**DOI:** https://doi.org/10.54393/pbmj.v5i4.378

PAKISTAN BIOMEDICAL JOURNAL

https://www.pakistanbmj.com/journal/index.php/pbmj/index

Volume 5, Issue 4 (April 2022)

**Original Article**

# Knowledge and Practices of Oral Hygiene Among Pregnant Women in a Tertiary Care Hospital of Pakistan

**Farzeen Khan[1*], Zia Ul Ain Sabiha[2], Beenish Haider[3], Khumara Roghani[4], Junaid Ahmed[4], Amina Ajmal[5], Anila Farid[6], Muhammad Ateeq[7] and Sudhair Abbas Bangash[8]**

[1]Department of Community and Preventive Dentistry, Peshawar Dental College, Peshawar, Pakistan
[2]Department of Community Medicine, Peshawar Medical College, Peshawar, Pakistan
[3] Science of Dental Materials, Abbottabad International Medical and Dental College, Abbottabad, Pakistan
[4]Department of Dental Materials, Khyber Medical University, Peshawar, Pakistan
[5]Department of Community Dentistry, Khyber Medical University, Peshawar, Pakistan
[6]Department of Biochemistry, University of Hazara, Hazara, Pakistan
[7]Institute of Biological Sciences, Sarhad University of Science & Information Technology, Peshawar, Pakistan
[8]Department of Pharmacy, Sarhad University of Science and Information Technology, Peshawar, Pakistan

## ARTICLE INFO

***Key Words:***

Knowledge; Practices; Oral hygiene; Pregnancy

***How to Cite:***

Khan, F. ., Sabiha, Z. U. A. ., Haider, B. ., Roghani, K. ., Ahmed, J. ., Ajmal, A. ., Farid, A. ., Ateeq, . M. ., & Bangash, S. A. . (2022). Knowledge And Practices of Oral Hygiene Among Pregnant Women in A Tertiary Care Hospital of Pakistan . Pakistan BioMedical Journal, 5(4).https://doi.org/10.54393/pbmj.v5i4.378

***Corresponding Author:**

Farzeen Khan
Community & Preventive Dentistry Department, Peshawar Dental College, Peshawar, Pakistan
farzeen.khan7@gmail.com

Received Date: 14th April, 2022
Acceptance Date: 23rd April, 2022
Published Date: 30th April, 2022

## ABSTRACT

During pregnancy, women are more susceptible to certain oral disorders, which may have a negative impact on either mother or child health. Oral hygiene and related negative prenatal outcomes are often neglected issues, particularly in underdeveloped countries such as Pakistan. **Objective:** To assess the knowledge and practices of oral hygiene among pregnant women at tertiary care hospital. **Methods:** This cross-sectional study based on questionnaire was carried out at the Dental unit of Khyber Teaching Hospital, Peshawar for a period of one year from July, 2020 to December, 2021. A total of 400 pregnant women were included in this study. Their knowledge level and practices about oral health were determined by using proper designed questionnaire. All the data analysis was performed by using SPSS version 22. **Results:** In our study, 308 (77%) subjects consider sugar as the cause of dental carries while 92 (23%) subjects does not consider sugar as the cause of dental carries. Among 400 subjects, 140 (35%) subjects consider sugar as the cause of gum disease. Concerning oral hygiene practices, 360 (90%) subjects use tooth brush. The number of subjects using tooth brush daily, twice or more than twice were 280 (70%), 112 (28%) and 8 (2%) subjects respectively. **Conclusion:** Our study concludes that most of the pregnant women in our study were knowledgeable and have good practices but there is still a gap in their level of knowledge and practices. It is essential to provide oral health education for management of good oral health during pregnancy.

## INTRODUCTION

In the period of pregnancy, body goes through numerous emotional and physiological changes, including changes in hormones, blood vessels and immune responses. During pregnancy, women are more susceptible to certain oral disorders, which may have a negative impact on either mother or child health [1,2]. According to previous research, dental carries, gingivitis and periodontitis is developed by 25%, 75%- and 33.33%-women during pregnancy [3,4]. Gingival inflammation is caused by changes in hormone levels such as estrogen and progesterone, which cause an immune response and enhanced blood vessels permeability [5]. Pregnancy gingivitis, dental caries and periodontitis may occur if these alterations are coupled by inadequate oral care [6]. Pregnant women who maintain excellent dental health will have a higher quality of life, as well as a lower risk of probable pregnancy issues such as low birth weight of the baby, preterm delivery and preeclampsia as well as a lower risk of their children getting early childhood caries in the future [7]. According to Clothier and colleagues, mothers of children having poor oral health are 5 times more likely to have oral health issues [8]. As a result, mothers have an essential role in instilling favorable attitudes and lifetime oral health habits in their children [9]. Pregnancy is thought

**DOI:** https://doi.org/10.54393/pbmj.v5i4.378

to be an optimal period for behavioral interventions because women are more readily encouraged to change bad behaviors in expectation of severe consequences for them and their baby [10]. Although appropriate dental health is increasingly acknowledged as an important element of a pregnant woman's overall well-being in industrialized countries, it is still a neglected concern in poor countries. Oral hygiene and related negative prenatal outcomes are often neglected issues, particularly in underdeveloped countries such as Pakistan. Maintaining dental health throughout pregnancy has been identified as a significant health concern across the globe, and negligence has been linked to negative pregnancy consequences such as low birth weight, early pre-labor membrane rupture, and preterm with all its comorbidities. In past few years, the safety of dental care throughout pregnancy, as well as its influence on better perinatal results, has been thoroughly proven [11,13]. Thus, this study was carried out to assess knowledge and practices of oral hygiene among pregnant women at tertiary care hospital.

## METHODS

This cross-sectional study based on questionnaire was carried out at the Dental unit of Khyber Teaching Hospital, Peshawar hospital for a period of one year from July, 2020 to December, 2021. A total of 400 pregnant women were included in this study. The inclusion criteria for our study were all the pregnant women attending the antenatal clinic for their routine appointment while exclusion criteria were all the pregnant women, not willing to participate. Proper approval of this study was taken from the institutional ethical and research committee. Informed consent was signed from all the subjects or their guardian included in the study. The questionnaire was divided into four parts. The first part has questions about socio-demographic features of the subjects. The second part has questions to evaluate oral knowledge of the subjects. A "dental knowledge score" was constructed by counting acceptable answers. The scale for "dental knowledge score" was ranged from 0-6 with mean score of knowledge of the respondents as 3.0. On the basis of mean score, score of knowledge was divided into good knowledge of oral health and poor knowledge of oral health. The score of ≥ 4 was graded as good knowledge whereas a score of ≤3 was graded as poor knowledge. The 3rd part of the questionnaire has statements about the attitude of the participants about oral health during pregnancy. The statement was categorized as agree, disagree or no comment. With the maximum score of 10, a score of ≥7 was graded as positive attitude of the participants towards oral health during pregnancy. The 4th part of questionnaire has questions to assess dietary and oral health practices of the participants. All the data analysis was performed by using IBM SPSS version 22. Mean (Standard deviation) were measured for continuous variables and frequency (Percentages) were measured for categorical variables.

## RESULTS

In our study the number of subjects were 40 (10%), 264 (66%) and 96 (24%) in age group 25, 26-35 and 35 yeas respectively. The minimum and maximum age of the subjects was 20 and 46 years respectively (Figure 1). The mean age (SD) of participants in our study was 32.12 (2.23) years. Figure 2 shows that 220 (55%) of the subjects had primary education, 172 (43%) had secondary education while only 8 (2%) participants have university level education. In our study, 308 (77%) subjects consider sugar as the cause of dental carries while 92 (23%) subjects does not consider sugar as the cause of dental carries. Amongst 400 subjects, 140 (35%) subjects consider sugar as the cause of gum disease. Other subjects consider poor oral hygiene, bacterial plaque, eating hard food and tartar as cause of dental carries and gum diseases while many participants don't know about dental carries and gum disease (Table 1). In response of the questions about oral hygiene practices, majority (70%) of the subjects consider that toothpastes are used for fresh breath while 92 (23%), 8 (2%) and 20 (5%) subjects responded that tooth paste is used for prevention of cancer, tooth decay and others respectively (Table 2). In the current study, concerning oral hygiene practices, majority (90%) of the subjects use tooth brush. The number of subjects who use tooth brush daily, twice or more than twice were 280 (70%), 112 (28%) and 8 (2%) subjects respectively (Table 2). The response to different statement about oral hygiene is given in table 3.

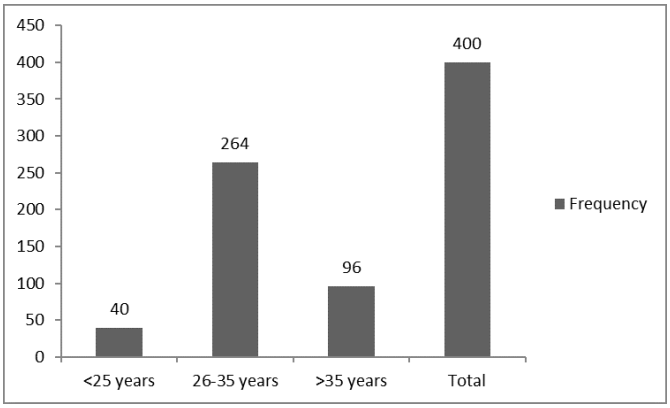


**Figure 1:** Age wise distribution of subjects

**DOI:** https://doi.org/10.54393/pbmj.v5i4.378

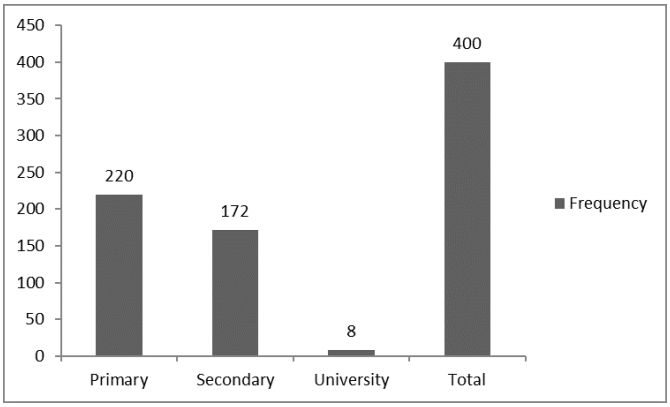


**Figure 2:** Distribution of subjects based on the education level

| Parameter | Sub-category | Frequency (%) |
|---|---|---|
| Cause of dental carries | Sugar | 308 (77%) |
| | Poor oral hygiene | 28 (7%) |
| | Others | 44 (11%) |
| | Don't know | 20 (5%) |
| Gum disease | Sugar | 140 (35%) |
| | Poor oral hygiene | 4 (1%) |
| | Bacterial plaque | 32 (8%) |
| | Eating hard food | 60 (15%) |
| | Others | 80 (20%) |
| | Don't know | 84 (21%) |

**Table 1:** Perception about dental carries, gum disease and practices of oral hygiene

| Parameter | Sub-category | Frequency (%) |
|---|---|---|
| Use of tooth paste | Fresh breath | 280 (70%) |
| | Prevention of cancer | 92 (23%) |
| | Prevention of tooth decay | 8 (2%) |
| | Others | 20 (5%) |
| Tools for cleaning of mouth | Tooth brush | 360 (90%) |
| | Misvak | 32 (8) |
| | Others | 8 (2%) |
| Mouth cleaning frequency | Once per day | 280 (70%) |
| | Twice per day | 112 (28%) |
| | More than per day | 8 (2%) |

**Table 2:** Habits of the participants about oral hygiene

| Statement | Agree Frequency (%) | Disagree Frequency (%) | No comment Frequency (%) |
|---|---|---|---|
| Gum problems is caused by pregnancy | 60 (15%) | 300 (75%) | 40 (10%) |
| During pregnancy dental visit are needless | 100 (25%) | 272 (68%) | 28 (7%) |
| Pregnancy increases the risk of tooth loss | 32 (8%) | 348 (87%) | 20 (5%) |
| A painful toot must be removed | 120 (30%) | 240 (60%) | 40 (10%) |
| Teeth and gums are unaffected by fruits and vegetables | 120 (30%) | 240 (60%) | 40 (10%) |

**Table 3:** Response towards different statements about oral hygiene

## DISCUSSION

The importance of excellent dental health during pregnancy cannot be overstated, particularly in light of new research suggesting that poor oral health may lead to worse pregnancy outcomes [14]. Pakistan has a high maternal mortality rate, which makes this important [15]. Periodontal disease, the most frequent dental illness during pregnancy, may be avoided with easy steps like daily teeth cleaning and flossing. Good oral health habits are impacted by a person's knowledge and attitudes towards oral health. Average oral health knowledge and good attitudes about oral health were found among the participants in this study. In accordance with our study, other studies also reported comparable results. They reported that majority of their study subjects have good knowledge and practices about oral health [16-18]. Although a large majority of the subjects correctly recognized the cause of tooth decay, only a small proportion properly identified the source of periodontal disease. A large number of responders wrongly identified sugar or sweet foods as the source of periodontal disease. There is a pressing need to dispel this myth, in light of the fact that gum disease is the most frequent dental condition afflicting women in Pakistan. Generally, the respondents still need to learn more about oral health. In accordance with our finding, a previous study reported similar results [19]. In our survey, 30% participants believed that each painful tooth must be extracted and that vegetables and fruit had no effect on dental tissues. These ideas are in direct conflict with the principles of good oral health and could be influenced by Pakistani cultural attitudes about oral health. In future oral health training sessions is essential to educate pregnant women about the importance of excellent diet on oral health, and the therapeutic choices available for aching gums and teeth. Generally, the majority of the women in the study had favorable attitudes about oral health, which was expected given their knowledge level of oral health. In our study, concerning oral hygiene practices, majority (90%) of the subjects use tooth brush. The numbers of subject who use tooth brush daily, twice or more than twice were 70%, 28% and 2% subjects respectively. A previous study done by Hullah et al. reported that majority (73%) of their study subjects brush their teeth twice a day, which is discordance of our study [18].Another study reported comparable results to our findings reported that 36% of the pregnant women brush their teeth twice a day [20].Although many people think that brushing and flossing your teeth two or more times each day helps prevent dental illness, just a third of those polled really do so. Excellent oral health knowledge is widely acknowledged as one of the most significant prerequisites to good oral health behavior. Furthermore, cultural values and beliefs may have an influence on the maintenance of excellent oral health behaviors; therefore, additional study into this area may be important.

## CONCLUSIONS

Our study concludes that most of the pregnant women in our study were knowledgeable and have good practices but there is still a gap in their level of knowledge and practices. It is essential to provide oral health education for management of good oral health during pregnancy. Pregnant women must be a target population for oral health education because, apart from the health benefits to

**DOI:** https://doi.org/10.54393/pbmj.v5i4.378

women, mothers contribute significantly in passing on and modeling healthy behaviors to their children. Dental caries and gum disease are two common oral health problems that should be addressed with specific messages. It is also important to highlight the impact of dental problems on their outcomes of pregnancy and their child oral health.

## REFERENCES

[1] George A, Dahlen HG, Reath J, Ajwani S, Bhole S, et al.What do antenatal care providers understand and do about oral health care during pregnancy: a cross-sectional survey in New South Wales, Australia. BMC Pregnancy Childbirth. 2016,16(1):382. doi: 10.1186/s12884-016-1163-x.

[2] Kandan PM, Menaga V, Kumar RRR. Oral health in pregnancy (guidelines to gynaecologists, general physicians & oral health care providers). JPMA-Journal of the Pakistan Medical Association. 2011,61(10):1009-14

[3] Duff M, Dahlen HG, Burns E, Priddis H, Schmied V, et al. Designing an oral health module for the Bachelor of Midwifery program at an Australian University. Nurse Educ Pract. 2017,23:76-81.

[4] Silk H, Douglass AB, Douglass JM, Silk L. Oral health during pregnancy. Am Fam Physician. 2008;77(8):1139-44.

[5] Suri V, Rao NC, Aggarwal N. A study of obstetricians' knowledge, attitudes and practices in oral health and pregnancy. Educ Health (Abingdon). 2014,27(1):51-4. doi: 10.4103/1357-6283.134313.

[6] Enabulele J, Ibhawoh L. Resident obstetricians' awareness of the oral health component in management of nausea and vomiting in pregnancy. BMC Pregnancy Childbirth. 2014 ,14:388. doi: 10.1186/s12884-014-0388-9.

[7] Buerlein JK, Horowitz AM, Child WL. Perspectives of Maryland women regarding oral health during pregnancy and early childhood. J Public Health Dent. 2011,71(2):131-5. doi: 10.1111/j.1752-7325.2010.00211.x.

[8] Clothier B, Stringer M, Jeffcoat MK. Periodontal disease and pregnancy outcomes: exposure, risk and intervention. Best Pract Res Clin Obstet Gynaecol. 2007,21(3):451-66. doi: 10.1016/j.bpobgyn.2007.01.005.

[9] Ramazani N, Zareban I, Ahmadi R, ZadSirjan S, Daryaeian M. Effect of anticipatory guidance presentation methods on the knowledge and attitude of pregnant women relative to maternal, infant and toddler's oral health care. Journal of Dentistry (Tehran, Iran). 2014,11(1):22.

[10] ChapterEating A, Korth K, Maune NC. ChapterAssessmentTitle Oneand TreatmentLine of Feeding. Case-Smith's Occupational Therapy for Children and Adolescents-E-Book. 2019:212.

[11] Dentistry A. of P. Guideline on Perinatal and Infant Oral Health Care. Pediatr Dent Ref Man. 2016,38(6):150-4.

[12] Gupta N, Chhetry M. Knowledge and Practices of Pregnant Women regarding Oral Health in a Tertiary Care Hospital in Nepal. JNMA J Nepal Med Assoc. 2019,57(217):184-188. doi: 10.31729/jnma.4420.

[13] Michalowicz BS, DiAngelis AJ, Novak MJ, Buchanan W, Papapanou PN, Mitchell DA, et al. Examining the safety of dental treatment in pregnant women. The Journal of the American Dental Association. 2008,139(6):68595.doi:10.14219/jada.archive.2008.0250.

[14] Jeffcoat MK, Geurs NC, Reddy MS, Cliver SP, Goldenberg RL, et al. Periodontal infection and preterm birth: results of a prospective study. J Am Dent Assoc. 2001,132(7):875-80. doi: 10.14219/jada.archive.2001.0299.

[15] Arif A, Sherani A, Uzma Q, Alam B, Thom E, et al. Maternal and Perinatal Death Surveillance and Response in Balochistan, Pakistan-Causes & Contributory Factors of Maternal Deaths. Journal of Gynecology and Obstetrics. 2022,10(1):1-5.

[16] 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(1):1-6.doi.org/10.1186/1471-2393-8-13

[17] Lydon-Rochelle MT, Krakowiak P, Hujoel PP, Peters RM. Dental care use and self-reported dental problems in relation to pregnancy. Am J Public Health. 2004,94(5):765-71. doi: 10.2105/ajph.94.5.765. PMID: 15117698;

[18] 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):405-9. doi: 10.1007/s00404-007-0480-8.

[19] Shabbir S, Zahid M, Qazi A. practices and knowledge of oral hygiene among pregnant women in a pakistani tertiary care hospital. Biomedica. 2014,30(2).

[20] Sajjan P, Pattanshetti JI, Padmini C, Nagathan VM, Sajjanar M, Siddiqui T. Oral health related awareness and practices among pregnant women in Bagalkot District, Karnataka, India.