

# Knowledge, Attitude and Practice of Oral and Dental Healthcare in Pregnant Women

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## Abstract

**Objectives:** Pregnant women are more susceptible to periodontal disease like gingivitis. Periodontal disease may be associated with adverse pregnancy outcomes. There is no published literature on dental health in pregnant women in Brunei, Darussalam. The objective of this study was to assess women's knowledge and attitude towards oral and dental health during pregnancy and to examine their self-care practices in relation to oral and dental health. This study was carried out at the maternal child health clinic, Jubli Perak Sengkurong Health Centre, Brunei, Darussalam.

**Methods:** This was a cross-sectional descriptive and analytical study conducted at the maternal child health center in Brunei, Darussalam. The study group was comprised of 95 pregnant women attending the MCH clinic, Jubli Perak Sengkurong Health Centre, September 2010, using convenience sampling method. A self-administered questionnaire was used, after it was pre-tested and validated. Statistical analysis was done using SPSS version 16.

**Results:** Of the total study group, 97.9% responded to the questionnaire and participated in the study. All the women brushed at least twice daily. However, only 40.9% flossed daily, 31.2% brushed after meals and 26.9% had a dental check-up at least twice a year. The knowledge related to dental care was also poor among the pregnant women. Though the majority of them (96.8%) agreed that women should have a dental check-up during pregnancy, only 55.9% actually practiced this. This raises serious concern since pregnant women may need extra oral and dental care due to susceptibility to gum diseases during pregnancy, which may contribute to low birth weight babies and premature births.

**Conclusion:** This study highlights important gaps in dental knowledge and practices related to oral and dental healthcare among pregnant women in Brunei, Darussalam. More intense dental health education, including oral health promotion in maternal child health centers can lead to improved oral and dental health, and ultimately pregnancy outcomes.

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**Keywords:** Attitude; Dental health; Knowledge; Practice; Pregnant women.

## Introduction

Pregnant women are more susceptible to periodontal disease because of female reproductive hormonal influences. A few studies have demonstrated that periodontal disease may be associated with adverse pregnancy outcomes, such as premature birth and low birth weight.<sup>1-3</sup> Prevention of oral and dental problems and their complications during pregnancy is possible through having pregnant women expressing appropriate knowledge, attitude and practice. This study provides a small insight into the country's current situation on oral and dental healthcare among pregnant women, and it will raise awareness on the importance of good oral and dental healthcare not only in pregnant women, but also in the general public.

The aim of the study was to assess women's knowledge and attitude of oral and dental healthcare during pregnancy and to examine their self-care practices in relation to their oral and dental health. In this way, deficiencies could be identified and recommendations could be formulated to improve dental education in antenatal care.

## Methods

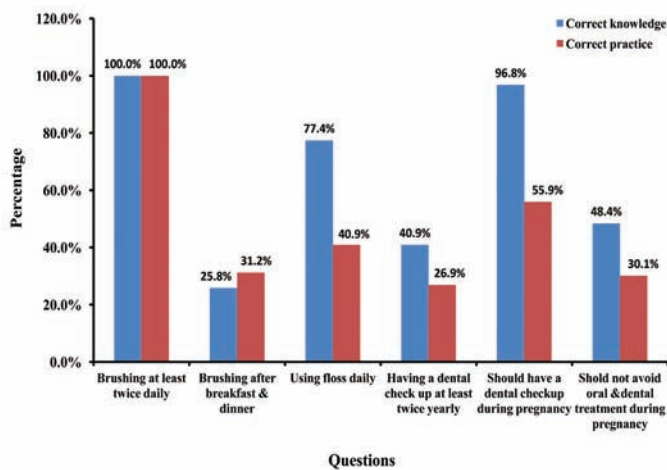
This is a cross-sectional, descriptive and analytical study. Ethical clearance was obtained from the institutional ethical committee and Medical and Health Research Ethics Committee at the Ministry of Health. The study was conducted over a one month period in September 2010 on all pregnant women attending the maternal child health clinic, Jubli Perak Sengkurong Health Centre; using convenience sampling method. A self-administered questionnaire was used, and it was pre-tested and validated prior to the commencement of the study. The questionnaire was broadly divided into four parts: (1) socio-demographic data consisting of age, ethnicity, education and job status; (2) knowledge; (3) attitude, and (4) practice of pregnant women on oral and dental health.

In this study, 95 patients were handed the questionnaire. Their ages ranged from 16-45 years. The response rate was 97.9%. The

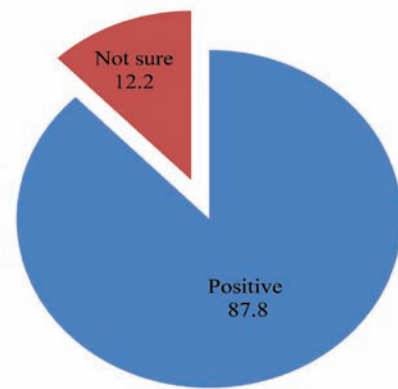
data were analyzed using the SPSS version 16. Descriptive and inferential statistics were used. Chi-square test was used to compare the difference in knowledge and practice related to oral and dental healthcare among the pregnant women by age group, educational level and job status. For all comparisons, statistical hypotheses were tested using the two-tailed tests;  $p$ -values  $<0.050$  were considered statistically significant.

## Results

Out of 95 samples, 93 participated in the study, which accounts for a response rate of 97.9%. The variables of socio-demographic characters included age, ethnicity, education, and job status are illustrated in Table 1. There was no significant association between all 6 practices with age, educational level or job status. All the women brushed at least twice daily. However, only 40.9% flossed daily, 31.2% brushed after meals (breakfast and dinner), and 26.9% had a dental checkup at least twice a year. Also the women express poor knowledge of dental care. (Fig. 1)



**Figure 1:** Knowledge and practice related to 6 oral and dental health cares of 93 respondents.



**Figure 2:** Attitude towards having a dental checkup in the future (n = 41).

**Table 1:** Socio-demographic characteristics of 93 respondents.

Variable	n (%)
<b>Age (year)</b>	
16-20	04 (04.3)
21-30	50 (53.8)
31-40	37 (39.8)
41-45	02 (02.1)
<b>Ethnicity</b>	
Malay	89 (95.7)
Filipino	04 (04.3)
<b>Education</b>	
Primary	03 (03.2)
Secondary	48 (51.6)
Pre Uni	16 (17.2)
Higher	26 (28.0)
<b>Job status</b>	
Yes	60 (64.5)
No	33 (35.5)

**Table 2.** Comparison between having knowledge oral and dental treatment during pregnancy and age group, educational level and job status.

Variable	n	Disagree	Agree	Not sure	$\chi^2$ (df) <sup>a</sup>	p-value
		n (%)	n (%)	n (%)		
<b>Total</b>	93	13 (14.0)	45 (48.4)	35 (37.6)		
<b>Age (year)</b>						
16-30	54	7 (13.0)	26 (48.1)	21 (38.9)	0.15 (2)	0.928
31-45	39	6 (15.4)	19 (48.7)	14 (35.9)		
<b>Education</b>						
Primary and Sec	51	8 (15.7)	16 (31.4)	27 (52.9)	14.02 (2)	0.001
Pre-U and higher	42	5 (11.9)	29 (69.0)	8 (19.0)		
<b>Job status</b>						
Yes	60	8 (13.3)	35 (58.3)	17 (28.3)	7.39 (2)	0.025
No	33	5 (15.2)	10 (30.3)	18 (54.5)		

Education=Educational level; Primary & Sec=Primary & secondary; Pre-U & higher=Pre-university & higher education.

The results from the responses to the 6 questions concerning knowledge and practice related to oral and dental healthcare indicate that the knowledge related to oral and dental treatment (e.g. filling, scaling, and extraction) during pregnancy was significantly associated with educational level and job status, as shown in Table 2. Alos, Fig. 2 shows the attitude of 41(44.1%) pregnant women who have not had a dental check-up for the current pregnancy towards having a dental check-up in the future.

Table 3 shows the comparison between knowledge and practice of oral and dental healthcare among the pregnant women. Knowledge related to the frequency of brushing, flossing and brushing times was significantly associated with their practice (all *p*-values <0.001). However, no significant association was found between the knowledge and practice of frequent dental checkup, having checkup during pregnancy, or avoiding oral and dental treatment during pregnancy.

**Table 3:** Comparison between knowledge and practice related to oral and dental healthcare.

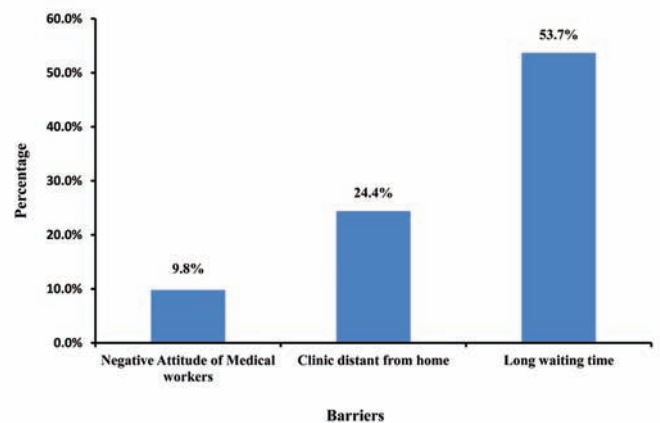
Knowledge response	n	n (%) Practiced	Not Practiced	$\chi^2$ (df) <sup>a</sup>
			n (%)	( <i>p</i> -value)
<b>Brushing at least twice daily</b>				
Total	93	93 (100)	-	-
Correct	93	93 (100)	-	-
Incorrect	-	-	-	-
<b>Brushing after breakfast &amp; dinner</b>				
Total	93	29 (31.2)	64 (68.8)	-
Correct	24	21 (87.5)	3 (12.5)	47.81 (1)
Incorrect	69	8 (11.6)	61 (88.4)	(<0.001)
<b>Using floss daily</b>				
Total	93	38 (40.9)	55 (59.1)	-
Correct	72	37 (51.4)	35 (48.6)	14.63 (1)
Incorrect	21	1 (04.8)	20 (95.2)	(<0.001)

<sup>a</sup> Chi-square test for independence

## Discussion

The knowledge related to dental care such as brushing at least twice daily, use of floss daily, brushing after meals, and dental checkup at least twice a year was found to be poor among the pregnant women. Knowledge intervention in this area might be necessary. In comparison with a postnatal survey conducted in Australia,<sup>4</sup> 26.4% of pregnant women did not receive dental care at least twice yearly. Majority of the pregnant women (96.8%) agreed that women should have a dental checkup during pregnancy, but only 55.9% had done it for the current pregnancy. In the postnatal survey done in Australia, only 30% (*n*=116) of the women attended a dental clinic during pregnancy. This raises serious concerns as pregnant women

may need extra oral and dental care due to susceptibility to gum disease during pregnancy. Studies have shown that gum disease may contribute towards the birth of low birth weight babies and premature births.<sup>5,6,7</sup> The three most common perceived barriers against having a checkup as expressed by the 44.1% who have not had a check during the current pregnancy were; long waiting time at the government clinics (53.7%), distance from home to the clinics (24.4%) and negative attitudes of medical workers (9.8%). Other studies have reported the failure rate of attendance in dental clinics as 50%, mainly due to work commitment.<sup>8</sup> However, 87.8% of them had positive attitude towards having a checkup soon. This is in contrast to a similar study done in Iran,<sup>9</sup> where 70% (*n* =224) of pregnant women had negative attitude of having a dental check-up in the future.



**Figure 3:** Perceived barriers to dental checkup (*n* = 41).

Fig. 3 shows the perceived barriers against dental check-up by the 41 women who have not had a dental checkup for the current pregnancy.

Comparing the difference in knowledge of oral and dental treatment during pregnancy, those with higher education and employment expressed better knowledge. It is probable that social communication among them had influenced this increase in knowledge. Only 48.4% of pregnant women agreed that oral and dental treatment should not be avoided during pregnancy, while the rest either disagreed or were not sure. Women should not fear any dental intervention during pregnancy; indeed, specialists believe that common treatment during pregnancy is not harmful for pregnant women or the unborn baby.<sup>10</sup>

In comparison between knowledge and practice of oral and dental healthcare, knowledge about frequency of brushing, flossing and brushing after meals was significantly associated with practice (all *p*<0.001). This shows that proper education on oral and dental healthcare among the pregnant women may lead to correct practice of oral and dental health. Pregnant women are more susceptible to periodontal disease like gingivitis because of female reproductive hormonal influences.<sup>11</sup> Pregnancy is a time when women may be more motivated to make health changes. Therefore, maintaining good oral health during pregnancy is important, apart from reducing the risk of adverse pregnancy outcomes, but it also improves general health of both the mother and her infants.<sup>12</sup>

This study has the limitation of relying on self-reported data and therefore is subject to bias. Furthermore, the study was carried out in one clinic only, therefore the results may not be sufficient to conclude for the whole pregnant population of Brunei.

## Conclusion

This study observed key gaps in knowledge and practice of oral and dental healthcare among the pregnant women. Long waiting time in the government clinic ranked the first perceived barrier against having a dental checkup during pregnancy. Whether more intensive oral and dental health education in pregnancy can lead to improved oral and dental health, and ultimately better pregnancy outcomes, would require further study.

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