

# Cross-sectional survey on primary care medical doctors' practices on oral health care in pregnancy and its association with knowledge and attitude

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## ABSTRACT

**Introduction:** Oral health care is an important indicator of the overall wellbeing of pregnant women. Optimizing the utilisation of dental care during pregnancy goes a long way in ensuring an improved and optimal pregnancy outcome. **Objective:** This study aimed to assess the practices of primary care doctors on oral health care in pregnancy and its association with the level of knowledge and attitude.

**Materials and Methods:** This cross-sectional study was conducted among primary care doctors in nine public health clinics in Petaling District. A self-administered questionnaire consisting of socio-demographic characteristics, knowledge, attitude, and practices related to oral health care in pregnancy was used.

**Results:** A total of 138 primary care doctors participated in this study with a response rate of 98.0%. Most primary care doctors frequently advised patients not to delay dental visits until after pregnancy (84.8%), advised patients to see dentists (69.7%), and referred patients to dentists during pregnancy (63.6%). However, only 18.9% perform assessments routinely to detect oral health issues. The median (IQR) score for knowledge was 17(4) (range score: 0–23) and attitude was 23(3) (range score: 6–30). Knowledge median score ( $p:0.026$ ) and practices of referring patients to dentists ( $p:0.017$ ) were significantly associated. There was a positive correlation between overall practices of primary care doctors and their age, years of experience, and knowledge.

**Conclusion:** Most primary care doctors frequently advise and refer pregnant patients to see dentist. Primary care doctors with higher knowledge score, who were older and had more experience, had better overall practices on oral health care in pregnancy.

## KEYWORDS:

Oral health, practices, pregnancy, primary care doctor

## INTRODUCTION

Oral health plays an essential role in our overall wellbeing. It is estimated that oral diseases affect more than 3.58 billion people worldwide with dental caries being the most

prevalent.<sup>1</sup> In Malaysia, based on National Oral Health Survey 2010, the prevalence of dental caries among adults is 89.5% and up to 94% for periodontal disease.<sup>2</sup> Currently, studies on oral health care among pregnant women in Malaysia are still limited.

Oral care is an important but often neglected component during routine pregnancy care. Gingivitis, a precursor to periodontitis, is the most commonly reported oral problem during pregnancy, with a prevalence of 60–75%.<sup>3</sup> During pregnancy, women experience several physiological changes that can adversely affect their oral health. The acidic environment of oral cavity, hyperemesis gravidarum, fluctuations in oestrogen and progesterone level with changes in oral flora, and an increase of sugary diet can lead to poor oral health.<sup>3</sup>

Multiple studies have been conducted on the association of maternal periodontitis with neonatal outcomes. These studies have found a positive association between periodontal disease and poor pregnancy outcomes, such as preterm birth, low birth weight, and preeclampsia.<sup>4,6</sup> Studies have also shown that mothers with untreated dental caries and severe tooth loss during pregnancy were more likely to produce children who were more prone to dental caries.<sup>7</sup> Besides, periodontal infection is also found to be an additional risk factor for systemic disorders, such as cardiovascular disease, diabetes, and even pulmonary disease.<sup>8</sup>

Despite the potential impact of poor maternal oral health care on both maternal and foetus health and wellbeing, studies of various populations have shown low utilisation of oral health care services among pregnant women.<sup>9–11</sup> In Malaysia, all mothers attending the Maternal and Child Health clinics for antenatal check-ups should be referred to the dental clinic for oral health examination and education as part of a government-driven oral health care program.<sup>12</sup> The report by Ministry of Health Malaysia indicated that the percentage of antenatal mothers who sought dental care in the year 2017 was at only 43%. Despite improvements in dental coverage over the years, the utilisation of dental care among pregnant women remains low especially in the federal territory of Kuala Lumpur (15.3%) and Selangor (17.6%).<sup>12</sup>

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A recent study done by Jamani et al.<sup>11</sup> reported poor knowledge on oral health among pregnant mothers, leading to poor attitude towards dental health during the pregnancy period. Many were unaware that dental caries and gum bleeding could lead to foetal mortality if left untreated. Although most health care providers agreed that maternal oral health care is important,<sup>13</sup> referral practices of doctors were poor.<sup>14-16</sup> Tan et al.<sup>17</sup> reported that oral health care utilisation in Malaysia remains low (13.2%), despite increasing health awareness campaigns. Many perceived that oral health care should only be sought if there are oral health care problems, which are mostly denied. Among health care practitioners, the barriers that impeded referral practices were the lack of knowledge on the safety of dental treatment, insufficient training on oral health, being unaware of the need to refer, and time constraints.<sup>13,18,19</sup>

A study done in India to assess the knowledge, attitude, and practices of primary health providers found that majority agreed that responsibility of preventing oral disease should be incorporated as part of the primary care health system.<sup>20</sup> Primary health care providers, being the first line of pregnancy care support for both urban and rural communities, are in a good position to educate patients on the importance of oral health during pregnancy. They could also increase the chances of dental care utilisation by referring these pregnant women for dental check-ups as part of the pregnancy care. Hence, it is important for primary care doctors to be well equipped with the proper practices and knowledge regarding oral health during pregnancy.

Most existing studies involved patients, hospital-based health care providers, and nurses.<sup>11,17,21,22</sup> To date, many are not aware that oral health care practices are provided by the primary care doctors to pregnant women in Malaysia. Thus, this study aims to bridge the gap and provide insight by exploring the practices of primary care doctors on oral health care during pregnancy and its association with their level of knowledge, attitude, and their socio-demographic characteristics.

### Study Design

This cross-sectional study was conducted from October 2019 until December 2019 in nine government health clinics in Petaling District. This district was selected due to its lowest utilisation of dental care among pregnant women in Selangor (JKNS 2019). This study involved medical officers from Klinik Kesihatan (KK) Seri Kembangan, KK Taman Medan, KK Puchong (Batu 14 & 13), KK Kota Damansara, KK Paya Jaras, KK Shah Alam (Seksyen 7 & 19), and KK Kelana Jaya. The list of medical officers was obtained from Jabatan Kesihatan Negeri Selangor (JKNS). Based on the data from JKNS, there were 223 medical officers working in the nine government health clinics in Petaling District. Using simple proportion formula for finite population, sample size was calculated based on a prior study that indicated 81% of favourable level of practices,<sup>20</sup> 95% confidence interval, 5% absolute precision, and 20% non-response rate. Hence, the computed sample size was 140.

The medical officers who fulfilled the eligibility criteria were selected based on simple random sampling using a

computer-generated randomiser application (random.org). The inclusion criteria for this study were medical officers who had worked at Maternal & Child Health (MCH) clinics for at least 3 months. Medical officers who were absent during data collection period were excluded from the study.

The questionnaires were handed over to the medical officer in-charge of each clinic by the investigator after a study briefing. The questionnaires were later distributed by the medical officer in-charge to all the selected participants in their respective clinics. A cover letter that explained the study as well as a consent form were attached to each questionnaire. Participants who agreed were asked to sign the informed consent before completing the questionnaire. The questionnaires were collected after one week by the investigator. For those who did not return the form or had incomplete submissions, two follow-ups (face-to-face) were done with one-week interval to collect the remaining questionnaires. All steps and measures conducted in this study followed the values from Helsinki Declaration of conduct of clinical trial.<sup>21</sup>

### Study Instrument

This study used a set of self-administered questionnaire comprising two parts. The first part was on the demographic characteristics of the respondents, and the second part covered knowledge, attitude, and practices related to oral health in pregnancy. Questions on socio-demography sought information on respondent's age, gender, average years of experience, acknowledgement of formal oral health training, and information on oral health availability in current practice. The second part of the questionnaires was used in studies conducted by Sharif et al.,<sup>22,23</sup> and permission to use the questionnaires was obtained from the original author. The questionnaire was developed in Bahasa Malaysia and had undergone content validity and reliability testing with the Cronbach alpha value of 0.61–0.76 for knowledge, attitude, and practice domains.<sup>22,23</sup> As the original questionnaire was designed for medical nurses, the set of questionnaires was pre-tested on 30 medical officers from health clinics outside Petaling District. There was no major issue for the doctors to respond to the questions, and the Cronbach alpha for knowledge, attitude, and practice was 0.72, 0.71, and 0.76, respectively, which proved to be equivalent to the original version.

There were 23 items to assess the medical officers' knowledge on oral health care during pregnancy. The answers in the questionnaire consisted of 'Yes' 'No', and 'Do not know' answers in which 1 point was given for the correct answers and 0 point for 'Do not know' or incorrect answers. The total score was the summation of all items that ranged from 0 to 23; the higher the score, the better the knowledge on oral health in pregnancy.

There were six items to assess the medical officers' attitude on the importance of oral health examination and education on antenatal oral health care. These items used five-point Likert scale of responses, ranging from 'strongly disagree' (score 1) to 'strongly agree' (score 5). The negatively worded items were reversely scored, and the total score was the summation of the six items. The total score for attitude ranged from 6 to 30;

**Table I: Practices related to oral health (n= 138)**

VARIABLES	Very frequent	Frequent	Infrequent	Very infrequent	Never
I advise patients to see a dentist during pregnancy	46 (33.4)	50 (36.2)	30 (21.7)	3 (2.2)	9 (6.5)
I refer patients to dentists for dental check-ups	38 (27.6)	51 (37.0)	26 (18.8)	10 (7.2)	13 (9.4)
I advise patients to delay dental visits until after the pregnancy	3 (2.2)	7 (5.1)	10 (7.2)	5 (3.6)	113 (81.9)
I refer patients to dentists for oral health talks	30 (21.7)	35 (25.4)	32 (23.2)	15 (10.9)	26 (18.8)
I inform patients on the importance of oral health	10 (7.2)	27 (19.6)	36 (26.1)	40 (29.0)	25 (18.1)
I ask patients if they have oral health issues	12 (8.7)	21 (15.2)	49 (35.5)	33 (23.9)	23 (16.7)
I perform assessments to detect oral health issues	11 (8.0)	15 (10.9)	36 (26.1)	37 (26.8)	39 (28.2)

**Table II: Knowledge about oral health in pregnancy (n=138)**

KNOWLEDGE (CORRECT ANSWER)	CORRECT NO	(%)
Symptoms of gum disease includes :		
• Swollen gums (True)	137	99.3
• Pain from the gums (True)	137	99.3
• Bleeding gums (True)	136	98.6
• Gum abscess (True)	136	98.6
• Bad breath (True)	130	94.2
• Loose tooth (True)	122	88.4
• Changes in gum colour (True)	122	88.4
Gum disease is caused by /associated with		
• Smoking (True)	136	98.6
• Dental plaque (True)	135	97.8
• Pregnancy (True)	112	81.2
• Genetics (True)	61	44.2
• Excessive sugar consumption (False)	6	4.3
• Tooth decay (False)	4	2.9
Acid that cause tooth decay is produced when bacteria react with sugars in carbohydrate (True)	135	97.8
Brushing teeth with fluoridated toothpaste can help prevent tooth decay (True)	127	92.0
Hormonal changes in pregnancy increases the risk for gum disease (True)	121	87.7
Dental treatments during pregnancy may negatively affect the foetus (False)	109	79.0
Stomach acids released during vomiting may erode the surfaces of the teeth (True)	108	78.3
Pregnant mothers should be advised to stop brushing their teeth if the gums bleed (False)	107	77.5
Gum problems in pregnant mothers may result in adverse outcomes such as		
• Low birth weight babies (True)	67	48.6
• Preterm birth (True)	72	52.2
• Cleft lip and palate (False)	53	38.4
Calcium will be drawn out of mothers' teeth by the foetus (False)	40	29.0

**Table IIIa: Correlation between overall practices among primary care doctors on oral health care in pregnancy, and their socio-demographic (age and years of experience), knowledge and attitude. (n=138)**

Variable	Median (IQR)	r	p-value <sup>a</sup>
Socio-demographic			
• Age (years)	34 (4)	0.190	0.026
• Years of experience in primary care	4 (4)	0.216	0.011
Knowledge	17 (4)	0.200	0.020
Attitude	23.0 (3)	0.149	0.082

Spearman correlation test IQR: Interquartile range

**Table IIIb: Association between overall practices among primary care doctors on oral health care in pregnancy and their socio-demographic (Gender, Formal education/ training in oral healthcare and having information/brochure on oral healthcare) (n=138)**

Variable	Median (IQR)	p value
Socio-demographic		
• Gender		
• Female (n=120)	21 (10)	23 (9)
• Male (n=18)	24 (8)	
Formal education/training on oral health care during pregnancy		
• Yes (n=6)	24.5 (7)	0.544 <sup>b</sup>
• No (n=132)	24 (8)	
Information/brochures on oral health during pregnancy' in your practice		
• Yes (n=34)	25 (4)	0.403 <sup>b</sup>
• No (n=104)	23 (9)	

b: Mann- Whitney test

**Table IV: Practices of advising and referring to dentist for dental check-up during pregnancy and its association with socio-demographic, knowledge and attitude. (n=138)**

Variable	Practices of advising patients to see dentist during pregnancy		p-value	Practices of referring patients to dentists for dental check-ups		p-value
	Frequent (n=96)	Infrequent (n=42)		Frequent (n=89)	Infrequent (n=49)	
Age	34 (4)	33 (4)	0.370 <sup>b</sup>	34 (4)	33 (5)	0.125 <sup>b</sup>
Gender						
• Female (n=120)	86 (71.7)	34 (28.3)	0.166 <sup>c</sup>	81 (67.5)	39 (32.5)	0.060 <sup>c</sup>
• Male (n=18)	10 (55.6)	8 (44.4)		8 (44.4)	10 (55.6)	
Years of experience in primary care	5 (4)	3 (4)	0.112 <sup>b</sup>	5 (5)	3 (4)	0.051 <sup>b</sup>
Formal education/training on oral health care during pregnancy						
• Yes (n=6)	6 (100)	0 (0.0)	0.229 <sup>c</sup>	6 (100.0)	0 (0.0)	0.155 <sup>c</sup>
• No (n=132)	90 (68.2)	42 (31.8)		83 (62.9)	49 (37.1)	
Information/brochures on oral health during pregnancy' in your practice						
• Yes (n=34)	27 (79.4)	7 (20.6)	0.151 <sup>c</sup>	25 (73.5)	9 (26.5)	0.205 <sup>c</sup>
• No (n=104)	69 (66.3)	35 (33.7)		64 (61.5)	40 (38.5)	
Knowledge median (IQR)	18 (3)	17 (4)	0.026 <sup>b</sup>	18 (3)	17 (4)	0.017 <sup>b</sup>
Attitude median (IQR)	24 (4)	23 (3)	0.338 <sup>b</sup>	24 (5)	23 (3)	0.438 <sup>b</sup>

b: Mann- Whitney test c: chi square

the higher the score, the better the attitude towards providing the oral health care service.

There were seven items to assess the medical officers' practices of advising, referring, and examining pregnant patients with oral health issues. These items used five-point Likert scale of responses, ranging from 'never' (score 1) to 'very frequent' (score 5). The negatively worded items were reversely scored, and the total score was the summation of the seven items. The total score for practice ranged from 7 to 35; the higher the score, the better the practices of providing the oral health care.

**Data analysis**

Data was input into IBM SPSS version 23. For descriptive statistics, mean (standard deviation) or median (inter quartile range) would be used where appropriate. Categorical variables were described in frequency (n) and percentage (%). Spearman's correlation and Mann-Whitney test (non-parametric test) were used to determine the associations between the overall practices of providing the oral health care with knowledge, attitude, and socio-demographic characteristics. We also tested the association between the practice of advising to see dentists and referring patients to dentists (categorical) with knowledge, attitude, and socio-demographic characteristics using Chi-square test or Mann-Whitney test. Chi-square test was used for categorical variables, and Mann-Whitney test was used for continuous variables.

The responses for these two items (advising and referring) were re-grouped into two categories, in which 'very frequent' and 'frequent' responses were grouped as 'frequent' and 'infrequent', 'very infrequent', and 'never' were grouped as 'infrequent'. The probability value of less than 0.05 was set as statistically significant.

**RESULTS**

**Characteristics of the Participants**

Out of the 140 questionnaires that were distributed, a total of 138 questionnaires were returned, yielding a response rate of 98%. From the 138 questionnaires, there were no missing data. The majority of the respondents were females (87%) with mean age of 34 years. Their mean duration of working experience in primary care clinics was 4 years. Only 4.3% reported receiving training on antenatal oral health care, and only 24.6% had brochures on oral health in pregnancy in their clinic settings.

**Practices Related to Oral Health in Pregnancy**

The median practice score of the respondents was 24.0 (IQR 8) out of a total score of 35. Table I shows the results on practices related to oral health among the medical officers in Petaling District. Of the seven variables, three practices scored the highest, which are the practices of advising patients to see dentists during pregnancy (69.6%), referring patients to dentists for dental check-up (64.6%), and advising patients not to delay dental visits until after pregnancy (85.5%). It was also observed that asking patients if they have oral health issues (23.9%) and performing oral health assessment (18.9%) scored the lowest.

**Knowledge on Oral Health in Pregnancy**

The median knowledge score was 17 (IQR 4) out of a total score of 23. Table II describes the knowledge of respondents on oral health in pregnancy. Most respondents knew the symptoms of gum disease (range: 88.4–99.3% correct answers) and that gum disease is associated with dental plaque and smoking (97.8–98.6% correct answers). A high percentage of incorrect responses was recorded on the question that tests their knowledge about calcium being drawn out of the mothers' teeth by the foetus (29.0% correct answers) and on the adverse effects of maternal gum disease on infants (range: 48.6–52.2% correct answers).

### Attitude on Oral Health in Pregnancy

The median attitude score of the respondents was 23.0 (IQR 3) out of a total score of 30. Majority of the doctors (97.8%) agreed that oral health examination is an important element in routine antenatal care and that they should update their knowledge on oral health in pregnancy (89.9%). However, only two-third of the doctors agreed that they should be trained to perform oral health screening (64.5%) and only a small percentage (9.4%) agreed that it is their responsibility to examine a patients' mouth to detect oral health issues.

### Association of Practices Related to Oral Health with Socio-Demographic Characteristics, Knowledge, and Attitude

Tables IIIa and IIIb show the association between the practices of providing oral health care in pregnancy with the socio-demographic characteristics, knowledge, and attitude. There is a significant correlation between overall practices and age, years of experience, and level of knowledge on oral health care during pregnancy. The observed correlation coefficient,  $r$ , suggests positive and weak correlations.

Participants who are older or with more years of experience or those with higher level of knowledge had better overall practices on oral health care in pregnancy.

Table IV shows the association between the practices of advising and referring pregnant women for dental check-up and socio-demographic characteristics, knowledge, and attitude of the primary care doctors. Results showed statistically significant associations between these practices and their median knowledge score. No associations were seen with other variables.

## DISCUSSION

This study assessed the practice of primary care doctors on oral health care in pregnancy. It further explored the association of their practice with their level of knowledge, attitude, and socio demographic characteristics. This study found that 69.6% of the doctors advising antenatal mothers to see dentists and 64.5% of them referring them. There was a positive correlation between overall practices of primary care doctors and their age, years of experience, and knowledge.

### Oral health care practices by the primary care doctors

The findings on practices of medical officers in this study showed distinct patterns on advising and referring patients for further dental care. Two-third of doctors advised patients to see dentist during pregnancy (69.6%), while only a small percentage advised pregnant patients to delay dental visit until delivery (14.5%). This study showed a better practice compared to a study done among physicians in Jordan where only 49% advised their patients to visit dentist and a majority of them (88%) advised their patients to delay dental treatment until delivery.<sup>14</sup> This is probably due to the fact that up to 68% of the physicians in the study were doubtful about the safety of dental treatment during pregnancy<sup>14</sup> in contrast to our study where only 22% believed that dental treatments during pregnancy may affect the foetus.

On the practice of referring patients, 64.6% of the primary care doctors referred patients to dentists for dental check-up.

These findings are higher than a previous study conducted in Gujarat, India, which found that only 47.7% of the doctors referred their antenatal patients to the dentists.<sup>16</sup> This is perhaps since dental care services are only available in few states in India at the primary health care level. In addition to this, patients must fund their own dental treatment regardless of public or private practices.<sup>24</sup> This contrasts with our study setting where the majority of the health clinics had on-site dental facilities.

Additionally, in Malaysia, efforts have been made to ensure all pregnant patient attending maternal and child health clinics to be referred to a dentist during their pregnancy as part of routine antenatal check-up.<sup>25</sup> That being said, even though all pregnant women are required to be referred for dental care, there is currently no standard referral procedure in place. This results in non-standardised practices in terms of determining how the referral needs to be made as demonstrated by this study. This situation would benefit with a standardised practice for primary health care providers to refer patient for oral health assessment.

### Factors associated with the provision of oral health care

This study found that there is a positive correlation between the respondent's age, working experience, and knowledge with their overall practices on oral health care during pregnancy. The correlation between practices and age and working experience indicates that older primary care doctors with longer working experiences have higher practice scores. One likely explanation for this may be that doctors with more working experience have had better exposure and would have built up a good interdisciplinary relationship over time.<sup>26</sup> However, in terms of the practice of advising and referring pregnant patients for dental care, no association was found between practices and age or working experience. This contrasts with a study done in Brazil,<sup>27</sup> which found the length of working experience is correlated with their referral practices for dental examinations. This difference could be due to the fact that majority of doctors from the mentioned study had more than 15 years of experience compared to our study where majority of them had less than 5 years of working experience.

Most of the primary care doctors showed a good level of knowledge on oral health in pregnancy; however, certain aspects, such as calcium being drawn out from the mother's teeth and the impact of gum disease on the foetus, need to be revisited. The knowledge on calcium and its metabolism during pregnancy was poorer compared to other studies.<sup>18,14</sup> This was probably due to the existing misconception that calcium will be drawn out of mother's teeth for the development of foetus.<sup>13</sup> Almost half of the doctors scored poorly to the question regarding gum disease and its adverse outcome to the foetus. This is in line with other studies conducted among health care providers where only 44.5–60.9% were able to identify periodontal disease as one of the risk factors for low birth weight and preterm birth.<sup>26,27,17</sup> This shows that despite extensive studies, the awareness levels of doctors are still poor in this aspect. The primary care doctors may benefit from continuous medical education by focusing on gum disease and its adverse outcomes during pregnancy. Primary care doctors who attended educational seminars on oral health care showed much improvement on

their knowledge.<sup>28</sup> It is hopeful that these learnings from continuous medical education will be passed on to pregnant patients as one of the efforts to improve dental care utilisation. With regard to the correlation between knowledge and practices, primary care doctors with higher knowledge had a better overall practice on oral health care in pregnancy. The positive association was also applied to the practice of advising and referring pregnant patients for dental care with the level of knowledge.

In terms of attitude, majority of the doctors agreed that oral health examination is an important element in routine antenatal care and that they should update their knowledge on oral health care. Despite that, a high percentage of the primary care doctors (81%) believe that it is not their responsibility to detect oral health problems. This is in line with their practice where only one-fifth of primary care doctors frequently performed assessment to detect oral health issues, ask patients regarding oral health issues, and inform pregnant women on the importance of oral health care. This finding is similar to another study,<sup>13</sup> which agreed that oral assessments during antenatal visits is important, although conducting oral examination during pregnancy is outside their routine practice. Insufficient training on providing basic oral examination, lack of knowledge and skills to educate patients, and lack of time were some of the barriers identified.<sup>18,13</sup>

One of the limitations of this study is that this study only focused on doctors serving the government health care clinics and not involving private clinics doctors. The demographic characteristics of the respondents in this study are fairly comparable to the National Health Care Statistic of primary care doctors in Malaysia as of year 2014 whereby a majority of the respondents were female, between the ages of 28 and 34 years with less than 5 years of working experience in a public primary care setting.<sup>29</sup> However, as this study was conducted in a particular geographic region, generalizing the results as a representation of a larger population needs to be judicious. The study instrument was a self-administered questionnaire, and participants were given a period of 1–2 weeks to answer the questionnaire; hence, there were no direct observation done, thus reliant on the respondents' reliability in recalling as well as their honesty. Besides, as this study did not include the barriers faced by the primary care doctors in their practices on oral health care in pregnancy, little is known on the limitation faced from the perspective of the primary care doctors.

## CONCLUSION

This study shows that the overall practices among primary care doctors were encouraging with 'the practice of advising and referring pregnant women for dental care' scoring the highest in comparison to other practices that were measured. There was also an association between overall practices and age, years of experience, and knowledge. Continuous medical education plays a vital role as the catalyst in improving and enforcing the knowledge among primary care doctors as part of the effort in strengthening their practices. Therefore, it is recommended to increase the knowledge and awareness of oral health care among primary care doctors by

continuously educating through collaboration with dental professionals as part of antenatal care.

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## ETHICAL CONSIDERATION

Approval to conduct the study (without funding) was obtained from the Medical Research and Ethic Committee (MREC) of the Ministry of Health Malaysia (NMRR-18-3900-44889) and the Research Ethic Committee of Universiti Kebangsaan Malaysia (PPUKM FF-2019-148). Permission was then obtained from the Selangor State Health Department, Petaling District Health Office, and Family medicine specialist from the respective health clinics, Participants (medical professionals) were explained regarding the nature of the study, and written consent was obtained before answering the questionnaire.

## CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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