Original Research Article

EVALUATION OF ORAL HEALTH CONDITION AMONG THE PREGNANT FEMALES AT TERTIARY CARE HOSPITAL OF HYDERABAD, SINDH

ABSTRACT

Background: Gestational is special and interesting period for every woman that covers the physiological hormonal changes and leads to the development of new healthy life. Changes in hormones during pregnancy may alter the physiological conditions that impose the bad impact of different body parts including gastric and oral health of the mother. Oral health plays an important role for maintaining normal and healthy life of human being and if any disease or disorder appeared within the oral cavity, it may leads to severity of disease and disturbed normal routine life.

Aims and Objectives: This study aims to evaluate the condition of oral health during gestational period and their severity according to trimester.

Materials and Methods: Descriptive cross sectional study was carried out for the period of six months at Gynea & Obs ward, Liaquat University of Medical & Health Sciences, Jamshoro and females with positive pregnancy were included in the study and total 146 females were selected, after the signature on informed consent form. Medical history was taken in order to ensure any major disease or medication affecting oral health.

Results: After collection of proper data from all participants, the results were finalized, 19 females were belonging to age group of 18-21years, and 51 females belong to 26-29 years. 47 females had good OHI-S score, 59 had fair OHI-S score. 31 female had 1st trimester, 81 females had 2nd trimester and 34 had 3rd trimester. 19 females had normal PI index, 94 had simple gingivitis and 33 females had periodontitis.

Conclusion: It was important to maintain good oral hygiene before and during pregnancy, so as to prevent the occurrence of periodontal disease and to avert the irreparable damage that may arise during the period of pregnancy.

KEY WORDS: Pregnancy, Oral Health Index, Physiological Changes, Gingivitis

Comment [WRH1]: 1.In the abstract section, it is better to write an analysis of the situation regarding dental and oral diseases from the world, the country
2.In the introduction, it should also be written about the impact of pregnant women not maintaining their dental health on the fetus they are carrying, on the health of the pregnant woman
3.In the research methodology, the abstract should be written about the sampling technique, whether using probability sampling or non-probability sampling, then also the population, how many samples?

INTRODUCTION

Oral health plays an important role for maintaining normal and healthy life of human

being and if any disease or disorder appeared within the oral cavity, it may leads to severity of disease and disturbed normal routine life. Gestational is special and interesting period for every woman that covers the physiological hormonal changes and leads to the development of new healthy life. Changes in hormones during pregnancy may alter the physiological conditions that impose the bad impact of different body parts including gastric and oral health of the mother. [1] it is observed that during the gestational period the level of hormones increases up to thrice time as compared to normal physiological condition and the effect of these hormones also observed in oral cavity. Estrogen and progesterone have direct effect on gums or oral cavity and both hormones are responsible for developing the condition of gingivitis. Many researches elaborate that the contribution of sexual hormones on the vascular system of oral cavity during pregnancy. [2] According to survey, it is observed that the synthesis of prostaglandin has directly interaction with normal physiological levels of progesterone and estrogen. Various prostaglandin receptors including PG-E1 & PG-E2 worked as prolong mediators of inflammation. [3] Progesterone levels increases during gestational period and its enhanced level increases the vascular dilation of gingival membrane that enhance capillary permeability and leads to exudates the gums secretions [4]. C-reactive protein is considered as marker for systematic inflammation and it is only marker responsible for periodontal diseases. [5] Periodontal diseases are probable risk factors for severe and adverse gestational outcomes such as preterm delivery, low birth weight. [6] Current study was conducted to evaluate the levels of oral hygiene during the period of pregnancy.

MATERIALS AND METHODS

Descriptive cross sectional study was carried out for the period of six months at Gynea & Obs ward, Liaquat University of Medical & Health Sciences, Jamshoro and females with positive pregnancy were included in the study and total 146 females were selected, after the signature on informed consent form. Medical history was taken in order to ensure any major disease or medication affecting oral health, habit of smoking and alcohol consumption was also noted. The oral health condition of study subjects was assured through three different scales including Simplified Oral Hygiene index (OHI-S) that was used to indicate the presence of debris and calculus on the surface of teeth, Estimation of dental caries was measured through Decayed Missing Filled Teeth Index (DMFT) whereas Periodontal Index (PI) was used to

evaluate the condition of gingivitis and periodontitis. Data was analyzed by using statistical software SPSS. Version 22.00.

RESULTS

Once data was collected properly, then results were assembled. Participants were divided in to various age groups and fetus age.

AGE GROUP	NUMBER	PERCENTAGE
18-21 Years	19	13.01%
22-25 Years	43	29.45%
26-29 Years	51	34.93%
30-33 Years	33	22.60%

Table No 01: Age wise study group of participants

TRIMESTER GROUP	NUMBER	PERCENTAGE
1st Trimester	31	21.23%
2nd Trimester	81	55.47%
3rd Trimester	34	34.28%

Table No 02: Trimester wise groups of study subjects

ORAL HYGIENE INDEX	NUMBER	PERCENTAGE
GOOD	47	32.19%
FAIR	49	33.56%
POOR	40	27.39%

Table No 03: Oral hygiene index of study subjects

PERIDONTAL INDEX	NUMBER	PERCENTAGE
Normal	19	13.01%
Simple Gingivitis	94	64.38%
Periodontitis	33	22.60%

Table No 04: Peridontal Index of study subjects.

DISCUSSION

The present study was aimed to assess the oral health status during pregnancy using numerous parameters. Current study indicates the gradual increase in different

parameters with progression in pregnancy. There was huge difference observed among the control trial group and 2nd and trimester group whereas the difference were not enough among the control and 1st trimester group. Many research supports this study, the main reason for poor oral hygiene condition during the pregnancy among the local population can be due to unawareness about brushing and frequency of cleaning the teeth and low-socio economic status. Due to less frequency of cleaning of teeth, it may more prone to the accumulation of plaque among the teeth and leads to periodontal diseases. *Kashetty el al.,* concluded in his study that cases of gingivitis enhanced as trimester is changed from 2nd to 3rd among the pregnant females and also possess significant results of OHI-S score. [8] Gupta et al., conducted study on the oral health condition among the pregnant females and consequently the results were almost similar as of the current study. [9] Number of factors associated with dental caries along with pregnancy such as morning sickness, gastric reflux that leads to dental erosion because they were exposed to stomach acid and develop the caries among the teeth. [10] *Bakhtiar et al.,* conducted study in 2018 that was having similar consequences as of current study, he included 340 pregnant females in his study with different ranges of DMFT and OHI-S score. [11] *Kumar et al.,* also finalized a research on the presence of caries among the females with third trimester. [12] The major reason for enhancing PI score among the pregnant females was due to sex hormones. Female hormones were responsible for developing gingivitis, especially due to estrogen as it was responsible for inflammation, edematous and sensitive and estrogen possess tendency to bleed quickly and if there was existing gingivitis that leads to worsen the condition. [13] *Soroye et al.,* conducted a research in 2016 on 445 study subjects, from them 86% study subjects had pregnancy induced gingivitis. [14] In order to evaluate the role of female reproductive hormones on the periodontal disease a research was carried out by Tilakaratne et al., in 2000. According to results it was concluded that females who use to take contraceptive medicines had higher tendency to the gingival inflammation as compared to non consumer of contraceptives. [15]

CONCLUSION

The results of the present study showed occurrence of the dental problems and worsening of the disease, if already present, during the pregnancy. It definitely proves that there are significant oral changes that are faced during pregnancy which must be taken care of to avoid effects on general health as well as to avert adverse

pregnancy outcomes. Thus, we conclude that to prevent occurrence of periodontal diseases in pregnancy, good oral hygiene should be maintained before and during full term of pregnancy.

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