KNOWLEDGE AND ATTITUDE TOWARDS CHILDHOOD IMMUNIZATION AMONG PARENTS OF PAEDIATRIC PATIENTS AT HOSPITAL UNIVERSITI SAINS MALAYSIA

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by

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Dissertation submitted in partial fulfillment of
the requirements for the degree of
Bachelor of Nursing (Honours)

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CERTIFICATE

This is to certify that the dissertation entitled "Knowledge and Attitude Towards Childhood Immunization among Parents of Paediatric Patients at Hospital Universiti Sains Malaysia" is the bona fide record of research work done by Ms Suniesa a/p Phian during the period from September 2019 to June 2020 under my supervision. I have read this dissertation and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation to be submitted in partial fulfillment for the degree of Bachelor of Nursing (Honours).

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DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated and duly acknowledged. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at Universiti Sains Malaysia or other institutions. I grant Universiti Sains Malaysia the right to use the dissertation for teaching, research and promotional purposes.

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LIST OF ABBREVATIONS

BCG	-	Bacillus Calmette–Guérin
CDC	-	Centre for Disease Control and Prevention
DTP	-	Diphtheria, Tetanus and Pertussis
HBM	-	Health Belief Model
Hib	-	Hemophilus influenzae type b
MMR	-	Mumps, Measles and Rubella
SPSS	-	Statistical Package for Social Science (SPSS) of version 24.0.
USM	-	Universiti Sains Malaysia
WHO	-	World Health Organization

PENGETAHUAN DAN SIKAP TENTANG IMUNISASI KANAK-KANAK DALAM KALANGAN IBU BAPA KEPADA PESAKIT KANAK-KANAK DI HOSPITAL UNIVERSITI SAINS MALAYSIA

ABSTRAK

Imunisasi kanak-kanak merupakan salah satu strategi kerajaan untuk mengurangkan kadar kematian kanak-kanak. Walau bagaimanapun, masih terdapat lagi kanak-kanak yang tidak divaksinasi di Malaysia disebabkan penolakan vaksin oleh ibu bapa. Pengetahuan dan sikap ibu bapa terhadap imunisasi kanak-kanak mempengaruhi penyuntikan vaksin kanak-kanak. Kajian ini bertujuan untuk menentukan tahap pengetahuan dan sikap ibu bapa terhadap imunisasi kanak-kanak di Hospital USM. Kajian keratan rentas telah dijalankan dalam wad kanak-kanak di Hospital USM. Seramai 150 orang responden telah dipilih melalui kaedah persampelan rawak sistematik dan data dikumpulkan menggunakan borang soal selidik. Majoriti responden adalah perempuan (94%) yang berumur antara 21 hingga 35 tahun, berbangsa Melayu (92.7%), berpendidikan pada tahap sekolah menengah (64%) dan mempunyai pendapatan rumah tangga antara RM1001 hingga RM5000 (74%). Keputusan menunjukkan bahawa 65.3% responden mempunyai tahap pengetahuan yang mencukupi terhadap imunisasi kanak-kanak. Walau bagaimanapun, terdapat 34.7% responden mempunyai tahap pengetahuan yang tidak mencukupi terhadap imunisasi kanak-kanak. Selain itu, 93.3% responden mempunyai sikap yang positif terhadap imunisasi kanak-kanak, manakala hanya 6.7% responden mempunyai sikap yang negatif terhadap imunisasi kanak-kanak. Ujian *Pearson Chi-square* digunakan untuk menentukan hubungan antara ciri-ciri sosio-demografik terpilih dan tahap pengetahuan dan juga sikap. Kajian ini menunjukkan bahawa umur (p=0.148), jantina (p=0.065), etnik (p=0.651), dan bilangan anak (p=0.161) tidak berhubung secara signifikan dengan tahap pengetahuan. Manakala, kajian

mendapati bahawa tahap pendidikan (p=0.010) dan pendapatan rumah tangga (p=0.049) mempunyai hubungan signifikan dengan tahap pengetahuan. Di samping itu, kajian juga menunjukkan bahawa umur (p=0.818), jantina (p=0.122), etnik (p=0.229), bilangan anak (p=0.909) dan tahap pendidikan (p=1.000) tidak berhubung secara signifikan dengan sikap. Namun begitu, terdapat hubungan signifikan antara pendapatan rumah tangga dan sikap (p=0.011). Kesimpulannya, kajian menunjukkan ibu bapa mempunyai tahap pengetahuan yang cukup dan sikap yang positif terhadap imunisasi kanak-kanak. Walau bagaimanapun, program pendidikan masih perlu diadakan untuk meningkatkan lagi pengetahuan dan sikap dalam kalangan ibu bapa dan menambahbaikkan kadar imunisasi.

Kata kunci: imunisasi kanak-kanak, ibu bapa, pengetahuan, sikap, ciri-ciri sosio-demografik

KNOWLEDGE AND ATTITUDE TOWARDS CHILDHOOD IMMUNIZATION AMONG PARENTS OF PAEDIATRIC PATIENTS AT HOSPITAL UNIVERSITI SAINS MALAYSIA

ABSTRACT

Childhood immunization is one of the government strategies in reducing children mortality rates. However, there are still existence of unvaccinated children in Malaysia due to refusal of many parents. Parents' knowledge and attitude towards immunization are likely influence uptake of vaccination. The aim of this study was to determine the level of knowledge and attitude towards childhood immunization among parents in Hospital USM. A cross-sectional study was conducted in paediatric wards in Hospital USM. A total of 150 respondents was recruited through systematic random sampling method and data was collected using a structured self-administered questionnaire. Majority of the respondents were female (94%) aged between 21 to 35 years old, Malay (92.7%), parents with secondary school (64%) and having household income RM1001 to RM5000 (74%). Results showed that 65.3% of the respondents had adequate knowledge regarding childhood immunization. However, there were 34.7% of the respondents had inadequate knowledge towards childhood immunization. Furthermore, 93.3% had positive attitude towards childhood immunization, while only 6.7% had negative attitude on immunization. Pearson Chi-square test was used to determine the association between selected socio-demographic characteristics and level of knowledge and attitude. This study showed that age (p=0.148), gender (p=0.065), ethnicity (p=0.651), and number of children (p=0.161) were not significant association with knowledge. However, the study found that educational level (p=0.010) and household income (p=0.049) were significant association with level of knowledge on childhood immunization. Furthermore, this study also revealed that age (p=0.818), gender (p=0.122), ethnicity (p=0.229), number of

children (p=0.909) and educational level (p=1.000) were not significant association with attitude level. Meanwhile, the study found that there was significant association between household income and level of attitude towards childhood immunization (p=0.011). In conclusion, the study showed that parents had an adequate knowledge and positive attitude towards childhood immunization. However, educational programs are still needed to increase knowledge and attitude among parents and improve the immunization rate.

Keywords: childhood immunization, parents, knowledge, attitude, socio-demographic characteristics

CHAPTER 1

INTRODUCTION

1.1 Introduction

World Health Organization, WHO (2019c) had defined the immunization as a process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine. Polio, measles, diphtheria, pertussis, rubella, mumps, tetanus, rotavirus and Hemophilus influenzae type b (Hib) are common diseases in the country and around the world which can be prevented by vaccination nowadays (Centres for Disease Control and Prevention (CDC), 2018b). These diseases also may lead to severe complications or fatal to the children especially those who are unimmunized. For examples, measles can cause brain swelling, which can lead to brain damage or death as well as it is an airborne that may spread to others or the child may get infected from others easily. Besides, mumps can cause permanent deafness, meningitis, and brain damage, while polio can cause permanent paralysis. Therefore, measles, mumps and polio only can be prevented by vaccines, there is no other treatment to cure these diseases (Canadian Paediatric Society, 2016). These showed that immunization among children are important in order to prevent them from the dangerous diseases like measles, mumps and polio.

1.2 Background to the Study

Immunization stimulates the immune system which is the natural disease-fighting system of the body and prepare the immune system to ward off a disease (William, 2018). Immunization can be divided into two types which is active immunization and passive immunization. According to Baxter (2007), active immunization refers to the process of exposing the body to an antigen to generate an adaptive immune response. The response may take days or weeks to develop but may be long lasting. Meanwhile, passive

immunization refers to the process of providing Immunoglobulin G (IgG) antibodies to protect against infection. It can be given immediately, but it is a short-lived protection which only several weeks to 3 or 4 months at most. Vaccination is important to protect ourselves and other people around us especially children to be safe from vaccine - preventable diseases. It is very important to have children vaccinated on time and helps ensure that they receive the protection they need as early as possible to fight off diseases before they are exposed to them (Canadian Public Health Association, 2019). Similarly, Pillay (2016) had reported that the children need to be immunized on time because there are many viruses and bacteria which are the cause of most of the disease are still circulating in the country.

According to CDC (2019), vaccination gives more benefits to the children such as strengthening the immune system of the babies. This is because the vaccines work with natural body defences to help in developing immunity to disease as well as reduce risk for infection. Besides, WHO (2019a) also stated that vaccines are one of our most important tools for preventing outbreaks and keeping the world safe, while most children today are being not vaccinated. It is often due to the poor, marginalized, those touched by conflict or forced from their homes. The indicator that often use to measure how well the countries are providing routine immunization services is the percentage of children receiving the diphtheria, tetanus and pertussis vaccine (DTP). Therefore, WHO (2019a) estimated that 19.4 million infants worldwide were not reached with routine immunization services such as three doses of diphtheria, tetanus and pertussis (DTP3) vaccine in 2018. Vaccination coverage with three doses of DTP3 and one dose of the measles vaccine had stalled at around 86 % but it was still insufficient in order to protect against outbreaks of vaccine-preventable diseases (UNICEF, 2019).

Ministry of Health all around the world had scheduled the vaccination in order to save the population. In the same way, the Ministry of Health Malaysia also had provided the vaccination schedule administered to children under 15 years old. Vaccines that given at government health facilities included Bacillus Calmette–Guérin (BCG) which gives protection against tuberculosis and Hib is Hemophilus Influenza type B vaccines. Moreover, first dose of Hepatitis B vaccine is given during birth and second dose will be given during one month of birth. DTaP is the combination of Diphtheria (D), Tetanus (T) and acellular Pertussis (aP), while DT is a booster dose which protects against Diphtheria (D) and Tetanus (T). In addition, MMR is the combination of Measles (M), Mumps (M) and Rubella (R), however MR vaccine provides protection against Measles (M) and Rubella (R). Second dose of MR will be given at 7 years old, until year 2022. Furthermore, JE is a vaccine against Japanese Encephalitis which is a vaccine only provided in Sarawak. Human Papillomavirus (HPV) vaccine is provided only for girls aged 13 years and second dose is given 6 months after first dose (Ministry of Health Malaysia, 2019). Figure 1.1 summarizes recommended routine immunization schedule for National Immunization Program by Ministry of Health Malaysia (2019).

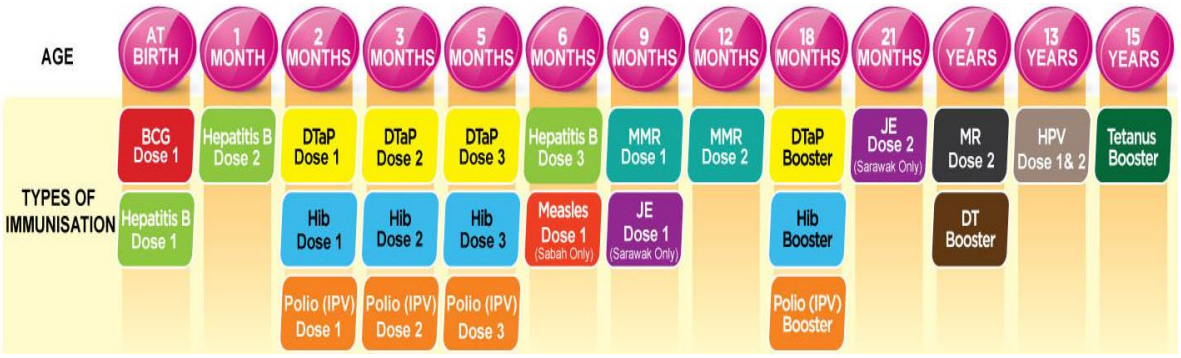

Figure 1.1 Immunization schedule for National Program, Ministry of Health Malaysia (MyHealth Ministry of Health Malaysia, 2019)

However, there were many parents who refused the immunization among children had tripled increase in last three years. The main reasons of increasing vaccine refusal by the parents include lack of understanding about the importance of immunization and the confusing information from the internet or media social. There was so much information about vaccines and sometimes the information was incorrect (Pillay, 2016). Thus, the knowledge of vaccination is important among parents before making any decisions.

1.3 Problem Statement

Each year, there were more than 3 million people die from vaccine-preventable diseases. Approximately 1.5 million of these deaths were in children less than 5 years old (Offit, 2018). In recent years, measles infections had also spiked in many ASEAN countries including Singapore, Indonesia, Philippines and many developed countries (Lum, 2019). The latest outbreak of polio in Philippines was confirmed in a three years old girl and from the result of environmental sample which contained poliovirus. This showed that the poliovirus had re-emerged again in the country after nearly two decades (WHO, 2019d).

In Malaysia, the number of measles cases increased from 195 cases in 2013 to 1,934 cases in 2018, where the cases of measles without immunization increased from 125 cases in 2013 to 1467 cases in 2018 (Noor Hisham, 2019). According to Lum (2019), diphtheria cases in Malaysia also increased from four cases in 2013 to 32 cases in 2017 and 18 cases in 2018, in which four out of the five deaths in 2018 were not immunized. Moreover, pertussis cases had increased from 353 cases in 2017 to 892 cases in 2018 in which 19 out of 22 deaths were not immunized. Childhood immunization is the most effective ways to protect the children from vaccine-preventable diseases (Immunise4life, 2019). However, there were number of parents who refused to vaccinate their child due to some reasons such as misunderstanding about vaccines, negative perceptions towards

vaccine, lack of time, fear of adverse event, religious and personal beliefs (Lim et al., 2016).

According to Ministry of Health Malaysia (2019), misinformation about vaccination had led to a huge jump in the number of vaccine-preventable diseases with almost 1,000% increase in the number of measles cases compared to five years ago. Loh (2019) had reported that there were groups and individuals who were influencing the general public to reject vaccines by spreading wrong and unfounded information in the media social. The false information usually influenced publics that vaccinations and the government's National Immunization Programme are of no benefit and have many negative effects (Noor Hisham, 2019). The spread of negative information had adversely affected ministry efforts to fight preventable and treatable communicable diseases, resulting in an increase in cases (Zakri, 2019). All these misconceptions were spread through media which has a direct influence on parent decisions and practice (Aziz et al., 2019). Therefore, negative information may cause misunderstanding about childhood vaccination among parents that will lead to the vaccine refusal.

Vaccine safety and efficacy are one of the determinant factors which can lead to a negative attitude of parents and improper immunization of their children (Diekema, 2012). Furthermore, clinicians and other health care providers also play a crucial role in parental decision-making regarding immunization (Omer, Salmon, Orenstein, Dehart & Halsey, 2009). However, parents are the primary decision-makers in vaccinating their children. According to Aziz et al. (2019), lack of parents' belief in vaccines and their unawareness affected their attitude towards childhood vaccination. Besides, parent's attitude act as a soul for following the proper vaccination schedule and their misconceptions regarding vaccination can increase the burden of diseases and death on society (Aziz et al., 2019).

Immunization is very important to protect the children from many dangerous diseases such as polio, tetanus, and diphtheria as well as keep other children safe by eliminating or greatly decreasing dangerous diseases that used to spread from child to child (WHO, 2019b). There was an evidence that show the effectiveness of vaccination towards vaccine-preventable disease. According to the Malaysian Paediatric Association (2019), Malaysia successfully reduced the number of infant deaths by 85% from 1970 to 2017, from 55.9% deaths for every 1,000 live births to only 8.4% deaths for every 1,000 live births with the immunization program and improvement in health services. Therefore, childhood immunization is strongly promoted by WHO, government, public health authorities and health professions worldwide. However, vaccine refusal still increasing nowadays. According to the WHO (2019e), one of the ten threats to global health in 2019 is vaccine hesitancy which is the reluctance or refusal of the parents to vaccinate their children despite the availability of vaccines. It can be a threat to reverse the progress in tackling vaccine-preventable diseases. In Malaysia, vaccine refusals increased from 637 cases in 2013 to 1,603 cases in 2016 and 1,404 cases in 2017 (Lum, 2019). According to UNICEF (2019), 19.4 million children under 1 year of age worldwide did not receive the three recommended doses of Diphtheria, Tetanus and Polio in 2018, and an estimated 13.5 million children in the same age group also did not get benefit from any vaccination.

Parents' knowledge about immunization and attitude towards immunization were likely influence the uptake of immunization among children. Their knowledge and attitude played a prominent role in deciding the future health status of the children (Omer et al., 2009). In order to increase the prevalence of childhood immunization, the parents should have enough knowledge and good attitude. Therefore, this study was designed to evaluate the knowledge and attitude towards childhood immunization among parents.

1.4 Significance of Study

The findings of this study revealed the level of knowledge and attitude towards childhood immunization among parents in Hospital USM. Other than estimating the level of knowledge and attitude, this study also determined the association between socio-demographic characteristics and knowledge and attitude level. The researcher hopes that the finding of this study enabled healthcare provider especially nurses to identify socio-demographic factors and how it affected knowledge and attitude towards completion of childhood immunization. Subsequently, they provided a better health education to the parents regarding the advantages of having complete immunization and the disadvantages of incomplete immunization to their child. At the same time, they enhanced positive attitude towards childhood immunization among parents.

In parental decisions making to childhood immunization, misconception regarding the vaccine safety, immunization contraindications and immunization side effects may happen. Therefore, evaluation level of knowledge and attitude in the population helped to guide public health programs. Health education by healthcare providers increased awareness regarding the importance of childhood vaccination as well as prevented the misconception towards childhood immunization. Furthermore, this study also provided the information about the reasons of not immunized the children that helped in proper intervention of childhood immunization practice.

The childhood immunization in Malaysia was funded by the government and it free for all Malaysian children. However, there were still number of parents refused the vaccination to their children. The researcher hopes that this study may increase awareness towards childhood immunization among parents and improve their understanding as well as have positive attitude towards childhood immunization in order to make sure their children having complete immunization. Subsequently, the mortality rate caused by

vaccine-preventable disease among unimmunized can be reduced. Lastly, the findings of this study also highlighted the facts whether socio-demographic characteristics are associated with knowledge and attitude among parents towards childhood immunizations in Hospital USM.

1.5 Research Questions

This study was guided by four research questions as follows:

1. What is the level of knowledge of parents regarding childhood immunization in Hospital USM?
2. What is the level of attitude of parents regarding childhood immunization in Hospital USM?
3. Is there any association between selected socio-demographic characteristics (age, gender, ethnicity, number of children, educational level and household income) and level of knowledge among parents regarding childhood immunization?
4. Is there any association between selected socio-demographic characteristics (age, gender, ethnicity, number of children, educational level and household income) and level of attitude among parents regarding childhood immunization?

1.6 Research Hypotheses

Hypothesis 1 H_O: There is no significant association between selected socio-demographic characteristics (age, gender, ethnicity, number of children, educational level, and household income) and level of knowledge regarding childhood immunization among parents in Hospital USM.