



UNIVERSITI PUTRA MALAYSIA

***HEALTH LITERACY ON CHILDHOOD IMMUNIZATION AMONG
ANTENATAL WOMEN AND ITS ASSOCIATED FACTORS IN SEREMBAN
DISTRICT, NEGERI SEMBILAN***

NAZATUL YUSRINA BINTI MOHAMAD YUSOF

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By

NAZATUL YUSRINA BINTI MOHAMAD YUSOF

**Dissertation Submitted to the Department of Community Health, Faculty of
Medicine and Health Sciences, University Putra Malaysia in Fulfilment of the
Requirements for the Degree of Master of Public Health**

August 2017

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August 2017

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Introduction: Immunization is a development process of immune system in the body against infectious diseases by administration of vaccine, toxoid, antibody, or antitoxin. It's also recognized as a proven tool to prevent infectious diseases. Despite good coverage of immunization globally and nationally, there are still occurrence of vaccine preventable diseases. One of the reason is inadequate health literacy on immunization. Health literacy is an ability of individual to obtain, process and understanding of the basic health information and healthcare system in order to make a good decision of their health and family members. People with low health literacy has been linked to poor health outcome such as higher rate of hospitalization and less frequent used of preventive care such as vaccination.

Objective: To determine the level of health literacy and its predictors of likelihood inadequate health literacy on childhood immunization among antenatal women in Seremban district, Negeri Sembilan.

Methodology: A cross-sectional study based on cluster sampling was being conducted among 362 antenatal women who were attending to health care clinic in Seremban district from April 2017 to May 2017. All eligible antenatal women were selected based on inclusion and exclusion criteria. Data was collected using self-administered questionnaire. All data were analysed using *IBM Statistical Package for Social Science* (SPSS) version 22.0 involving descriptive and inferential statistics.

Result: Majority of the respondents' likelihood inadequate health literacy (81.2%). Out of 15 factors, six of them had a significant association with level of health literacy which were maternal education ($p=0.001$), ethnicity ($p=0.032$), parity ($p=0.047$), residential area ($p=0.029$), partner's education ($p=0.022$) and household income ($p=0.001$). The predictors of likelihood inadequate health literacy were those who were low maternal education (AOR= 2.608, 95% CI 1.477-4.604), stayed at the rural area (AOR= 1.868, 95% CI 1.061-3.290), nulliparity (AOR= 1.067, 95% CI 1.103-3.876) and no utilization of government hospital (AOR= 2.344, 95% CI 1.184-4.641).

Conclusion: As a conclusion, health promotion and education on childhood immunization need more focus among antenatal mother who were low education, stayed at the rural area, nulliparity women and no utilization of government hospital.

Keywords: health literacy, childhood, immunization, antenatal women,

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LITERASI KESIHATAN TENTANG IMMUNISASI KANAK-KANAK DALAM KALANGAN WANITA MENGANDUNG DI DAERAH SEREMBAN, NEGERI SEMBILAN

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Pendahuluan: Imunisasi adalah proses pembangunan sistem imun dalam tubuh terhadap penyakit berjangkit melalui pentadbiran vaksin, toxoid, antibodi, atau antitoxin. Ia juga dikenali sebagai alat yang terbukti untuk mencegah penyakit berjangkit. Walaupun liputan imunisasi yang baik di seluruh dunia dan di peringkat nasional, masih terdapat kejadian penyakit-penyakit pencegahan vaksin. Salah satu sebabnya adalah kurangnya literasi kesihatan terhadap imunisasi. Literasi kesihatan adalah kemampuan seseorang individu untuk mendapatkan, memproses and memahami asas informasi kesihatan dan asas perkhidmatan kesihatan untuk membuat keputusan yang tepat berkaitan kesihatan diri sendiri dan juga ahli keluarga. Individu yang mempunyai literasi kesihatan yang teruk mempunyai kesihatan yang kurang baik seperti berisiko tinggi untuk di masukkan ke hospital serta kurang menggunakan perkhidmatan pencegahan seperti vaksinasi.

Objektif: Objektif kajian ini adalah untuk menentukan aras literasi kesihatan, faktor-faktor yang berkaitan dengan literasi kesihatan immunisasi kanak-kanak dalam kalangan wanita mengandung di daerah Seremban, Negeri Sembilan.

Metodologi: Kajian ini adalah kajian keratan rentas yang di jalankan di kalangan wanita mengandung yang datang ke klinik kesihatan di daerah Seremban dari April 2017 ke Mei 2017. Seramai 362 wanita mengandung yang menepati ciri-ciri yang ditetapkan telah menyertai kajian ini. Data di dalam kajian di ambil melalui soal jawab di dalam borang kaji selidik yang disediakan. Semua data yang di perolehi akan di

analisa menggunakan IBM *Statistical Package for Social Science* (SPSS) versi 22 yang meliputi statistik deskriptif dan inferential.

Keputusan: Kebanyakan responden dikalangan ibu mengandung mempunyai literasi kesihatan yang tidak mencukupi iaitu sebanyak 81.2%. Daripada 15 faktor-faktor berkaitan dengan literasi kesihatan, hanya enam faktor yang mempunyai hubungan yang signifikan iaitu taraf pendidikan ibu ($p=0.001$), kaum ($p=0.032$), para ($p=0.029$), lokasi kediaman ($p=0.029$), taraf pendidikan pasangan ($p=0.022$) dan jumlah pendapatan isi rumah ($p=0.001$). Manakala, factor peramal yang berkaitan dengan literasi kesihatan yang tidak mencukupi adalah taraf pendidikan yang rendah (AOR= 2.608, 95% CI 1.477-4.604), tinggal dikawasan pedalaman (AOR= 1.868, 95% CI 1.061-3.290), para kurang daripada satu (AOR= 1.067, 95% CI 1.103-3.876) dan tidak menggunakan perkhidmatan hospital kerajaan (AOR= 2.344, 95% CI 1.184-4.641)

Kesimpulan: Kesimpulannya, pendidikan kesihatan and promosi kesihatan tentang immunisasi kanak-kanak hendaklah di perluaskan dan diberi penekanan yang lebih kepada golongan ibu mengandung yang mempunyai taraf pendidikan yang rendah, tinggal di kawasan pedalaman, para kurang daripada satu serta tidak menggunakan perkhidmatan hospital.

Kata kunci: literasi kesihatan, immunisasi, kanak-kanak, wanita mengandung

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I certify that a Dissertation Examination Committee has met on 1st August 2017 to conduct the final examination of Nazatul Yusrina Binti Mohamad Yusof on her dissertation entitled “Health Literacy on Childhood Immunization among Antenatal Women and Its Associated Factors in Seremban District, Negeri Sembilan” in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Public Health.

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LIST OF ABBREVIATIONS

MDG	Millennium Development Goal
WHO	World Health Organization
DPT	Diphtheria, Pertussive and Tetanus
BCG	Bacillus Calmette-Guerin
OPV	Oral Polio Vaccine
VPD	Vaccine Preventable disease
HiB	Haemophilus Influenza B
MMR	Mumps, Measles, Rubella
DG	Director General
HHS	Health and Human Service
UNESCO	United Nations Education, Scientific and Cultural Organization
IOM	International of Medicine
REALM	Rapid Estimate of Adult Literacy in Medicine
TOFHLA	Test of Functional Health Literacy in Adult
sTOFHLA	Short Test of Functional Health Literacy
NVS	Newest Vital Sign
CDC	Communicable Disease Center
EPI	Expanded Programme for Immunization
<	Lesser than
≥	Greater than and equal to

CHAPTER 1

INTRODUCTION

This chapter will discuss the background, problem statement, significance of study, research questions, objectives and research hypothesis.

1.1 Background

Children are one of the vulnerable group that need to be taken care compared to others in the society. They need to have a good quality of life in order for them to grow healthier since there are many threats surrounding them. One of the threats is infectious diseases. These infectious diseases are fatal for them because their immunity is still low and could lead to mortality. One of the programmes that can be implemented for infectious diseases is vaccination or immunization. Immunization is a development process of immune system in the body against infectious diseases by administration of vaccine, toxoid, antibody, or antitoxin. Immunization has successfully reduced under-five mortality around the world among children to achieve the Millennium Development Goal (MDG) 4 (World Health Organization [WHO], 2016).

In 1974, World Health Organization (WHO) launched an Expanded Immunization Programme (EPI). This programme was targeted to high-risk people for universal access to all relevant vaccines such as children and adolescence. The first disease that EPI targeted was diphtheria, whooping cough, tetanus, measles, poliomyelitis and tuberculosis. It recommends that all countries in the world to have their own immunization schedule depending on their need at local situation (WHO, 2016). Moreover, additional vaccination has been introduced to the immunization schedule for more coverage of the children health.

Malaysia started its immunization programme as early as 1950s with Diphtheria, Pertussive and Tetanus (DPT). Then followed with Bacillus Calmette-Guerin (BCG) vaccine in 1961 and Oral Polio Vaccine (OPV) in 1972. Measles vaccination was added into the schedule in 1984 and Rubella in 1988 (Tan et al., 2004). All the vaccines listed in the schedule are provided for free by government health clinics in Malaysia. While, optional vaccination such as chicken pox, rotavirus and pneumococcal are available at the private hospitals and clinics. According to the immunization schedule, vaccination is given immediately after baby was born. It shows that vaccine plays a pivotal role in combating vaccine preventable disease (VPD) as early as possible (Tan et al., 2004).

Despite of the established immunization programme both nationally and globally, there are still outbreak occurrence of VPD (Blumberg, Enanoria, Lloyd-smith, Lietman, & Porco, 2014). One of the main reasons is inadequate health literacy (Johri et al., 2015). Health literacy is an ability of individual to obtain, process and understanding of the

basic health information and health care system in order to make a good decision of their health (Nielsen-Bohlman, L., Panzer, A. M., Kindig, 2004). The associated factors of health literacy are sociodemographic, socioeconomic, health care services and health awareness. Sociodemographic characteristics include maternal age, marital status, maternal level of education, ethnicity, parity, residential area, husband's education and primary language (Pati et al., 2010; Reisi et al., 2014; von-wegner, Knight, Steptoe, & Wardle, 2007; Ibrahim et al., 2008; Johri et al., 2015; Pallikadavath, Foss, & Stone, 2004; Jovic-Vrane, Bjegovic-Mikanovic, & Marinkovic, 2009; Navaneetham & Dharmalingam, 2002; McCune, Lee, & Pohl, 2006; Bugvi et al., Erci, 2003). While, for socioeconomic characteristics include maternal employment and household income.

Health literacy plays an important role for individual to make a decision on his or her family and own health. For example, a study done by Cleland in 2010 stated that the decision by mother is more pivotal in terms of children survival compared to their father. Thus, it is essential for the mothers to have good health literacy in order to make a good decision.

1.2 Problem Statement

Coverage of the immunization represents successfulness of the immunization programme of the respective countries. The primary goal of immunization is to prevent individuals who received the vaccine from infectious diseases. Globally, the coverage of the immunization remains steady. WHO estimated around 19.4 million infants did not receive basic vaccination especially in developing countries such as Indonesia, Nigeria and Pakistan (WHO, 2013). The coverage of the basic immunizations was 86% for DPT and Polio respectively; 85 % of measles and 82% of Hepatitis B. With these achievements, immunization can prevent almost two to three million deaths every year and it could be further reduced for another 1.5 million deaths if the coverage improved (WHO, 2013). In Malaysia, the coverage of the immunization achieved above 95% for BCG, Haemophilus Influenza B (HiB), Polio and Hepatitis B vaccination except for Mumps, Measles and Rubella (MMR) vaccine which was at 93.07% in 2015 (Ministry of Health Malaysia [MOH], 2016).

Based on a press statement by the Director General (DG) of Ministry of Health (MOH), Malaysia in 2015, measles cases were on a sudden rise for 602 cases and triggered an outbreak compared to 235 cases in 2014 and 195 in 2013. Mortality trend also increased from one case in 2014 to two cases in 2015. Besides the measles outbreak, Malaysia also experienced an outbreak of Diphtheria in few states in 2016. There were 27 cases and 5 deaths in which 9 cases and 1 death in Kedah; 7 cases in Negeri Sembilan; 5 cases and 3 deaths in Sabah; 3 cases and 1 death in Melaka; 2 cases in Penang and last but not least was one case in Selangor (Noor Hisham, 2016a).

The main reason for VPD outbreak in Malaysia was incomplete immunization. Some of the parents claimed that they had no time to send their children for immunization since they were so busy with their jobs. However, a few parents had misconception related to immunization such as MMR with autism (Noor Hisham, 2015). The plausible cause of incomplete immunization might be due to inadequate health literacy on

childhood immunization. International of Medicine (IOM) reported that low literacy led to compromise their health status as well as their family members. They also less access to preventive health care such as going the health clinic for screening and prone to go to emergency department in hospital to seek treatment (Nielsen-Bohlman et al, 2004). They also had difficulties to follow health instruction as a routine such as taking medication, which made them not comply with the medication and refusal vaccination (Nielsen-Bohlman et al, 2004).

On the other hand, refusal vaccination among the anti-vaccine group was also one of the contributing factors of VPD outbreak. The parent perceived that the vaccination sources gave less benefit and more harm to their children such as autism (Smith et al, 2011). They also had poor perception towards the side effects and efficacy of the vaccine. Moreover, majority of them received incorrect information about vaccination from unauthorized personnel (Harmsen et al, 2013; McKee & Bohannon, 2016).

1.3 Significance of study

According to the Health and Human Service (HHS), United State (US) in 2000, about 12 percent of adults had proficient health literacy. It means, 9 out of ten people had inadequate health literacy and led to poor health outcome (Department of Health and Human Services, 2016b). It was also associated with higher rate of hospitalization and lack of preventive care use. The other outcomes of inadequate of health literacy were poor knowledge of the illness, poor health status and increase cost of the health care services (Department of Health and Human Services, 2016b).

Health literacy is also believed to be the strongest predictor of the health outcome. It classifies an individual into adequate or inadequate health literacy (Nielsen-Bohlman, 2004). The associated factors related to inadequate health literacy are old age people, low socioeconomic status, having chronic illness, lack access to health care services and from the minority group of nation (Department of Health and Human Services, (2016b); Kickbusch, Pelikan, Apfel, & Tsouros, (2013)]. In Malaysia, based on press statement by the DG of MOH on 5th of January 2016, the mortality case of Diphtheria on November 2015 was due to vaccination hesitancy. The plausible cause of vaccination hesitancy was inadequate health literacy of his parent. The parent was poor and stay far away from the health care services (Noor Hisham, 2016b). Therefore, it is essential to study the associated factors of health literacy on childhood immunization among antenatal women, in order to get general information of the localize population and plan a better health promotion that suited to the society. Seremban area was picked in this investigation area as a current flare-up of Diphtheria happened in Negeri Sembilan and sudden raise of Measles cases in Seremban in 2016 (Noor Hisham, 2015; 2016b).

1.4 Research questions

- 1.4.1 What are the level of health literacy on childhood immunization among antenatal women in Seremban District, Negeri Sembilan.
- 1.4.2 What are the associated factors of health Literacy on childhood immunization among antenatal women in Seremban District, Negeri Sembilan.
- 1.4.3 What are the predictors of health literacy on childhood immunization among antenatal women in Seremban District, Negeri Sembilan.

1.5 Objectives

The objectives of this study can be subdivided into general objective and specific objectives.

1.5.1 General Objective

To determine the level of health literacy on Childhood immunization and its associated factors among antenatal women in Seremban district, Negeri Sembilan.

1.5.2 Specific Objectives

- 1.5.2.1 To determine the level of health literacy among antenatal women in Seremban district, Negeri Sembilan
- 1.5.2.2 To determine the sociodemographic and socioeconomic factors of antenatal women in Seremban District.
- 1.5.2.3 To determine the awareness on immunization of antenatal women in Seremban District.
- 1.5.2.3 To determine the utilization of health care services of antenatal women in Seremban District.
- 1.5.2.4 To determine the association between the sociodemographic factors (maternal age, marital status, maternal level of education, ethnicity, gravida, residential area, husband's education and primary language) with the level of health literacy on childhood immunization among antenatal women.
- 1.5.2.5 To determine the association between the socioeconomic factors (maternal employment status and household income) with the level of health literacy on childhood immunization among antenatal women.
- 1.5.2.6 To determine the association between awareness on immunization with the level of health literacy on childhood immunization among antenatal women.
- 1.5.2.7 To determine the association between the utilization of health care services with the level of health literacy on childhood immunization among antenatal women.
- 1.5.2.8 To determine the predictors of poor health literacy on childhood immunization among antenatal women.

1.6 Research Hypothesis

- 1.6.1 There is an association between the sociodemographic factors (maternal age, marital status, maternal level of education, ethnicity, gravida, residential area, husband's education and primary language) and the level of health literacy on childhood immunization.
- 1.6.2 There is an association between the socioeconomic factors (maternal employment status and household income) and the level of health literacy on childhood immunization.
- 1.6.3 There is an association between the awareness on immunization and the level of health literacy on childhood immunization.
- 1.6.4 There is an association between the utilization of health care system and the level of health literacy on childhood immunization.

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