KNOWLEDGE, AWARENESS AND PRACTICE ON ORAL HEALTH CARE AMONG PREGNANT MOTHER IN ANTENATAL CLINIC AT HOSPITAL UNIVERSITI SAINS MALAYSIA

by

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LIST OF ABBREVIATIONS

ACOG	- The American College of Obstetrician and Gynecologist
HBM	- Health Belief Model
HOSPITAL USM	- Hospital Universiti Sains Malaysia
HREC	- Human Research Ethics Committee
SPSS	- Statistical Package for Social Sciences
USM	- Universiti Sains Malaysia
WHO	- World Health Organization

PENGETAHUAN, KESEDARAN DAN AMALAN PENJAGAAN KESIHATAN ORAL DALAM KALANGAN IBU MENGANDUNG DI HOSPITAL UNIVERSITI SAINS MALAYSIA (Hospital USM)

ABSTRAK

Penjagaan kesihatan oral melibatkan penjagaan dan pembersihan keseluruhan mulut dan gigi secara sempurna. Tujuan kajian ini adalah ingin menilai pengetahuan, kesedaran dan amalan penjagaan kesihatan oral dalam kalangan ibu mengandung di klinik antenatal di Hospital USM. Reka bentuk deskriptif keratan rentas digunakan untuk kajian ini. Seramai 92 orang ibu mengandung diambil dengan menggunakan kaedah ringkas persampelan rawak. Instrumen yang digunakan untuk kajian ini adalah kumpulan soalan mengenai data demografik, pengetahuan kesihatan penjagaan kesihatan oral, kesedaran penjagaan kesihatan oral dan amalan penjagaan kesihatan oral. Pemarkahan mengikut pada jawapan yang betul untuk soalan pengetahuan, “ya” atau “tidak” untuk soalan kesedaran dan tiga pencipta skala untuk soalan amalan. Untuk setiap jawapan yang betul satu markah akan diberikan. Majoriti ibu mengandung 83 (85%) mempunyai pengetahuan yang baik tentang penjagaan kesihatan oral. Sementara, 89 (90.7%) ibu mengandung mempunyai kesedaran yang baik terhadap penjagaan kesihatan oral. Selain itu, amalan kesihatan oral pada ibu mengandung 43(46.7%) mempunyai amalan yang baik trhadap penjagaan kesihatan oral. Walau bagaimanapun, terdapat 26.1 (27%) dan 27.2(26.3%) pelajar mempunyai amalan sederhana dan lemah masing-masing terhadap penjagaan kesihatan oral. Kesimpulannya, penemuan kajian menunjukkan keperluan untuk maklumat formal yang mencukupi dan amalan penjagaan kesihatan oral yang sesuai dalam ibu mengandung untuk mengurangkan komplikasi masalah oral dan kelahiran di Malaysia.

KNOWLEDGE, AWARENESS AND PRACTICE ON ORAL HEALTH CARE AMONG PREGNANT MOTHERS IN HOSPITAL UNIVERSITI SAINS MALAYSIA (Hospital USM)

ABSTRACT

Oral health care involves the care and cleansing of the entire mouth and teeth. The purpose of this study was to evaluate knowledge, awareness and practice of oral health care among pregnant women in antenatal clinics at Hospital USM. Descriptive design of cross-sectional designs was used for this study. A total of 50 pregnant mothers were recruited using a simple random sampling method. The instruments used for this study were a set of questions about demographic data, oral health care knowledge, oral health care awareness and oral health care practices. Scoring according to the correct answer to the knowledge question, "yes" or "no" to the awareness question and three scale creators for practice questions. For each correct answer one score will be given. Data were analyzed in SPSS (version 24) and the results are presented in the table. Most pregnant mothers had good knowledge of oral health care with 83(85%). Meanwhile, 84 (85.8%) pregnant mothers had a good awareness of oral health care. In addition, oral health practices in 43 pregnant mothers (46.7%) were good practices in oral health care. However, 26.1(27%) and 27.2(26.3%) pregnant mother had moderate and weak practices of oral health care, respectively. In conclusion, the findings of the study indicate the need for adequate formal information and appropriate oral health care practices in pregnant women to reduce complications of oral and birth problems in Malaysia.

CHAPTER 1

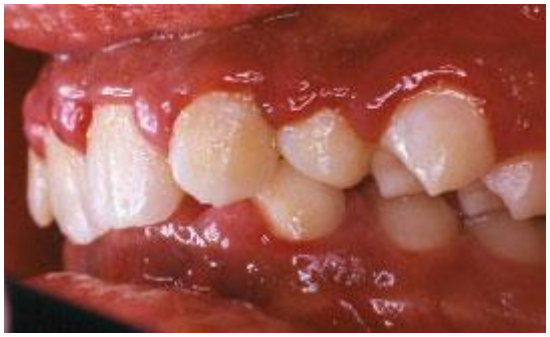
INTRODUCTION

1.1 Background of the study

Oral health is important part to overall health, and it is also a vital part in pregnancy. Antenatal mothers are one of the target groups focused by the Ministry of Health Malaysia in providing oral healthcare. An oral health programe for antenatal mothers has been place since the early 1970's (Nurul Asyikin, Nor Shaida, Nur Amirah, 2010). Pregnancy can cause physiological changes to pregnant mother which causes by changing of hormones in the body. All these changes can lead to the risk of oral health problem. This may affect pregnancy and can causes complication to the mother and fetus itself if lack of proper oral hygiene. Pregnancy is a unique process which can causes the mother to have fluctuating in estrogen and progesterone hormone that resulting in morning sickness and increase in appetite. As an example, pregnant mother with hyperemesis gravidarum can have enamel erosions that cause by acid reflux in their mouth.

These changes of hormones can increase risk for certain dental problems during pregnancy including gingivitis, periodontal or gum disease and tooth erosion. All of these problems can lead to the complication such as cardiovascular diseases, diabetes, Alzheimer disease, respiratory infections, as well as osteoporosis of the oral cavity according to The American College of Obstetrician and Gynecologist (ACOG), (2013). Common oral health condition is pregnancy gingivitis which is an increased inflammatory response to dental plaque during pregnancy causes the gingivae to swell and bleed more easily in most women. Pregnancy gingivitis typically peaks during the third trimester. Women who have gingivitis before pregnancy are more prone to

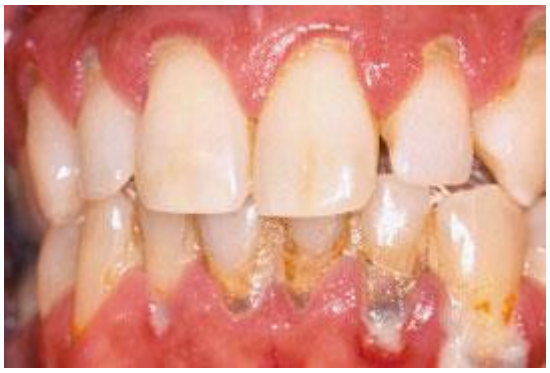
exacerbation during pregnancy (ACOG, 2013). Figure 1.1 shows the common gingivitis among pregnant women (Hugh, Alan, Joanna, Laura, 2010)



Source: Hugh et al., (2010)

Figure 1.1: Gingivitis

Moreover, untreated gingivitis can progress to periodontitis, an inflammatory response in which a film of bacteria, known as plaque, adheres to teeth and releases bacterial toxins that create pockets of destructive infection in the gums and bones. It may resulting loosen of teeth and a bacteremia (ACOG, 2013). It is known that late treatment given may resulting dangerous inflammation to gum. These conditions may cause severe pain to pregnant mother. A recent Australian study found that women with prenatal loss due to extreme maturity were more than four times as likely to have periodontal disease, compared to women with full term, live born infant (Hugh et al., 2010). Figure 1.2 show the moderately severe periodontitis (Hugh et al., 2010).



Source: Hugh et al., (2010)

Figure 1.2: Moderate severe periodontitis

Women with preexisting periodontal disease can reduce the risk of recurrence or worsening disease during pregnancy through proper oral hygiene. These intraoral changes that occur during pregnancy combined with lack of routine dental checkups and delays in treatment for oral disease, place pregnant women at higher risk for dental infections (Nurul Asyikin et al., 2010). The American Academy of Periodontology, (2013), recommends that all women who are pregnant or planning to become pregnant undergo a periodontal examination and any necessary treatment.

A woman's knowledge of and action on her own oral health are important for the oral health of her children. Children whose mothers have poor oral health are five times more likely to have oral health problems than children whose mothers have good oral health (El- Mahdi Ibrahim, Mudawi, Ghandour, 2016). According to World Health Organisation (WHO), (2012) publication on preterm birth, it has been postulated that the effectiveness of periodontal care may depend on when during pregnancy the periodontal disease is detected and treated.

1.2 Problem Statement

Oral health care is vital for pregnant mother since they had sensitive period of hormones during pregnancy. Poor oral hygiene can lead to oral disease that causes severe pain to pregnant mother. Hence, it will harm to the development of fetus and can cause severe complication.

Based on previous study at Hospital USM, dental attendance among pregnant women has been low although they frequently experience oral health problems (Suzanna, Norkhafizah & Azizah, 2016). Base on the report, cardiac complications such as heart failure, diabetes mellitus, short stature, osteoporosis and pubertal delay is some of the

complications of the poor oral health hygiene (WHO, 2018). In addition, the oral health care is the primary step to prevent any oral disease complication.

Some oral pregnancy conditions may have negative outcomes for the child: periodontitis is associated with premature birth and low birth weight and preeclampsia. In the sample, the great majority of pregnant women reported knowing that oral diseases can affect the health and yet, few were instructed to seek dental treatment during prenatal, confirming previous reports that the assessment of oral health in pregnancy does not receive due attention (Luciana et al., 2013).

The situation could be seen that most of the assessed pregnant women had periodontal disease. Although they are aware that oral diseases can bring risks to their health, most of them have not received guidance to seek the dentist during pregnancy. This is consistent with the literature and highlights the fact that pregnant women have many doubts as well as dental needs and should be more carefully taken care of by the dentists.

Dental disease such as cavity, gingivitis and periodontitis can be prevented through several ways. Dentistry can be vital in improving prenatal outcome and maternal or foetal dental health through screening, referral, and education of pregnant women. It is important to understand that establishing a healthy oral examination is the most important objective in planning dental care for pregnant women. Thus, nurses also play an important role in giving advice and health education to the pregnant mother regarding the importance of oral health care.

1.3 Research Objectives

1.3.1 General Objectives

To determine the knowledge,awareness and practice of oral health care among pregnant women in antenatal clinic at Hospital USM.

1.3.2 Specific Objectives

-To determine the level of knowledge regarding oral health care among pregnant mother at Hospital USM.

- To determine the level of awareness of oral health care among pregnant mother in antenatal clinic at Hospital USM.

-To determine the level of practice on oral health care among pregnant mother in antenatal mother at Hospital USM.

-To identify the relationship between knowledge and practice regarding oral health care among pregnant mother in antenatal clinic at Hospital USM.

1.4 Research Questions

a) What is the level of knowledge regarding oral health care among pregnant mother in antenatal clinic at Hospital USM.

b) What is the level of awareness regarding oral health care among pregnant mother in antenatal clinic at Hospital USM.

c) Is there any relationship between knowledge and practice regarding oral health care among pregnant mother in antenatal clinic at Hospital USM.

1.5 Research Hypotheses

H_O : There is no association between knowledge and practice regarding oral health care among pregnant mother in antenatal clinic at Hospital USM.

H_A : There is an association between knowledge and practice regarding oral health care among pregnant mother in antenatal clinic at Hospital USM.

1.6 Definition of Operational Terms

Table 1.1 Definition of Terms

Terms	Conceptual definitions	Operational definition
Knowledge	Knowledge is defined as facts, information and skills acquired through experience or education, the theoretical or practical understanding of a subject (Oxford Dictionaries, 2018).	In this study, it refers to the understanding of any related topic on oral health care.
Awareness	Awareness is defined as a concern about and well informed interest in a particular situation or development (Oxford Dictionaries, 2018).	In this study, it refers to the feeling of oral health care.

Practice	Practice is defined as the actual application or use of an idea, belief or method, as opposed to theories relating to it (Oxford Dictionaries, 2018).	In this study, it refers to the action towards taking care of oral health.
Oral health	A state of being free from chronic mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum) diseases and disorder that limit an individual's capacity in biting, chewing, smiling, speaking and psychosocial wellbeing (WHO, 2018).	In this study, it refers to the knowledge, awareness and practice of pregnant mother care on oral health.
Care	To do the things that are needed to help or protect (Merriam-Webster, 2019).	In this study, it refers to the care of oral health on pregnant mother.
Pregnant mother	Pregnant mother refer to a female who is carrying developing embryo or fetus (Merriam-Webster, 2019).	In this study, pregnant mother is referred to the patient in antenatal clinic at Hospital Universiti Sains Malaysia (USM).

1.7 Significance of the Study

The findings from this study will determine the level of knowledge, awareness and practice regarding oral health care among pregnant mother in antenatal clinic at Hospital USM. . It is hope that the findings of the propose study can contibute to strenghthen effective health promotion program on awareness of oral health care. As oral heath is the important aspect for pregnant mother to prevent any complication during pregnancy. Its also one of the step for the mother to be the good example for their children in taking care of oral health. Other than that, health education is one of the core in nursing field, which the effective on will increasing individual's capacity to acces and use health information to make an appropriate health decision.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter attempteds to review in brief the various studies an surveys conducted by the experts,scholars and organizations relating to the pregnant mother's knowledge, awareness and pratice toward oral health care. It is presented in four section, which is oral care practice for pregnant mother in worldwide, oral health knowledge among pregnant mothers,and oral health self practice among pregnant mother. Lastly, this chapter also details the chosen conceptual framework, Theory of Health Belief Model for this proposed study .

2.2 Oral Health Care for Pregnant Mother

Pregnancy is a complex hormones changes in women body**.** These changes increase susceptibility to oral infections such as pregnancy gingivitis, periodontitis and oral pyogenic granuloma (El Mahdi Ibrahim et al., 2016). Oral diseases (e.g., caries and periodontitis) are caused by a great variety of different factors and therefore require the application of different preventive strategies. Periodontal disease has been reported to be associated with other health problems such as cardiovascular disease, diabetes, low birth weight and preterm birth (El Mahdi Ibrahim et al., 2016). An Australian study found that women with prenatal loss due to extreme maturity were more than four times as likely to have periodontal disease, compared to women with full term, live born infant (George et al., 2013). Approximately 40 % of pregnant women experience periodontal disease and due to that the prevalence and health consequences associated with oral health during this sensitive period, improving perinatal oral-systematic health has been identified as a priority area by the National Institutes of Health Office of Research on Women's Health, 2012. Thus, it is important for pregnant mother to have appropriate knowledge, awareness and practice on oral health. Oral health gave a huge impact toward overall health in pregnant women and developing fetus. Good oral care promotes a safe and healthy pregnancy outcome, while poor oral hygiene increases the risk of complications for the woman and her pregnancy (Hindi & Amy, 2017).

Based on postpartum survey data from the Pregnancy Risk Assessment Monitoring System (PRAMS), more than 66% of women had no oral health care during their most recent pregnancy (Hindi & Amy, 2017). While in the United State America (USA) less than half pregnant women (44.7%) consult a dentist during pregnancy, even when an oral problem exists and in Australia, the dental

utilization rate among pregnant women appears to be even lower, ranging from 30% to 36% (George et al., 2013).

Besides, the study that had done in Brunei, 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 (Sumanita & liew, 2013). It is crucial issue as oral health should be the vital aspect to look up for pregnant mother as they are exposed to the risk of birth complications due to poor oral hygiene. The American College of Obstetricians and Gynecologists (ACOG), (2013) recommend that oral care be provided to pregnant women throughout their pregnancies to avoid this issue. Furthermore, ACOG provides an assessment of a pregnant woman's oral health as an integral part of the first prenatal visit. The assessment and treatment of oral during pregnancy as including teeth cleanings, tooth extractions, dental radiographs, pain medication, and local anesthesia are proven safe and efficient. Hence, pregnant women should not worry to seek dental treatment as the treatment are completely safe and does not had effect to the pregnancy. Nurses in maternal clinic also stressed out on oral health care to avoid any complication during birth. As we know the mouth is the medium for bacteria flock. So, good oral health care can prevent bacteria from giving complication to pregnant mother and fetus.

2.3 Oral Health Knowledge among Pregnant Mothers

Pregnant mother playing the important role to take care of their oral health care as they keep their pregnancy healthy. This is because, they also will be the role model for their future children in order to achieve maximum health for their family. Thus, the assessment toward pregnant mother on oral heath is vital. Study done by Sumanita and

Liew in 2013 related to knowledge, attitude and practice of oral and dental healthcare in pregnant woman at maternal child health clinic, Jubli Perak Sengkurong Health Centre, Brunei found that 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. 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. Moreover, this study showed that the results from the responses to the six 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. In the comparison. This may be the reason of their knowledge toward attitude oral health respective to their practice. In the comparison, study that done by Nurul Asyikin, Nor Shaida and Nur Amirah in 2010 on perceived knowledge and awareness of periodontal health amongst antenatal mothers not showed any significant differences to knowledge of periodontal disease between the levels of education.

The reason of this thought is due lack of knowledge regarding oral health. Analysis in the study that done by George et. al., (2013) in South Western, Sydney on the oral health status, practices and knowledge of pregnant women indicated that the pregnant women had good knowledge about maternal and infant oral health, especially relating to good oral hygiene habits during the perinatal period. Other than that, most participants did have good knowledge about oral hygiene habits which was reflected in their practices with more than two-thirds brushing twice a day and using fluoride toothpaste. The results of this study also revealed that pregnant women who consulted a dentist were more likely to be those who had received information about perinatal oral health and were aware of

the association between poor maternal oral health and adverse pregnancy and infant outcome

2.4 Awareness on Oral Health Care Among Pregnant Mother

According to the study was conducted in large metropolitan hospital in South-Western Sydney, New South Wales, Australia, regarding high prevalence of reported by the 130 participants who gave information were bleedings gums , cavities, sensitivity and reported that dental problems had sometimes/often affected both what they could eat and overall health in general. However, analysis of the individual awareness items showed that pregnant women had inadequate awareness about the potential impact of poor maternal oral health. Less than half the women were aware that dental decay could spread from the mother to the baby's mouth. This is consistent with studies in Australia which show that pregnant women are unaware of the importance of maternal oral health and consequently avoid seeking regular dental care. This study also shows that this lack of awareness among pregnant women, especially in Australia, can be attributed to the limited information on perinatal oral health that is provided to them by antenatal care providers. Only 10% of women in the study had received any information about oral health care during their pregnancy, with the main source of information being oral health promotional material rather than antenatal care providers. This finding is strongly supported by other research in South Wales which showed that antenatal care providers in Australia, especially midwives, do not routinely include oral health as part of antenatal care (A George et al., 2013).

2.5 Practice on Oral Health Care Among Pregnant Mother

The study in Sudan shows that the evaluation of oral health practices among the pregnant women showed that 66% had bad oral practices and 34% average oral health practices, none of the women had good oral health practices. Majority of the women (85.5%) reported that they brushed their teeth more than once a day, while 14.5% brushed once a day. Only 9.5% used other oral hygiene methods such as dental floss, toothpick, miswak and mouth wash. A small majority (58.1%) of the women reported that they had visited a dentist before pregnancy; their main reason was dental pain (84%). A large proportion of the women (42%) had never visited a dentist in their life. Only 10.2% of the pregnant women had visited a dentist during pregnancy; the main reason for the visit was toothache. Of the 377 women who had not visited the dentist during pregnancy, 62.1% did not do so because they did not think that they needed dental care, and 27.9% thought that they and their baby might be harmed by dental treatment. On the other hand, a particularly worrying finding was that nearly a third of the women avoided consulting a dentist because of safety concerns regarding dental treatment. This is a commonly cited barrier for pregnant women seeking dental care even though it is well established that dental treatment during pregnancy is extremely safe and will not result in adverse pregnancy outcomes. There also appears to be some confusion among women regarding the appropriate time to seek dental treatment during pregnancy and early childhood. Although not evident in this study, other researchers have reported that mothers believe that poor oral health is normal during pregnancy and a tooth may be lost with each child.This problem of misinformation may be attributed to the lack of information being provided to pregnant women on oral health care by antenatal care providers.

2.7 Theoretical/Conceptual Framework of the Study

Health Belief Model (HBM) was first developed by social psychologist at United State Public Health Service in 1950s as a way to explain why medical screening for tuberculosis were not very successful (Hochbaum, 1958). According to Grand, Rimer, & Lewis, 2002; National Cancer Institute (NCI), 2003, HBM is by far the most commonly used theory in health education and health promotion. Hochbaum (1958) claimed that underlying concept of original HBM is the health behaviour determined by personal beliefs and perceptions about a disease and the strategies available to decrease its occurance. Figure 2.1 shows six major concept in HBM which are perceived susceptibility, perceived severity, perceived benefit, perceived barriers, cues to action and self- efficacy.

Health Belief Model is considered as an appropriate framework for this study because the framework explain the likelihood of pregnant mother regarding the oral heatlh care knowledge, attittude and self practice. Health Belief Model explain behaviour and perception that may cause factors of oral health care among antenatal mother is low. Thus, HBM is adapted in this study, as the other study is using the same theoreritical framework.

Perceived susceptibility is defined as the individual's judgement or opinion of her risk of contracting this condition. Then perceived the severity is known as the individual opinion or judgement of how serious a condition such as the consequences, disability and pain or death. Perceived benefit is the individual's belief in the efficacy of the advised action to reduce the risk of consequences. After that, perceived barrier is the individual opinion of the psychological and tangible cost s of the advised action. Next, cue of action is the strategies to activate 'readiness'. Lastly, self efficacy is the confidence in individual's ability to take action.

HBM was used conceptual framework for assesing oral health knowledge, awareness and practice of pregnant mother in antenatal clinic at Hospital USM (adapted from Rosenstock (1990). In Glanz, Lewis, &, Rimer, Health Behaviour and Health Education). Based on our conceptual framework, the background study according to socio- demograpic factor such as age, level of education and working status. The perceived susceptibility is low which is based on the research done by (Sunita and Liew, 2013). Although participants have shown a positive attitude towards oral health but they are lack in assessing their own oral 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 (Bamanikar & Liew, 2013)

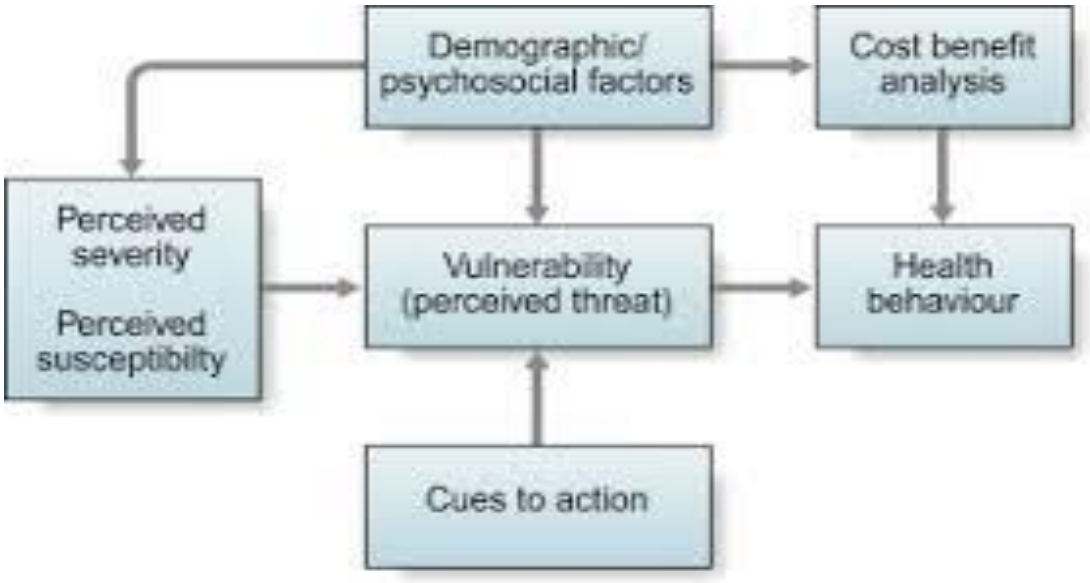
Percieved their severity of the participants is low based on the knowledge of oral health. Then, perceived benefit are low based on this was based on (Bamanikar & Liew, 2013) indicated that 44.1% who have not had a dental check- ups during the current pregnancy.

Percieved barrier among the participant according to Bamanikar and Liew (2013) are the participants revealed that the three most common perceived barriers against having a checkup as long waiting time at the government clinics (53.7%), distantce 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. Thus its become a barrier to deliver adequate oral health care.

After that, percieved self- efficacy among participants showed an improvement. This shown by Bamanikar and Liew (2013), most of the particicipant were aware that women should have a dental checkup during pregnancy. Lastly, based on our expectation, the knowledge, awareness and practice can be improves when pregnant women were

provided with information regarding oral health. The information can be given by media, health care professional and educational seminars. Figure 2.2 illustrated the adopted Health Belief Model used in this research. This conceptual framework will explain the readiness of pregnant mother to change health- related beliefs through obtaining the knowledge, awareness and self- practice of pregnant mother toward oral health care as well as to prevent birth complication to the mother and fetus.

Figure 2.1 Health Belief Model (Stretcher & Rosentock ,1997)



Sources: Stretcher, V. and Rosenstock, I.M. (1997). The Health Belief Model. In Glanz, K., Lewis, F.M. and Rimer, B.K., (Eds.). Health Behaviour and Health Education: Theory, Research and Practice. San Francisco: Jossey-Bass.

HEALTH BELIEF MODEL- REVISED (Rosenstock, Strecher, & Becker, 1988)

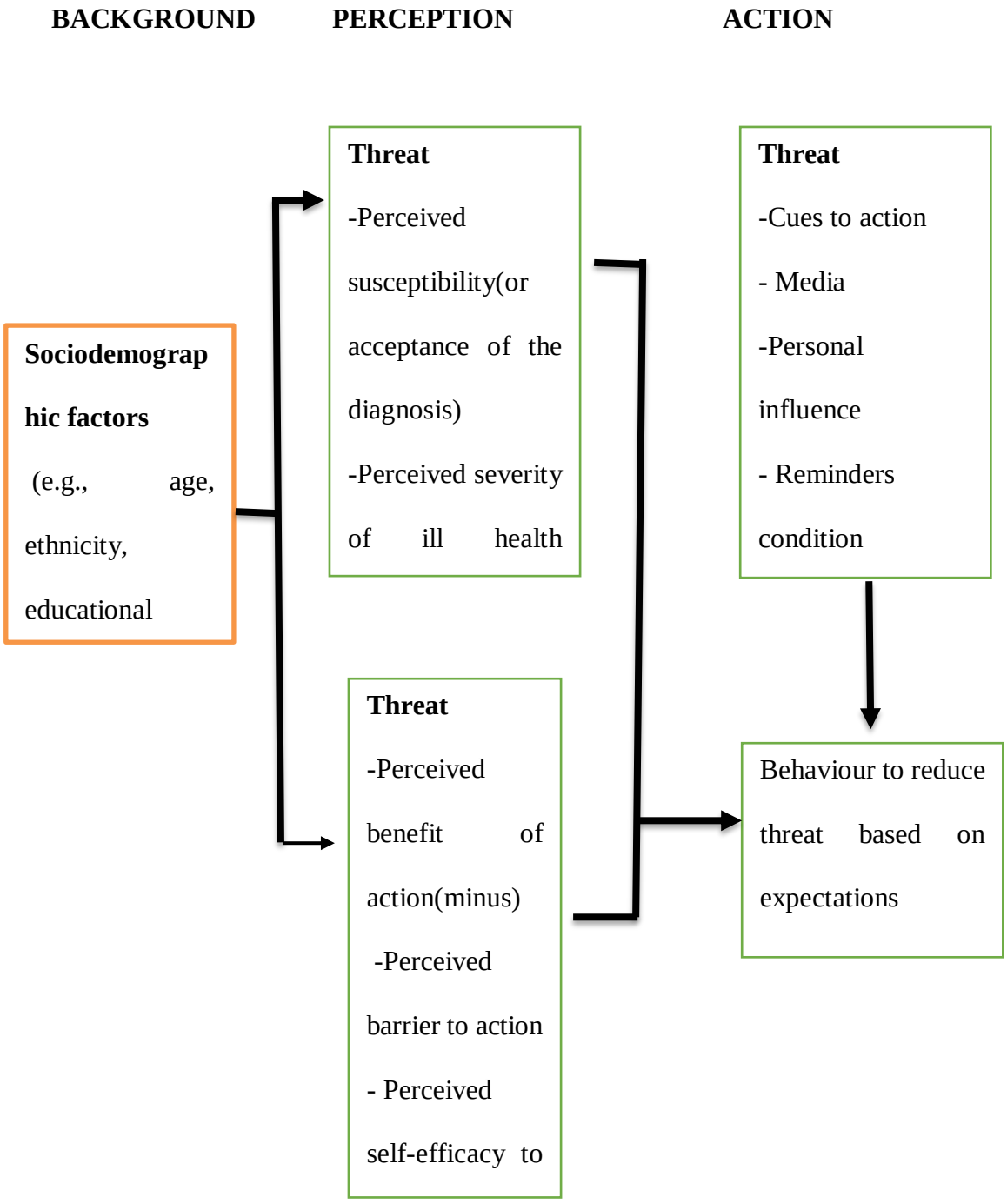


Figure 2.2: Adapted Health Model (Glanz, Lewis, &Rimer, 1990)

CHAPTER 3

METHODOLOGY

3.1 Introduction

In this chapter, the researcher will describe the methodology and methods chosen to conduct and the proposed of study in terms of research design, sample selection, data collection and data analysis. In addition, the researcher will also give the detail about ethical consideration of study as part of requirement prior to conduct this study.

3.2 Research design

The research design that being used in this study as cross- sectional design. This questioned subject once and can represents the population if sample is properly chosen. This is a useful way to gather information on aspect of knowledge, awareness and practice of oral health care among participant. This study was conducted by questionnaire- based survey for pregnant mother in Hospital USM**.**

3.3 Population and setting

The population of the study was pregnant mother in antenatal clinic at Hospital USM. The location was selected because it is perfect to be done when participate were available and achieveable to be approached by me as i studied near Hospital USM. This place also selected because Hospital USM has antenatal clinic services. Hence, pregnant mother always come for the pregnancy checkup in antenatal clinic at Hospital USM.

3.4 Sampling plan

3.4.1 Sample

(a) Inclusion Criteria:

Subjects will be selected as participants if they are:

- Pregnant mother that had checkup in antenatal clinic at Hospital USM
- Pregnant mother who able to understand, speak and write in Malay or English

(b) Exclusion Criteria

Subjects will be excluded from this study if they are:

- Pregnant mother who wearing dentures
- Decline to participate in this study

3.4.2 Sampling method

Participants of this study will be selected through systematic random sampling procedure. By using this method, everyone has equal probability of being chosen during the sampling procedure (Adi, 2020). The participants will be selected based on the inclusion and exclusion criteria. The name list of pregnant mothers who had the checkups in that day will be obtain from the sister in the antenatal clinic. The selection of patients based on ratio 1:4 of patient's list will be selected. The estimate time to answer the the questionnaire only take 15 min or less while waiting for check-ups.

3.4.3 Determination of Sample Size

Based on the outpatient data that obtained from record unit at Hospital USM from Mei to August 2019 average pregnant mother doing checkup in antenatal clinic at Hospital USM is 750. Raosoft sample size calculator, with the margin error of 5%, the confidence level of 95% and the response distribution of 50% were used to determine the sampling size. After the online calculation, the recommended sample size is 281. The type error probability associated with this test of this null hypothesis is $p < 0.05$. To counter dropout rate of this study is 10% of the calculate sample size will be added. Therefore, total subject required for this study is within the ranged of:

Number of subjects = 255 +drop off rate 10%

= 281 subjects. (calculation of sample size is In Appendix H)

Based on the budget and time that provided, researcher have chosen the higher sample size from all the calculations, which were 281 pregnant mother in this study.

3.5 Instrumentation

The proposed study aims to assess the level of knowledge, awareness and practice among pregnant mother in antenatal clinic at Hospital USM.

3.5.1 Instrument

Instrument that was used in this study is self- administerd questionnaire adopted from previous journal by Nurul Asyikin et al., (2010) and Amirah & Fatma, (2019). The question aimed to gather information regarding participant‘s knowledge, awareness and practice on oral health care dissemination to the pregnant mother. The questionanaire also was design to obtain relevant socio- demographic of the participantss. The questionare was divided into four parts: Part A, Part B and Part C and Part D as follow:

Part A: Socio-demographic data

This section comprises of five questions to gather data on this part included age, ethnicity, educational level and gestation age.

Part B: Oral health knowledge of pregnant mother

This part consists of five closes ended question. This questionaire enquired on the knowledge of participants regarding oral disease, the effect of plaque, sign of bleeding gum and efective time to brushing teeth. and their risk factor.. Only one correct answer will be given marks. They have to tick for one answer only for each questions

Part C: Awareness regarding oral health

This part contain six close ended question. The question is to assess the paticipants awareness toward oral health which was they seeing the dentist during pregnancy or not. The question were using ‘yes’, ‘no’ or ‘dont know’ as the score . This question try to identified the participants’s responsibilities to assess their oral health care. Besides that, this sectioned also questioned regarding participant’s frequency seing dentist regularly while pregnant. Over than that, this section also assesed the participants

acknowledgement on the health promotion seminar, lectures or dental check-up facility that exist in majority of their living area.

Part D: Oral health hygiene practice of pregnant mother

There were five close ended questions on this part, asked about whether the participant brush teeth twice a day, along tooth paste for cleaning the teeth irrespective of tooth paste brand and wether the participants rinsed after meal on regular basis. In addition, paticipant also need to answer regarding in use of any mouth wash for additional oral health protection and whether participants go for a routine checkups before or during pregnancy. There were three option answer which were “Never”, “Sometimes” and “Always”. They have to tick for one answer only for each questions

3.5.2 Issue of Validity and Reliability of the Data Collection Instrument

Validity is the ability of instruments to measure what it is purported to measure whereas reliability is ability of an instrument to produce a stable and consistent result (Wood & Kerr, 2011). The questionnaire in this study had been for content validation by three expert panels. The panels that validate the questionnaire were nursing lecturers in School of Health Sciences, USM.

Reliability can be defined as the consistency with which an instrument measures the variables under investigation (Polit & Beck, 2004). The measured performed relatively well from a psychometric perspective, with an alpha-coefficients across the domain ranging from 0.82- 0.96. Internal consistency reliability for the six subscales resulted in Cronbach’s alpha coefficients ranging from 0.82 to 0.92. Stability reliability ranged from 0.66 to 0.76. However, the original author of the study researcher to use

questionnaires does not mention the Cronbach alpha that had been use in their study. So, the comparisons of the current Cronbach's alpha that had been use in previous study cannot be compared.

A pilot study was carried out in antenatal clinic at Hospital USM among 10 pregnant woman who had check- ups to test the reliability of the questionnaire before conducting the study. They will be asked to answer the questionnaires and then give comments on the questionnaires. Modification will be made on the instrument after the pilot study is conducted when necessary.

3.6 Variables

Variables are those attributes that are measured or manipulated in a study. The variables that will be used in this research study are independent and dependent variables as shown table below.

3.6.1 Independent and Dependent variables

The independent variables were selected based on demographic data include age, educational level, gravida and income. Where as the level of knowledge, awareness and practice of pregnant mothers toward oral health care is described to dependent variable.

3.6.2 Assessment on knowledge

The knowledge of oral health care will be assessing by using points scale. There were five closes ended question that containing statements about oral health knowledge related to dental plaque, causes and prevention of gum disease. While for the risk factor,

participant must identify the statement given which is the correct answer or not. For every answer correct were given “1” marks while the wrong answer will be given “0” marks. Total maximum point to be scored were five and the minimum was 0. Their score with their respective knowledge levels were:

i. 4-5 good knowledge
ii. 2-3 satisfactory knowledge
iii. 0 – 1 poor knowledge

3.6.3 Assessment on awareness

Awareness was assessed by six closed ended questions. For each ‘yes’ score 1 was given, while score of 0 for ‘no’ and ‘don’t know’. Total maximum point to score is 6 and the minimum was 0. On assessment, Modified bloom’s cut off points were adopted from Abdullahi, (2016) (see APPENDIX I). Therefore, score of 5-6 indicates the positive awareness towards oral health care. 3-4 indicates modest attitude towards oral health care and 0-2 indicates negative awareness towards oral health care.

3.6.4 Assessment on practice

The practice was assessed by looking on the participant’s action toward oral hygiene. This part contains five closed ended question with score 1 for ‘Always’ . For “Sometimes” and “Never” will be given 0 marks. Total points to be scored are 6 and the minimum was 0. Therefore, score 5-6 indicates good oral hygiene practice, 3-4 indicate the modest oral hygiene practice and 0-2 indicates the bad oral hygiene practice.