

KNOWLEDGE AND ATTITUDE TOWARDS CHILDHOOD
IMMUNISATION AMONG PARENTS IN LAHAD DATU,
SABAH.

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SABAH.

by

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Dissertation submitted in partial fulfilment of the
requirements for the degree of
Bachelor in Nursing with Honours

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CERTIFICATE

This is to certify that the dissertation entitled “Knowledge and Attitude towards Childhood Immunisation among Parents in Lahad Datu, Sabah” is the research work done by Ms “Lina Syafiqah binti Amin” during the period from October 2023 until June 2024 under my supervision. I have read this dissertation and in my opinion it confirms to acceptable standards of supervision of scholarly presentation and is fully adequate, in scope and quality, as a dissertation to be submitted in partial fulfilment for the degree of Bachelor of Nursing (Honours).

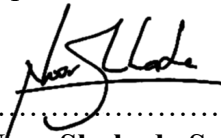
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DECLARATION

I hereby declare that this dissertation is the result of my investigations and that it has not been submitted, in whole or in part, in any previous application for a degree at Universiti Sains Malaysia or other institutions. Except where states otherwise by reference or acknowledgment, the work presented is entirely my own. I grant Universiti Sains Malaysia the right to use the dissertation for teaching, research and promotional purposes.



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LIST OF ABBREVIATIONS

NIP	- National Immunisation Programme
EPI	- Expanded Programme on Immunization
UNICEF	- The United Nations International Children's Emergency Fund
VPD	- Vaccine Preventable Disease
BCG	- Bacille Calmette-Guerin
Hib	- Haemophilus Influenza Type B
HPV	- Human Papillomavirus
JE	- Japanese Encephalitis
MMR	- Measles, Mumps, Rubella
DTaP	- Diphtheria, Tetanus and Pertussis
IPV	- Inactivated Poliovirus Vaccine
PCV10	- Pneumococcal Conjugate Vaccine-10
TT	- Tetanus Toxoid
DT	- Diphtheria and Tetanus
HBM	- Health Belief Model

PENGETAHUAN DAN SIKAP IBUBAPA TERHADAP IMUNISASI KANAK-KANAK DI LAHAD DATU, SABAH

ABSTRAK

Imunisasi menyelamatkan berjuta-juta nyawa setiap tahun, menjadikannya sebuah kejayaan dalam kesihatan dan pembangunan global. Dengan ketersediaan vaksinasi terhadap lebih daripada 20 penyakit berbahaya, individu dari semua peringkat umur kini boleh menikmati kehidupan yang lebih panjang dan sihat. Keupayaan populasi untuk mengekalkan imuniti kelompok bergantung pada mengekalkan kadar vaksinasi yang tinggi, dan kemajuan yang dicapai dalam mengawal penyakit berada dalam risiko jika ibu bapa memilih untuk tidak memberi vaksin kepada anak-anak mereka.. Kajian ini dijalankan untuk mengenal pasti tahap pengetahuan dan sikap terhadap imunisasi kanak-kanak dalam kalangan ibu bapa di Lahad Datu, Sabah. Ini adalah kajian keratan rentas yang dijalankan dalam kalangan 201 ibu bapa di Lahad Datu, Sabah yang dipilih melalui persampelan secara kebetulan bermula pada 18 Februari 2024 hingga 18 Mac 2024. Data dianalisis dengan statistik deskriptif dan ujian korelasi Spearman menggunakan perisian Statistical Package for Social Sciences (SPSS) versi 27.0. Keputusan menunjukkan bahawa 86 (42.8%) peserta mempunyai tahap pengetahuan yang tinggi tentang imunisasi kanak-kanak dan 120 (59.7%) peserta mempunyai sikap yang positif terhadap imunisasi kanak-kanak. Terdapat korelasi yang signifikan antara pengetahuan dan sikap terhadap imunisasi kanak-kanak dalam kalangan ibu bapa di Lahad Datu, Sabah. ($r=0.424$, $p<0.001$). Kesimpulannya, hasil kajian ini menunjukkan bahawa tahap pengetahuan dalam kalangan ibu bapa di Lahad Datu, Sabah adalah rendah dengan sikap yang positif terhadap imunisasi kanak-kanak.

KNOWLEDGE AND ATTITUDE TOWARDS CHILDHOOD IMMUNISATION AMONG PARENTS IN LAHAD DATU, SABAH.

ABSTRACT

Immunisation saves millions of lives annually, making it a success story in global health and development. With the availability of vaccinations against over 20 deadly illnesses, individuals of all ages can now enjoy longer, healthier lives. The population's ability to sustain herd immunity depends on maintaining high vaccination rates, and the progress made in controlling disease is at risk if parents choose not to vaccinate their children. This study was conducted to identify the level of knowledge and attitude towards childhood immunisations among parents in Lahad Datu, Sabah. This cross-sectional study was conducted among 201 parents in Lahad Datu, Sabah, who were selected through convenient sampling from 18th February 2024 until 18th March 2024. Data were analyzed with descriptive statistics and Spearman's correlation test using Statistical Package Social Sciences (SPSS) version 27.0 software. The results show that 86 (42.8%) participants have a high level of knowledge about childhood immunisation and 120 (59.7%) participants have a positive attitude towards childhood immunisation, respectively. There was a significant correlation between knowledge and attitude toward childhood immunisation among parents in Lahad Datu, Sabah ($r=0.424$, $p<0.001$). In conclusion, the finding of this study shows that the level of knowledge among parents in Lahad Datu, Sabah was low with a positive attitude towards childhood immunisation.

CHAPTER 1 INTRODUCTION

1.1 Background of the Study

Immunisation saves millions of lives annually, making it a success story in global health and development. With the availability of vaccinations against over 20 deadly illnesses, individuals of all ages can now enjoy longer, healthier lives. Immunisation is an unquestionable human right and the cornerstone of the basic healthcare system. It is among the best financial investments in health. According to the Centers for Disease Control and Prevention (CDC), immunisation currently prevents about 4 to 5 million deaths yearly from diseases like diphtheria, tetanus, pertussis, and measles. For example, when measles was first introduced in 1963, 2.5 million people worldwide, most of them children, were dying every year, and that number brought down to 128,000 kids dying from measles per year (Hussein et al., 2022). In addition, poliovirus cases have decreased by 99% since 1988, from 350,000 per year to just 30 cases in 2022 (Olson, Berry & Kumar, 2020). However, despite enormous advancements, many people worldwide still lack access to immunisations, including about 20 million newborns annually.

Progress has stopped or even reversed in some nations, and there's a serious chance that historical gains will be undermined by complacency, especially after the COVID-19 pandemic (WHO, 2023). In 2022, 4 million more children received vaccinations worldwide than in the year before as nations increased their efforts to counteract the record decline in vaccination rates brought on by the COVID-19 pandemic. The World Health Organisation (WHO) and UNICEF released data in 2023 showing that, in contrast to 24.4 million children in 2021, 20.5 million children in 2022 did not receive one or more vaccines through routine immunisation programmes. Despite this progress, more children than the 18.4 million who missed out in 2019 due to pandemic-related interruptions still missed out, highlighting the necessity of further efforts to catch up, recover, and enhance the system. According to WHO (2023), the number

of zero-dose children increase by about 1.4 million in 2022, which is 14.3 million compared to the 2019 level, which is only about 12.9 million.

The levels of immunisation coverage in Malaysia remain high each year, between 94% to 98%, except during the pandemic of COVID-19, the immunisation coverage reduce to 92% (Nabila Zulkifli et al., 2022). The immunisation coverage in Malaysia is still the highest compared to other Southeast Asia countries such as Indonesia, the Philippines and Vietnam. Each vaccine that was included in the national immunisation program has an average of over 90% uptake, with BCG vaccine having the highest percentage of 98.53%, 96.92% for DPT-Hib vaccine, 96.87% for polio vaccine, 95.25% for MMR vaccine, 95.35% for Hepatitis B vaccine and 94.33% for HPV vaccine (Balbir Singh et al., 2019). However, according to Ministry of Health (MOH), there are increasing vaccine refusal cases in Malaysia, not including delayed vaccine uptake or under-vaccinated children. Many parents have refused to vaccinate their children as a result of the various arguments and contradictory explanations regarding the safety of vaccinations that have surfaced over the past several years. According to statistics, there is a growing percentage of parents in Malaysia choosing not to vaccinate their children, particularly those whose children are younger than two years old (Mohd Zin et al., 2022). A report by MOH showed an increase in vaccine refusal cases from 637 in 2013 to 1365 in 2018. A study by Gill & Sekar (2012) in public maternal child health clinics at Tawau, Sabah, showed that 24.8% of children had incomplete status, while a study by Mohd Azizi, Kew & Moy (2017) in all government maternal child health clinics at Kota Kinabalu, Sabah showed 16.8% of defaulting immunisation among children aged 12 to 24 months. This situation leads to potential consequences of vaccine-preventable disease (VPD) outbreaks in Malaysia as an implication of not having one's children vaccinated.

In addition, the increase in the number of migrants and refugees entering Malaysia from countries that are endemic with vaccine-preventable diseases (VPD), such as Indonesia and the Philippines, increases the risk of VPD outbreaks as they become the source of primary infection (Alias, 2020). This situation adds worries to the health of fraternities. According to the World Health Organization (WHO), 2023 measles will be endemic in Indonesia, with 2161 suspected cases from January to April 2023 and 6 deaths in 2022. At the same time, the Philippines is one of the top five countries in the world that have the highest number of zero-dose children, with the VPD coverage in the country below 60% (Montemayor, 2023). Similar to Indonesia, measles in the Philippines is also endemic, with 1758 cases of measles and 12 deaths reported in 2020 (OCHA, 2020). The immunisation coverage in the Philippines is deficient, for example, the vaccine uptake rate for 5-in-1 vaccines and polio is below 60% (Montemayor, 2023).

1.2 Problem Statement

The population's ability to sustain herd immunity depends on maintaining high vaccination rates, and the progress made in controlling disease is at risk if parents choose not to vaccinate their children (Syroj et al., 2020). The prevalence of poor immunization knowledge among parents is concerning (Tengku Md Fauz et al., 2023), and poor knowledge contributes to negative attitudes (Ansari et al., 2021). As a result, it is critical to assess parents' knowledge and attitude towards immunisation because understanding both variables help predict and explain vaccination behaviours, especially after the pandemic. Previous studies in Malaysia have shown that most parents with good knowledge had a positive attitude towards vaccination, leading to high vaccination uptake among children. However, there is inconsistency in the results of previous studies. For example, a study conducted at Dungun, Terengganu by Tengku Md Fauz et al. (2023) showed that about 53.4% of parents had poor knowledge about the national immunisation programme while a study at Bintulu Hospital, Sarawak, by Chin & Chai (2022) showed that 94.7% of parents have good knowledge about national immunisation programme.

Furthermore, a small number of studies have been carried out in Asian nations, particularly in Southeast Asia, including Malaysia, which is a Muslim-majority country with a mix of Malay, Chinese, Indian and many races or ethnicities in Sabah and Sarawak. However, the majority of the studies located about childhood immunisation in Malaysia focuses on an urban and sub-urban areas which are people that have access to public healthcare facilities, only a few studies have been done in rural areas, especially in Sabah and Sarawak (Gill & Sekar, 2015). It is crucial to determine their knowledge and attitude towards childhood immunisation because the prevalence of the three aspects varies across sociological and geographical areas (Kalok et al., 2020).

1.3 Research Question

- i. What is the level of knowledge about childhood immunisation among parents in Lahad Datu, Sabah?
- ii. What is the level of attitude towards childhood immunisation among parents in Lahad Datu, Sabah?
- iii. Is there any correlation between knowledge and attitude toward childhood immunisation among parents in Lahad Datu, Sabah?

1.4 Research Objective

1.4.1 General Objective

This study sought to determine the level of knowledge and attitude towards childhood immunisation among parents in Lahad Datu, Sabah.

1.4.2 Specific Objective

- i. To identify the level of knowledge about childhood immunisation among parents in Lahad Datu, Sabah.
- ii. To identify the level of attitude towards childhood immunisation among parents in Lahad Datu, Sabah.
- iii. To determine the correlation between knowledge and attitude toward childhood immunisation among parents in Lahad Datu, Sabah.

1.5 Research Hypothesis

Hypothesis H₀ : There is no significant correlation between knowledge and attitude toward childhood immunisation among parents in Lahad Datu, Sabah.

Hypothesis H₁ : There is a significant correlation between knowledge and attitude toward childhood immunisation among parents in Lahad Datu, Sabah.

1.6 Conceptual and Operational Definitions

Knowledge	Understanding of facts about a topic that you learn through experience or study, whether they are well-known to one person or to the public at large (Cambridge University Press, 2023a). In this study, it refers to the parents understanding of their children immunisation routine in Malaysia, such as the type of vaccine needed, the schedule, side effects and the purpose.
Attitude	A feeling or opinion about something or someone, or a way of behaving (Cambridge University Press, 2023b). In this study. It refers to the attitude of parents toward childhood immunisation, which is divided into two categories: parents with a positive attitude and parents with a negative attitude towards their child's immunisation.
Parent	The one who begets and the one who gives birth to or the one raises the child and own it legally, in other worlds, a father and a mother (Cambridge University Press, 2023d). This study refers to the ones who take responsibility for deciding whether their child gets vaccinated, and their decisions are influenced by their knowledge and attitude towards childhood immunisation.
Childhood	A period of human growth and development occurs between infancy and before the onset of puberty (adolescence) (Britannica, 2023). The period of development consists of Infancy and Toddlerhood (birth through two years), Early childhood (3 to 5 years), Middle childhood (6 to 11 years), and Adolescence (12 to 13 years) (Paris, Ricardo, Raymond & Johnson, 2019). In this

study, the researcher ranged the childhood age from birth until seven years of age. In other words, it involves routine immunisation during the phase of toddlerhood to middle childhood (0 to 7 years of age).

Immunisation In Malaysia, the National Immunisation Programme (NIP) protects Malaysian children against 13 major childhood diseases that start from birth to 15 years old.

1.7 Significance of the Study

Results from the studies can be used to develop targeted interventions to spread awareness and correct the misinformation for specific locations or areas to maintain high immunisation rates and more cost-effectiveness. According to Balbir Singh et al. (2019), parents' knowledge and attitude towards childhood immunisation influenced their behaviour and practice regarding their children's immunisation. The main barriers to a high vaccination rate among children include a lack of awareness or information on vaccinations, as well as false beliefs or hearsay about their safety (Almutairi et al., 2021). The majority of parents nowadays rely more on social media and word-of-mouth instead of asking healthcare professionals (Chakraborty et al., 2021). Many parents are misinformed about vaccines, which leads to a raising percentage of parents believing it is hazardous and unneeded for their children (Lamiya et al., 2019).

This study is also important in identifying the barriers that may hinder parents from vaccinating their children. There may be differences in immunisation rates among communities due to healthcare and vaccination information obstacles. Parental knowledge and attitude research contributes to health equity in vaccine coverage by identifying and addressing these discrepancies. However, there are no issues of availability and accessibility to vaccines among

parents in Malaysia because the vaccination program is available both in government and private health facilities (Alias, 2020). Other than that, research results on the attitudes and understanding of parents can help shape public health regulations and vaccination initiatives. Immunisation programmes can be made more effective by designing interventions that consider parents' unique needs and worries. For example, parents' concerns should be addressed, especially regarding religious issues (halal status of vaccine) and the chemical contents of vaccine that may affect their children's health (Ansari et al., 2021). This leads to some parents choosing homeopathy as a conventional vaccine's alternative.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

This chapter reviews a series of literature regarding the knowledge, attitudes, and practices of childhood immunisation among parents. The main word of the research was used to group the overall conclusions of the literature evaluations into a few pieces.

2.2 Childhood Immunisation

The expanded Program on Immunization (EPI) was initiated by the World Health Organization (WHO) in 1974 to ensure that all children worldwide in all countries benefit from life-saving vaccines. In 2023, EPI evolved into a new phase known today as the Essential Programme on Immunization. Immunization has become one of the most indispensable public health interventions, starting from the focus on protection against six childhood vaccine-preventable diseases (VPD) such as Bacillus Calmette-Guerin (BCG), diphtheria, pertussis, tetanus, polio and measles (WHO, 2023). Nowadays, it has become an effective method in saving millions of lives every year by preventing more than 20 life-threatening diseases through vaccination, helping people live longer without worrying much about possible disease outbreaks (Wiysonge et al., 2022).

In Malaysia, the National Immunisation Programme (NIP) was introduced in the early 1950s under the Maternal and Child Health Programmes with the introduction of the smallpox vaccine (Chan et al., 2018). It is designed based on EPI, which recommends that all countries immunize against six childhood diseases. It is free of charge at all government clinics because the Malaysian government covers the entire cost of immunisation for Malaysian children under the age of 15. However, private clinics charge around RM90 to RM225 vaccines per dose. Today, our Malaysia NIP has expanded protection against 13 major childhood diseases, including diphtheria, Haemophilus influenza type B (Hib), Hepatitis B (Hep B), Human

papillomavirus (HPV), Japanese encephalitis (JE), measles, mumps, pertussis, rubella, tetanus, tuberculosis (TB) and the latest one pneumococcal (Zulkifli, 2023).

NIP has its schedule (Appendix E), which have been developed by doctors and other public health experts. Every parent must be alert and follow their children's immunization schedule. Recent updates of the NIP were the switch from the 5-in-1 vaccine to the 6-in-1 vaccine and the introduction of the pneumococcal conjugate vaccine (PCV). Ministry of Health (MOH) has introduced the 6-in-1 or hexavalent vaccine to replace the 5-in-1 (DTaP-IPV/Hib) or pentavalent vaccine used previously to protect children from diphtheria, tetanus, pertussis, polio, and Hib in November 2020 (Shafie et al., 2020). The new hexavalent vaccine has additional protection against Hepatitis B. However, the schedule for the vaccine remains the same, which is given in 3 primary doses at the age of two months, three months, five months, and booster dosage at 18 months. Hep B vaccine has been reduced in doses where previously it would be given at birth, age one month, and age six months, but now it is only given in 1 dose at birth (Zulkifli, 2023).

The pneumococcal conjugate vaccine (PCV), also known as PCV10, was introduced and included in NIP in December 2020 after the budget approval in the previous year. It was given in 3 doses at four months, six months, and 15 months (booster dose) and only given free for children born in 2020 and above. It is called PCV10 because it protects against pneumococcus serotypes 1, 4, 5, 6B, 7F, 8V, 12, 18C, 19F and 23F (Zulkifli, 2022). These changes show significant improvements in NIP because it provides another protection and reduces the number of shots required to cover the 6 diseases from 7 to only five shots. This situation brings relief to the parents who feel worried their children receive too many shots, less visits to the clinic and less discomfort and pain to the children (Zulkifli, 2023).

2.3 Knowledge about Childhood Immunisation

A better knowledge about vaccination increases the probability of children being vaccinated (Voo et al., 2021). This is because parents are the ones who take responsibility to look out for their children's health and wellness, deciding whether their children should get vaccinated or not. So, parents need to have adequate knowledge about immunisation to avoid any misconceptions and lack of understanding regarding their children's routine immunisation. However, a study also shows no association between parents' knowledge and uptake of their child's vaccination. For example, a study by Hussein et al. (2022) showed that 53.5% of parents in the sub-urban residential in Selangor had low knowledge about the mumps, measles and rubella (MMR) vaccine but had good practice towards the MMR vaccine. Several research studies have examined parents' and carers' understanding of children's vaccination. The results show that parents' awareness varies, with some showing a thorough knowledge of vaccination schedules, diseases that vaccines can prevent, and the significance of receiving vaccinations on time. Nonetheless, a sizable segment of the populace exhibits knowledge gaps, frequently impacted by socioeconomic position, education, and access to healthcare facilities.

Factors influencing parents' knowledge levels about childhood immunisation include socio-economic factors, education and health literacy, access to healthcare, and cultural and religious beliefs. Previous studies consistently highlight the impact of parents' income on knowledge about childhood immunisation. Low-income parents may face access barriers, lowering awareness levels and potentially hindering vaccination uptake (Lamiya et al., 2019). The level of education has a significant impact on how much people know about vaccinations. Higher education levels are linked to increased knowledge and comprehension of the advantages and security of vaccinations. Hussein et al. (2022) state that parents' educational level and health literacy are significant predictors of knowledge levels. It states that parents with high educational levels (degrees) have better knowledge regarding childhood

immunisation than parents with only secondary school certificates. A good correlation exists between having enough access to healthcare resources and, regular visits to healthcare providers and a better understanding of childhood vaccination. Getting direct information about childhood immunisation from the healthcare professional brings more accurate information and avoids misconceptions about immunisation (Mukhtar et al., 2022). Parents who fully rely on the information through social media without asking for expertise have a high possibility of reading and trusting the misinformation about children's vaccination, such as the MMR vaccine can cause autism and the DTP vaccine can cause exacerbation of bronchial asthma (Chakraborty et al., 2021). Cultural and religious beliefs might influence knowledge on vaccinations. Certain groups might have preconceived notions or ideas regarding vaccinations, which could affect people's awareness and possibly lead to vaccine reluctance. The halal status and chemical contents of vaccines bring concern to particular religions. For example, a previous study by Ansari et al. (2021) among Muslim parents in Malaysia showed that most Muslim parents have good knowledge about vaccination and no doubt regarding the halal status of the vaccine. However, Ali's study in the Qassim region of Saudi Arabia (2019) showed that parents' knowledge about childhood immunisation influenced their culture and religious beliefs.

2.4 Attitude towards Childhood Immunisation

Childhood vaccination is a significant public health strategy that depends on community views, parental attitudes, and the availability of vaccines. It is crucial to comprehend the elements influencing attitudes on childhood vaccination to create methods that effectively encourage vaccine acceptance. Previous studies by Lamiya et al. (2019) among mothers showed that parents who have a good attitude toward childhood immunisation tend to get their children vaccinated according to the schedule. The determinants of parents' attitude

include perceived vaccine safety and efficacy, trust in healthcare providers and systems, and regional and demographic variations.

Several studies have shown how important it is for views on children's vaccination to be shaped by one's perception of the safety and effectiveness of vaccines. While worries about side effects can lead to vaccine reluctance, positive attitudes are frequently linked to faith in the efficacy and safety of vaccinations. According to Ali (2019), most mothers with a positive attitude towards immunisation disagreed about the association between immunisation and severe side effects and agreed that vaccines are safe for their children.

Belief in medical professionals and the healthcare system is critical in shaping attitudes toward vaccination. According to research, people who have a high degree of trust in their medical professionals are more likely to see vaccines favorably as evidenced by Mukhtar et al. (2022) state that healthcare professionals as a primary and trusted sources regarding immunisation for parents to educate parents about the importance of the immunisation to their children and correct any misconceptions that may influence their decision to vaccinate their children. On the other hand, exposure to false information which is frequently spread via social media and other platforms, can increase vaccine reluctance.

Views regarding childhood vaccination differ between nations and regions. Research has investigated geographical variations in vaccination acceptance, showing that cultural, economic, and healthcare system discrepancies are significant contributing variables (Roffeei, 2018). Attitudes also are regularly found to be influenced by socioeconomic level. While lower socioeconomic positions may contribute to worries about vaccine pricing, accessibility, and faith in healthcare institutions, higher socioeconomic status is frequently linked to more positive sentiments (Rumetta, Abdul Hadi & Lee, 2020).

2.5 Correlation between Knowledge and Attitude of Childhood Immunisation among Parents

Success in vaccination programmes requires a better understanding of the parents' perceptions of disease and their consequent decisions about vaccinations. Parents' level of knowledge and attitude towards childhood immunisation are the two factors that influence their behaviour and practice of immunisation (Chan et al., 2018). This is supported by Kalok et al. (2022), who state vaccine hesitancy among mothers results from their low level of knowledge and negative attitude towards immunisation. However, previous studies on the correlation between knowledge and attitude are contradictory. For example, a study done by Miron et al. (2022) among Romanian parents to determine the association between parents' knowledge, attitude and practices of immunisation showed that there is no specific association between the three variables. In contrast, the study done in Indonesia by Syiroj et al. (2019) showed that parents with low-level of knowledge tend to have negative attitude and perceptions towards immunisation which lead to their vaccine refusal for their child.

Several research has repeatedly shown a strong correlation between positive attitudes towards vaccines and thorough knowledge regarding children's immunisations (Kalok et al. (2022), Syiroj et al. (2019), Shati et al. (2021)). Positive attitudes are more likely to be expressed by parents and carers who are well-informed about vaccination schedules, vaccine safety and effectiveness, and diseases that can be prevented by vaccination (Mobark et al., 2022). In a simple sentence, knowledge determines attitude towards childhood immunisation. According to Voo et al. (2021), parents with good knowledge are less hesitant to get vaccines than parents with inadequate knowledge. The benefits and risks of vaccinations are seen to influence attitudes towards childhood immunisation. Knowledgeable persons tend to consider the benefits of vaccination more highly, leading to positive attitudes, while misinformation or lack of information may contribute to vaccine hesitation.

2.3 Conceptual and Theoretical Framework of the Study

According to the Health Belief Model (HBM), an individual's perception of their own risk of illness or disease and their perception of the efficacy of suggested health behaviours can predict their likelihood of implementing those behaviours (Carico & Thomas, 2021). To change health behaviour, an individual must be perceived as a treat by a current health condition, which is perceived susceptibility and severity, believe the health action resulted in a positive outcome, which is perceived benefit and must be self-efficacy to conquer the perceived barriers for the health action to occur.

There are six HBM constructs: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cue to action and self-efficacy, as shown in Figure 2.1 below . Perceived susceptibility is an individual's assessment of their chances of getting a disease or condition, and perceived severity is an individual's judgment of the severity of the disease, perceived benefits is an individual's conclusion as to whether the new behavior is better than what they are already doing, cues to the action means the factor that triggers behavior change and self-efficacy is a personal belief in the ability to do something (Ogden, 2012).

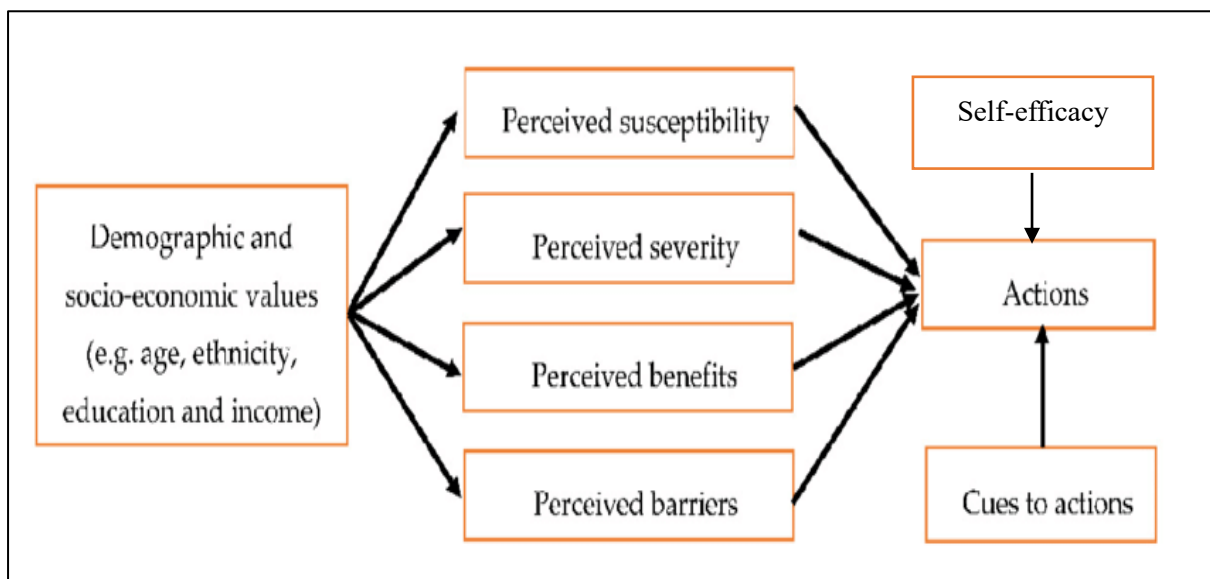


Figure 2.1 : Structure of Health Belief Model (Ogden, 2012)

According to the Health Belief Model, there is a strong interplay between knowledge and attitude towards childhood immunisation. The basis of knowledge shapes attitudes towards immunisation by impacting perceptions of the risk of vaccine-preventable disease (VPD), severity and complications of VPD, benefits and effectiveness of vaccination, and barriers that prevent or hesitant to get their child immunised. When people have access to reliable information, it can function as a catalyst or a cue to action, encouraging them to immunize their children. Positivity is likely to increase the possibility of parents' behaviour towards immunisation, such as scheduling children's vaccinations by recommendations. Figure 2.2 below shows the conceptual framework used in this study :

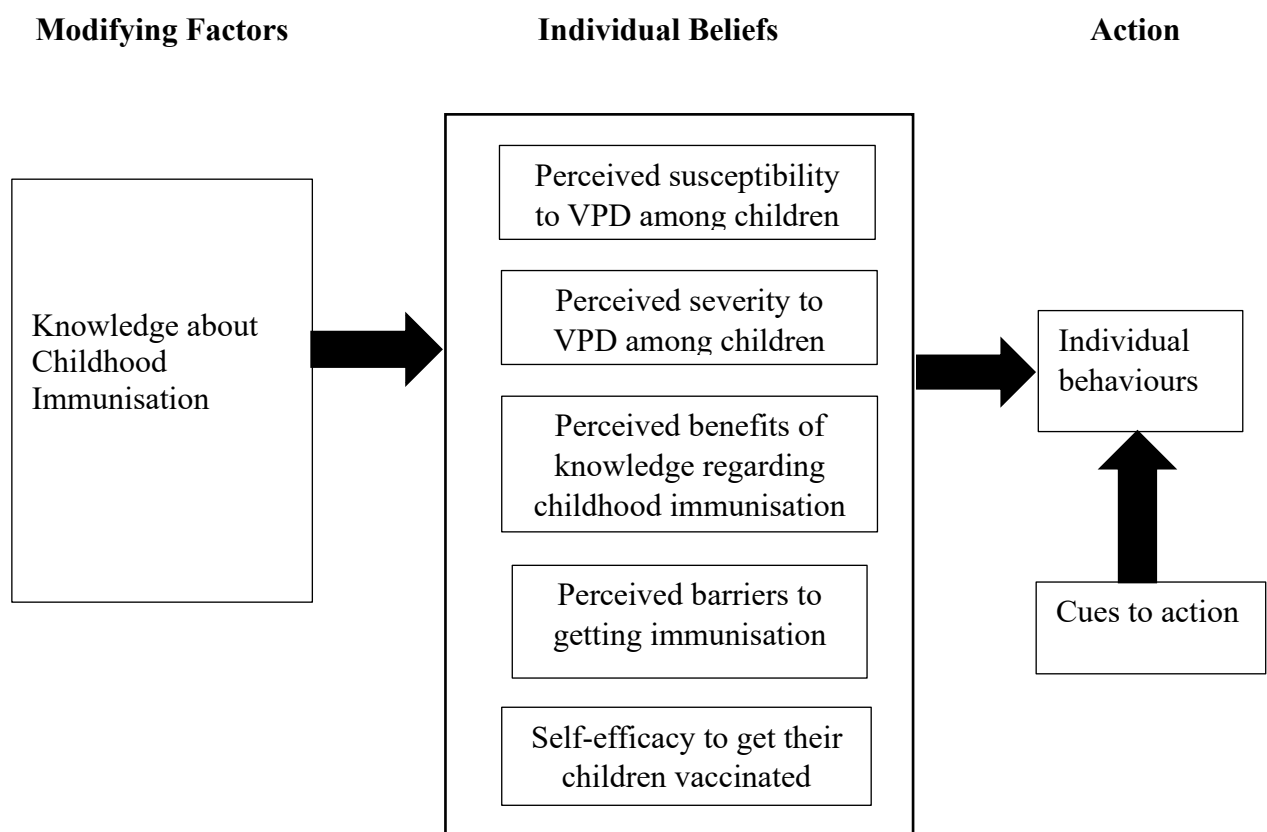


Figure 2.2 : The conceptual framework adopted from Ogden (2012)

CHAPTER 3 RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides a thorough overview of the cross-sectional study design and explains the rationale for using it. The study population and setting are described, along with the sampling strategy, participant selection standards, sample size, estimation, instruments, variables, and data collection strategy. The method for data analysis, ethical considerations, and the anticipated research findings were all explained in the last part.

3.2 Research Design

This study was a community-based quantitative cross-sectional study design. A cross-sectional study design is a type of observational research where it looks at data at a single point in time and variables are recorded for each participant (Cherry, 2024). This study design was used because it allows researcher to look at numerous characteristics at once such as age, income and ethnicity. In addition, it also can provide information about real condition on the population.

3.3 Research Location

This study was conducted in Lahad Datu, Sabah, a district located in the Tawau division of the East Coast of Sabah. Lahad Datu. Lahad Datu is about 7, 472 sq kilometres with an estimated population of more than 200,000. It is surrounded by stretches of cocoa and several largest palm oil plantations such as Hap Seng Plantations and Palm Oil Industrial Cluster (POIC). Due to the strategic location, Lahad Datu also consists of immigrants from the Philipines and Indonesia that come to work and live permanently there. For health facilities, it contain one government hospital, four government health clinic which include one maternal and child clinic and tenclinic, known as Klinik Desa located at the rural area.



Figure 3.1: Location of Lahad Datu, Sabah (Wikipedia, 2023)

3.4 Research Duration

The duration of the research was from November 2023 until August 2024. The selection for research topic was on October 2023. The process of preparing the research proposal, proposal presentation and ethical approval was from November 2023 until January 2024. The data collection process after getting ethical approval was from February 2024 until March 2024. The completion of data analysis was on April 2024. The thesis write up started from April 2024 until June 2024. The thesis draft submission for evaluation was on June 2024. The final presentation was on July 2024. The completion of thesis correction and final report writing was on July 2024 until August 2024. The thesis submission was on August 2024.

3.5 Research Population

This study was conducted among parents that currently living in Lahad Datu, Sabah within the data collection period that fulfilled the inclusion and exclusion criteria. The study include married, divorced and single parents that aged between 18 to 60 years old. The study involved parents that have at least one children aged from birth until seven years of age.

3.6 Subject Criteria

3.6.1 Inclusion Criteria

- i. A parent who have at least one child with age of less than seven years old.

3.6.2 Exclusion Criteria

- i. Parents that cannot communicate fluently in English and Malay.

3.7 Sampling Plan

3.7.1 Sampling Method

Convenience sampling, a non-probability sampling method, was used in this research. This sampling method was used due to geographical proximity, availability at a certain time, or willingness to participate in the study. With non-probability sampling, the researchers chose the sample rather than drawn at random, meaning that not every person of the population has the same chance of participating in the research (Simkus, 2023). Data was collected from an easily accessible and available group of people. The researcher collected the data by distributing the questionnaire at local shopping malls and streets by approaching a passerby.