



UNIVERSITI PUTRA MALAYSIA

***KNOWLEDGE AND PRACTICE OF EXCLUSIVE BREASTFEEDING AMONG
MOTHERS ATTENDING MATERNAL AND CHILD CLINIC***

SITI AISYAH QISTINA BINTI MOHAMED ZAKUAN

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**Thesis Submitted to the Faculty of Medicine and Health Sciences, Universiti Putra
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SEPTEMBER 2021

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Thank you for the cooperation and kindness from all of you. I can only pray to Allah and may Allah give you all the best in return.

DECLARATION (STUDENT)

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This is to confirm that:

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.....
Miss Norafisyah binti Makhdzir

(Supervisor)

Date: 3/6/2022

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LIST OF ABBREVIATIONS

BSES-SF	Breastfeeding Self-Efficacy Scale-Short Form
EBFP	Exclusive Breastfeeding Practice
JKEUPM	Research Ethics Committee Universiti Putra Malaysia
MREC	Medical Research and Ethics Committee
NICU	Neonatal Intensive Care Unit
NMRR	National Medical Research Register
VLBW	Very Low Birth Weight
WHO	World Health Organization

CHAPTER 1

INTRODUCTION

This chapter will explain about the background of the study, problem statement and research question. It followed by objective of the study which encompasses general and specific objectives. Null hypotheses and definition of terms will also be discussed.

1.1 Background

This study is about the knowledge and practice of exclusive breastfeeding among mothers attending community clinics in Salak, Selangor. Practicing exclusive breastfeeding is very important to the infants as mother's milk is the most natural and safe milk babies can consume during the fi

rst 6 months Ms & Kakuma (2012) stated that exclusive breastfeeding is achieved when the infant receives merely breast milk without additional foods or drinks from birth until 6 months. After that, it is up to the mothers to continue to breastfeed the child up until the child ages 2 years old (Fatimah, Saadiah, Tahir, Imam and Fauzi, 2010). There will be a production of colostrum during the first day and second day of postpartum. The colostrum is highly enriched milk that contains high antibody immunoglobulin A. Hence, when an infant is breastfed with milk that contains colostrum, the immunity from the mother will be transferred to the child and this process is called passive immunity whereby the immune system of the baby will be activated to fight against infections (Pittalwala, 2016). Particularly, the immune system of the infants is immature during the first 6 months of age, whereby at this stage the breast milk will contain lacks functional plasma cells that are important to protect the infant against infections. This is why practicing exclusive breastfeeding for the first 6 months of the infant is very

important as the infants rely on maternal immunoglobulin (Zhang, Kent, Czosnykowska Lukacka, Lis-Kuberka, Krolak-Olenjnik and Orezyk-Pawilowicz, 2020). Moreover, breast milk will slowly decrease its concentration within 6 months (Zhang et al., 2020).

Besides, practicing exclusive breastfeeding could also contribute to many benefits to the infant such as prevent them from having diarrhea, pneumonia and lower the risk of overweight or obesity during childhood and adolescence (Yan, Liu, Zhu, Huang and Wang, 2014). In addition to that, breast milk contains vitamins, protein, and fat which supply the complete nutritional requirement of the infant (Al Ketbi, Al Noman, Al Ali, Darwish, Al Fahim and Rajah, 2018). In another context, there are a lot of benefits of breastfeeding for mothers when they practice exclusive breastfeeding. First, practicing exclusive breastfeeding can increase breast milk production. The fact that lactation stimulates the hormone oxytocin which helps the uterus to contract to its original size could benefit the mother who is practicing exclusive breastfeeding (Bjarnadottir, 2020). Not to mention, the hormone oxytocin that is released during lactation helps the mother in maintaining ideal body weight during the postnatal period (Jarlenski, Bennett, Bleich, Barry and Stuart, 2014). Subsequently, there will be a continuous release of oxytocin hormones during exclusive breastfeeding which could prevent the mothers from having postpartum depression and reduce risk of breast and ovarian cancer, hypertension, high blood fat and heart disease to the mother (Bjarnadottir, 2020).

Despite the target recommended by the World Health Organization (WHO) which is more than 50%, however, the number of mothers practicing exclusive breastfeeding is still low (Aneesa, Nurainul, Raja, Nurin and Devarai, 2018). The same study by Aneesa et al. (2018) reported the statistics of mothers who practiced exclusive breastfeeding highlighted that only 40 percent of

mothers worldwide have breastfed their children who are below 6 months. In Malaysia, National Health and Morbidity Survey III reported that the number of infants receiving exclusive breastfeeding is only 14.7 percent from birth until 6 months old (Nani, Noraini, hermu, Rosediani and Fam Mmed, 2017).

1.2 Problem statement

According to the previous study conducted by Marzo, Rou, Yin, Gill and Salam (2019) in Muar, Malaysia, one of the main barriers that led the mothers to stop practicing exclusive breastfeeding is insufficient breast milk production or low milk supply due to lack of knowledge on lactation management such as poorly timed feeds, did not frequently feeds their infants and poor attachment of the infant on the mother breast. Another factor of low milk supply is when the mother underestimates their production capacity. When low milk supply, the infant tends to demand frequent feeds but the mother with insufficient knowledge in lactation will either let the infant sucking their hand and lead to the low weight gain of the infant or the mother will give the infant formula (Tengku Alina, Wan Abdul Manan and Mohd Isa, 2013). Thus, the author suggested that health care personnel should give continued education to the mother regarding the management and practice of exclusive breastfeeding, especially in maternal and child clinics.

Contrastingly, a study conducted in Klang Valley Malaysia by Bachtiar et al. (2011) stated that having enough knowledge about lactation management among mothers did not guarantee success in practicing exclusive breastfeeding as only 21 percent of the mothers practice exclusive breastfeeding until their infants reach 6 months old. It is because the study found that the support system especially supports from husbands played an important role in deciding

their infant's feeding type and 34 percent of the mother admitted that their decision making was strongly influenced by the mother. The majority of the mothers get support from the health care staff meanwhile 45 percent claimed that they did not receive the support from the family members (Bachtiar et al., 2011).

Another factor that stops the working mother from practicing exclusive breastfeeding is the need to return to work after maternity leave. In a study by Lim (2018) stated that working mothers get a total of 300 days paid maternal leave with duration of 60 to 90 days per child. A previous local study done by Tan (2011) discovered that working mothers have unsupported breastfeeding facilities and working environments. This situation led to the working mother's decision to not practice exclusive breastfeeding. In a study conducted by Al Ketbi et al. (2018) at clinics on the island of Abu Dhabi, the United Arab Emirates among mothers visiting primary healthcare explained that working mothers there mostly practice exclusive breastfeeding as they get the maternal leave longer and granted full salary by the government. This also practices in Malaysia in the public sector (Aneesa et al., 2018).

Next, another study done by Aguilar-Ortega et al. (2019) among mothers in Australia found that mothers who have high education level practicing exclusive breastfeeding compare to those who have a low education level. A study conducted by Altamimi, Al Nsour, Al Dalaen and Almajali (2017) discovered that mothers in South Jordan with lower educational levels tend to give formula milk to their children as a symbol of wealth. However, it is not practiced in mothers with previous breastfeeding experience even though they are low in education level. Contrastingly, another study reported that the educational level of mothers does not influence

the practice of exclusive breastfeeding as the mother from a low level of education also has a high probability of practicing exclusive breastfeeding (Aguilar-Ortega et al., 2019).

From the evidence, it seems that the level of knowledge and awareness and socio-demographic factors will influence the practice of exclusive breastfeeding among mothers. Although most mothers are aware and have a greater understanding of breastfeeding, in terms of exclusive breastfeeding, it may not influence their decision to practice breastfeeding. Therefore, a further research is needed to examine the practice of exclusive breastfeeding and factors that influence their practice.

1.3 Significant study

This study could help to elucidate the factors that contribute to practice of exclusive breastfeeding from a Malaysian context on exclusive breastfeeding. Ergo, it could provide a foundation for healthcare practitioners to plan the strategies in increasing the awareness on the practice of exclusive breastfeeding among mothers in Malaysia. Furthermore, when the mothers answer the questionnaire, it may also help them to reflect on their breastfeeding practice and would make them appraise the positive and negative aspect of their current practice of breastfeeding.

1.4 Research Question(s)

1. What are socio-demographic characteristics of mothers attending maternal and child clinics?
2. What is the level of knowledge among mothers regarding exclusive breastfeeding?
3. What is the level of awareness of the mother regarding exclusive breastfeeding?
4. Is there any practice of exclusive breastfeeding among mothers attending maternal and child clinics?
5. Is there any relationship between socio-demographic characteristics of the mothers and their knowledge, awareness and practice towards exclusive breastfeeding?
6. What is the relationship between knowledge and practice of the mother regarding exclusive breastfeeding?
7. Is there any relationship between awareness and practice of the mother regarding exclusive breastfeeding?

1.5 Objectives of the Study

1.5.1 General Objective

To assess the knowledge, awareness and practice about exclusive breastfeeding among mothers attending maternal and child clinics.

Specific Objectives

- I. To determine the socio-demographic characteristics of mothers attending maternal and child clinics.
- II. To determine the level of knowledge of mothers attending maternal and child clinics regarding the practice of exclusive breastfeeding.
- III. To determine the level of awareness of mothers attending maternal and child clinics regarding the practice of exclusive breastfeeding.
- IV. To determine the practice of exclusive breastfeeding among mothers attending maternal and child clinics.
- V. To statistically analyze the relationship between socio-demographic characteristics of the mothers attending maternal and child clinics and their knowledge, awareness, and practice of exclusive breastfeeding.
- VI. To statistically analyze the relationship between knowledge and practice of exclusive breastfeeding among mothers attending maternal and child clinics.
- VII. To statistically analyze the relationship between awareness and practice of exclusive breastfeeding among mothers attending maternal and child clinics.

1.6 Hypothesis

Null Hypothesis (H0)

1. There is relationship between socio-demographic characteristics of mothers attending maternal and child clinics and their knowledge, awareness and practice of exclusive breastfeeding.
2. There is a relationship between knowledge and practice of exclusive breastfeeding among mothers attending maternal and child clinics.
3. There is a relationship between awareness and practice of exclusive breastfeeding among mothers attending maternal and child clinics.

1.7 Conceptual and Operational definition

1.7.1 Exclusive breastfeeding

a) Conceptual definition

When the mother only give the infant fully breast milk for the first 6 months of life without food or water and the initiation is within 1 hour of life and continued until 2 years of age or beyond (World Health Organization and UNICEF, 2012).

b) Operational definition

Exclusive breastfeeding is when the infant gets fully breast milk from the mother started from the birth until the age of the infant is 6 months old without any additional food or water. Benefits of exclusive breastfeeding towards the mother and the infant are help in milk production, help the uterus of the mother to contract to its original size, help the

mother to maintain ideal body weight during postpartum period and for the infant help to increase immune system of the infant from get infection.

1.7.2 Knowledge on exclusive breastfeeding

a) **Conceptual definition**

Knowledge defined by Hunt (2003) a person's personality can affect the person's behavior. The knowledge is the product of a process of thought and that our sensory experience does not play a part (Bolisani and Bratianu, 2018).

b) **Operational definition**

In this study will determine the level of knowledge of the mother regarding exclusive breastfeeding. It included the initiation should be start at least 1 hour after delivery, mother start to practice exclusive breastfeeding and continue to breastfeed every 2 hours for milk production and avoid from infections and from low birth weight of the infant. The duration in practicing exclusive breastfeeding need to be from birth until the infant's age 6 months old fully breast milk without any additional food or water. The knowledge of the mother about how to practice good lactation and how to pump and stored the milk.

The knowledge of the mother about exclusive breastfeeding influence the practice of the mother towards exclusive breastfeeding. These will be assessed in the questionnaire using affirmative answers such as true, false and unsure.

1.7.3 Awareness on exclusive breastfeeding

a) **Conceptual definition**

Awareness defined by Gafoor (2012) is ability to perceive, experience or be conscious of occurrences, objects or sensory patterns. From the Cambridge Dictionary, awareness means knowledge and understanding of a particular activity or subject.

b) **Operational definition**

Perception and understanding of the mother towards exclusive breastfeeding on how exclusive breastfeeding will effect on mothers and infant's health. For example, when the mother understand the advantages of the exclusive breastfeeding can help the contraction of uterus get back to its original size, help in milk production and maintain the ideal body weight of the mother during postpartum period. For the infant, the mother should not have to worry about their infant's health as breast milk help in increasing the immune system of the infant body from getting infection. All of this will effect self-efficacy of the mother which lead to confidence of the mother to practice exclusive breastfeeding.

In this study researcher assess the understanding and perception of the mother on exclusive breastfeeding and the answer is in 5 point Likert scale from strongly disagree to strongly agree.

1.7.4 Practice of exclusive breastfeeding

a) **Conceptual definition**

From the Cambridge Dictionary, practice is an action rather than an idea. It is an action of performance in performing regularly in order to be better (Andrew, 2019). Arage and Gedamu (2016) stated that it is a proper feeding practice from birth to 6 months old as to achieve the growth and development of infants.

b) **Operational definition**

The application, or belief or method use by the mother towards exclusive breastfeeding on their infants. In this study mothers will be asked in the questionnaire are they practice exclusive breastfeeding to their child, factors not continue with exclusive breastfeeding, is mother give formula milk during duration of exclusive breastfeeding and the started age of infants can consume solid food.

1.7.5 Socio-demographic

a) **Conceptual definition**

It is a study of population based on factors such as age, ethnicity and sex is defined as demographics (Chappelow, 2019). It refer to sociological and demographic patterns acquires in a population by individual that determine his/her socio-demographic positions or niches, it tells individuals social demographic profil (American Journal of Sociology, 2019).

b) Operational definition

Socio-demographic in this study includes age, ethnicity, level of education, employment status, household income and type of delivery of the mother either through normal delivery or Caesarean section delivery.



CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

World Health Organization (WHO) defined exclusive breastfeeding as the period of infants, age from birth until six months old to only received mother's breast milk without additional food and drinks for average growth and development with exception for oral rehydration salt, drops, syrups of vitamins and minerals or medicines (UNICEF and World Health Organization, 2008). Beneficial of breastfeeding to the infant and the mother are well known, including activate the immune system of the infant to develop and attack the infectious organism same as the mother has exposed, preventive from diarrhea, pneumonia and lower the chance of getting overweight or obese during childhood and adolescence. In another context, when the mother is practicing exclusive breastfeeding, it will stimulate the hormone oxytocin, which helps the uterus to contract to its original size (Bjarnadottir, 2020). It also lowers the chance of getting breast cancer and ovarian cancer among mothers (Fairbrother & Stanger-Ross, 2010).

The Baby-Friendly Hospital Program, educating health personnel, 90 days maternity leave for the government sector and the Introduction of the Code Ethics for Infant Food Marketing and related items are numerous strategies implemented to encourage exclusive breastfeeding practice (EBFP) among mothers in Malaysia (Alina et al., 2014). However, EBFP is still not successful despite all strategies for exclusive breastfeeding practiced in Malaysia. A previous study by Aneesa et al. (2018) reported that mothers practicing exclusive breastfeeding worldwide are only 40%, less than 50% recommended by WHO. In Malaysia, National Health

and Morbidity Survey III said that the number of infants receiving exclusive breastfeeding is only 14.7% from until six months old (Institute for Public Health, 2016).

Several studies have been conducted in Malaysia regarding exclusive breastfeeding. A previous study conducted by Marzo et al. (2019) in Muar found that around 41% to 53% of mothers have good to excellent knowledge, 71% had a positive attitude and 51% had good practices on exclusive breastfeeding. A study conducted in Klang Valley by Bachtiar et al. (2011) showed that 93% of the mothers initiate breastfeeding in the hospital, 33% were exclusively breastfeeding their infants until 4 months, and 21% were exclusively breastfeeding their infants until 6 months old. A study conducted in Kelantan found that only 44.1% of mothers practicing exclusive breastfeeding until their infants are 6 months old (Tengku Alina et al., 2013). A study outside Malaysia also showed that the practice of exclusive breastfeeding is low. In Ghana, the mother's knowledge is generally high and the mother's attitude towards exclusive breastfeeding is positive, but practicing exclusive breastfeeding is low. It indicates the initiation and extension of exclusive breastfeeding differ from country to country and could be because of different reasons.

Most of the factors affecting the breastfeeding rank, especially in exclusive breastfeeding are from support systems. It is shown when working mothers from any sector in some countries have no support system from the workplace and worst. Even from the family has no support, especially from husband in which it will demotivate the confidence of practicing exclusive breastfeeding (Howard, 2018).

Next, mother's education level also influences the encouragement in practicing exclusive breastfeeding. Besides that, tradition in the family also affects the mother in deciding their journey as motherhood. The legislative environment also becomes a barrier for mom's encouragement to breastfeed their babies. For example, in United States, there is still a hospital with no supporting in breastfeed. They give a bottle and formula milk to mother after delivery and say things that might downgrade mothers' passion for breastfeeding (Wallace, 2015).

In conclusion, this chapter will summarize previous studies regarding knowledge, awareness, and exclusive breastfeeding practices among mothers. All the findings in this chapter will be synthesized, referring to the conceptual theory of Bandura Self-Efficacy Theory and Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF) as a framework.

2.2 Conceptual theory of Bandura Self-Efficacy Theory and Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF)

This study adopts Bandura Self-Efficacy Theory in conducting theoretical review. This theory was developed in 1977 described self-efficacy as an “integrated theoretical structure” for explaining and predicting psychological changes across various treatment modes (Eastman & Marzillier, 1984, pp 213). Another study stated that perceived self-efficacy is the state where people's beliefs can change and affect the events in their lives (Bandura, 2010). This theory mainly develops confidence in ourselves with the various ways of people handling challenges which goes back to the different levels of self-efficacy. Self-efficacy is the power of our own beliefs, which will lead to success. The self-belief of efficacy affects humans through the cognitive, motivational, affective, and selection processes. It can be developed in four sources:

mastery experiences, vicarious experiences, verbal persuasion, and emotional and psychological states (Flammer, 2015).

Based on this self-efficacy theory, Caldarola et al. (1966) concluded that people will process, analyze, and integrate the situation or information and regulate their choices of behavior and effort expenditure accordingly. Thus, someone can successfully perform when they are confident in a given case. The expected results can effectively perform a task, believing that a particular action can lead to an inevitable consequence (Tseng et al., 2020).

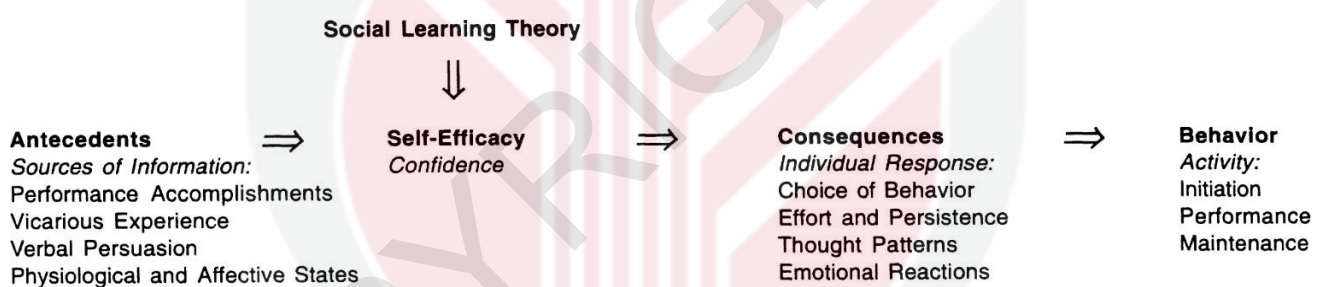


Figure 1: Bandura Self-Efficacy Theory (Dennis, 1999)

Exclusive breastfeeding, to sustain optimal range, it is highly associated with the self-efficacy of mothers. The mother's confidence level to breastfeed their infants associate with their belief and ability in doing it. Thus, Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF) was developed by Dennis and Faux in 1999 (Dennis, 1999). BSES-SF can be used to examine the short-term and long-term effects on mother's breastfeeding self-efficacy, breastfeeding attitudes and breastfeeding practices (Tseng et al., 2020). The self-efficacy theory of

breastfeeding addresses two factors, which are maternal factors and infant factors. In a study by Otoo et al. (2009) stated that maternal and infant factors are some of the reasons the mother choose exclusive breastfeeding.

2.3 Performance Accomplishment

Performance accomplishment is the most immediate and effective efficiency knowledge sources are personal previous experience of exclusive breastfeeding either give advantages or disadvantages to the current situation (Alina et al., 2014). Mothers with successful breastfeeding experience are well-prepared to learn new skills and tend to keep practicing exclusive breastfeeding.

A study conducted by Awaliyah et al. (2019) stated mothers with high experience and breastfeed their infants for a long duration know the benefits of breastfeeding. This have led to the satisfaction of the mother and infants as the mother have knowledge on practicing the best way to breastfeed. In this study, the mother with satisfaction in breastfeeding is 40.4% with p value of self-efficacy is 0.01. Thus, self-efficacy of the mother boosts the confidence and understanding of the mother towards exclusive breastfeeding which promote to successful in practicing exclusive breastfeeding. This shows that performance accomplishment of the mother affects the self-efficacy of the mother towards practice of exclusive breastfeeding. Therefore, it can be seen that there is relationship between knowledge of the mother and the practice of exclusive breastfeeding.

The other study stated that mothers' attention to success or unsuccessful breastfeeding depends on how they interpret their own experience (Nichols et al., 2009). Mothers who have a strong belief that they have plenty of milk in the first six months after delivery intend to practice exclusive breastfeeding compared with the non-intenders (Alina et al., 2014). The study found that mothers who are believed to have plenty of milk, $r = 0.043$. p value is <0.001 , with the intenders mean and standard deviation (SD) is 1.40 and 1.23 while the non-intenders mean and SD is 1.02 and 1.31 with p value 0.031. The author concluded that the intenders have the higher mean of belief to have plenty of milk, belief that they are able to practice exclusive breastfeeding for six months. It shows that self-efficacy of the mother can influence milk production and practice of the mother towards exclusive breastfeeding.

Previous exclusive breastfeeding of the mother might help the mother face any difficulties and give them the confidence to practice exclusive breastfeeding (Che Muzaini et al., 2018). In this study, the respondent with previous experience of exclusive breastfeeding is 95% with p value 0.003. Same in the study by Blyth et al. (2002) shows multiparous with previous experience in breastfeeding is mean (129.11) and standard deviation (23.23) with p value 0.01. It shows that previous experience of the mother influence the practice of exclusive breastfeeding among mothers.

On the other hand, some mothers have experience that practicing exclusive breastfeeding will give them difficulty going out from home and leaving their infants; thus, they did not intend to practice exclusive breastfeeding (Alina et al., 2014). Arguably, Dennis (1999) suggested

that bad experience in the previous breastfeed would positively affect the mother's breastfeeding self-efficacy in discontinuation practicing exclusive breastfeeding. In a study by Agunbiade and Ogunleye, (2012) found that one of the main obstacles in exclusive breastfeeding is having experience in breast and nipple problems. In this study, 25% of the mother complained pains in their breast and 22% complained breastfeeding make them exhausted, thus, discontinuation of exclusive breastfeeding happen. In the study by Leurer and Misskey (2015) stated that some mothers with negative previous experience is because they felt breastfeeding was painful and physically uncomfortable. Even there is some mother continue breastfeed for the sake of their infant but they are not enjoying it. These shows that, bad experience of the mother influence discontinuation of exclusive breastfeeding.

2.4 Vicarious Experience

Vicarious experience is when the mother observes other women succeed in breastfeeding or indirect experience, influencing the mother to practice exclusive breastfeeding (Ghasemi et al., 2019). The mother can learn the correct way of breastfeeding by observing other mother performances through any live, printed, or recorded sources.

A study by Bartle and Harvey (2017) stated that the first-time mother will find a role model or educator to helps them cope with the demand from the infant to breastfeed because of lack of knowledge in breastfeeding. In this study, the author found that the mean vicarious experience breastfeeding from prim parous is 6.29, standard deviation (SD) 2.01 and p value -0.71 while in multiparous is 6.92 (1.96). The p value for vicarious experience of breastfeeding is 0.10

Similarly, Azhari et al. (2011) stated that the mother could learn a correct way to perform breastfeeding either through direct or indirect education such as through educator or image. According to Hailemariam et al. (2015) when the mother is exposed to the various sources of information, it can be excellent guidance to the mother for early initiation of exclusive breastfeeding. In a study by Oweis et al. (2009) found that 21% of the mother choose breastfeeding as they are influenced from the media and their own mother.

Constructively, from Bartle and Harvey (2017) explained that it is possible when the mother sees other women giving formula feeds and can support their decision when experiencing breastfeeding. Hence, this shows that picking a good role model in the mother's surroundings can influence the mother's decision to practise exclusive breastfeeding.

2.5 Verbal Persuasion

Verbal persuasion is when the mother gets appraisals and guidance from the surrounding supporter such as husband, family, friends and lactation counsellor. It affects the degree of self-efficacy of the mother to practice exclusive breastfeeding (Dennis, 1999).

Study by Agunbiade and Ogunleye (2012) explained that the grandmother's role is essential to support and teach the new mother's decision to initiate and continue breastfeeding. The more is when it has been a tradition, belief and value for generations. The grandmother has experienced the situation and can help the mother with information and ease in practising

exclusive breastfeeding. The mother also will not feel lonely in facing the challenges by herself.

Not to forget, the father also mainly plays an essential role in supports emotional and practical support. The researcher found that most mothers who get supported by their husbands and their family members during the breastfeeding journey are not having difficulties throughout the trip (Che A. R. et al., 2020). Same in the study by Nani et al. (2017) explained that the husband's decision and motivation to lactate positively affect the mother's exclusive breastfeeding. It has been conducted among post-delivery mothers at John Hopkins Hospital. Father's decision and support have been the central encouragement to mothers as in England father is mainly supporting emotional and practical support and the mother is the one who needs to decide to practice the exclusive breastfeeding (Nani et al., 2017). The researcher also mentioned that the father needs to get involved in the antenatal class to learn about breastfeeding importance and encourage their partner to initiate and process exclusive breastfeeding. In a study by Oweis et al. (2009) found that husband encouragement during breastfeeding journey is 7.5%.

Another study explained that the mother improved a lot in practicing exclusive breastfeeding by attending the antenatal and breastfeeding class (Merten et al., 2005). The mother is directly being guided by the professional lactation counsellors or any healthcare professional. During the antenatal class, the health care professionals will demonstrate and show videotapes and pictures of the breastfeeding process and skills to the mother (Liu et al., 2017).

2.6 Emotional and the Psychological States

According to Flammer (2015) stated, this stage is when a difficult or threatening situation can affect a person's emotional and self-motivation. The mother's capability in handling the whole breastfeeding journey can lead to both negative or positive self-efficacy.

During the postpartum period, the mother might feel anxiety, pain, loneliness, and restlessness might affect the mother's mental state to practice exclusive breastfeeding to their infant (Liu et al., 2017). When the mother's husband and family give encouragement and support throughout the journey, the mother will be motivated and will be less likely to experience depression during exclusive breastfeeding.

The health care professionals also play an essential role in the emotional and psychological state of the mother. The study by Blyth et al. (2002) stated that the health care professionals could detect any discomfort experienced by the mother or any sign of anxiety, frustration, or a sense of failure throughout the postnatal checkup. When early detection happens, healthcare professionals can guide strategies to control these states by teaching the right way to give support. The mother can then overcome the difficulties and help the mother develop depression and stress, especially during the exclusive breastfeeding journey.

2.7 Maternal Factor

Maternal factors are also associated with the continuation or discontinuation of exclusive breastfeeding (Dennis, 1999). It includes socio-cultural and socio-economic factors, education level, work status, maternal comfort, nipple shape, lactation problem, place of delivery, the complication of delivery, labour and postpartum (Shareena et al., 2014).

Next, a study done by Shareena et al. (2014) showed that most participants who practice exclusive breastfeeding, 80% are among Muslim Malay mothers compared to Chinese and Indian mothers. It shows that the context of culture can also play a significant role in whether the mother practices exclusive breastfeeding because religion is one of the cultures. However, a study from the United Kingdom by Ingram et al. (2017) explained that Muslim women use formula milk for their infants outside the home. It is forbidden to expose the body. The embarrassment and limitation of breastfeeding activities among mothers in public have influenced mothers to choose formula milk and discourage them from continuing breastfeeding, which impacts the practice of exclusive breastfeeding among mothers (Korean, 2019). The other study also mentioned that embarrassment breastfeeding in public and working facilities could allow the Jordanian mothers not to breastfeed (Altamimi et al., 2017). Unlike North America and North Europe, the crowd stands for mothers' right to breastfeed their children in public and the workplace (Korean, 2019). It shows that culture plays a vital role in deciding whether to practice exclusive breastfeeding or not.

A study conducted in Machang, Kelantan by Nani et al. (2017) found that both parents' finances influenced practicing exclusive breastfeeding. A survey by Noor Hafizan, Zainab and Rosnah (2014) stated that household income was not related to the exclusive breastfeeding practice era. The same in the study by Awaliyah et al. (2019) stated that household income affects the mother's breastfeeding satisfaction.

Mothers' educational level and experiences of breastfeeding also influence practices of exclusive breastfeeding among mothers. Altamimi et al. (2017) discovered that mothers in South Jordan with less academic level tend to give formula milk to their children as a symbol of wealth. Still, it is not practiced in mothers with previous breastfeeding experience. However, the study by Ali et al. (2020), educated mothers are richer than uneducated mothers as they can afford formula milk. So, it is prestigious to give prelacteal feed to their children. A study by Shareena et al. (2014) stated that mothers who attended breastfeeding therapy and had higher education were more optimistic about breastfeeding.

Next, working mothers have a higher chance of discontinuing from practicing exclusive breastfeeding (Amin et al., 2011). The highest in inadequate working facilities, including the insufficient time to pump breast milk, has no breast milk pump, no nursery available in the workplace and load of work. Most commonly happened in the private sector rather than in the government sector. In Singapore, the mother who continues practicing exclusive breastfeeding is only 21.1% while another 94.5% stops after 1 month as they need to go to work (Amin et al., 2011). In Sweden, mothers have been given paid parental leave for 480 days in which

mothers have a high tendency to practice exclusive breastfeeding even more than that and no stress from the working environment (Howard, 2018). Working mothers think that formula feeding is the best choice for the infant (Shareena et al., 2014).

In the study driven by Nani et al. (2017), they highlighted that the husband's decision positively influences mothers' decision to practice exclusive breastfeeding. It is because the husband will provide emotional and practical support to the mother. The legislative environment also becomes a barrier for mom's encouragement to breastfeed their babies. For example, in the United States, there is still a hospital with no support in breastfeeding. They give a bottle and formula milk to the mother after delivery and say things that might downgrade mothers' passion for breastfeeding (Wallace, 2015). During the postpartum period, mothers have a high chance of having postpartum depression. A study by Tseng et al. (2020) explained that the mindfulness session allowed mothers and their partners to express anticipatory concerns and worries about taking care of children and offered psychological strategy.

Mother's delivery type can also be a factor influence on the exclusive breastfeeding practice for some mothers. A study by Elyas et al. (2017) stated that the mother who delivers spontaneous vaginal delivery is 1.86 times higher in practicing exclusive breastfeeding than the mother who has through the Cesarean section. The other study said that vaginally delivery mothers are about twice the chance to practice exclusive breastfeeding (Weber et al., 2011). Similarly, in the survey by Awaliyah et al. (2019), normal delivery offers more significant opportunities for breastfeeding and close interaction between mother and child and combined nursing care. However, the mother with Cesarean section delivery felt uncomfortable and felt

fatigued after the Cesarean procedure (Elyas et al., 2017). It explained why most Cesarean mothers are more likely to weaning earlier and not practicing exclusive breastfeeding.

2.8 Infant Factor

The success of exclusive breastfeeding might also be influenced by the infant factor. The factor includes children's deformities such as cleft lip, cleft palate, a tongue-tied, newborn conditions such as preterm or low birth weight and child illness or complications after birth.

Children's deformities such as cleft lip and cleft palate are common conditions in the infant, resulting in difficulties in feeding and the infant having a high chance of getting malnutrition (Bessella, 2011). In the same study, the researcher mentioned that the problem could be solved using modified bottles, cups, spoons, pumps, positions, techniques or teats to supplemental breastfeeding instead of breastfeeding. Although mothers cannot direct breastfeeding the infant, the mother can still pump the milk to the infant with other methods. In the further study, it explained that the rate of breastfeeding in the cleft population is lower, which is 54% lower than national figures is 63% in 2000 and 70% in 2005 (Britton et al., 2011).

Another study by Ricke et al. (2005) stated that the infant with tongue-tied could not appropriately seal at the mother's breast. It will cause a sore nipple to the mother and ineffective sucking leads to decreased milk supply and low infant weight gain because of non-nutritive sucking (Wright, 1995). In this case, the mother can also do other alternatives by pumping the milk and putting it in the bottle and doing exclusive bottle-feed due to improper sucking by the infant that can hurt the mother (Ricke et al., 2005).

National Center for Health Statistics (2012) reported that about half a million children are prematurely born per year (Briere et al., 2014). The writer explained that preterm infants commonly would be admitted to the neonatal intensive care unit (NICU) which makes it difficult for the mothers to use a breast pump for weeks or months before their children can start feeding directly on the breast (Briere et al., 2014). This situation might stress the mother as they need to give their best to increase the infant weight as a preterm infant has very low birth weight (VLBW). For the mother to practice exclusive breastfeeding in very low birth weight (VLBW) infants is very challenging. A study done by Maia et al. (2011) carried out exclusively at the first follow-up in a maternity unit that promotes maternal breastfeeding only 25%. The same study also mentioned that only 34% of infants with VLBW continue to use mother's milk at the corrected gestational age of 40 weeks in the regular follow-up. Thus, it is encouraged that the mothers practice exclusive breastfeeding even when the VLBW infants are discharged from NICU as a good weaning prevention strategy (Furman et al., 2002). This finding might influence the reason for the continuation of exclusive breastfeeding among mothers.

Breastfeeding self-efficacy short-form (BSES-SF) has been used in the study by Wang et al. (2019) to assess breastfeeding self-efficacy of the mother with preterm infants that has been admitted in the Neonatal Intensive Care Unit (NICU) to see either infant factors can influence mothers breastfeeding self-efficacy or vice versa.

2.9 Conceptual Framework

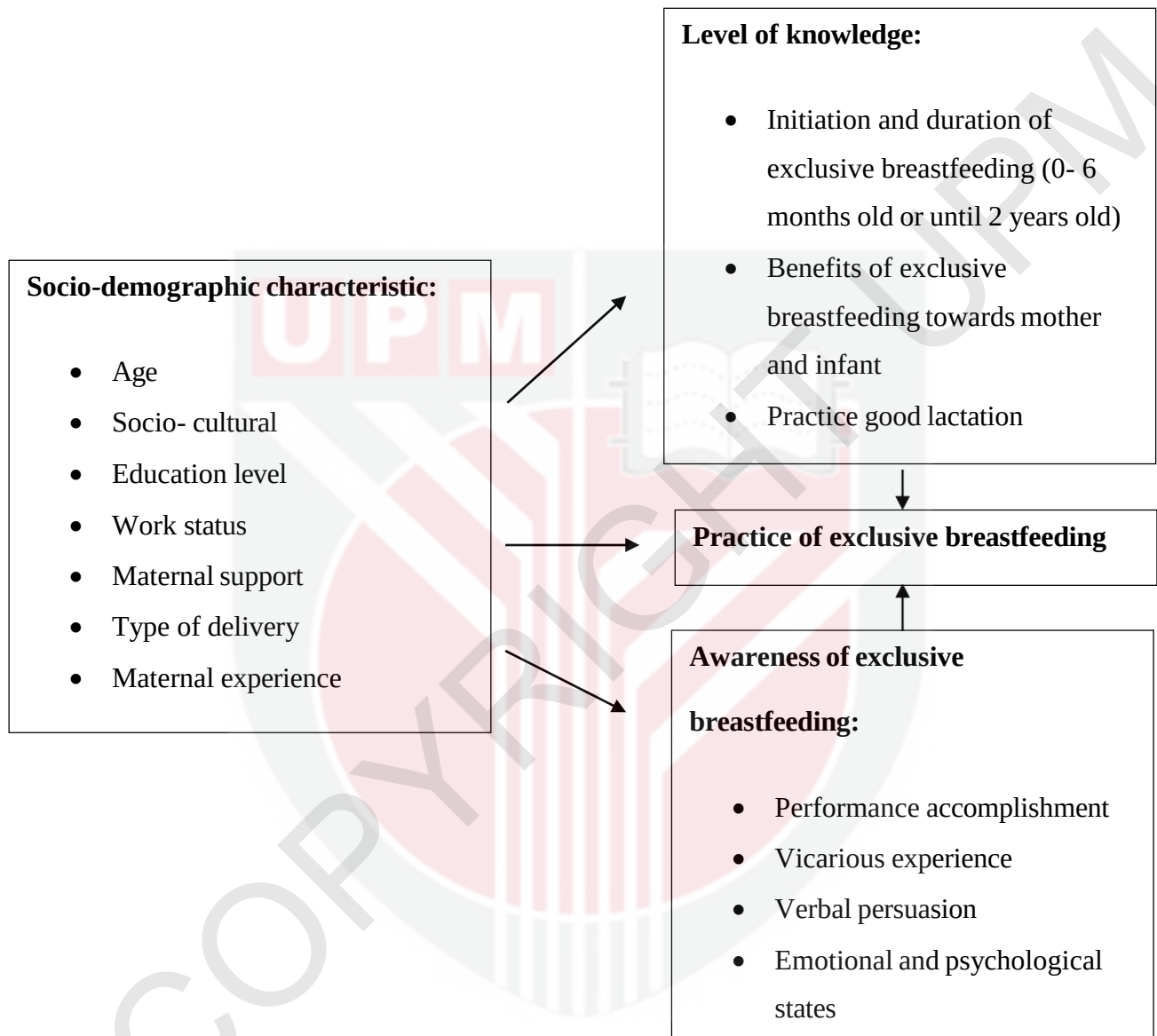


Figure 2: Conceptual framework of Knowledge, Awareness and Practice of Exclusive Breastfeeding

In this study, knowledge and awareness of exclusive breastfeeding is the independent variables as it will contribute to the dependent variable which is the practice of exclusive breastfeeding. It is a direct study between the independent variable and dependent variable. However, a socio-demographic characteristics which are age, socio-cultural, education level, work status, maternal support, type of delivery and maternal experience also can influence the knowledge, awareness and practice of exclusive breastfeeding among mothers.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter described the design of the study methods that were utilized for the study, including study location, sampling frame, sample size, sampling method, respondent criteria, instrument, pre-test, variability and reliability, data collection procedure, data analysis, study flowchart, the outcome of the study, ethical consideration, Gant chart, budget planning and limitation of the study.

3.2 Study Design

This study used a cross-sectional design to determine the knowledge, awareness and practice of exclusive breastfeeding among mothers attending maternal and child clinics. In general, cross-sectional is a snapshot study during the appropriate period (Sedgwick, 2014). It also based on a survey with a questionnaire.

3.3 Study Location

This study was conducted at Klinik Kesihatan Salak, Selangor, Malaysia. The clinic located at Jalan Salak Idaman, Sepang, Selangor, Malaysia. The development of this clinic was to provide medical services for the community area Salak. It consists of outpatient departments and check-up patients for maternal and children. This study was conducted among mothers attending maternal and child clinics at Klinik Kesihatan Salak. Operation time of this clinic was from 8 am until 5 pm and the day of operation was on the weekdays which were from Monday until Friday and close on the weekend. Estimation women population at Sepang was 120, 500 were

recorded in 2020 (Jabatan Perangkaan Malaysia, 2020). However, for estimation mothers attending to Klinik Kesihatan Salak based on from previous 3 months, the follow-up record for a month was around 500 mothers. For 3 months were around 1500 mothers attending maternal and child clinics.

3.4 Sampling Frame

3.4.1 Study Population

The target population for this study was the mother who attend maternal and child clinic, Klinik Kesihatan Salak, Selangor, Malaysia.

3.4.2 Study Duration

The data for this study was collected in 2 weeks from the 30th of August 2021 until the 10th of September 2021.

3.4.3 Subject Criteria

Inclusion Criteria	Exclusion Criteria
Malaysian nationality	Mothers who were prescribed drugs that are not suitable for breastfeeding such as anticancer drugs
Aged between 19 to 50 years' old	Mothers who cannot understand Malay and English
Willing to participate in the study	

The mother who has experience in practicing exclusive breastfeeding.	
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3.5 Sample Size Estimation

The estimation of sample size was obtained from the calculation on Statistical Services Population Proportion Calculator. The formula used is shown below.

$$n = N * X / (X + N - 1),$$

where,

$$X = Z_{\alpha/2}^2 * p * (1-p) / MOE^2$$

n: required sample size

X: Z value = 95% level of confidence interval

$Z_{\alpha/2}$: critical value of the normal distribution at $\alpha/2 = 1.96$

MOE (margin of error) = 0.05

p: sample proportion = 14.5% (based on a local study done by Fatimah, Siti, Tahir, Hussain and Ahmad (2010) found that 14.5% of mothers from the overall prevalence of exclusive breastfeeding from Results of Third National Health and Morbidity Survey (NHMS III) 2006.

Population size, N = 1500 mothers in Salak based on the estimation from previous 3 months follow up record of the mothers to maternal and child clinics, Klinik Kesihatan Salak

$$n = (1500)(190.504) / (190.504 + 1500 - 1)$$

$$= 170 \text{ participants}$$

So, the estimated sample size, $n = 170$ participants

From the calculation, the estimated sample size calculated is $n = 170$ participants are required to take part in this study. The estimation of the non-response rate is 10% which need to be added to recommended sample size. Therefore, the final sample size needed for this study is 187 participants.

3.6 Sampling Method

The convenience sampling method was used in this study to recruiting participants. This method is the most suitable to be used during this COVID-19 pandemic. The questionnaire was distributed to participants via Google Form.

The inclusion criteria had been listed in the Google Form and it needs the participants to click it before start answering the questionnaire. The participants that fulfill the inclusion criteria can proceed with answering the questions and vice versa. Convenience sampling was the most commonly used in clinical research where the participants who meet the inclusion criteria were recruited in the study.

3.7 Study Instrument

A self-administered questionnaire was initially proposed to become a data collection approach in this study. However, due to the Covid-19 pandemic and movement control order (MCO) was implemented within the period of data collection, a self-administered online survey was used in this study. The questionnaire consists of 5 sections which are Section A (socio-demographic data), Section B (Practice of exclusive breastfeeding), Section C (Regarding breastfeeding experience), Section D (Knowledge of exclusive breastfeeding) and Section E (Awareness of exclusive breastfeeding).

The questionnaire was modified from a study by Farahana, Norliza and Nor Afiah (2019) on experience and knowledge of the mother regarding exclusive breastfeeding and Mohd Shukri (2018) on practice and awareness of exclusive breastfeeding. The modified questionnaire consists of 5 sections that required between 15 to 20 minutes to be completed by the participants.

In section A, it consists of 12 questions that belong to the socio-demographic profiles of the participants. The data will be collected include age, method of childbirth, ethnicity, educational level, marital status, employment status, monthly income and marital support. Participants need to tick in the space provided in answering the questions.

In section B, consists of 11 questions that analyzing the practice of the participants regarding exclusive breastfeeding. The participants were required to choose the answers that represent

themselves on the practice of exclusive breastfeeding. If the mother practices exclusive breastfeeding towards their infants will be scored 1 while 0 if otherwise. The respondent was required to select the reasons for not practicing exclusive breastfeeding.

Next, section C. This section consists of 6 questions that focus on the breastfeeding experience of the mother. Here, the respondent will be assessed whether a mother with previous experience or do not have experience on breastfeeding practice exclusive breastfeeding towards their youngest child or not.

Knowledge on exclusive breastfeeding will be assessed in section D. This section comprises 13 questions. The questions cover the benefits of exclusive breastfeeding towards the mother and their infant, initiation and duration of exclusive breastfeeding and the way to store pumped breast milk. The participants need to choose the required options of the answer, which are True, False and Unsure. For the scoring method, the correct response will score 2, the wrong response will score 0 and the unsure response will score 1. The selection of participants on unsure answer probably due to they want to avoid the answer or having no idea on that questions. The maximum score is 26 while the minimum score is 0. If the total score of the participants exceeds the mean score, it will be categorized as good knowledge and below than mean score for poor knowledge.

Lastly, section E consists of 12 questions on awareness of exclusive breastfeeding. A five-point Likert scale will be used from strongly disagree, disagree, neutral, agree and strongly agree. The scoring system for positive questions are strongly agreed (5), agree (4), neutral (3), disagree (2) and strongly disagree (1) while for negatively questions are strongly disagreed (5),

disagree (4), neutral (3), agree (2) and strongly agree (1). Thus, the range score for this section is 10 to 50. Respondent's awareness will be determined by mean score.

3.8 Pre-test

The pre-test was carried out at Klinik Kesihatan Dengkil, Selangor, Malaysia after obtained permission from Selangor State Health Department. So, 10% from 310 estimate sample size which was 17 participants were selected in the pre-test of this questionnaire. Hence, any 17 mothers attending maternal and child clinics that meet with inclusion and exclusion criteria were involved in this pre-test. The result from the pre-test was reviewed by the supervisor.

3.9 Validity and Reliability

The questionnaire was modified to suit the context of the study related to the knowledge, awareness and practice of exclusive breastfeeding among mothers. Therefore, this questionnaire needed a pre-test for the knowledge, awareness and practice part for its validity and reliability.

For validity, the modified questionnaire was checked and reviewed by a Specialist in Obstetrics and Gynaecology. It is to ensure whether the questionnaire adequately covers all the aspect that related to variables in the study.

For the reliability test, the result of the pre-test has been analyzed through Statistical Packages for Social Sciences (SPSS) 22.0. For knowledge on exclusive breastfeeding, the value was

0.752, for awareness on exclusive breastfeeding was 0.724 and for practice on exclusive breastfeeding was 0.707.

3.10 Data Collection

The ethical approval was obtained from Medical Research and Ethics Committee (MREC), Jawatankuasa Etika Untuk Penyelidikan Melibatkan Manusia (JKEUPM) and Selangor State Health Negeri Selangor.

Participants who meet with the inclusion criteria will be approached during they waiting for their number or name to be called. Firstly, the researcher was given an explanation and guidance regarding the questionnaire. As they agreed to participate, the Qr Code was given and then the participant was required to fill up the consent form and started answering the questionnaire through Google Form. The participants were required to read the written instruction to answer the questionnaire.

All the information was handled confidentially and the questionnaire remained completely anonymous. As the questionnaire was through the online platform, no time is allocated. The answered questionnaire was checked by the researcher.

3.11 Data Analysis

The normality test was done to determine the distribution of data. For Skewness and Kurtosis were -1.028 and -0.972 respectively. For Kolmogorov Smirnov and Shapiro-Wilk test, both were 0.001 (p-value <0.05). The distribution of data for this study was normal.

Data analysis for descriptive data

The numerical and ordinal data in this study include age, monthly income, level of knowledge and level of awareness were be described using mean $\pm$ standard deviation. For this study, the categorical data includes race, level of education, maternal status, type of delivery and practice of exclusive breastfeeding will be described using frequencies and percentages.

Data analysis for inferential data

The primary hypothesis analysis was to statistically analyze the relationship between socio-demographic characteristics and level of knowledge, awareness and practice of exclusive breastfeeding. Firstly, the independent variable was socio-demographic characteristics and the dependent variable was the level of knowledge on exclusive breastfeeding. Pearson Correlation test was used to find the relationship between age and level of knowledge when age is continuous, level of knowledge is continuous. An Independent T-test was used to test the relationship between the method of childbirth and level of knowledge. To test the relationship between ethnicity, level of education, maternal and employment status and monthly income and the level of knowledge, One Way Independent ANOVA was used. Secondly, the relationship between socio-demographic characteristics as independent and level of awareness

as dependent variables. For this part, the statistical test is the same as the previous for each socio-demographic characteristic and level of awareness.

Thirdly, independent variables were socio-demographic characteristics and dependent is the practice of exclusive breastfeeding. Logistic regression was used to analyze the relationship between age and practice of exclusive breastfeeding. Next, Pearson Chi-Square was used to analyze the relationship between method of childbirth, ethnicity, level of education, maternal and employment status and monthly income and practice of exclusive breastfeeding.

For second and third null hypothesis analysis, Binomial Logistic Regression was used to statistically analyze the relationship between practice and their level of knowledge regarding exclusive breastfeeding and the third hypothesis was the relationship between practice and level of awareness of the mother regarding exclusive breastfeeding.

Descriptive Statistics

Specific Objectives	Variables	Type of Variables	Statistic
To determine the socio-demographic characteristics of mothers	Age	Continuous	Mean $\pm$ standard deviation
	Ethnicity	Categorical	Frequency and
	Level of education	Categorical	Percentage
	Employment status	Categorical	
	Monthly income	Categorical ordinal	Mean $\pm$ standard deviation
	Maternal status	Categorical	Frequency and
	Type of delivery	Categorical	Percentage
To determine the level of knowledge of mothers regarding practice of exclusive breastfeeding	Level of knowledge on exclusive breastfeeding	Continuous	Mean $\pm$ standard deviation
To determine the level of awareness of mothers regarding the practice of exclusive breastfeeding	Level of awareness on exclusive breastfeeding	Continuous	Mean $\pm$ standard deviation

To determine the practice of exclusive breastfeeding among mothers attending maternal and child clinics	Practice of exclusive breastfeeding	Categorical	Frequency and Percentage
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Inferential Statistics

Null Hypothesis	Dependent variable	Independent variable	Statistic test
To statistically analyze the relationship between socio-demographic characteristics of mothers attending maternal and child clinics and their knowledge, awareness and practice of exclusive breastfeeding	Level of knowledge on exclusive breastfeeding (continuous)	Age (continuous)	Parametric: Pearson Correlation
		Method of childbirth (categorical)	Parametric: Independent T- test
		Ethnicity (categorical)	Parametric: One Way Independent ANOVA
		Level of education (categorical)	
		Maternal status (categorical)	
		Employment status (categorical)	

		Monthly income (categorical)	
	Level of awareness on exclusive breastfeeding (continuous)	Age (continuous)	Parametric: Pearson Correlation
		Method of childbirth (categorical ordinal)	Parametric: Independent T- test
		Ethnicity (categorical)	Parametric: One Way Independent ANOVA
		Level of education (categorical)	
		Maternal status (categorical)	
		Employment status (categorical)	
		Monthly income (categorical)	
	Practice of exclusive breastfeeding (categorical)	Age (continuous)	Logistic regression
		Method of childbirth (categorical)	Pearson Chi-Square
		Ethnicity (categorical)	
		Level of education (categorical)	

		Maternal status (categorical)	
		Employment status (categorical)	
		Monthly income (categorical)	
To statistically analyze the relationship between knowledge and practice of exclusive breastfeeding among mothers attending maternal and child clinics	Practice of exclusive breastfeeding (categorical)	Knowledge on exclusive breastfeeding (continuous)	Binomial Logistic Regression
To statistically analyze the relationship between awareness and practice of exclusive breastfeeding among mothers attending maternal and child clinics	Practice of exclusive breastfeeding (categorical)	Awareness of exclusive breastfeeding (continuous)	

3.12 Study Flowchart

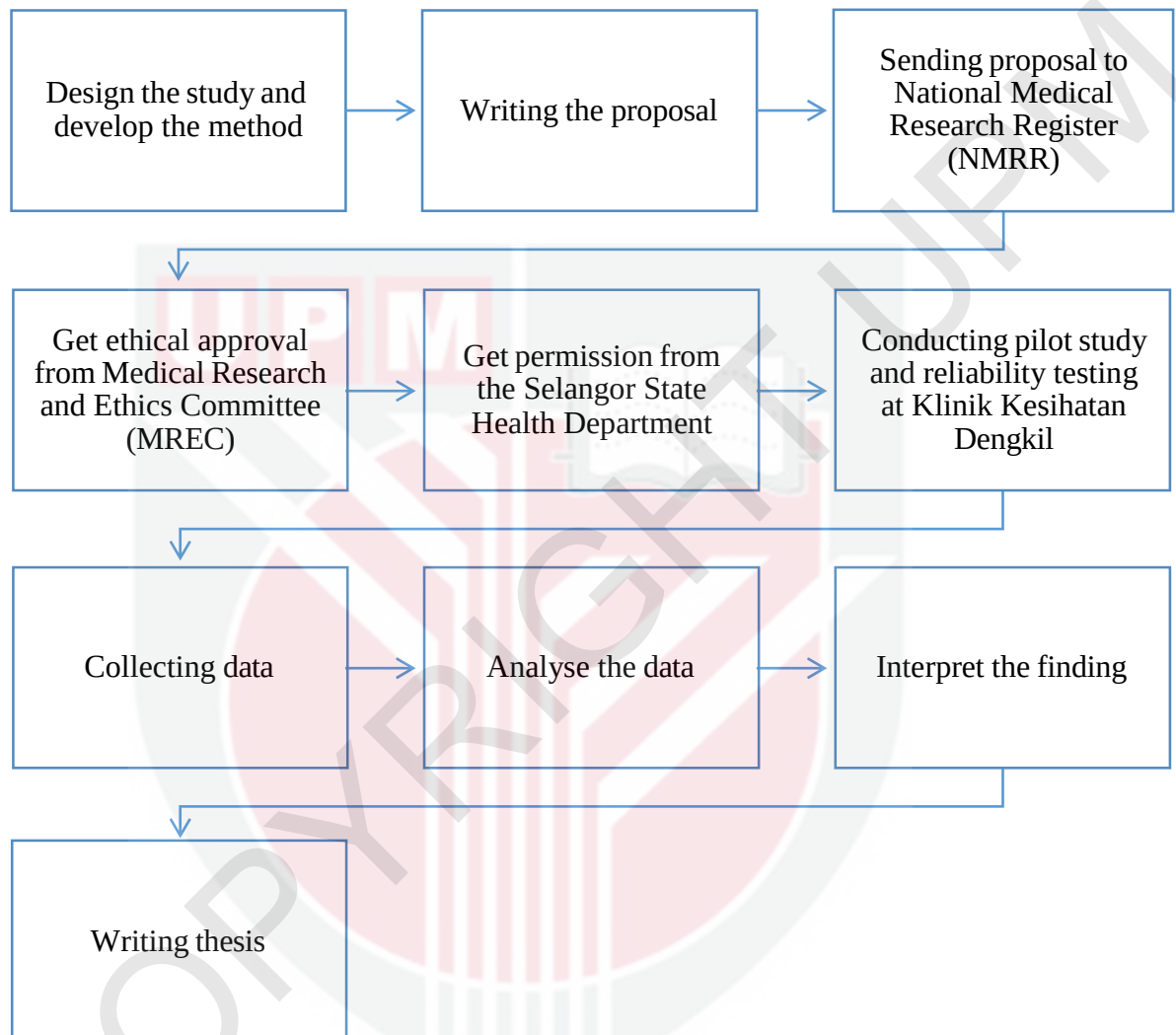


Figure 3: Study flowchart of this study

3.13 Ethical consideration

3.13.1 Participant's approval

The participant was informed consent to participate in this study. The participant was needed to click agreed at the consent part then started answering the questionnaire. All information obtained from the participants was treated as high confidential and only used for this study. Only the researcher has the master plan of the participant which will not be revealed.

3.13.2 Institution's approval

An online application was submitted to the National Medical Research Register (NMRR). After getting ethical approval from Medical Research and Ethics Committee (MREC), a copy of approval from MREC will be submitted to Selangor State Health Department and Research Ethics Committee Universiti Putra Malaysia (JKEUPM).

3.13.3 Access to the study site

A copy of approval from Selangor State Health Department was submitted to the study site such as:

- Director of Klinik Kesihatan Salak and Klinik Kesihatan Dengkil
- Matron or Sister Maternal and Child Clinics, Klinik Kesihatan Salak and Klinik Kesihatan Dengkil

This data collection was collected after obtaining the ethical approval from the above-mentioned list.

Confidentiality and anonymity

All the information regarding the participants was kept confidential and only be used for research purposes. Only the principal and supervisory committee or researchers have total access to the findings.



CHAPTER 4

RESULT

4.1 Introduction

This study was carried out through an online platform among mothers attending maternal and child clinics at Klinik Kesihatan Salak, Sepang, Selangor. The results of this study are discussed in four parts including part A on the socio-demographic characteristics, part B practice of exclusive breastfeeding, part D knowledge on exclusive breastfeeding, and part E awareness on exclusive breastfeeding. All the data have been analyzed using parametric statistics as the data is normally distributed.

4.2 Response Rate

A total of 69 respondents responded to the online survey through Google Form. The estimated required sample for this study was 170, to provide 95% power and 5% margin error. The response rate is 40.59%.

4.3 Normality Test

For the normality test, Skewness and Kurtosis were -1.028 and -0.972 respectively. For Kolmogorov Smirnov and Shapiro-Wilk test, both were 0.001 ($p < 0.05$). According to figure 1, the normal curve was bell-shaped and symmetrical about the mean $\pm$ standard deviation = 0.72 ± 0.45 . Hence, it can be concluded that the distribution of the data was normal.

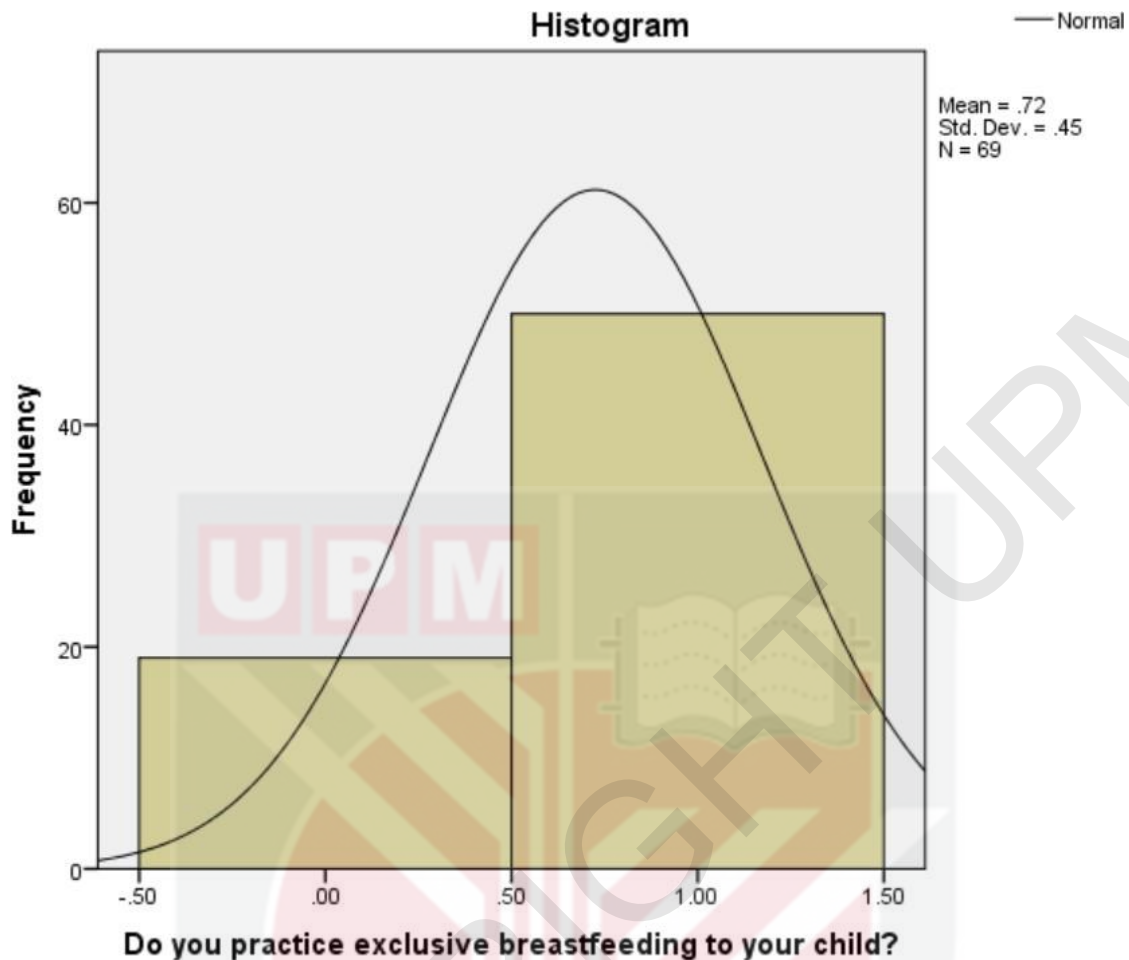


Figure 4: A bell-shape of data normally distributed.

4.4 Descriptive Result

4.4.1 Socio-demographic characteristics of participants

There were sixty-nine participants involved in this research study. The minimum age of the participants is 23 years old while 50 years old is the maximum age of participants. The percentage of respondents aged 23 until 40 years old was 21.7% whereas for age range within 41 until 50 years old was 44.9% and 33.3% for respondents that aged 51 until 69 years old. This showed that the majority of the respondents that participated in this study were under the category of 41 until 50 years old while the lowest group was the category of 23 until 40 years old. The Skewness and Kurtosis for age were 0.237 and -0.981 respectively and was normally

distributed. The mean $\pm$ standard deviation and median for age were 37.16 ± 0.738 and 35.0 years old.

The largest population of mothers had underwent normal delivery (78.3%) during previous labor while another 21.7% had underwent Caesarean section delivery. Consequently, Malay respondent's race were dominant (72.5%) followed by Chinese (8.7%), Indian (11.6%) and 7.2% of the study population were Iban, Kenya, Bidayuh and Kadazan Dusun. With regards to the educational background of the population, 66.7% of the respondents had tertiary education Bachelor/ Master while 33.3% had basic education which obtained from either secondary or primary schools. The largest population of mothers were married (97.1%) while only 2.9% were divorcees. Seventy-one percent of the study population were represented by mother worked for the various company either government sector, and private sectors or had their own business. Only 29.0% of the respondents were unemployed.

As mentioned in the previous section, the financial status of the mothers was classified based upon Malaysian income classification. It was noted that the B40 group represented the largest study population (72.5%) as compared to the M40 group (27.5%). The entire study population reported that they had received support on exclusive breastfeeding by either husband, parents, siblings, healthcare staff and friends.

Table 4.1 :Frequency (n) and percentage (%) of socio-demographic characteristics of the respondents.

Socio-demographic characteristics	Mean ± Standard Deviation	Frequency, n= 69	Percentage, %
Age	37.16 ± 0.738		
23-40		15	21.7
41-50		31	44.9
51-63		23	33.3
Method of childbirth			
Normal delivery		54	78.3
Cesarean section delivery		15	21.7
Ethnicity			
Malay		50	72.5
Chinese		6	8.7
Indian		8	11.6
Others		5	7.2
Education Level			
Basic Education		23	33.3
Tertiary Education		46	66.7
Marital Status			
Married		67	97.1
Divorced		2	2.9
Employment Status			
Employed		49	71.0
Unemployed		20	29.0
Monthly Income			
B40		50	72.5
M40		19	27.5
Support during exclusive breastfeeding			
Yes		69	100.0
No		0	0

4.4.2 Knowledge on Exclusive Breastfeeding

Table 4.2 shows the frequency of respondents who answered correctly, incorrectly, and unsure for knowledge part. The majority of the respondents (89.9%) gave a correct response for the statement ‘breast milk is not easily digested by the infant’ whilst 2.9% responded incorrectly. Most of the respondents (75.4%) gave a correct response for the statement ‘breast milk is enough for newborn until reach 6 months’ whereby 14.3% responded incorrectly. Regarding the statement on ‘breast milk has the same efficacy as formula milk’ (73.9%) gave a correct response whilst 14.5% provided an incorrect response.

For the statement on ‘benefits of colostrum which helps in a child’s immune system’, most of the respondents (88.4%) gave a correct response whilst 1.4% selected incorrect respond. Also, more than half of the respondents (66.7%) select a correct response for the statement in which ‘breast milk does lose its benefits when it is pumped out or stored’ and 11.6% gave incorrect responses. Meanwhile, 55.1% of respondents did not knew that breast milk can be stored at room temperature for up to 8 hours which only 27.5% answered correctly. Slightly over half of the respondents (56.5%) knew that breast milk can be stored in the refrigerator with 1 door in the freezer for 2 weeks whilst 21.7% did not knew about it.

The majority of the respondents responded correctly to the statement in which breastfeeding duration is 15-20 minutes for each breast (73.9%) and 11.6% answered incorrectly. Sixty-nine percent had knowledge regarding the need for a mother to breastfeed her newborn every 2 hours for the first 6 months after delivery whilst 13.0% did not knew about this.

Most of the respondents (76.8%) knew the appropriate time length for exclusive breastfeeding while 13.0% did not know about it. Respondents agreed that exclusive breastfeeding could help the mother to lose weight after pregnancy whilst 2.9% of respondents responded otherwise. The majority of the respondents knew that exclusive breastfeeding helps the uterus to return to its pre-pregnancy state more quickly (87.0%) compared to 13.0% of the mothers who did not know about it.



Table 4.2: Frequency (n) and percentage (%) of respondents' answers were correct and wrong for each item in the knowledge part.

Questions	Frequency (percentage), n=69 (%)		
	Correct answer	Wrong answer	Unsure
Breast milk is not easily digested by the infant than formula.	62 (89.9)	2 (2.9)	5 (7.2)
Breast milk is enough for newborn until reach 6 months.	52 (75.4)	10 (14.7)	7 (10.1)
Breast milk has the same efficacy as formula milk.	51 (73.9)	10 (14.5)	8 (11.6)
Colostrum contains essentials antibodies necessary to help the child's immune system.	61 (88.4)	1 (1.4)	7 (10.1)
Breast milk does lose its benefits when it is pumped out or stored.	46 (66.7)	8 (11.6)	15 (21.7)
Breast milk can be stored at room temperature up to 8 hours.	19 (27.5)	38 (55.1)	12 (17.4)
Breast milk can be stored in refrigerator with 1 door at freezer for 2 weeks.	39 (56.5)	15 (21.7)	15 (21.7)
Breastfeeding duration is 15-20 minutes for each breast.	51 (73.9)	8 (11.6)	10 (14.5)
Mothers need to breastfeeding newborn every 2 hours for the first 6 months after delivery.	48 (69.6)	9 (13.0)	12 (17.4)
Exclusive breastfeeding is from birth until newborn reach 6 months old.	53 (76.8)	9 (13.0)	7 (10.1)
Exclusive breastfeeding is not beneficial for both the mother and the child.	59 (85.5)	2 (2.9)	8 (11.6)
Exclusive breastfeeding helps mothers to lose weight after pregnancy.	59 (84.3)	2 (2.9)	8 (11.6)
Exclusive breastfeeding helps the uterus to return to its pre-pregnancy state more quickly.	60 (87.0)	0	9 (13.0)

The mean $\pm$ standard deviation for knowledge score is 20.913 ± 3.741 . The Skewness and Kurtosis for knowledge mean score was -0.965 and 0.469 respectively which proved that the mean score was normally distributed. The mean was used as a cut-off point to categorize the level of knowledge to good knowledge and lack of knowledge. The respondents with the knowledge score of less than 20.913 ± 3.741 were grouped under lack of knowledge, whereby the respondent with score of more than 20.913 ± 3.741 was grouped under a good level of knowledge.

Table 4.3 Levels of knowledge on exclusive breastfeeding.

Variable	Frequency, n=69 (%)		Mean $\pm$ Standard Deviation
	Good Knowledge	Lack of Knowledge	
Knowledge Level	44 (63.8%)	25 (36.2%)	20.913 $\pm$ 3.741

Table 4.3 shows that over than half of the respondents (63.8%) had a good level of knowledge on exclusive breastfeeding whilst 36.2% of the respondents had lack of knowledge.

4.4.3 Awareness of Exclusive Breastfeeding

Table 4.4 shows the frequency and percentage of awareness of exclusive breastfeeding. The mean $\pm$ standard deviation for the awareness was 44.942 ± 6.419 . The highest score was 60 and the lowest was 12 for each respondent. The Skewness and Kurtosis for level of awareness were -0.645 and 0.353 respectively, hence the mean score or awareness was normally distributed. Based on the results, the mean was used as a cut-off point to group the level of awareness of the respondents into good awareness and lack of awareness. The respondents with the awareness score of less than 44.942 ± 6.419 were grouped under lack of awareness, whereby the respondent with score of more than 44.942 ± 6.419 was grouped under good level of awareness.

Table 4.4: Level of awareness on exclusive breastfeeding.

Variable	Frequency, n= 69 (%)		Mean $\pm$ Standard Deviation
	Good Awareness	Lack of Awareness	
Awareness Level	39 (56.5%)	30 (43.5 %)	44.942 ± 6.419

Table 4.4 shows slightly more than half of the respondents (56.5%) had a good level of awareness about exclusive breastfeeding whilst 43.5% had lack of awareness about it.

4.4.4 Practice of Exclusive Breastfeeding

The mean $\pm$ standard deviation for the practice part was 22.217 ± 3.765 . The Skewness and Kurtosis for the practice of exclusive breastfeeding were -1.028 and -0.972 respectively, thus, it is considered as normally distributed. The majority of the respondents (72.5%) had practice exclusive breastfeeding whilst 27.5% had not practice exclusive breastfeeding (refer to table 4.5).

Table 4.5: Practice on exclusive breastfeeding.

Variables	Frequency, n= 69 (%)		Mean $\pm$ Standard Deviation
	Practice	Not practice	
The practice of exclusive breastfeeding	50 (72.5%)	19 (27.5%)	22.217 ± 3.765

4.5 Hypothesis Testing

4.5.1 Relationship between socio-demographic characteristics of mothers attending maternal and child clinics and their knowledge of exclusive breastfeeding.

Table 4.6: Correlation between age and level of knowledge on exclusive breastfeeding.

Variable	Knowledge	
	r-value	p-value
Age	0.38	0.756

A Pearson Correlation (r) was calculated used to assess the correlation between age and level of knowledge of exclusive breastfeeding and it shows that both of them were not positively correlated as $p\text{-value} > 0.05$ ($r = 0.38, p = 0.756$).

Table 4.7: Relationship between socio-demographic characteristics and level of knowledge on exclusive breastfeeding.

Characteristics	n=69	Mean Difference (95% CI)	df	F/t	P-value
Method of childbirth			67	1.80 ^a	0.076 ^a
• Normal Delivery	54	1.933 (-0.211- 4.077)			
• Cesarean Section Delivery	15	1.933 (-0.382- 4.249)			
Ethnicity			3	1.015 ^b	0.392 ^b
• Malay	50	1.66 (1.5240 – 1.796)			
• Chinese	6	1.667 (1.1247 – 2.208)			
• Indian	8	1.375 (0.942 – 1.801)			
• Others	5	1.8 (1.245 – 2.355)			
Education			2	0.885 ^b	0.418 ^b
• Basic Education	23	1.636 (1.418 – 1.855)			
• Tertiary Education	46	1.652 (1.501 – 1.795)			
Maternal Status			1	0.164	0.686 ^b
• Married	67	1.642 (1.524 – 1.76)			
• Divorced	2	1.5 (-0.4853 – 7.853)			
Employment Status			3	0.589 ^b	0.624 ^b
• Self-employed	7	1.571 (1.077 – 2.066)			
• Government employee	36	1.611 (1.444 – 1.778)			
• Private employee	6	1.5 (0.925 – 2.075)			
• Unemployed	20	1.75 (1.542 - 1.958)			
Monthly Income			1	0.382 ^b	0.538 ^b
• B40	50	1.66 (1.524 – 1.796)			
• M40	19	1.579 (1.335 – 1.823)			

a. Independent T-test

b. One-way Independent ANOVA

4.5.2 Relationship between socio-demographic characteristics of mothers attending maternal and child clinics and their awareness of exclusive breastfeeding.

Table 4.8: Correlation between age and level of awareness on exclusive breastfeeding.

Variable	Awareness	
	r-value	p-value
Age	0.49	0.689

A Pearson Correlation (r) was used to assess the correlation between age and level of awareness of exclusive breastfeeding and it shows that both of them were not positively correlated as p -value > 0.05 ($r = 0.49$, $p = 0.689$).

Table 4.9: Relationship between socio-demographic characteristics and level of awareness on exclusive breastfeeding.

Characteristics	n=69	Mean Difference (95% CI)	df	F/t	P-value
Method of childbirth					
• Normal Delivery	54	-2.204 (-5.932- 1.525)	67	-1.180 ^a	0.242 ^a
• Cesarean Section Delivery	15	-2.204 (-5.738- 1.331)			
Ethnicity					
• Malay	50	1.54 (1.397 – 1.683)	3	0.439 ^b	0.726 ^b
• Chinese	6	1.5 (0.925 – 2.075)			
• Indian	8	1.75 (1.363 – 2.137)			
• Others	5	1.60 (0.92 – 2.280)			
Education					
• Basic Education	23	1.50 (1.273 – 1.727)	2	0.878 ^b	0.421 ^b
• Tertiary Education	46	1.61 (1.462 – 1.755)			
Maternal Status					
• Married	67	1.582 (1.461 – 1.703)	1	2.705 ^b	0.105 ^b
• Divorced	2	1.0 (1.0 – 1.0)			
Employment Status					
• Self-employed	7	1.571 (1.077 – 2.066)	3	0.176 ^b	0.912 ^b
• Government employee	36	1.528 (1.357 – 1.699)			
• Private employee	6	1.667 (1.125 – 2.209)			
• Unemployed	20	1.60 (1.365 – 1.835)			
Monthly Income					
• B40	50	1.540 (1.397 – 1.683)	1	0.459 ^b	0.50 ^b
• M40	19	1.632 (1.393 – 1.870)			

a. Independent T-test

b. One-way Independent ANOVA

4.5.3 Relationship between socio-demographic characteristics of mothers attending maternal and child clinics and their practice of exclusive breastfeeding.

Based on Table 5.0, there was a statistical significant relationship between maternal status and practice of exclusive breastfeeding with p-value of 0.02. Meanwhile, other socio-demographic characteristics had no relationship with the practice of exclusive breastfeeding as p-value > 0.05.

Table 10: Pearson Chi-Square between socio-demographic and practice of exclusive breastfeeding.

Variables	Practice, n=69 (%)		Test statistics	
	Yes	No	χ^2	p-value
Method Childbirth				
• Normal Delivery	39 (72.2%)	15 (27.8%)	0.007	0.932
• Caesarean Section Delivery	11 (73.3%)	4 (26.7%)		
Ethnicity				
• Malay	38 (76.0%)	12 (24.0%)	3.081	0.379
• Chinese	4 (66.7%)	2 (33.3%)		
• Indian	6 (75.0%)	2 (25.0%)		
• Others	2 (40.0%)	3 (60.0%)		
Education				
• Primary Education	1 (100.0%)	0 (0.0%)	0.631	0.73
• Secondary Education	15 (68.2%)	7 (31.8%)		
• Tertiary Education	34 (73.9%)	12 (26.1%)		
Maternal Status				
• Married	50 (74.6%)	17 (25.4%)	5.42	0.02
• Divorced	0 (0.0%)	2 (100.0%)		
Employment Status				
• Self-employed	4 (57.1%)	3 (42.9%)	5.588	0.133
• Government Employee	25 (69.4%)	11 (30.6%)		

• Private Employee	3 (50.0%)	3 (50.0%)		
• Unemployed	18 (90.0%)	2 (10.0%)		
Monthly Income				
• B40	36 (72.0%)	14 (28.0%)	0.02	0.889
• M40	14 (73.7%)	5 (26.3%)		



4.5.4 Predictive factors in the practice of exclusive breastfeeding.

Age Factor

Logistic regression was conducted to determine if age could predict the practice of exclusive breastfeeding. The model explained between (Cox & Snell R Square) and (Nagelkerke R Square) were 0% of the variance in the practice of exclusive breastfeeding and correctly classified 72.5% of cases. Sensitivity was 100% and specificity was 0%. The positive predictive value was 83.33% and the negative predictive value was 0%.

Table 11: Logistic Regression between age and practice of exclusive breastfeeding.

Variable	B	S.E.	Wald	df	p	Exp (B)	95.0% C.I. for Odds Ratio	
Age	-0.05	0.035	0.02	1	0.888	0.995	0.928	1.067

The results of the logistic regression were not statistically significant, $X^2(1) = 0.02$, $p=0.888$. The odds ratio (OR) of age was 0.995. The coefficient was -0.05. Respondents with an increase in one year of age will have an increase of 0.995 times the odds to practice exclusive breastfeeding.

Knowledge factors

Logistic regression was conducted to determine if the knowledge could predict the respondents of the practice of exclusive breastfeeding. The model explained between 0.1% (Cox & Snell R Square) and 0.2% (Nagelkerke R Square) of the variance in the practice of exclusive breastfeeding and correctly classified 72.5% of cases. Sensitivity was 100% and specificity was 0%. The positive predictive value was 83.33% and the negative predictive value was 0%.

Table 12: Logistic Regression between knowledge and practice of exclusive breastfeeding.

Variable	B	S.E.	Wald	df	p	Exp (B)	95.0% C.I. for Odds Ratio	
Knowledge of exclusive breastfeeding	0.023	0.071	0.099	1	0.753	1.023	0.889	1.177

The results of the logistic regression were not statistically significant, $X^2(1) = 0.098$, $p=0.754$. The odds ratio (OR) of age was 1.023. The coefficient was 0.023. Respondents with knowledge have 1.023 times the odds to practice exclusive breastfeeding.

Awareness factors

Logistic regression was conducted to determine if the awareness could predict the respondents of the practice of exclusive breastfeeding. The model explained between 2.6% (Cox & Snell R Square) and 3.7% (Nagelkerke R Square) of the variance in the practice of exclusive breastfeeding and correctly classified 72.5% of cases. Sensitivity was 100% and specificity was 0%. The positive predictive value was 83.33% and the negative predictive value was 0%.

Table 13: Logistic Regression between awareness and practice of exclusive breastfeeding.

Variable	B	S.E.	Wald	df	p	Exp (B)	95.0% C.I. for Odds Ratio	
Awareness of exclusive breastfeeding	0.056	0.042	1.763	1	0.184	1.058	0.974	1.149

The results of the logistic regression were not statistically significant, $X^2(1) = 1.786$, $p = 0.181$. The odds ratio (OR) of age was 1.058. The coefficient was 0.056. Respondents with good awareness have 1.058 times the odds to practice exclusive breastfeeding.

CHAPTER 5

DISCUSSION

5.1 Introduction

The main objective of this study is to measure the level of knowledge, awareness and practice about exclusive breastfeeding among mothers attending maternal and child clinics at Klinik Kesihatan Salak. In this chapter, results from the analyzed data will be discussed according to the specific objectives of this study.

5.2 Relationship between socio-demographic characteristics and knowledge level of exclusive breastfeeding

The result shows that 44 (63.8%) respondents had a good level of knowledge on exclusive breastfeeding whilst 25 (36.2%) of the respondents had lack of knowledge. From this finding, we might relate this result with the educational level of the respondents where most of the respondents' educational level was tertiary education. This study found that mothers who accomplished tertiary education were more likely to perform exclusive breastfeeding than those in basic education. As mothers with high educational levels know the benefits of exclusive breastfeeding and the correct methods to practice effective breastfeeding. We might also relate this result with the experience of the mother practicing exclusive breastfeeding where most of the mothers have experience for 6 months exclusive breastfeeding their infants. Mothers with experience have more knowledge in exclusive breastfeeding and are well-prepared to learn new skills and tend to keep practicing exclusive breastfeeding. Mass media also could help in increasing the level of knowledge.

According to a study (Marzo et al., 2019), mentioned that 44% to 53% of the mother have a good to an excellent level of knowledge in exclusive breastfeeding. They explained that people surrounding also need to know about exclusive breastfeeding especially the husband to encourage the mother in the decision and implementing breastfeeding. The study from Pilus et al. (2019), stated that mothers with tertiary education have more chances to perform exclusive breastfeeding. Besides, the study from (Asemahagn, 2016) stated that uneducated mothers were more likely to have difficulty in understanding the antenatal care advice on exclusive breastfeeding as they do not have scientific knowledge about it. Thus, they might choose to give supplementary feeding to their infants at an early age as they think it is good for their infant compared to educated mothers (Asemahagn, 2016). Marzo et al. (2019) stated that mass media could influence the increase of the knowledge level.

This study shows there was no positive correlation between age and level of knowledge ($r = 0.38$, $p = 0.756$) and there is no relationship between other socio-demographic characteristics and level of knowledge on exclusive breastfeeding as $p > 0.05$.

5.3 Relationship between socio-demographic characteristics and awareness level of exclusive breastfeeding

The result shows that slightly more than half of the respondents (56.5%) had a good level of awareness about exclusive breastfeeding whilst 43.5% had lack of awareness about it. The respondents that have a good level of awareness might be due to having sufficient knowledge on exclusive breastfeeding. They could get the knowledge through media, attending antenatal classes, or from the people surrounding them. Having an experience of people surrounding could help increase the level of awareness of the mother. Supported by a study from Dukuzumuremyi et al. (2020), found that 84.4% of mothers have a high awareness of exclusive breastfeeding. A study from Weber et al. (2011) mentioned, the majority of respondents were aware of their maternity leave rights (90%; $n = 446$) and, to a lesser extent, the flexibility of work practices (63%; $n = 312$).

Contrastingly, only two regional health institutions had a designated space available at the time, therefore awareness of a breastfeeding room was low (14 percent) among all women surveyed (Weber et al., 2011). The results show that the correlation between age and level of awareness of exclusive breastfeeding was not positively correlated as $p\text{-value} > 0.05$ ($r = 0.49$, $p = 0.689$) and there is no relationship between other socio-demographic characteristics and level of awareness on exclusive breastfeeding as $p > 0.05$.

5.4 Relationship between socio-demographic characteristics and practice of exclusive breastfeeding

The result shows that the majority of the respondents (72.5%) had practice exclusive breastfeeding whilst 27.5% had not practice exclusive breastfeeding. Educational level, employment status and the supported system might influence the practice of exclusive breastfeeding. Mothers with a high level of education and more experience have more understanding and knowledge about the attachment for lactation, duration to breastfeed their infants and are more likely to learn new skills and practice exclusive breastfeeding. Unemployed mothers are more likely to practice exclusive breastfeeding as they have enough time with their infants compared to working mothers. Supporting systems from husband and family might encourage mothers to practice exclusive breastfeeding.

A previous study conducted by Marzo et al. (2019) in Muar found that around 51% had good practices on exclusive breastfeeding. To promote the practice, information efforts about the benefits of exclusive breastfeeding should be done in several languages, particularly among low-educated moms (Mohamad Pilus et al., 2019).

In contrast, a previous local study done by Tan (2011) discovered employees felt largely unsupported by their employer and their company thus not continuing to breastfeed at work. Another factor that stops the working mother from practicing exclusive breastfeeding is the need to return to work after maternity leave. A study by Lim (2018) stated that working mothers get a total of 300 days of paid maternal leave with a duration of 60 to 90 days per child. According to a study Aguilar-Ortega et al. (2019), a mother's educational level has no bearing

on whether or not she practices exclusive breastfeeding since a mother with a low level of education has a high likelihood of doing so.

There was a statistically significant relationship between maternal status and practice of exclusive breastfeeding with a p-value of 0.02. Meanwhile, other socio-demographic characteristics had no relationship with the practice of exclusive breastfeeding as p-value > 0.05. Normal birth, according to Awaliyah et al. (2019), provides greater opportunity for breastfeeding, a close relationship between mother and infant, and integrated nursing care. Mothers who have had a spontaneous vaginal delivery are 1.86 times more likely to practice exclusive breastfeeding than mothers who have had a Cesarean section, according to Elyas et al. (2017). The study from Asemahagn (2016) stated that mothers with an increase of age have more likely to practice exclusive breastfeeding (OR 2.07; 95% CI 1.17, 3.68) where $p < 0.05$. A study from Marzo et al. (2019) stated that back to work after maternity leave was another key factor for not implementing exclusive breastfeeding (34.7%).

5.5 Relationship between knowledge, awareness and practice of exclusive breastfeeding

The result shows that there is no relationship between knowledge, awareness and practice as $p\text{-value} > 0.05$. A study from Bachtiar et al. (2011) found that knowing lactation management among women did not guarantee success in practicing exclusive breastfeeding, as only 21% of mothers practice exclusive nursing until their infants reach the age of 6 months. A previous study in Malaysia found that knowing how to breastfeed was insufficient to ensure success in the practice of exclusive breastfeeding (Marzo et al., 2019). Similarly, Bachtiar et al. (2011) found that having adequate lactation management knowledge among women did not ensure success in practicing exclusive breastfeeding, as only 21% of moms practice exclusive nursing until their infants are 6 months old. Although most mothers are aware and have a greater understanding of breastfeeding, in terms of exclusive breastfeeding, it may not influence their decision to practice breastfeeding.

5.6 Conclusion

This study provides information regarding the knowledge, awareness and practice of exclusive breastfeeding among mothers attending maternal and child clinics in Klinik Kesihatan Salak. This study found out that there is no relationship between knowledge, awareness and practice of exclusive breastfeeding as $p\text{-value} > 0.05$. Having a good level of knowledge and awareness about exclusive breastfeeding did not guarantee of the mother to practice exclusive breastfeeding as the practice are still not optimal. In socio-demographic characteristics, only maternal status have significant with the practice of exclusive breastfeeding in which the $p\text{-value}$ is 0.02 whilst other characteristics are not statistically significant.

CHAPTER 6

LIMITATIONS AND RECOMMENDATIONS

6.1 Introduction

This study is a cross-sectional study that had been conducted within a short period by using convenience sampling for the data collection and with a pandemic that happen in this country and all around the world. Thus, there are several limitations identified during the research period that will be discussed in this chapter.

6.2 Limitations

From this study, several limitations need to be acknowledged. Firstly, the method for the data collection needs to be changed from systematic sampling method to convenience sampling due to time constraints in getting approval from Selangor State Health Departments, COVID-19 pandemic and Movement Control Order (MCO) that happen in this country. It is difficult to get the respondents in a very short period since we need to follow the MCO. In addition, the data was collected online in which there is no direct contact between the researcher and the respondent. Besides, the researcher itself cannot ensure that the respondent answers the questionnaire.

Next, bias might happen when answering the online survey leading to underestimation or overestimation of knowledge, awareness and practice regarding exclusive breastfeeding among respondents. Furthermore, the convenience sampling method and small sample size were recruited in this study had caused the findings of the study may not to be generalized to all the

mothers attending maternal and child clinics in Klinik Kesihatan Salak, Selangor and Malaysia population.

6.3 Recommendation

6.3.1 Nursing practice

Nurses play an important role to enhance exclusive breastfeeding practice among mothers attending maternal and child clinics with training during the antenatal and postnatal classes. Healthcare practitioners that provide antenatal care should talk to their patients, partners, and other family members about the benefits of breastfeeding. In addition, nurses should encourage the husband to involve together during the class gives more impact for the mother to practice exclusive breastfeeding (Tan, 2011). Other than that, nurses also can hand over a pamphlet regarding the benefits and methods of exclusive breastfeeding to the mother even during the pregnancy to encourage the mother on exclusive breastfeeding practice. During the antenatal class, the health care professionals will demonstrate and show videotapes and pictures of the breastfeeding process and skills to the mother (Liu et al., 2017). According to World Health Organization (2021) encourage moms to start breastfeeding as soon as feasible after birth by facilitating immediate and uninterrupted skin-to-skin contact by help mothers put their infant right away after birth, assist mother in starting and maintaining breastfeeding, as well as overcoming frequent challenges and teach mother to recognize the cue for feeding from their infant. Hence, it could encourage the mother to initiate exclusive breastfeeding practice.

6.3.2 Nursing education

Direct education to the mother personally regarding lactation method on how should the mother and infant positioning, attachment and suckling to mother's breast need to be focus on more. Hence, it help the mother from having sore nipple due to incorrect technique on lactation. Next, nurses should educate the mother and partner regarding importance of breastfeeding for infant and mothers which it will indirectly encourage the mother to prepare mental and physical for breastfeeding and expose the mother with common breastfeeding problems. Furthermore, nurses also should consult the mother about the risk of using bottles, teats and pacifiers which it will contribute to infection and growing of the infant. According to World Health Organization (2021) healthcare practitioners should educate mother concerning breast milk need to be the only source of nutrition of the infant exceptional for medical reasons. If the mother having medical reasons to unable to express their breast milk, thus, educate the mother to prioritize the donor human milk to their infant as for first choice rather than formula milk.

6.3.3 Future research

Further research is needed regarding the knowledge, awareness and practice of exclusive breastfeeding among mothers in order to identify the most effective ways that can be used by the healthcare providers to provide support to the mother to inceased their knowledge, awareness and practice of exclusive breastfeeding.

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APPENDICES

Appendix 1: Questionnaire

Serial no.:



UPM
UNIVERSITI PUTRA MALAYSIA
BERILMU BERBAKTI

FACULTY OF MEDICINE AND SCIENCE HEALTH

DEPARTMENT OF NURSING

NUR 4999

**RESEARCH TITLE: KNOWLEDGE, AWARENESS AND PRACTICE OF
EXCLUSIVE BREASTFEEDING AMONG MOTHERS ATTENDING MATERNAL
AND CHILD CLINIC**

QUESTIONNAIRE

RESEARCHER: SITI AISYAH QISTINA BINTI MOHAMED ZAKUAN

SUPERVISOR: DR NORAFISYAH BINTI MAKHDZIR

Instruction: This study is conducted for academic purpose. All information will be kept private and confidential. Thank you for your cooperation in answering this questionnaire

Bahagian A: Demografi Sosial

(Part A: Socio-Demographic Data)

Sila isikan tempat kosong atau tandakan (✓) pada bahagian yang disediakan.

(Please fill in or tick (✓) in the space provided)

1) Usia anda:

Your age:

_____ tahun

_____ years old

2) Berapakah usia anda sewaktu melahirkan anak terakhir:

What is your age when your last child was born:

_____ tahun

_____ years old

What is the method of childbirth for your last delivery :

☐

Kelahiran normal (termasuk kelahiran vakum atau forcep)
Normal delivery (include vacuum or forcep delivery)

☐

Kelahiran secara pembedahan Caesarean Section
Caesarean Section delivery

3) Bangsa:

Race :

☐

Melayu
Malay

☐

Cina
Chinese



☐

India
Indian

☐

Lain-lain
Others

Sila nyatakan (*please justify*) _____

4)

Tahap pendidikan tertinggi:

Highest education level:

☐

Tidak bersekolah
No formal education

☐

Pendidikan rendah
Primary school

☐

Pendidikan menengah
Secondary education

☐

Pengajian tinggi
Tertiary education

5) Status perkahwinan:

Marital status:

☐

Bujang
Single

☐

Berkahwin
Married

☐

Berceraai
Divorced

6) Status pekerjaan:

Employment Status:

☐

Bekerja sendiri
Self-employed

☐

Pekerja sektor awam
Government employee

- ☐ Pekerja sektor swasta
Private employee
- ☐ Tidak bekerja
Unemployed

7) Pendapatan bulanan:

Monthly income:

- ☐ $\leq$ RM 2500
- ☐ RM 2501 – RM 3170
- ☐ RM 3171 – RM 3970
- ☐ RM 3971 – RM 4850
- ☐ RM 4851 – RM 5880
- ☐ RM 5881 – RM 7100
- ☐ RM 7101 – RM 8700
- ☐ RM 8701 – RM 10,970
- ☐ $\geq$ RM 10,971

Bahagian B: Amalan Penyusuan Secara Eksklusif

Arahan: Sila tandakan (✓) pada pilihan jawapan yang berkaitan.

(Part B: Practice of Exclusive Breastfeeding)

(Instruction: Please tick (✓) the response that is related to you)

- 1) Adakah anda tahu tentang penyusuan secara eksklusif?

Do you know about exclusive breastfeeding?

☐

Ya
Yes

☐

Tidak
No

- 2) Adakah anda mengamalkan penyusuan secara eksklusif untuk anak anda?

Do you practice exclusive breastfeeding to your child?

☐

Ya
Yes

☐

Tidak
No

Jika ya, sila jawab soalan 4. Jika tidak, sila jawab soalan di bawah

(If yes, please answer question 4. If no, please answer the following question)

3)

Apakah sebab anda tidak mempraktikkan penyusuan secara eksklusif?

What is the reason for you not to practice exclusive breastfeeding?

☐

Keluar bekerja/ tidak cukup masa
Working/ not enough time

☐

Susu tidak mencukupi/ susu ibu telah kering
Insufficient milk

☐

Tidak mendapat sokongan dari keluarga
Did not get support from family

☐

Terlalu letih dan tidak tahan
Too tired and cannot bear anymore

- 4) Adakah anda mendapat sokongan dalam penyusuan susu ibu secara eksklusif?

Do you get any support during exclusive breastfeeding?

☐

Ya
Yes

☐

Tidak
No

5)

Siapakah yang memberikan sokongan kepada anda? (Anda boleh tanda lebih dari satu.)

Who is the one who gives support? (You may tick more than one)

☐

Suami
Husband

☐

Ibu dan bapa
Mother and father

☐

Adik beradik
Siblings

☐

Kakitangan kesihatan
Healthcare staff

☐

Rakan-rakan
Friends

- 6) Apakah jenis susu yang anda beri kepada anak anda:

What type of milk that is given to your child:

☐

Hanya susu badan
Only breastmilk

☐

Susu badan bersama susu formula
Breastmilk and infant formula milk

☐

Hanya susu formula
Only infant formula milk

7) Berapakah tempoh anda mempraktikkan penyusuan secara eksklusif:

For how long do you practice breastfeeding?

- ☐ Tidak memberi susu badan
No breastmilk was given
- ☐ Kurang dari 3 bulan
Less than 3 months
- ☐ Kurang dari 6 bulan
Less than 6 months
- ☐ 6 bulan dan lebih
6 months and above

8) Bilakah anda mula memberi susu formula kepada anak anda?

When did you start giving infant formula milk to your child?

- ☐ Tidak memberi susu formula
No formula milk was given
- ☐ Sebelum bayi berumur 3 bulan
Before baby is 3 months
- ☐ Sebelum bayi berumur 6 bulan
Before baby is 6 months
- ☐ Selepas bayi berumur 6 bulan
After baby is 6 months

9) Bilakah anda mendapat informasi tentang penyusuan badan?

When do you obtained information about breastfeeding?

- ☐ Sebelum hamil
Before pregnancy
- ☐ Semasa hamil
During pregnancy
- ☐ Selepas melahirkan
After delivery

☐

Tidak pernah
Never

10) Dimanakah anda mendapat informasi tentang kebaikan susu ibu? (Anda boleh tanda lebih dari satu)⁶

Where did you get information about benefits of breastfeeding? (You may tick more than one)

☐

Keluarga, saudara mara dan rakan rakan
Family, relatives and friends

☐

Doktor dan kaki tangan hospital/klinik
Doctor and hospital/clinic staffs

☐

Buku, majalah dan internet
Books, magazines and internet

☐

Media
Media

11)

Pernahkah anak anda diberi susu formula bayi di hospital/ klinik?

Has your child ever been given formula milk in the hospital/clinic?

☐

Ya
Yes

☐

Tidak
No

12) Siapakah yang pernah menggalakkan anda untuk menyusui badan tanpa memberikan susu formula? (Anda boleh tanda lebih dari satu)

Who encourage you to breastfeed your child instead of using infant formula milk? (You may tick more than one)

☐

Doktor dan kaki tangan hospital/klinik
Doctor and hospital/clinic staffs

☐ Keluarga
Family

☐ Rakan-rakan
Friends

☐ Tiada siapa
None

13)

Adakah anda pergi ke kelas antenatal/ penyusuan semasa tempoh mengandung?

Do you attend antenatal/ breastfeeding class during pregnancy?

☐ Ya
Yes

☐ Tidak
No

Bahagian C: Pengalaman menyusukan bayi

(Part C: Regarding Breastfeeding Experience)

Arahan: Sila tandakan (✓) pada pilihan jawapan yang berkaitan.

(Instruction: Please tick (✓) the response that is related to you)

- 1) Adakah ini kali pertama anda menyusukan anak anda?

Is this the first time you are breastfeeding your child?

☐

Ya
Yes

☐

Tidak
No

- 2) Bilakah anda mula atau cuba menyusukan anak anda buat pertama kali sejurus selepas bersalin?

How soon after birth did you try to breastfeed your child for the first time?

☐

Kurang dari 1 jam selepas melahirkan
Less than 1 hour after birth

☐

1-3 jam selepas melahirkan
1-3 hours after birth

☐

4-24 jam selepas melahirkan
4-24 hours after birth

☐

Lebih 24 jam selepas melahirkan
More than 24 hours after birth

☐

Tidak ingat/ Tidak pasti
Don't remember/ Unsure

3) Adakah anda tahu apakah penyusuan secara eksklusif?

Do you know what is exclusive breastfeeding?

☐

Ya
Yes

☐

Tidak
No

☐

Tidak pasti
Unsure

4)

Berapa lamakah anda melakukan penyusuan eksklusif kepada anak bongsu anda?

How long did you practice exclusive breastfeeding to your youngest child?

☐

Tidak memberikan susu ibu
Did not breastfeed

☐

Kurang dari 1 bulan
Less than 1 month

☐

1 bulan – 4 bulan
1 month- 4 months

☐

5 bulan
5 months

☐

6 bulan
6 months

☐

Lebih dari 6 bulan
More than 6 months

- 5) Adakah anda memberikan makanan tambahan lain selain susu ibu selepas anda mula menyusukan anak bongsu anda dalam 6 bulan pertama?

Was your youngest child fed anything other than breast milk after you started breastfeeding within first 6 months?

☐

Ya
Yes

☐

Tidak
No

☐

Tidak ingat/ Tidak pasti
Don't remember/ Unsure

Jika ya, sila jawab soalan dibawah. Jika tidak, tidak ingat atau tidak pasti, sila jawab soalan di bahagian D.

(If yes, please answer the following question. If no, don't remember or unsure, please skip to section D)

- 6) Apakah makanan tambahan tersebut? (Boleh tanda lebih dari satu)

What was fed to your baby? (Can tick more than one)

☐

Susu formula
Formula milk

☐

Minuman bergula
Sugary drink

☐

Air kosong
Plain water

☐

Lain-lain:
Others: Sila nyatakan (*please justify*) _____

Bahagian D: Berkaitan Pengetahuan Ibu Terhadap Penyusuan Susu Ibu

Arahan : Sila jawab semua soalan dan tandakan (✓) pada pilihan jawapan yang berkaitan.

Part D: Knowledge On Exclusive Breastfeeding

Instruction: Please answer all questions and tick (✓) for best answer.

No.	Soalan Questions	Pilihan Options	Tandakan/ Selection
1.	Susu ibu tidak sesuai untuk penghadaman bayi berbanding susu formula. <i>Breast milk is not easily digested by the infant than formula.</i>	Benar <i>True</i>	
		Salah <i>False</i>	
		Tidak pasti <i>Usure</i>	
2.	Susu ibu adalah mencukupi untuk bayi sehingga umur 6 bulan. <i>Breast milk is enough for newborn until reach 6 months.</i>	Benar <i>True</i>	
		Salah <i>False</i>	
		Tidak pasti <i>Unsure</i>	
3.	Susu ibu mempunyai khasiat yang sama dengan susu formula. <i>Breast milk has the same efficacy as formula milk.</i>	Benar <i>True</i>	
		Salah <i>False</i>	
		Tidak pasti <i>Unsure</i>	
4.	Kolostrum dari susu ibu mengandungi antibodi utama dalam membantu menguatkan sistem imunisasi bayi. <i>Colostrum contains essential antibodies necessary to help the child's immune system.</i>	Benar <i>True</i>	
		Salah <i>False</i>	
		Tidak pasti <i>Unsure</i>	

Bahagian E: Kesedaran Mengenai Penyusuan Anak Secara Eksklusif

Arahan : Sila tandakan tandakan (✓) pada pilihan jawapan yang berkaitan.

(Part E: Awareness About Exclusive Breastfeeding)

(Instruction : Please tick (✓) the response that is related to you)

Pernyataan Statement	Sangat tidak setuju (Strongly disagree)	Tidak setuju (Disagree)	Neutral (Neutral)	Setuju (Agree)	Sangat setuju (Strongly agree)
1. Susu ibu memberi banyak khasiat yang bermanfaat kepada bayi. <i>Breast milk gives a lot of benefits towards baby.</i>					
2. Susu ibu kekurangan zat besi. <i>Breast milk is lacking in iron.</i>					
3. Susu ibu lebih mudah dihadam berbanding susu formula. <i>Breast milk is more easily digested than formula milk.</i>					
4. Susu ibu adalah lebih murah berbanding susu formula. <i>Breast milk is cheaper than formula.</i>					

5. Susu formula lebih mudah diberi kepada bayi berbanding susu ibu. <i>Formula feeding is more convenient than breast feeding.</i>					
6. Susu formula mengandungi khasiat yang sama dengan susu ibu. <i>Formula milk is as healthy for an infant as breast milk.</i>					
7. Susu formula adalah yang terbaik untuk bayi anda. <i>Formula milk is the ideal food for babies.</i>					
8. Penyusuan susu ibu didapati lebih mudah diberi kepada bayi berbanding susu formula. <i>Breastfeeding is more convenient than formula feeding.</i>					
9. Bayi yang minum susu ibu lebih cenderung untuk mendapat susu lebih dari keperluan mereka berbanding bayi yang diberi susu formula. <i>Breastfed babies are more likely to be over fed than babies formula fed.</i>					
10. Bayi yang diberi susu ibu lebih sihat berbanding bayi yang diberi susu formula. <i>Breast fed babies are healthier than formula fed babies.</i>					

11. Proses penyusuan mengeratkan ikatan antara ibu dan bayi. <i>Breastfeeding increases mother-infant bonding.</i>					
12. Ibu yang minum arak tidak dibenarkan menyusukan bayi. <i>Mother who drinks alcohol should not breastfeed.</i>					



Soalan tamat. Terima kasih atas kerjasama anda.
(End of questions. Thank you for your cooperation.)

Appendix 2: Answer Scheme For Knowledge on Exclusive Breastfeeding

Bahagian D: Berkaitan pengetahuan ibu terhadap penyusuan susu ibu

Arahan: Sila jawab semua soalan dan tandakan (✓) pada pilihan jawapan yang berkaitan.

Part D: Knowledge On Exclusive Breastfeeding

Instruction: Please answer all questions and tick (✓) for best answer.

No.	Soalan Questions	Pilihan Options	Tandakan/ Selection
1.	Susu ibu tidak untuk penghadaman bayi berbanding susu formula. <i>Breast milk is not easily digested by the infant than formula.</i>	Benar <i>True</i>	
		Salah <i>False</i>	✓
		Tidak pasti <i>Unsure</i>	
2.	Susu ibu adalah mencukupi untuk bayi sehingga umur 6 bulan. <i>Breast milk is enough for newborn until reach 6 months.</i>	Benar <i>True</i>	✓
		Salah <i>False</i>	
		Tidak pasti <i>Unsure</i>	
3.	Susu ibu mempunyai khasiat yang sama dengan susu formula. <i>Breast milk has the same efficacy as formula milk.</i>	Benar <i>True</i>	
		Salah <i>False</i>	✓
		Tidak pasti <i>Unsure</i>	

4.	Kolostrum dari susu ibu mengandungi antibodi utama dalam membantu menguatkan sistem imunisasi bayi. <i>Colostrum contains essential antibodies necessary to help the child's immune system.</i>	Benar <i>True</i>	√
		Salah <i>False</i>	
		Tidak pasti <i>Unsure</i>	
5.	Khasiat susu ibu berkurang apabila di pam atau disimpan. <i>Breast milk does lose its benefits when it is pumped out or stored.</i>	Benar <i>True</i>	
		Salah <i>False</i>	√
		Tidak pasti <i>Unsure</i>	
6.	Susu yang dipam boleh disimpan pada suhu bilik selama 8 jam. <i>Breast milk can be stored at room temperature up to 8 hours.</i>	Benar <i>True</i>	√
		Salah <i>False</i>	
		Tidak pasti <i>Unsure</i>	
7.	Susu yang dipam boleh disimpan didalam peti sejuk 1 pintu bahagian beku selama 2 minggu. <i>Breast milk can be stored in refrigerator with 1 door at freezer for 2 weeks.</i>	Benar <i>True</i>	√
		Salah <i>False</i>	
		Tidak pasti <i>Unsure</i>	
8.	Tempoh penyusuan bayi adalah 15- 20 minit pada setiap payudara ibu. <i>Breastfeeding duration is 15- 20 minutes for each breast.</i>	Benar <i>True</i>	√
		Salah <i>False</i>	
		Tidak pasti <i>Unsure</i>	

9.	Ibu perlu menyusukan bayi setiap 2 jam pada 6 bulan pertama selepas melahirkan bayi. <i>Mothers need to breastfeeding newborn every 2 hours for the first 6 months after deliver.</i>	Benar <i>True</i>	√
		Salah <i>False</i>	
		Tidak pasti <i>Unsure</i>	
10.	Penyusuan secara eksklusif kepada bayi adalah sehingga bayi berumur 6 bulan. <i>Exclusive breastfeeding is from birth until newborn reach 6 months old.</i>	Benar <i>True</i>	√
		Salah <i>False</i>	
		Tidak pasti <i>Unsure</i>	
11.	Ibu dan anak tidak mendapat sebarang kebaikan dari penyusuan secara eksklusif.. <i>Exclusive breastfeeding is not beneficial for both the mother and the child.</i>	Benar <i>True</i>	
		Salah <i>False</i>	√
		Tidak pasti <i>Unsure</i>	
12.	Penyusuan susu ibu secara eksklusif membantu ibu menurunkan berat badan ibu selepas bersalin. <i>Exclusive breastfeeding helps mothers to lose weight after pregnancy.</i>	Benar <i>True</i>	√
		Salah <i>False</i>	
		Tidak pasti <i>Unsure</i>	
13.	Penyusuan susu ibu secara eksklusif membantu pengecutan rahim selepas bersalin dengan lebih cepat. <i>Exclusive breastfeeding helps the uterus to return to its pre- pregnancy state more quickly.</i>	Benar <i>True</i>	√
		Salah <i>False</i>	
		Tidak pasti <i>Unsure</i>	

PARTICIPANT INFORMATION SHEET AND INFORMED CONSENT FORM

(for adult subjects)

1. Title of study:

Knowledge, Awareness and Practice of Exclusive Breastfeeding Among Mothers
Attending Maternal and Child Clinics

2. Name of investigator and institution:

Siti Aisyah Qistina Binti Mohamed Zakuan
Universiti Putra Malaysia (UPM)

3. Name of sponsor:

Self- sponsored

4. Introduction:

It is important that you understand why the research is being done and what it will involve. Please take your time to read through and consider this information carefully before you decide if you are willing to participate. Ask the study staff if anything is unclear or if you would like more information. After you are properly satisfied that you understand this study, and that you wish to participate, you must sign this informed consent form.

Your participation in this study is voluntary. You do not have to be in this study if you do not want to. You may also refuse to answer any questions you do not want to answer. If you volunteer to be in this study, you may withdraw from it at any time. If you withdraw, any data collected from you up to your withdrawal will still be used for the study. Your refusal to participate or withdrawal will not affect any medical or health benefits to which you are otherwise entitled.

This study has been approved by the Medical Research and Ethics Committee,
Ministry of Health Malaysia.

5. What is the purpose of the study?

The purpose of this study is to assess the knowledge, awareness and practice about exclusive breastfeeding among mothers attending maternal and child clinics.

This research will be conducted for duration 3 months (1st May 2021 till 31st July 2021). The expected number of participants is 341 individuals.

6. What are my responsibilities when taking part in this study?

You will be given a questionnaire to be answered. The questionnaire provided 5 sections which are Section A (Socio-Demographic Data), Section B (Practice of Exclusive Breastfeeding), Section C (Regarding Breastfeeding Experience), Section D (Knowledge on Exclusive Breastfeeding) and Section E (Awareness About Exclusive Breastfeeding). You need to answer all questions and estimated time to answer is 15 to 20 minutes. Your willingness to answer this questionnaire is greatly appreciated.

7. What are the potential risks and side effects of being in this study?

Participation to this study will not affect your treatment, and the risk is minimal. You are free to decline to answer any of the questions that you feel uncomfortable with.

8. What are the benefits of being in this study?

There may or may not be any benefits to you. Information obtained from this study will help the researcher in evaluating the level of knowledge, awareness and practice regarding exclusive breastfeeding among mothers attending maternal and child clinics in Klinik Kesihatan Salak. It also can help the healthcare system to implement appropriate strategies in raise awareness to public and to improve the exclusive breastfeeding statistics among mothers.

9. Who is funding the research?

This study is self-sponsored. You will not be paid for participating in this study.

10. Will my medical information be kept private?

All your information obtained in this study will be kept and handled in a confidential manner, in accordance with applicable laws and/or regulations. When publishing or presenting the study results, your identity will not be revealed without your expressed consent. Individuals involved in this study, qualified monitors and auditors, and governmental or regulatory authorities may inspect the study data, where appropriate and necessary. If you want to know the results, you can kindly email me at aisyahqistina211@gmail.com.

11. Who should I call if I have questions?

If you have any questions about the study or want to know more about this study, please contact Siti Aisyah Qistina Binti Mohamed Zakuan at 011-32722860/ Dr Norafisyah Binti Makhdzir at 012-6693032.

If you have any questions regarding your rights as a participant in this research, please contact the Secretary, Ethics and Medical Research Committee, Ministry of Health Malaysia at 03-3362 8407/8205/ 8888.

INFORMED CONSENT FORM

Title of Study:

Knowledge, Awareness and Practice of Exclusive Breastfeeding Among Mothers Attending Maternal and Child Clinics.

By signing below, I confirm the following:

- I have been given oral and written information for the above study and have read and understood the information given.
- I have had sufficient time to consider participation in the study and have had the opportunity to ask questions and all my questions have been answered satisfactorily.
- I understand that my participation is voluntary and I can at any time free withdraw from the study without giving a reason and this will in no way affect my future treatment. I am not taking part in any other research study at this time. I understand the risks and benefits, and I freely give my informed consent to participate under the conditions stated. I understand that I must follow the study doctor's (investigator's) instructions related to my participation in the study.
- I understand that study staff, qualified monitors and auditors, the sponsor or its affiliates, and governmental or regulatory authorities, have direct access to my medical record in order to make sure that the study is conducted correctly and the data are recorded correctly. All personal details will be treated as STRICTLY CONFIDENTIAL
- I will receive a copy of this subject information/informed consent form signed and dated to bring home.
- I agree/disagree* for my family doctor to be informed of my participation in this study.

Participant:

Signature:

I/C number:

Name:

Date:

Investigator conducting informed consent:

Signature:

I/C number:

Name:

Date:

Impartial witness:

Signature:

I/C number:

Name:

Date:

**RISALAH MAKLUMAT PESERTA DAN
BORANG PERSETUJUAN atau KEIZINAN PESERTA**

(untuk subjek dewasa)

1. Tajuk penyelidikan:

Pengetahuan, Kesedaran dan Amalan Penyusuan Secara Eksklusif Dalam Kalangan Ibu-Ibu Yang Hadir Ke Klinik Ibu Dan Anak.

2. Nama Institusi and nama penyelidik:

Siti Aisyah Qistina Binti Mohamed Zakuan
Universiti Putra Malaysia (UPM)

3. Nama penaja:

Penajaan persendirian

Pengenalan:

Risalah ini menjelaskan hal-hal berkenaan penyelidikan tersebut dengan lebih mendalam dan terperinci. Amat penting anda memahami mengapa penyelidikan ini dilakukan dan apa yang dilakukan dalam penyelidikan ini. Sila ambil masa yang secukupnya untuk membaca dan mempertimbangkan dengan teliti penerangan yang diberi sebelum anda bersetuju untuk menyertai penyelidikan ini. Jika ada sebarang kemusykilan ataupun maklumat lanjut yang anda ingin tahu, anda boleh bertanya dengan mana-mana kakitangan yang terlibat dalam penyelidikan ini. Setelah anda berpuas hati bahawa anda memahami penyelidikan ini, dan anda berminat untuk turut serta, anda dikehendaki untuk menandatangani Borang Persetujuan atau Keizinan Peserta, pada muka surat akhir risalah ini.

Penyertaan anda dalam penyelidikan ini adalah secara sukarela. Anda tidak perlu menyertai penyelidikan ini jika anda tidak mahu. Anda juga mempunyai hak untuk tidak menjawab mana-mana soalan yang anda tidak mahu jawab. Anda juga boleh menarik diri daripada penyelidikan ini pada bila-bila masa sahaja. Jika anda menarik diri, segala maklumat yang telah diperolehi sebelum anda menarik diri tetap akan digunakan dalam penyelidikan ini. Jika anda tidak mahu menyertai ataupun menarik diri dari penyelidikan ini, tindakan anda

tidak akan menjejaskan segala hak dan keistimewaan perubatan kesihatan yang selayaknya anda terima.

Penyelidikan ini telah mendapat kelulusan Jawatankuasa Etika dan Penyelidikan Perubatan, Kementerian Kesihatan Malaysia.

4. Apakah tujuan penyelidikan ini dilakukan?

Penyelidikan ini akan membantu dalam menilai tahap pengetahuan, kesedaran dan amalan terhadap penyusuan secara eksklusif dalam kalangan ibu-ibu yang hadir ke klinik ibu dan anak.

Penyelidikan ini akan dijalankan selama 3 bulan (1 Jun 2021 – 31 Ogos 2021). Dijangka bahawa seramai 341 individu akan mengambil bahagian dalam kajian ini.

5. Apakah tanggungjawab saya sewaktu menyertai penyelidikan ini?

Anda akan diberikan boring soal selidik untuk dijawab. Borang ini mempunyai 5 bahagian antaranya terdiri daripada Bahagian A (Demografi Sosial), Bahagian B (Amalan Penyusuan Secara Eksklusif), Bahagian C (Pengalaman Menyusukan Bayi), Bahagian D (Berkaitan Pengetahuan Ibu Terhadap Penyusuan Susu Ibu) dan Bahagian E (Kesedaran Mengenai Penyusuan Anak Secara Eksklusif).

6. Apakah manfaatnya saya menyertai kajian ini?

Penyelidikan ini mungkin akan mendatangkan manfaat ataupun langsung tiada memberi apa-apa manfaat kepada anda. Segala maklumat yang diperolehi daripada penyelidikan ini akan dapat membantu penyelidik dalam mengetahui tahap pengetahuan, kesedaran dan amalan terhadap penyusuan secara eksklusif dalam kalangan ibu-ibu yang hadir ke klinik ibu dan anak di Klinik Kesihatan Salak. Ianya juga dapat membantu sistem penjagaan kesihatan untuk mengemukakan strategi yang sesuai dalam meningkatkan kesedaran kepada orang ramai and untuk meningkatkan

jumlah statistik amalan penyusuan secara eksklusif dalam kalangan ibu-ibu di Malaysia.

7. Apakah risiko dan kesan-kesan sampingan menyertai penyelidikan ini?

Risiko untuk penyertaan penyelidikan ini yang adalah minima dan tidak akan menjejaskan rawatan anda. Anda berhak untuk tidak menjawab jika rasa tidak selesa dengan mana-mana soalan kajian.

8. Siapakah yang membiayai penyelidikan ini?

Kajian ini adalah penajaan persendirian. Anda tidak akan dibayar untuk menyertai kajian ini.

9. Adakah maklumat saya akan dirahsiakan ?

Segala maklumat anda yang diperolehi dalam penyelidikan ini akan disimpan dan dikendalikan secara sulit, bersesuaian dengan peraturan-peraturan dan/ atau undang-undang yang berkenaan. Sekiranya hasil penyelidikan ini diterbitkan atau dibentangkan kepada orang ramai, identiti anda tidak akan didedahkan tanpa kebenaran anda terlebih dahulu. Jika anda ingin mengetahui keputusan penyelidikan ini, anda boleh mengemail saya ke aisyahqistina211@gmail.com.

Pihak-pihak tertentu seperti individu yang terlibat dalam penyelidikan ini, juruaudit dan jurupantau yang terlatih, pihak berkuasa kerajaan atau undang-undang, boleh memeriksa maklumat atau data kajian jika diperlukan.

10. Siapakah yang perlu saya hubungi sekiranya saya mempunyai sebarang pertanyaan?

Anda boleh menghubungi penyelidik Siti Aisyah Qistina Binti Mohamed Zakuan pada nombor telefon 011-32722860 sekiranya anda mempunyai sebarang pertanyaan atau ingin mengetahui lebih lanjut mengenai kajian ini.

Jika anda mempunyai sebarang pertanyaan berkaitan dengan hak-hak anda sebagai peserta dalam penyelidikan ini, sila hubungi Setiausaha, Jawatankuasa Etika dan Penyelidikan Perubatan, Kementerian Kesihatan Malaysia, melalui talian telefon 03-3362 8407/ 8205/ 8888.

BORANG PERSETUJUAN/ KEIZINAN PESERTA

Tajuk Penyelidikan :

Pengetahuan, Kesedaran dan Amalan Penyusuan Secara Eksklusif Dalam Kalangan Ibu-Ibu Yang Hadir Ke Klinik Ibu Dan Anak.

Dengan menandatangani di bawah, saya mengesahkan bahawa :

- Saya telah diberi maklumat tentang penyelidikan di atas secara lisan dan bertulis and saya telah membaca dan memahami segala maklumat yang diberikan dalam risalah ini.
- Saya telah diberikan masa yang secukupnya untuk mempertimbangkan penyertaan saya dalam penyelidikan ini dan telah diberi peluang untuk bertanyakan soalan dan semua persoalan saya telah dijawab dengan sempurna dan memuaskan.
- Saya juga faham bahawa penyertaan saya adalah secara sukarela dan pada bila-bila masa saya bebas menarik diri daripada penyelidikan ini tanpa harus memberi sebarang alasan dan ianya sama sekali tidak akan menjejaskan rawatan perubatan saya pada masa akan datang. Saya tidak mengambil bahagian dalam mana-mana penyelidikan lain pada masa ini. Saya juga memahami tentang risiko dan manfaat penyelidikan ini dan saya secara sukarela memberi persetujuan untuk menyertai penyelidikan ini di bawah syarat-syarat yang telah dinyatakan di atas. Saya faham saya harus mematuhi nasihat dan arahan yang berkaitan dengan penyertaan saya dalam penyelidikan ini daripada doktor penyelidikan (penyelidik) .
- Saya faham bahawa kakitangan penyelidikan, pemantau dan juruaudit terlatih, pihak penaja atau gabungannya, dan pihak berkuasa kerajaan atau undang-undang, mempunyai akses langsung dan boleh menyemak laporan perubatan saya bagi memastikan penyelidikan ini dijalankan dengan betul dan data direkodkan dengan betul. Segala maklumat dan data peribadi akan dianggap sebagai SULIT.
- Saya akan menerima satu salinan 'Risalah Maklumat Pesakit dan Borang Persetujuan atau Keizinan Pesakit' yang telah lengkap dengan tarikh dan tandatangan untuk dibawa pulang ke rumah.

- Saya bersetuju/ tidak bersetuju* untuk doktor yang merawat keluarga saya diberitahu tentang penyertaan saya dalam penyelidikan ini.

Subjek :

Tandatangan:

Nombor
K/P:

Nama:

Tarikh :

Penyelidik yang mengendalikan proses menandatangani borang keizinan:

Tandatangan:

Nombor
K/P:

Nama:

Tarikh :

Saksi tidak-berpihak/adil:

Tandatangan:

Nombor
K/P:

Nama:

Tarikh :

Appendix 4: Approval letter from Medical Research and Ethics Committee (MREC)



JAWATANKUASA ETIKA & PENYELIDIKAN PERUBATAN
(Medical Research & Ethics Committee)
KEMENTERIAN KESIHATAN MALAYSIA
d/a Kompleks Institut Kesihatan Negara
Blok A, No 1, Jalan Setia Murni U13/52,
Seksyen U13, Bandar Setia Alam,
40170 Shah Alam, Selangor.



Tel: 03-3362 8888/8205

Ref : KKM/NIHSEC/ P21- 502 (4)
Date: 05-May-2021

SITI AISYAH QISTINA BINTI MOHAMED ZAKUAN
UNIVERSITY PUTRA MALAYSIA (UPM)

Dear Sir/ Mdm,

ETHICS INITIAL APPROVAL: NMRR-21-152-58297 (IIR)

**KNOWLEDGE, AWARENESS AND PRACTICE OF EXCLUSIVE BREASTFEEDING AMONG
MOTHERS ATTENDING MATERNAL AND CHILD CLINICS**

This letter is made in reference to the above matter.

2. The Medical Research and Ethics Committee (MREC), Ministry of Health Malaysia (MOH) has provided ethical approval for this study. Please take note that all records and data are to be kept strictly **CONFIDENTIAL** and can only be used for the purpose of this study. All precautions are to be taken to maintain data confidentiality. Permission from the District Health Officer / Hospital Administrator / Hospital Director and all relevant heads of departments / units where the study will be carried out must be obtained prior to the study. You are required to follow and comply with their decision and all other relevant regulations, including the Access to Biological and Benefit Sharing Act 2017.

3. The investigators and study sites involved in this study are:

KLINIK KESIHATAN DENGKIL

Norafisyah Binti Makhdzir

Siti Aisyah Qistina Binti Mohamed Zakuan (Principal Investigator)

KLINIK KESIHATAN SALAK

Norafisyah Binti Makhdzir

Siti Aisyah Qistina Binti Mohamed Zakuan (Principal Investigator)

4. The following study documents have been received and reviewed with reference to the above study:

Documents received and reviewed with reference to the above study:

1. Study Protocol, Version 3.0, dated 19-April-2021
2. Patient Information Sheet (English) & Informed Consent Form (English), Version 3.0, dated 19-April-2021
3. Patient Information Sheet (BM) & Informed Consent Form (BM), Version 3.0, dated 19-April-2021
4. Questionnaire, Version 1.0, dated 29-January -2021
5. Investigator's documents : Declaration of Conflict of Interest (COI), IA-HOD-IA, and CV:
 - a) Norafisyah Binti Makhdzir
 - b) Siti Aisyah Qistina Binti Mohamed Zakuan (Principal Investigator)

Appendix 5: Approval Letter from Jabatan Kesihatan Negeri Sselangor (JKNS)



JABATAN KESIHATAN NEGERI SELANGOR
Tingkat M,9,10,11,14,17 & 18 , No.1, Wisma Sunway
Jalan Tengku Ampuan Zabedah C 9/C , Seksyen 9
40100 Shah Alam
Selangor Darul Ehsan



Tel : 03-5123 7333,03-5123 7334,03-5123 7335,03-5123 7401
Faks : 03-5123 7202 (Pegarah),03-5123 7209 (Pengurusan),
03-5123 7299 (Perubatan),03-5123 7389 (Pergigian),
03-5123 7399(Kesihatan Awam),03-5123 7402 (BKMM),
03-5123 8604 (Farmasi)

Portal Rasmi : www.jknselangor.moh.gov.my

Ruj Kami : JKNS/KA/Q-712/04-01 Jld 16 (10)
Tarikh : 23 Ogos 2021

Puan Siti Aisyah Qistina binti Mohamed Zakuan
Jabatan Kejururawatan
Fakulti Perubatan dan Sains Kesihatan
Universiti Putra Malaysia

Puan,

MAKLUMBALAS PERMOHONAN MENGGUNAKAN FASILITI JABATAN KESIHATAN NEGERI SELANGOR UNTUK MENJALANKAN PENYELIDIKAN BERTAJUK "NMRR-21-152-58297 (IIR) – KNOWLEDGE, AWARENESS AND PRACTICE OF EXCLUSIVE BREASTFEEDING AMONG MOTHERS ATTENDING MATERNAL AND CHILD CLINICS"

Dengan hormatnya saya merujuk kepada perkara di atas.

2. Sukacita dimaklumkan bahawa Bahagian Kesihatan Awam, Jabatan Kesihatan Negeri Selangor **tiada halangan** untuk membenarkan puan menjalankan penyelidikan yang bertajuk **"NMRR-21-152-58297 (IIR) – Knowledge, Awareness And Practice Of Exclusive Breastfeeding Among Mothers Attending Maternal And Child Clinics"** seperti di bawah:

2.1 PKD Sepang : KK Dengkil, KK Salak

3. Walaupun begitu, berdasarkan pembentangan yang telah dijalankan pada 11 Ogos 2021 yang lalu, pihak puan adalah diminta untuk melihat semula beberapa perkara di bawah bagi memudahkan puan dalam pengambilan data. Antara perkara yang puan perlu lihat kembali adalah:

3.1 Keperluan menambah lokasi penyelidikan jika perlu dengan mengambilkira pengiraan *sample size* dan ketersediaan pesakit di klinik kesihatan yang dipilih.

PENYAYANG, PROFESIONALISME DAN KERJA BERPASUKAN ADALAH BUDAYA KERJA KITA



s.k:-

Ketua Unit Perkembangan Kesihatan Awam,
Bahagian Kesihatan Awam, JKNS

Ketua Kesihatan Keluarga,
Bahagian Kesihatan Awam, JKNS

Ketua Unit Pemakanan,
Bahagian Kesihatan Awam, JKNS

Pegawai Kesihatan Daerah
Pejabat Kesihatan Daerah Sepang



Appendix 6: Gantt Chart

Project	2020				2021							
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Discussion with supervisor regarding progress of study												
Project implementation plan write up												
Proposal progression												
Ethic application												
Conducting pre-test questionnaire												
Data collection												
Data analysis												
Thesis preparation and presentation												
Final presentation and thesis submission												

Appendix 7: Research Budget

Item	Cost (RM)
Transportation to study site	RM100.00
Total cost	RM100.00

