number of decayed teeth and dental pain and subjects with dental pain had a higher number of decayed tooth.

Table 4- Relationship between DMFT and dental pain in pregnant women in Kerman city in 2017

	Dental pain	mean	SD	p-value
decayed tooth	yes	3.2	2.4	*0.002
	no	2.5	2.2	
Extracted tooth	yes	2.1	2.2	0.58
	no	2.06	2.5	

Filled tooth	yes	2.4	2.4	0.14
	no	2.7	2.7	

The results also show that there is no significant relationship between DMFT and referral to the dentist during pregnancy (Table 5).

Table 5- Relationship between DMFT and referral to dentist in pregnant women in Kerman city in 2017

variable	referral to dentist	mean	SD	p-value
Decayed tooth	yes	3.1	2.8	0.16
	no	2.7	2.2	
Extracted tooth	yes	2.3	2.1	0.36
	no	2.06	2.5	
Filled tooth	yes	2.9	2.9	0.16
	no	2.5	2.5	

The results of this study showed that the highest dental pain was seen in the third trimester, was with the prevalence of 41.8 and the lowest dental pain was seen in the first trimester, which this difference was not statistically significant (P = 0.41) (Table 6).

Table 6- Frequency distribution of pregnancy stage in pregnant women in terms of dental pain in Kerman city in 2017

variable	Variable levels	Dental pain		p-value
		no	yes	
		F (%)	F (%)	
Pregnancy stage	first trimester	67(29.8)	55(24.4)	0.41
	second trimester	52(23.1)	76(33.8)	
	third trimester	106(47.1)	94(41.8)	

Discussion and Conclusion

This study was conducted to evaluate the prevalence of dental pain in pregnant women in Kerman. In this study, the prevalence of dental pain in pregnant women was 50.2%. In this regard, the prevalence of dental pain during pregnancy was reported 59.9% in the study conducted by Kruger et al in 2015 [12]. Acute dental pain during the pregnancy was also reported 65% in the study conducted by Shivakumar [13], Acharya [14] and Goerea et al in 2007 in Brazil also reported the prevalence of dental pregnancy in pregnant women 33.6% [15]. The prevalence of dental pain has been reported in the range of 5 to 88% based on the international information. This wide range in the dental pain prevalence is due to differences in definition of pain and methods of assessing the pain of the studied population, geographical location and cultural level of community in various studies [16-18].

Moreover, there was a significant relationship between the number of decayed tooth and dental pain in this study. In several studies, the most common cause of dental pain has been reported dental decays and periodontal problems in pregnant women [14]. In this regard, the study conducted by Kruger et al

in 2015, this relationship was significant and the cause of the high prevalence of dental pain during pregnancy in south of Brazil was attributed to dental decay and lack of access to oral and dental cares [12]. In this study, DMFT index was used to evaluate dental decay. The mean of this index in the studied pregnant women was 7.61 ± 4.29 . This result is in line with the result of the study conducted by Kazemi et al on pregnant women in Babol city [13]. The prevalence of dental decay and DMFT index varies among people due to differences in nutritional and health habits and cultures [19]. Moreover, the use of high-carbohydrate foods and multiple vomiting are one of the effective factors in the incidence of dental decay in pregnant women [20]. There was no significant relationship between dental pain and referral to dentist. The study conducted by Shamsi in Arak reported a very limited number of referrals to dentistry during pregnancy [21]. In the study conducted by Bayat et al, the status of pregnant women in terms of referral to dentist was not desirable and only 36.4% of them referred to the dentist [22]. However, according to the national plan, prenatal care requires 3 turns of care of mothers in the third, fifth and seventh months of pregnancy [22]. Al-abashneh et al showed that only 5% of physicians believed that dental problems could affect pregnancy outcomes and that 88% of them recommend pregnant women postpone the treatment of their oral and dental problems to the postpartum period [23]. In addition, many studies have reported the lack of referral to dentists during pregnancy [1]. In the study conducted by de Oliveira, 41.3% of pregnant women with dental pain did not refer to dentist due to the lack of access to services, fear, and financial problems [24].

In this study, the highest rate of dental pain was reported in the third trimester and the lowest rate of dental pain was reported in the first trimester, although there was no significant relationship between the dental pain and the month of pregnancy. However, in the study conducted by Agbelusi et al, the mean oral hygiene index increased from the first trimester to the third trimester progressively [25]. The inconsistency of the present study with the result of other studies may be due to factors such as increased number of referrals to the dentist during the pregnancy and early differences in oral and dental health hygiene levels. In general, it can be stated that pregnant women are at higher risk of dental decay due to their progression in the acidic oral and dental environment, increased use of sweet diets and lack of attention to oral hygiene. In addition, vomiting during pregnancy increases the acidity of the environment, which leads to dental decay and untreated decay leads to increased prevalence of abscess and cellulitis [26]. The results of this study revealed that the oral hygiene care status of mothers was not at a desirable level during pregnancy. Due to the high prevalence of dental pain in this study, increasing the oral and dental health educational programs and preventive interventions in the area of oral hygiene during pregnancy is essential. It is also suggested to reduce the high costs of dentistry by increasing the access of pregnant women to dental insurance in order to increase the likelihood of treatment and follow-up of oral hygiene.

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