

Association Between Socio-Demographic Factors and Oral Health Impact Profile of Pregnant Women

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Abstract

Objectives: To evaluate association between socio-Demographic Factors and oral health impact profile of pregnant women

Methodology: This cross-sectional study was conducted in Federal Govt. Services Hospital (PGMI) Islamabad from March -April 2024. Pregnant women between 18-49 years of age coming for antenatal care visit were recruited via simple random sampling. Oral health-related quality of life amongst pregnant women was checked. Oral-clinical assessment of pregnant patients was done by using Oral health- impact profile questionnaire (OHIP-14). Approval from HSA ethical clearance committee & inform consent from patients was taken for this study. Chi-square test was applied to determine probable association b/w variables, with considering a p-value of 0.05 as significant.

Results: About one-third population of this study was bachelor degree holder or above. There was no significance found between OHIP-14 scores with level of education where p-values was 0.256. Chi-Square test was applied to find significance between OHIP-14 score and area of living and 1st pregnancy where p-values were 0.514 & 0.479 respectively.

Conclusion: Socio-demographics did not show a statistically significant association with oral health related quality of life of pregnant women. Government should ensure availability and utilization of dental services for this vulnerable population.

Key words: Oral health- impact profile, Oral Health Related Quality of Life, Pregnancy.

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Introduction

Health is considered as chief assets of a human life. Now-a-days, it is implicit that oral health is extremely important for over-all physical health.¹

Current notions of health advocate that mouth related good health should be defined in general physical, psychological and social well-being terms in relation to oral status. The quality of life can be improved with contribution of dentistry as well. Traditional measures use mostly clinical indices, but now a days need base assessment done through socio dental approaches to measure of quality of life related to dental and soft

tissue health.²

WHO focus on to reduce burden of diseases and improve oral health system by encouraging oral health research in developing countries. According to WHO's Global Action Plan for the Prevention and Control of Non-communicable diseases 2013-2030 dental associations and other health professionals around the world are stimulated to provide global awareness on oral hygiene and preventing oral diseases for quality of life.³ Research has publicized that an oral health status is concomitant with Oral health related quality of life (OHRQoL).⁴ Caries and periodontal sicknesses were

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among the factors which had affected oral health related quality of life.⁵

Internationally, 40% pregnant females, suffer from the periodontal disorder and 50% had experience dental pain⁶. Periodontal infections are strongly related with the adverse pregnancy outcomes.⁷ Commonly occurring mouth-related maladies along with symptoms & signs have been studied in pregnancy & already present illnesses may exaggerate by the hormonal changes.^{8,9} Research shows that the prevalence of gum diseases is more in child bearing women that is 15%.¹⁰

There are multidimensional reasons which are careless and improper oral hygiene habits, inaccessibility to dental clinics, and medical conditions and complications that increases risk of oral diseases, and less awareness and information regarding the connection between overall health and dental related hard tissue and soft tissue health between pre-natal care providers and their patients.¹¹

Objective of this study was to evaluate association between socio-Demographic factors and oral health impact profile of pregnant women.

Methodology

This cross-sectional study was conducted in Federal Govt. Services Hospital (PGMI) Islamabad from March - April 2024. Approval from HSA ethical clearance committee was taken for this study, along with consent from all participants.

Following formula was used to calculate sample size, $n = z^2 p (1-p) / d^2$. P is prevalence (taken as 50%) of oral ailments. Where, z is statistics of 95% CI (1.96).and d is the margin of error being 5%. Sample size came to be 384, adding almost five per cent inflated for non-responses, so 415 was our final sample size. For the first case, simple random sampling was done by fish bowl technique. Then systematic random sampling was done by nth number, that was every third patient was selected.

pregnant women between 18-49 years of age coming for antenatal care visit were included, whereas pregnant women who had associated systemic diseases, or not willing to participate in this research were excluded from the study. Oral health-related quality of life amongst pregnant women (both undergoing orthodontic treatment or not) was checked. Oral-clinical assessment of pregnant patients was done

by using Oral health- impact profile questionnaire (OHIP-14). Two Dental surgeons were trained for data collection and monitored by researcher.

SPSS version-21 was used for data entry and analysis. Chi-square test was applied to determine probable association b/w variables, with considering a p-value of 0.05 as significant.

Results

The demographic variables included were age, education level, area of living, 1st pregnancy, self - assessed oral health. It was observed that 34.2% of population of study was bachelors or above. 85% participants were living in urban areas while only 14.9% participants were living in rural areas. 49.9% participants were expecting their first child and 50% participants had 2nd or 3rd pregnancy. Sociodemographic characteristics of the patients are shown in table I

Table I: Sociodemographic of the respondents.

	Variables	N	%
Age	18-26 years	198	47.7%
	27-35 years	105	73.0%
	36 & above	112	27%
Level of education	Illiterate	78	18.8%
	Primary school	38	9.2%
	Secondary school	45	10.8%
	Higher secondary school	112	27.0%
	Bachelors & above	142	34.2%
Area of living	Urban	353	85.1%
	Rural	62	14.9%
1st pregnancy	Yes	204	49.2%
	No	211	50.8%
Self-assessed oral health	Poor	227	54.7%
	Good	168	40.5%
	Excellent	20	4.8%

The Oral Health Impact Profile (OHIP) was established with the purpose of giving a broad extent of self-reported dysfunction, discomfort and disability attributed to oral conditions. The OHIP questionnaire consisted of 7 domains in which each domain has 2 questions so total of 14 questions were asked by respondents. They were asked to point out how commonly they experienced each problem on a five-point Likert scale. Response categories for the five-point scale were: Never-0, Hardly ever-1, Occasionally-2, Fairly often- 3, Very Fairly-4. Final scores thus range from 0-56 points. OHIP of study participants is shown in table II.

Table II: OHIP of study participants.

OHIP-14	Never 0 n(%)	Hardly ever 1 n(%)	Occasionally 2 n(%)	Fairly often 3 n(%)	Very often 4 n(%)
Trouble in pronunciation	190(45.8%)	42(10.1%)	163(39.3%)	21(5.1%)	20(4.8%)
Sense of taste	232(55.9%)	42(10.1%)	120(28.9%)	21(5.1%)	1(2%)
Painful aching	42(10.1%)	84(20.2%)	105(25.3%)	142(34.2%)	42(10.1%)
Eating	21(5.1%)	21(5.1%)	310(74.7%)	62(14.9%)	1(2%)
Self-conscious	210(50.6%)	39(9.4%)	43(10.4%)	84(20.2%)	39(9.4%)
Felt tense	21(5.1%)	84(20.2%)	205(49.4%)	84(20.2%)	21(5.1%)
Unsatisfactory diet	147(35.4%)	144(34.7%)	102(24.6%)	22(5.3%)	39(9.4%)
Interrupted meal	228(54.9%)	62(14.9%)	103(24.8%)	22(5.3%)	1(2%)
Relax	84(20.2%)	81(19.5%)	229(55.2%)	21(5.1%)	20(4.8%)
Embarrassed	126(30.4%)	63(15.2%)	123(29.6%)	102(24.6%)	1(2%)
Irritable	270(65.1%)	21(5.1%)	40(9.6%)	63(15.2%)	21(5.1%)
Usual work	250(60.2%)	21(5.1%)	124(29.9%)	20(4.8%)	1(2%)
Less satisfied	189(45.5%)	81(19.5%)	81(19.5%)	62(14.9%)	2 (1.7%)
Unable to work	372(89.6%)	21(5.1%)	20(9.8%)	0 (0.0%)	0 (0.0%)

Chi-Square test was applied to find statistical significance between OHIP-14 score and socio-demographics. There was no significance found between OHIP-14 scores with level of education (p-value=0.256). OHIP-14 score showed no statistical significant association with self-assessed oral health. Chi-Square test was applied to find significance between OHIP-14 score and area of living, 1st pregnancy where p-values were 0.514 & 0.479 respectively. Relationship of OHIP-14 score with socio-demographics has been depicted in table III

Table III: Relationship of OHIP-14 score with socio-demographics.

	OHIP score		P value	
	Good	Poor		
level of education	Illiterate	39	39	0.256
	Primary	19	19	
	Secondary	28	17	
	Higher secondary	61	51	
	Bachelors & above	63	79	
Area of living	Urban	179	174	0.514
	Rural	31	31	
1 st pregnancy	Yes	104	100	0.479
	No	106	105	
Self-assessed oral health	Excellent	10	10	0.835
	Good	88	80	
	Poor	112	115	

Discussion

Oral health effects social relationships & is tied intimately to quality of life. ² OHIP-14 is the valid & precise instrument for evaluating oral-HRQoL amongst Pakistani populace.¹³ During pregnancy, hormonal & dietary imbalances alter inflammatory mediators and

immune reactivity, which are the sources of oral cavity-related maladies, primarily gingival & periodontal infections. ¹⁴ Research had highlighted the significance of management of oral health of a female during pregnancy. ¹⁵

85.1% participants of this study were living in urban areas while only 14.9% participants were living in rural areas. This is analogous to another research, where 16% subjects were residing in rural area.¹⁶ In this study, 61.2% subjects were higher secondary school certified or above. This is far better than another research where, 28.4% had a high school diploma or above. ¹⁶ Quality of life related to oral health has been recognized by the World Health Organization (WHO) as a crucial component of the worldwide Dental Health Initiative given that it is fundamental to overall health and wellbeing. ¹⁷

In this survey, 40.5% ladies categorized their self-assessed oral health as good & 4.8% as excellent, while 54.7% taught it was poor. This is comparable to another study where 14.7% & 41.3% respondents rated their oral health status as high or excellent & good or middle respectively.¹⁸

In this research, no significant relationship of educational level with OHIP-14 was established, (p-values 0.256). This is dissimilar to another study where person's higher educational level helps in enhancing awareness about dental health.¹⁹ OHIP-14 score with area of living showed p-values of 0.514. This is opposite to another researcher's results where area of residency depicted significant association.¹⁹ One study confirmed positive association b/w lower educational level & poor OHRQoL. ²⁰

During pregnancy, information about dental hygiene must be up-graded, awareness should be enhanced at the non-governmental and governmental level jointly & quality of life of patients must be improved²¹⁻²³. Dental personnel should stress on health-promotion and education.²⁴ Women oral health education campaign with early detection of oral diseases is suggested with emphasis on significance of the public health initiatives.^{10,25} Developing dental healthcare policies & plans with precise aim of improving the OHRQoL amongst this group is indispensable.¹⁵

Limitations: Short duration and smaller sample size were main limitations. Further studies with bigger sample size are recommended.

Conclusion

Socio-demographics did not show a statistical significant association with oral health impact profile of pregnant women. Government should ensure availability and utilization of dental services for this vulnerable population.

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