CHAPTER II

LITERATURE REVIEW

2.1 Access to Medicines

Medicines are essential for human health and limited access to medicines will negatively influence the overall health status of an individual. Medicines that are accessible and affordable will lead to good health, human and economic development and survival. The World Health Organisation (WHO) definition of access to medicines is the percentage of the population who have access to a minimum list of 20 essential medicines, which are available and affordable continuously at public or private health facilities or medicine outlets that are within one hour's walk from the homes of the population (United Nations, 2005). According to Ranganathan and Hill (2010), good access to medicines encompasses availability (physical access), affordability (economic access) and acceptability (socio-cultural access).

Availability can be defined as the opportunity of the individual to access healthcare every time when needed. A person will be considered to have good access to healthcare if they have very minimal problems to access it. Some common problems

have been reported in many countries such as long waiting times to get the medicines, absence of health workers in the health institutions and the lack of drug stocks in the public clinics (Peters et al., 2008).

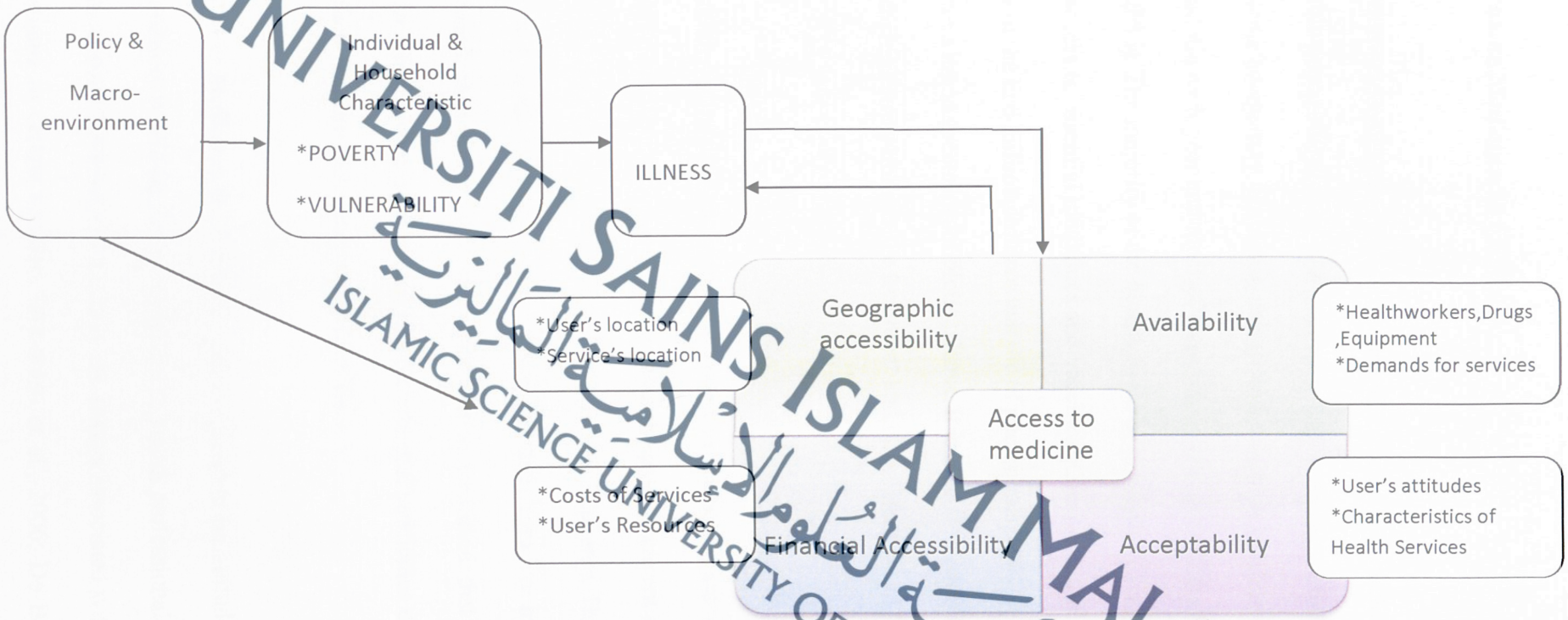
Geographical accessibility is also an important part of accessing healthcare especially in low and middle income countries where the lack of good roads and good communication services often burden the poorest communities (Paudel et al., 2012). This can be seen where the poorest people in the society live in rural or remote areas that might be far from the health facilities and centres. These groups of people need more travel time to obtain healthcare services and this can absolutely increase the cost to obtain medicines. Paudel et al. (2012) also found that people living closer to health facilities had about three times more access to healthcare services than those living farther away. A study conducted by Babar et al. (2007) suggested that medicine prices in Kota Bharu, Kelantan appear to be more expensive than in Kuala Lumpur because of the limited number of pharmacies and due to the state's location far from Kuala Lumpur. Thus, geographical distance or inaccessibility can be another reason suggested why peoples in rural or remote areas have limited access to medicines and healthcare.

Affordability in obtaining medicines has always been an area of interest. Financial access is considered as one of the most important determinants of access and it is the most directly associated with the dimension of poverty (Peters et al., 2008). Many research suggest that poor people have less access to medicines due to their unaffordability to purchase the medicines and even if they can afford them, the medicines may not be available near to them (Schafheute et al., 2001).

Another factor that influence access to medicines is acceptability by the users or community towards the health provider in the population. Acceptability is defined by how responsive healthcare providers are to the social and cultural expectations of individual users and community. In a more pluralistic medical system, it is expected that peoples will seek for different types of health providers such as traditional medicines or from shopkeeper who are formally or informally trained medical provider (Peters et al., 2008). In Malaysia, modern medicine still coexists with the traditional healthcare system (Heggenhougen, 1980; Chen, 1981). The use of medicinal herbs remains popular where local communities believe that these medicinal products are harmless and have no side effect because of their 'natural origin' when compared to modern medicines (Ariff & Khoo, 2006). However, a study by Siti et al. (2009) showed that a stricter approach should be implemented regarding the use of traditional and complementary medicines (TCAM) because of the high prevalence of their use by the Malaysian population and the issue of safety in using TCAM products.

Figure 2.1 shows the factors that related on access to medicines which comprised four important factors of access (Peters et al., 2008; Srivastava, 2011). These are the four factors that play an important role and is ultimately related to the technical ability of health services to affect people's health.

Figure 2.1: Framework of access to medicine



Source: Peters et al., 2008

2.2 Access to Medicines in Children

Access to healthcare and medicines is a fundamental human right including for children and vulnerable groups of people. It is necessary that everyone including children can access medicine adequately. However, almost seven million children under the age of five years old die each year and most of them die in low and middle income countries (UNICEF, 2013). The majority of the deaths could be prevented through providing and improving access to essential medicines and vaccines (Choonara, 2014). For example, the majority of the two million children that die of pneumonia every year would survive if they receive a broad spectrum antibiotic. Hence, it is crucial to understand the barriers of why these children do not receive treatment and effort should be taken to overcome this issue.

There are many potential barriers to access to medicines among children. One of the major barriers is cost where in many cases the parents cannot afford to buy the medicines even when the medicines are available in their local area. This barrier is often seen in low and middle income countries where children who live in poverty are the most influenced. According to Tetteh (2009), it is estimated that 50–60% of the population in African countries lacks access to essential medicines due to the cost to patients or their families that make it unaffordable.

Access to medicines for children is also dependent on attitudes of the parents towards the childrens' illness as well as access to health professionals. Unfortunately, certain medical conditions such as epilepsy are always associated with a considerable degree of stigma in certain societies (Amoroso et al., 2006; De Boer et al., 2008;

Choonara, 2014). Therefore, many parents with epileptic child may choose not to seek treatment for their children.

Unsuitable formulations of medicines given to children is a major safety issue worldwide (World Health Organization, 2007). Previous studies revealed that children receive unsuitable formulations to treat their illnesses due to the "off label" status of medicines (Sharfstein et al., 2007; Zucker & Rago, 2007). According to Shefrin and Goldman (2009), most of the medicines that are available in market are "off label" which lack suitable dosage forms, lack adequate information, with pricing and supply system challenges. Recognizing that better access to medicines is a prerequisite for improving health outcomes in children, the World Health Assembly passed Resolution WHA60.20 where they urge the WHO to launch a global campaign in December 2007, the 'Make Medicines Child Size' (Watts, 2007). This campaign aimed to ensure that the children's access to medicines is undeniable, safe and appropriate. This campaign also aimed to raise awareness and promote global action to ensure that children received the right medicine in the right dose at the right time. Recognising that better access to medicines is a crucial part for improving child health, the World Health Assembly has urge the Resolution WHA 60.20 and stated that:

> *"To promote access to essential medicines for the children through inclusion, as appropriate, of those medicines in national medicines lists, procurement and reimbursement schemes and to device measures to monitor prices".*
>
> *Source: World Health Assembly, 2007*

To date the initiative by WHO to ensure better medicines for children are still in progress towards increasing access to medicines, safety and efficacy of medicine use in

children and minimizing any unnecessary risk to them. The paucity of data on the availability and cost to the patient of paediatric medicines in different healthcare settings has initiate more research aiming to understand the issue. Therefore, more research is currently ongoing worldwide to provide more data for this situation.

2. 3 Access to Medicines for Children in Poor Households of Peninsular Malaysia

2.3.1 Malaysia and Healthcare System

Malaysia consists of 13 states and federal territory with a total land area of 329,959 square kilometres. It is characterized by its multiracial and multiethnic population comprising Bumiputera (67.4%), Chinese (24.6%), Indians (7.3%) and other ethnicities (0.7%) (Department of Statistics Malaysia, 2011). The total population of Malaysia in 2010 was estimated at 28.3 million with an annual growth rate of 2.0% between the periods of 2000-2010 (Department of Statistics Malaysia, 2011). Selangor has the highest population with 5.46 million followed by Johor 3.35 million and Sabah 3.21 million (Department of Statistics Malaysia, 2012).

Malaysia is categorised as a rapidly developing country, currently with a Human Development Index (HDI) value of 0.744 which places it in the high development category of countries (United Nations, 2011). Meanwhile, the economy grew at an average rate of 6.2% per annum during the period 1991-2008. The World Bank (2012) has categorised Malaysia as an upper middle-income country with a GDP per capita of $10,381 USD and a GDP growth rate of above 5% from the year of 2010 to 2012. In

ASEAN region, the Malaysian economy performed better than the other neighbouring countries (Jabatan Perdana Menteri Malaysia, 2010). The 2010 census has revealed that average number of persons per household in Malaysia was 4.2 persons (Department of Statistics Malaysia, 2011). This number seemed to have declined from 4.6 persons in the previous decade. The lowest average household size was recorded in Wilayah Persekutuan Putrajaya with 3.5 persons per household while Sabah has the highest average household size of 5.5 persons per household in 2010 census.

The healthcare system in Malaysia provides universal access to all its residents. It is divided into the government-run public sector and a private healthcare system. A study by the American publication *International Living* rates Malaysia's healthcare system as the third best out of 24 countries such as Spain, Italy, Ireland, New Zealand and others countries in its 2014 Global Retirement Index (The Star, 2014). Meanwhile the WHO in its World Health Report in 2010 has ranked Malaysia at 31st among 191 countries for the good performance in overall healthcare and was recommended as a model to other developing countries (Ministry of Health Malaysia, 2011).

The Malaysian Vision for health:

"Malaysia is to be a nation of healthy individuals, families and communities, through a health system that is equitable, affordable, efficient, technologically appropriate, environmentally-adaptable and consumer-friendly, with emphasis on quality, innovation, health promotion and respect of human dignity and which promotes individual responsibility and community participation towards and enhanced quality of life."

Source: Ministry of Health, 2008

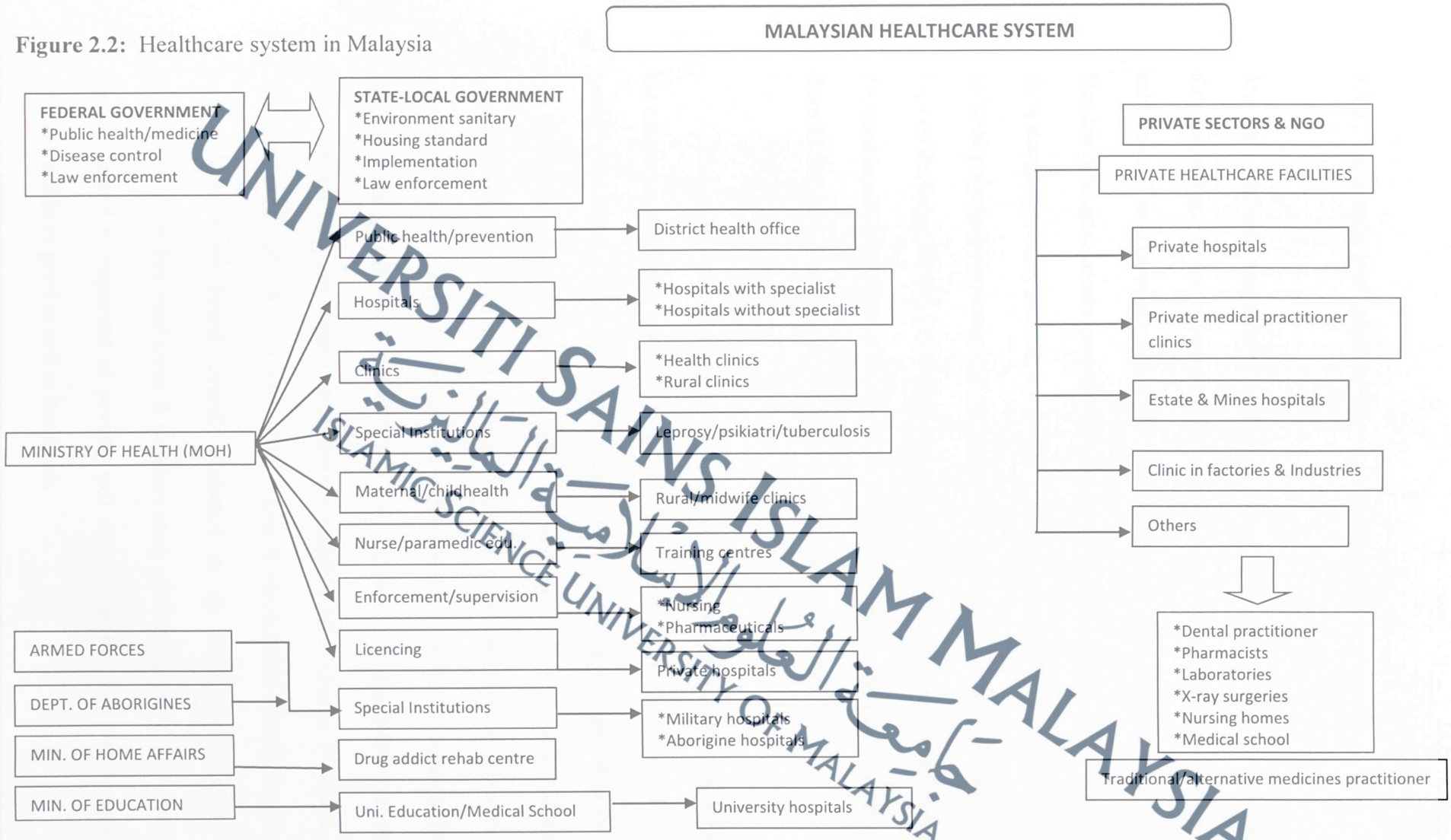
The healthcare system in Malaysia has greatly improved the health status of the population by dramatically reducing mortality indicator rates and increasing life expectancy at birth since independence in 1957. Meanwhile, Malaysia has achieved remarkable progress in child health, with under-five mortality reduced from 18 deaths per 1000 children in 1990 to 6.1 per 1000 currently. This rate is the same as that seen in highly developed countries such as Canada, the United Kingdom and New Zealand. The life expectancy at birth is 76.4 years for women and 71.6 years for men (Ministry of Health Malaysia, 2011).

The public or government healthcare system in Malaysia is working hand in hand with the private healthcare sector for better health of the nation by increasing quality, capacity and coverage of the healthcare infrastructure to ensure a high quality health system that is equitable and affordable even for the poorest section of the nation (Ministry of Health Malaysia, 2011). Figure 2.2 show the Malaysian healthcare system that consists of government healthcare sector, private healthcare and the non-governmental organisations (NGO's). The Ministry of Health Malaysia (MOH) is the major provider of health services in Malaysia. In year 2011, there were 985 health clinics, 1864 community clinics, 138 hospitals, 6 special medical institutions and 5 "flying doctor" stations throughout Malaysia. Whereas in 2012, there were 109 1Malaysia health clinics to provide health services to rural and urban poor populations throughout Malaysia. Another provider of health services is the private health sector. There were 220 private hospitals and 6589 registered medical clinics which complement the effort of the public health sector in maintaining a good healthcare system in Malaysia (Ministry of Health Malaysia, 2012). However the traditional and complementary practitioners comprised of traditional Malay, Chinese and other

practitioners are well accepted by the rural and urban communities. Therefore, the healthcare system in Malaysia is a combination of modern medicine that coexists with a variety of traditional medical systems (Chen, 1975).

Although the Malaysian healthcare system is considered as a success story among countries that have equivalent socio-economic status, the nation still faces challenges that need continual improvements. The changing socio-demographics and the rising healthcare costs have affected the poor people. This poor population may be less likely to have access to the healthcare system compared to other populations in Malaysia. However, there were various action and efforts has been taken to overcome this issue. One of the efforts was to increase the number of health facilities or centres especially in the rural or remote areas to ensure that the health status of the population in those areas will improve.

Figure 2.2: Healthcare system in Malaysia



Source: Ministry of Health Malaysia, 2011

2.3.2 Poverty in Malaysia and Access to Healthcare

Malaysia has made a significant stride in reducing the incidence of poverty by tackling the inequities of socio-demographic development among the population. This achievement was recognised globally when Malaysia was classified by the United Nations (UN) as a success story in managing poverty, as during the period of more than three decades, poverty rates have declined dramatically. Since the 1970s, Malaysia has reduced poverty from nearly half the population to much lower and the incidence has kept on declining from 5.7% in 2004 to 3.6% in 2007. The incidence of urban poverty declined in rate from 2.5% in 2004 to 2.0% in 2007. Poverty in rural areas also declined from 11.9% to 7.1% in 2007 (Jabatan Perdana Menteri Malaysia, 2010).

The definitions and interpretations of poverty depend on individual agencies and the country's perception towards it (Ragayah, 2007; Gopal & Nor Malina, 2014). Some people may define poor as lacking the basic minimum of what is regarded as the norm in a society (Meerman, 1979; Yadav, 2007; Gopal & Nor Malina, 2014) but others may define it as someone who has no access to the basic healthcare services or no access to information or the many other socially desirable services needed to function efficiently in a society (Ragayah, 2007; Yadav, 2007). Regardless of how it is defined, being poor will have a debilitating impact on the person's health. Many studies (Raphael, 2011; Mohamed et al., 2011; Komro et al., 2011; Adena & Myck, 2014) have shown that poor people have worse health overall compared to the rich people due to their unaffordability to buy medicines. A previous study (Mohamed et al., 2011) suggested that successful management of poverty will ensure that the poor people especially children will have good access to medicines.

The Government Transformation Program (GTP) that was launched in 2009 aimed to raise living standards of low income households and reduce the extreme number of hardcore poor households (Jabatan Perdana Menteri Malaysia, 2010). However inequities among society remain significant in the state of Sabah in Eastern Malaysia even though the rural poverty rates declined to 12.7% in 2012 (Department of Statistics Malaysia, 2012). Table 2.1 shows the reduction of poverty rate from 49.3 in 1970 to 1.7 in 2012.

Table 2.1: Incidence rate of poverty in Malaysia 1970-2012

Year	Poverty Rate (%)
1970	49.3
1975	43.9
1980	29.2
1985	20.7
1990	17.1
1999	8.5
2004	5.7
2007	3.6
2009	3.8
2012	1.7

Source: Jabatan Perdana Menteri Malaysia, 2014

Poverty in Malaysia is measured by the Poverty Line Index (PLI) where a household is considered poor if their income falls below the PLI line (Ragayah, 2007; Mohamed et al., 2011; Zunika & Rusmawati, 2013). Table 2.2 shows the poverty line income according to region in Malaysia in 2009. A poor household is defined as having a household income of RM 750 or less in Peninsular Malaysia, RM 830 or less in Sarawak and RM 960 or less in Sabah (Zunika & Rusmawati, 2013). According to Government Transformation Programmes (GTP) Roadmap in 2010, low income households (LIH) can be defined as households that have a total income less than or equal to RM 2000 per month which represents 75% of the median income in Malaysia (Jabatan Perdana Menteri Malaysia, 2010). Meanwhile, extreme poor households are defined as households with a total income less than or equal to RM 440 per month. In Malaysia the government has developed a census called the eKasih database system that contain extensive information on the poor households nationwide. This *Sistem Maklumat Kemiskinan Negara* or eKasih is a database system to help the government in planning, implementing and monitoring the poverty eradication programme (Jabatan Perdana Menteri Malaysia, 2014). This eKasih system provides a standard and uniform interpretation of PLI (per household) together with a profiling of poor households. This system implemented both the common PLI with the number of members of households, age group, and gender to determine the (per capita) poverty line income. Until 2011, there were 10,369 poor households registered in the eKasih database. Table 2.2 shows the PLI by region in Malaysia and Table 2.3 shows the poverty line income in urban and rural areas in each states throughout Malaysia in 2009.

Table 2.2: PLI by region in Malaysia, 2009 (RM /month)

REGION	POOR		HARDCORE POOR	
	Per household	Per capita	Per household	Per capita
Pen. Malaysia	760	190	460	110
Urban	770	200	460	120
Rural	740	170	460	110
Sabah/Labuan	1050	230	630	130
Urban	1020	230	590	130
Rural	1080	230	700	140
Sarawak	910	210	600	130
Urban	940	210	600	133
Rural	880	210	580	130

Source: Jabatan Perdana Menteri, 2014

Table 2.3: PLI by state and stratum

State	Poverty Line Income (PLI) Per capita	
	Urban	**Rural**
Johor	154	142
Kedah	143	144
Kelantan	139	126
Melaka	151	149
N.Sembilan	146	147
Pahang	150	144
Pulau Pinang	152	150
Perak	146	140
Perlis	136	142
Selangor	161	148
Terengganu	148	147
Sabah	174	170
Sarawak	171	164
W.Persekutuan	189	0

Source: Mohamed et al., 2011

However, the child poverty indicator shows that about 4.4% of children in Malaysia come from poor households or about 400,783 children living in households below the national poverty line (UNICEF, 2013; Maya & Karunan, 2013). Child poverty in Malaysia is also selected based on the percentage of children living in poor households below the PLI (Maya & Karunan, 2013).

2.3.3 Urban and Rural Poor Households of Peninsular Malaysia

Rapid development and the transformation from agricultural to industrial development has influenced the process of urbanization in Malaysia. The rapid urbanization experienced by Malaysia has major impacts in the socio-economic profile of the urban low income and poor communities (Md Wahid et al., 2014). The urbanization was significantly driven by rural to urban and urban to urban migrations (Md Wahid et al., 2014). Most urbanized states are situated in the west coast of Peninsular Malaysia such as the Klang Valley areas and they are also the more developed states compared to East Coast of Peninsular Malaysia (Mohamed, 2011). This has caused rural-urban migration of the unemployed and under-employed to seek better opportunities in the major urban centres such as the Klang Valley, Penang and Johor. However, with low education and lacking the needed skill these people landed in low-paying jobs. With usually a large family size and living in areas lacking the basic amenities such as access to medicines and healthcare makes them more vulnerable to social ills and staying unhealthy (Zunika & Rusmawati, 2013).

The Household Income Survey (HIS) in 2004 data showed that being unemployed or living in poor and rural states such as Sabah, Sarawak and Kelantan increases the chances of being poor. In general, the PLI is higher in the urban area compared to rural area indicating high-risk groups of poverty (Mohamed et al., 2011). Table 2.3 shows PLI by state and stratum. The struggles of the urban poor population are as serious as the rural poor and may have greater socio-economic consequences. Its impact is probably far more harsh and extreme than rural poverty.

The East Coast of Peninsular Malaysia is considered as a largely rural area compared to the Klang Valley area (Neni et al., 2010). The healthcare facilities in Klang Valley were expected to be more numerous compared to East Coast of Peninsular Malaysia. The Klang Valley has the highest number of healthcare institutions compared to other states such as Kelantan and Terengganu (Department of Statistic Malaysia, 2012).

2.3.4 Access to Medicines for Children Living in Poor Households of Peninsular Malaysia

Malaysia has a very heterogeneous society with a wide income gap between high, middle and low income populations. Recent research revealed that even in developed countries with highly advanced healthcare infrastructure such as the United States the access to medicines is still an issue (Choonara, 2014). The lack of universal healthcare is one of the reasons of higher under five year mortality rates with 8 per 1000 live births (UNICEF, 2013; Choonara, 2014). This scenario could be seen in poor households when many of them live in rural areas where they are less likely to have a sufficient

purchasing ability to have the medicines and access to healthcare. The states with the three highest poverty rates are Sabah, Kelantan and Terengganu (Jabatan Perdana Menteri Malaysia, 2010). In many low income countries, parents have limited buying power that force them to acquire medicines from acquaintances, relatives and unregistered vendors who have little or no healthcare training and knowledge (Peters et al, 2008). Some of them may acquire medication from markets without prescription from the physician (Schafheutle et al, 2001). These factors might indicate why some children are at the risk of receiving inappropriate medicines when they are unwell or get sick.

Malaysia implements a universal healthcare system where each and every member of the society has the access to healthcare facilities for a minimal fee (UNICEF, 2013). However barriers to access can exist, especially within resource-poor populations. These barriers include the availability of the medicines, health facilities, money, knowledge and beliefs (Choonara, 2014; Peters et al., 2008; Babar et al., 2007). According to Choonara (2014), two major factors why people do not have access to healthcare and medicines are financial and geographical. However in poor populations in Malaysia, money or ability to purchase medicines seems to be the major factor where this vulnerable group of children in poor households could not access medicines adequately. This is a reason why poverty and access to medicines is a common subject of research and policy. The relationship between poverty and access to health care can be seen as part of large cycle where poverty will lead to ill health and ill health maintain poverty (Peters et al., 2008). Many children live in poor countries and tend to have less access to health services and medicines rather than people in better off countries (Peters et al., 2008).

However, access to medicines for children living in poor households in Malaysia has not been ascertained and to date there have been no study in Malaysia on whether these children received satisfactory medicines. The earlier studies on access to medicines were focused more on availability and affordability to access the healthcare overall (Babar et al, 2003, 2007). The National Medicines Use Survey (NMUS) which was conducted by the Pharmaceutical Services Division of the Ministry of Health, did not collect household consumption data and did not document paediatric medicines in details (Ministry of Health Malaysia, 2010).

2.4 Parental Knowledge, Attitude and Practice in Relations to Children Access to Medicines

Children are dependent on their parents to access medicines. There are many factors that influence the way parents deal with illnesses in their children. The treatment seeking behaviour among the parents are influenced by the severity of the symptoms shown by their child (Joginder, 1980; Joginder et al., 1981; Blenkinsopp & Bradley, 1996; Schafheutle et al, 2001). Minor illnesses in children are often treated at home with over-the-counter (OTCs) medicines without prescription by a medical officer (Birchley & Conroy, 2002). Self-administered medicines with OTCs are common in poor household children because the parent could not afford to pay for the medical advice fees of health advisors (Schafheutle et al, 2001; Birchley & Conroy, 2002). Parents generally have very limited knowledge or awareness of potential side effects of medicines that they purchased even though the medicine leaflets are available together with the medicines (Schafheutle et al, 2001). Due to these factors, access of children to safe and appropriate medicines can be negatively influenced by the parents.

It is very important to develop awareness of the need to seek treatment when the children are not feeling well. This is to ensure that the children are not in a risky situation if the parent fails to give them essential medicines due to low awareness and inadequate knowledge on certain illnesses (Edwards & Aronson, 2000; Chan & Tang, 2006; Goldsworthy, 2008).

2.4.1 Asthma in Children of Poor Households

Bronchial asthma is a disease associated with increased responsiveness of the trancheobronchiol tree to a variety of stimuli that leads to bronchiolar smooth muscle contraction (Chandrasoma, 2001). It is one of the commonest chronic diseases of children worldwide. Kubaisy et al. (2012) has highlighted that asthma is a major public health problem among Iraqi children. Prevalence of childhood asthma is increasing worldwide, consequently morbidity and mortality and increased cost in treatment. The higher prevalence in rural or poor area has not been ascertained. Limited research done suggest that the rates are generally much lower in economically poorer countries compared to the Western populations (Cookson, 1987). Lower level of pollution in poor countries or rural areas is stated as a factor that determines the lower prevalence of chronic respiratory symptoms. However, in Baghdad the prevalence of asthma is comparable to industrialized, developed countries with male predominance (Kubaisy et al., 2012). Many studies have been carried out to determine the prevalence of asthma in Malaysia. The prevalence of asthma in Malaysia associated with environment was not significant but it is significantly associated with family history (Noorhasim et al., 1995). The prevalence of chronic respiratory symptoms was reported higher in urban areas

rather than rural area. A study by Azizi (1990) showed that that incidence rates is higher in Kuala Lumpur than rural areas.

Asthma represents a huge burden on family and society. In family, the prolonged follow up care and expensive medication has a significant effect on the lifestyle. Parents in poor households may be reluctant to seek medicine and medications for their children (Siti et al., 2009). Increasing cost of modern medications might lead to the poor children being untreated. The affordability in buying medicines could explain why some people used alternative medicines for treating asthma. Chan et al. (2002) in his studies on asthma in Malaysian populations has stated that the most common alternative therapy used was herbal medication (54.5%) followed by special vitamins or mineral supplement, homeopathy and massage therapy. Treatments of asthma among children in Malaysia are often a combination of modern medicines and traditional complimentary medicines. (Heggenhougen, 1980; Chan et al., 2002).

2.4.2 Epilepsy in Children of Poor Households

Epilepsy is a common neurological disorder that is characterized by abnormal electrical discharges in the brain (Chandrasoma, 2001). The WHO has defined epilepsy as those who have recurring seizures in at least two unprovoked episodes. The WHO estimates that eight people per 1000 worldwide have this disease (WHO, 2001). The annual new cases of epilepsy are 40-70 per 100 000 people in general population in developing countries which is higher than the developed countries (World Health Organization, 2012). According to Mac et al. (2007) more than half of the 50 million people with epilepsy worldwide are estimated to live in Asia.

Epilepsy is one of the most prevalent neurological disorders and the highest incidence of epilepsy is in the first year of life (Deng et al., 1994; Norzila et al., 1997). In Malaysia, prevalence of epilepsy was high in rural areas such as Kelantan, Terengganu and Pahang (Neni et al., 2010). This is supported by studies in Pakistan and India where the prevalence of epilepsy was higher in rural areas than in urban areas. However, this condition is always associated with social stigma resulting that most of the affected children in many countries do not receive treatment (Choonara, 2014). It has been observed that low public awareness, knowledge and attitudes towards epilepsy are the major factors in explaining discrimination and stigmatization (Choonara, 2014).

Among the Malaysian parents their understanding and knowledge regarding epilepsy was considered poor (Norzila et al, 1997; Hazlina, 2008). A study by Norzila et al. (1997) in Kelantan revealed that the majority of the parents responded to the term epileptic attack as a convulsive episode. Unfortunately, knowledge regarding febrile convulsion is low among parents particularly in the aspect of seizure management. Another study conducted by Ramasundram et al. (2000) revealed that Malaysian were familiar with epilepsy but many maintained a negative attitude and had poor knowledge on causation and treatment of epilepsy.

Generally, there are no strong relations between being poor and the incidence of epilepsy (Mac et al., 2007). There is no study yet on the relationship between children in poor households and the prevalence of epilepsy in Malaysia. However, research done by Neni et al. (2010) suggested that people in low income households in East Coast Peninsular Malaysia has poor awareness and knowledge regarding epilepsy. The lack of awareness and knowledge regarding epilepsy could explain why children in poor

households have limited access to epilepsy treatment. The costs in treating epilepsy in a longer time will results in poor compliance to medication (Hazlina, 2008). Thus, the continuous adherence to medicines by the children will depend on the affordability of parents to buy medicines. In recent years, surveys on epilepsy showed a similar level of awareness but more negative attitudes towards epilepsy in Asian countries including Taiwan, India, Malaysia Thailand, and Singapore and in Pakistan compared to the countries in the West (Neni et al., 2010).

2.5 Conclusions

In conclusion, access to medicines for children living in poor households in urban and rural areas of Peninsular Malaysia is highly determined by the accessibility, availability, affordability and acceptability of their parent in seeking medicines for them. However, for children in poor households the main barriers is expected to be unaffordability in term of buying power to obtain medicines. Therefore, efforts from the parents and the health providers in each country and elimination of barriers in accessing medicines will ensure the accessibility of this vulnerable group of people to medicines. This study will provide more information about the relationships of poverty and behaviour to better understand the reasons for barriers (culture, geography, negative behaviour on health, health system culture, illness) that possibly exists. This will allow the best intervention programmes that can be given to the target group i.e children of the poor. Otherwise, access to medicines for children of the vulnerable poor population will remain a major failing point of the healthcare system of Malaysia.