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Social and Behavioral Aspect of Mother's Health Behaviors and Neonatal Health: Risk
Factor Analysis of Neonatal Septicemia in Urban Slums of Muntinlupa, Philippines

by

Chisaki Sato

A thesis submitted in partial fulfillment
of the requirements for the degrees of
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Department of Anthropology
College of Arts and Sciences
and
Master of Public Health
Department of Environmental and Occupational Health
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Social and Behavioral Aspect of Mother's Health Behaviors and Neonatal Health: Risk Factor
Analysis of Neonatal Septicemia in Urban Slums of Muntinlupa, Philippines

Chisaki Sato

ABSTRACT

Reducing neonatal mortality can contribute to the further reduction of infant mortality rates in international health as it is responsible for about half of the mortality rate for those under-five today. The situation of infant mortality in the Philippines is no exception to this global trend. This study of the social demographic aspects of sepsis neonatorum in the Philippines has explored the conditions of the urban environment, and local cultures related to newborn illnesses and the patterns of health seeking behaviors of urban poor mothers which can affect the survival of newborns. The mix of qualitative and quantitative research methods has been used to gather relevant data from two groups of mothers; 12 mothers with infants who had experienced neonatal septicemia and 24 mothers who live in squatter camps of Muntinlupa City, Philippines.

The results of this study indicate that two groups of mothers share a relatively similar socioeconomic status, knowledge of health and hygiene, and have similar health-seeking behaviors. The mothers' lack of knowledge and their local view of illnesses seemed to embody questionable newborn care related to breastfeeding practices and oil applications to newborns. Three psychosocial factors that appeared to contribute to the mother's health-seeking behaviors were attitudinal factors (this consisted of favorable or unfavorable perceptions toward services based on the mother's prior experiences or familiarity with service), social pressures (opinions from others and the mother's competing responsibilities), and self-efficacies accessibility,

availability, and affordability). In addition, the external factor of poverty in the slum settlements was also a significant factor which determined the mother's health seeking behaviors.

The implications of these findings are discussed in further detail, which are then followed by a set of recommendations for future health interventions designed to reduce the risk of sepsis neonatorum in urban communities. This study underscores the benefits of integrating the perspectives of anthropology and public health to further the understanding of the neonatal health problem. Finally, the need for future studies is addressed as it is necessary to further understand the existing local practices and beliefs in relation to the risks of sepsis neonatorum.

Chapter One Introduction

1.0 Introduction

During the last decade of 20th century, the efforts of public health have achieved a great deal of success in reducing mortality among children in international health. Despite this great success, there has been less attention given to the issue of neonatal health in developing countries. It has been noted that issues of neonatal health fell into relative obscurity due to a lack of accurate data and a misconception that neonatal care requires a high cost in many developing countries (Murray 1997). The need to examine the issues of newborn health in developing countries is clear as neonatal death is currently responsible for about half of the under-five mortality rate globally (Ahmad et al. 2000). The further reduction of infant death now depends on the reduction of neonatal mortality.

The application of the anthropological perspective can make important and needed contributions to the problem of neonatal health. The relevance of this perspective exists as a means of reducing neonatal mortality rates and requires a comprehensive understanding of direct or indirect factors affecting mothers and newborns from local health systems of illness behaviors to broader socioeconomic dynamics. Using macro and micro levels of analysis, medical anthropology, like other disciplines in social science, can offer critical insights into the health problems which are distinct to certain cultural settings. In many works of applied medical anthropologists, such insights of local cultures are useful to increase cultural appropriateness of health intervention. While biomedical knowledge of a health problem is essential to achieving the goals of public health, medical anthropology still has much to offer in public health activities.

The integration of the disciplines of anthropology and public health, therefore, is of great importance in understanding problems as the context of illness or disease may not be explained by either one of them which has been observed in many projects.

This thesis seeks to examine the problem of neonatal health in developing countries based on my internship research conducted in the Philippines. The research focuses on the social dimensions of sepsis neonatorum which is causing an increased neonatal mortality in urban settlements of Metro Manila. The knowledge and skills of anthropology and public health are used in this study to identify the social demographic factors of sepsis neonatorum and to provide practical information to develop appropriate health intervention programs for these communities at risk.

The specific objectives of this research study include; 1) to describe the social and demographic profile of mothers of infants with sepsis neonatorum in Muntinlupa City; 2) to determine the knowledge and practices of newborn care of mothers whose infants are admitted for sepsis neonatorum; and 3) to understand the health-seeking behaviors and local practices/beliefs among urban poor mothers, and how these factors increase the health risk, particularly of sepsis neonatorum, among infants.

1.1 Thesis Outline

Following this introductory chapter, the second chapter is a review of the background literature concerning sepsis neonatorum and other relevant issues related to neonatal health in developing countries. A broad range of previous studies is presented from the fields of Public Health and Anthropology. The epidemiology of sepsis neonatorum is given to understand the magnitude of the problem of sepsis neonatorum and the rationale of the social behavioral approach to this problem in public health settings. Subsequently, I describe several important factors related to sepsis neonatorum in terms of environment, newborn care, the caregivers' knowledge

of the illness, and the health-seeking behaviors of mothers. Research on health-seeking behavior is reviewed with special emphasis on the use of the Theory of Reasoned Action. A major focus of the chapter is given to the mothers and newborns in the urban squatter settlements. Lastly, I have addressed the relevance of the need for current research at the end of this chapter.

Chapter Three is an overview of the background information of the area where the study was conducted. The chapter describes the Philippines in terms of geographical characteristics, health situations, and the health care system. Social and environmental conditions of Muntinlupa City are also addressed with particular attention to the urban poor.

In Chapter Four I will describe the research methods that I have employed in this study. Qualitative and quantitative data were obtained through archival data collection, participant-observation, key-informant interviews, focus group discussions, and in-depth interviews. The first two types of data are useful to obtain vital background information on the current health status and environmental conditions of the mothers and newborns in Muntinlupa City. Key-informant interviews, on the other hand, provided supportive information on social and environmental conditions of the area where the target population of this study live. The main participants of this study consist of two groups of mothers; mothers of babies who had been admitted for sepsis neonatorum (sepsis group) and mothers of babies less than 2 year-old who resided in urban squatter settlements (non-sepsis group). The largest portion of information was collected from these two groups of mothers through three focus discussions and 36 in-depth interviews.

Chapter Five presents the results of the data collection which were described in the previous chapter. Each finding obtained from the data collection will be introduced consecutively while the results of key-informant interviews are included in the sections of this chapter to support other findings. The results present a variety of information which include; the mothers' socio-demographic data, their knowledge related to newborn illnesses and infections, their

practices of newborn care, their patterns of health-seeking behaviors, and the social and political environment surrounding them, and each individual mother's experience with her sick baby.

In examining the results of the study, the final chapter seeks to apply these findings to support or add to the existing knowledge of anthropology and public health. Limitations of the current study and issues of quality control are also addressed in this chapter. The chapter further provides a set of recommendations based on the results of this study. These recommendations highlight the importance of understanding the local needs of the community, along with other key factors, such as local cultures, and social and political structures. Finally, I conclude this thesis with the confidence I obtained through this study----that is, the value of integrating the disciplines of anthropology and public health in understanding a given health problem.

1.2 Summary

This thesis describes my internship research conducted in the urban slums of the Philippines. Using the problem of sepsis neonatorum, this study seeks to examine the social dimensions of a neonatal health problem in urban districts of developing countries. Qualitative and quantitative methodologies are employed to obtain essential data to understand the complex nature of human health problems of the population at risk. The combined perspectives of applied anthropology and public health are used to assess the research findings, and to provide a set of recommendations that will increase the effectiveness of future health interventions in this area.

Chapter Two Background Literature

2.0 Introduction

In this literature review, I will introduce a broad range of research concerning maternal and child health in developing countries which have been conducted in the field of Anthropology and Public Health. I will present the epidemiology of sepsis neonatorum, including etiology, mode of transmission, and prevention and control measures. Subsequently, I will discuss several important risk factors associated with occurrence of infection from anthropological and public health viewpoints. These include; environmental factors, factors related to mothers' practices of newborn care, mothers' knowledge of newborn illness, and health-seeking behaviors. Special emphasis will be paid to the theory of reasoned action and planned behaviors to discuss mother's health-seeking behaviors. The major focus will be given to the mothers and newborns in the urban slums of developing countries.

2.1 The Problem of Neonatal Health in International Health

In the last decade of the 20th century, the world has achieved dramatic reductions of mortality among children in both industrial and developing countries. The World Health Organization (WHO) estimates that about 10.5 million children under five years old died in 1999, which is about 2.2 million (17.5%) fewer than at the beginning of the decade (Ahmad et al. 2000). Reducing the under-five mortality rate has been one of the greatest challenges in the history of international health. Further efforts to reduce the mortality rates of this population will need to focus on infant survival during the neonatal period, the first 28 days after birth, which now

accounts for about five million of infant deaths (Child Health Research Project Special Report 1999). It is estimated that two-thirds of those infants die in the first week after birth. Developing countries, especially in Africa, bear the majority of neonatal deaths (98%) that occur in the world today (Child Health Research Project Special Report 1999). The leading causes of such neonatal death in developing countries are infection (32%), birth asphyxia and injuries (29%), congenital anomalies (10%), and complications of prematurity (24%). In addition, low birth weight (less than 2,500g) coupled with these causes, significantly increases the risk of neonatal death (WHO 2002; Duke et al. 2000).

2.2 Epidemiology of Sepsis Neonatorum

Despite the difficulty in obtaining accurate data on causes of neonatal mortalities in developing countries, it is estimated that sepsis is one of the current leading global diseases among neonates along with acute respiratory infection, neonatorum tetanus, diarrhea and meningitis. According to recent estimate, approximately 750,000 cases of neonatal sepsis (with 300,000 deaths) occur in developing countries each year (Stoll 2001). Unexpectedly, sepsis neonatorum ranked within the top ten leading causes of death in the Philippines. The Department of Health estimated that approximately 485 children (6.39 per 100,000 live births) under age of 4 years old had died due to sepsis in 1998 (DOH 1998). However, the number is likely to be underestimated due to a lack of accurate data on early neonatal death.

Sepsis neonatorum refers to a clinical syndrome characterized by systemic signs of infection and accompanied by bacteremia in the first month of life (Klein 2001). Meningitis, another leading causes of death among neonates, usually occurs as a sequela of bacteremia; therefore, the problems of sepsis and meningitis are frequently discussed collectively (Bang 1999; Klein 2001). The patterns of neonatal sepsis are classified as 'early-onset', 'late-onset', and 'late-late-onset', based on the time of the onset of clinical symptoms. Although most cases of sepsis

occur within the first month, many studies have pointed out the possibility that infants in the extended neonatal period become susceptible to sepsis up to 3 to 6 months due to their compromised immune system and underlying illnesses (Witek-Janusek and Cusack 1994; Klein 2001).

Different pathogens can cause an infection of sepsis among newborns. Of them, the most commonly mentioned pathogens are Group B streptococcus (GBS) and gram-negative organisms such as *Escherichia coli*, *Listeria monocytogens*, *Enterobacter*, and *Klebsiella* (Witek-Janusek and Cusack 1994; Klein 2001). In prior research conducted in Metro Manila, the most common organisms isolated among 2,053 young Filipino infants were bacteria in etiology with *Salmonella spp.* as well as gram-negative organisms (Gatchalian et al. 1999).

Bacterial infections occur when microorganisms enter infants during or after labor and delivery through one or more entrance points such as the skin, respiratory tract, gastrointestinal tract, urinary tract, and blood vessels. There are multiple risk factors which are associated with bacterial infections in neonates. Witek-Janusek and Cusack (1994) suggest that such risk factors could be classified as maternal, neonatal and environmental. Maternal risk factors include any problems which occur in pregnant women such as fever, urinary tract infection, vaginal colonization, premature and prolonged labor and so on. Prematurity and low birth weights are identified as the major neonatal risk factors for sepsis. The environment serves as a reservoir of pathogens, which are of great concern for the late onset of sepsis. Many studies stressed great concerns over nosocomial infections in the newborn intensive care unit (NICU) (Witek-Janusek and Cusack 1994; Kumar Das et al. 1999; Duke et al. 2000). However, little attention has been paid to the concerns of community-acquired infection of sepsis. Klein (2001) indicated the great potential of infection in the neonates through contact with household animals or infected persons within the household. His statement calls for our attention to the problem of sepsis neonatorum in the urban poor slums of developing countries as many pregnant women deliver their babies in

overcrowded housing where contact between pathogenic organisms and infants is more likely to occur. In addition to these factors, socioeconomic factors surrounding mothers and infants are also thought to be important in determining infants at risk of infection. For example, low levels of income, poor housing and poor nutrition associated with a low socioeconomic status have been identified as contributing risk factors in sepsis (Klein 2001; Kumar Das et al. 1999).

Clinical symptoms of sepsis neonatorum are often nonspecific and subtle depending upon the type of organism causing the infection and the severity. The most commonly noted signs and symptoms include poor feeding, diminished responsiveness, respiratory distress, apnea, lethargy, fever, jaundice, vomiting, diarrhea, and skin manifestations such as petechiae, abscesses, and sclerema. However, these nonspecific and subtle symptoms can be observed in the onset of other non-infectious diseases; therefore, difficulties in identifying early signs of sepsis are a major concern (Klein 2001). Witek-Janusek and Cusack (1994) stressed that any changes in an infant's normal behavior should call for immediate attention as such infection especially in premature babies, can rapidly lead to fatal conditions.

Prevention and control measures of sepsis emphasize prompt recognition of signs and symptoms, early diagnosis through blood tests, blood/urine cultures or x-rays, followed by appropriate treatment, for example, antibiotic therapy for the infection (Klein 2001; Chin 2000). Prevention measures also need to focus on reducing other risk factors associated with sepsis through; promoting adequate maternal education regarding childhood immunization, routine check-ups, newborn care (e.g., umbilical cord care), as well as domestic hygiene, and, most importantly, improving socioeconomic conditions (Klein 2001; Witek-Janusek and Cusack 1994).

Based on this context, I will introduce several important issues in relation to the occurrence of infection with a wide range of research that has been conducted in the field of anthropology and public health. These subjects include; environmental factors, factors related to mothers' practices of newborn care, mothers' knowledge/recognition of newborn illness, and

health-seeking behaviors. Special focus will be given to mothers and newborns in urban slums of developing countries which is a primary theme of my thesis.

2.3 Urban Health: Environmental Factors in Relation to Sepsis Neonatorum

The urban poor suffer from a myriad of problems as the result of a large economic disparity among the urban population. As an example of rapid urbanization in the Philippines, Berner (1997) called the city's economic polarization the "metropolitan dilemma" which is "a fundamental contradiction in the development of a globalizing metropolis" (4). Unfortunately, little information is available about such disparities among urban populations or the conditions of poor urban settlements; therefore, the health situation of the urban poor is often overlooked (Asthana 1995; Harpham and Stephens 1992).

Wang'ombe (1995) attributed the problem of urban health to several factors such as status of illegal settlements, environmental contamination, a lack of accessible services, and poorly coordinated urban health planning. For example, the urban poor are likely to live in non-planned areas where health and social services are not accessible. Instead, they often live in the deteriorating environment due to industrial waste, poorly drained areas, and contamination of surface. The nature of the urban poor settlement, such as overcrowding, poor housing and problems of clean water supply and sanitation, also reinforce the deterioration of the urban environment. All these factors related to poor hygiene in the squatter settlements increase the risk of frequent outbreaks for immunizable diseases (e.g., tetanus, polio, and measles), water-borne diseases (e.g., diarrhea, dysentery, and cholera), and infections (e.g., eye, ear and skin) (Asthana 1995; Wang'ombe 1995). It is noted that these are also considered a significant source of infection among newborns as was described in the previous section.

2.4 Practices of Newborn Care in Relation to Sepsis Neonatorum

Proper newborn care can significantly reduce the risk of infection and death which accompanies sepsis infections among neonates. It is believed that many cases of infection that have occurred among newborn infants soon after birth are associated with caregivers' improper practices of newborn care, such as the inadequate practices of unhygienic birth practice, failure to wash hands and equipment, delaying to implement breastfeeding after birth, inappropriate cord care, and inadequate bathing practices (Hoque and Selwyn 1996; Morse et al. 1990; Osrin et al. 2002). Incorrect practices which are potentially harmful for newborns can be prevented by encouraging caregivers to apply appropriate practices with respect to their culture. In the following section, I will describe several concerns related to such newborn care practices.

2.4.1 The Concept of Health Care Systems: Western vs. Traditional

Kleinman (1980), the respected medical anthropologist, stated that the health care system “integrates the health-related components of society”, such as “patterns of belief about the causes of illness; norms governing choice and evaluation of treatment; socially-legitimated statuses, roles, power relationship, interaction settings, and institutions” (24). In this context, he asserted that it is important to learn the health care system in order to understand one's health related activities as such activities are influenced by one or more of these components.

Technological advancement in the field of medicine divides the health care system into two systems; the western health care system and traditional health care systems. The Western health care system views diseases through the biomedical paradigm based on the germ theory (Loustaunau and Sobo 1997; Etkin 1996; Tan 1989). In the biomedical description of disease, the body and mind are often considered as separate entities; disease occurs in specific location of the body which can be treated in isolation from other cultural and social domains (Etkin 1996).

Contrary to this perception, the traditional health care system was built on the naturalistic

viewpoint. The traditional medical view, frequently and interchangeably termed complementary and alternative medical views today, sees the body as “inherently healthy in its natural state and endowed with an ecological capacity for self-regulation and balance” (O’Connor 2000:50).

O’Connor explains that sickness occurs as a result of the disruption of a variety of key aspects of the person, such as mind, will and emotions, balance of energy (e.g., yin and yang, hot and cold, etc.), the vital force which enables self-healing capacity, harmony between the individual and external elements. All aspects are considered to be interconnected to the physical body in many traditional health systems but not in the western health system.

2.4.2 Importance of Newborn Care from the Western Medical Perspectives

The World Health Organization (1996) provides guidelines for essential newborn care practices. The guidelines consist of cleanliness, thermal protection, early and exclusive breastfeeding, initiation of breathing, eye care, immunization, management of newborn illness, and the care of the preterm/low birth weight newborn. These contents pay great attention to the prevention of infections by promoting clean and safe newborn care practices, such as clean cord care, proper breastfeeding practices, appropriate thermal protection (e.g., wrapping in warm clothes), and immunization. These practices are also particularly important in preventing infection of sepsis acquired after birth. The principle of cleanliness at birth as set by the WHO (1996) includes; the practitioners having clean hands, clean perineum, nothing unclean to be introduced into the vagina, clean delivery surface, clean equipment (e.g., sterile razor blade to cut the umbilical cord), and clean cord stump care of newborn baby (e.g., keep it dry and clean, and not apply anything).

2.4.3 Traditional Practices of Newborn Care

In developing countries, about two-thirds of mothers give birth outside of health facilities

(WHO 1998). Many studies concerning the traditional practices of neonatal care have been conducted with special attention to the mothers' birth practices at home (Hoque and Selwyn 1996; Osrin et al. 2002). In Nepal, Osrin and his colleagues (2002) identified several birth practices related to neonatal health such as compromised hygiene practices (e.g. inadequate hand-washing), inadequate breastfeeding practice, delay of wrapping the baby after birth, and bathing the baby soon after birth. They further discovered that traditional beliefs were an underlying cause of some of these birth practices. In this instance the traditional notion of pregnancy as a hot state and the postpartum period as a cold state led to the practice of heating up the labor rooms after the delivery. Osrin and his colleagues argued that this precipitated the delay of wrapping the baby after birth and a led to a tendency to bath the baby soon after delivery which is considered as a potential risk factor of neonatorum hypothermia in Nepal. Undesirable practices were also identified in the Philippines. Singhal *et al* (2001) found during their study that traditional birth attendants and midwives tended to delay cutting the umbilical cord and held the baby upside down following the birth.

The World Health Organization (1998) reported a variety of traditional practices and beliefs associated with umbilical cord care in developing countries; timing of cord cutting, type of ties used, cutting instrument, length of cord stump, and dressing on cord stump. Although not all the practices are though to be harmful, some practices need to be discouraged due to potential for infection. For example, using a new cotton thread to tie the umbilical cord as practiced in Nepal, and applying expressed breast milk are considered as either harmless or beneficial practices (WHO 1998). On the other hand, harmful practices documented include: application of unclean substance to tie the cord, such as blades of grass, bark fibers or fine roots; using unclean tools to cut the cord (Hoque and Selwyn 1996); not tying the cord; application of potentially contaminated substances (e.g., ash, oil, butter, cow, chicken) to the cord stump; binding the newborn's abdomen with unclean material (WHO 1998; Hoque and Selwyn 1996).

Many studies look at traditional practices during or soon after delivery (Paul and Rumsey 2002; Osrin et al. 2002). However few have been conducted on topics concerning mothers' routine practices of newborn care in the Philippines, as well as other parts of Asia. Darmstadt and Saha (2002) argue that a mother's routine practices during the newborn period might significantly impact the health and survival of newborns. In their study conducted in Bangladesh, they found that mothers frequently applied traditional oil massage to newborn infants. Noting the potential benefits of oil massage practices, Darmstadt and Saha also cautioned of its potential for harmful effects depending on the type of oil being utilized and the extent of mechanical injury to the skin during application.

2.5 Knowledge, Recognition of Illness

The mother's timely behavior in seeking care for her sick child is a critical factor to reducing infant mortality. Such seeking behavior will not take place unless the mother recognizes signs and symptoms of illness, interprets the possible severity of the conditions, and take an action to seek care in a timely manner (Hill et al. 2003). Several studies discussed problems of symptoms recognition among caregivers, which are associated with their delayed care-seeking behaviors for a sick child (Hill et al. 2003; Hadad et al. 2002; Hussain et al. 1997; Miguel et al. 1999; D'Souza 2003).

Hill and his colleagues (2003) conducted a study in rural Ghana to explore the importance of illness recognition as a factor associated with care-seeking behaviors. In this study, three types of recognition problems were found among caregivers: 1) caregivers did not know that some symptoms existed; 2) some symptoms were cited by caregivers as danger signs but were not recognized when they occurred; 3) some symptoms were seen but rarely considered abnormal or dangerous. These findings call our attention to the importance of identifying and recognizing the type of problems that exist among caregivers in order to insure the success of the

intervention.

The level of knowledge about diseases influences a mother's ability to recognize the danger signs of a sick infant. A previously mentioned study by Hill et al. (2003) showed that caregivers are likely to recognize extremely serious signs (e.g., bloody diarrhea) and general signs of illness (e.g., poor feeding) while they are less likely to recognize other unfamiliar symptoms related to dehydration (e.g., sunken eyes, crying without tears) and acute respiratory infection (e.g., chest indrawing, wheezing). Additionally, despite their perception of danger, the signs associated with malnutrition (e.g., swelling feet/face, pale face/palms) are less likely to be identified by caregivers.

A caregivers' perception of the severity of an illness is also an important type of recognition problem. Several studies have pointed out that a mothers' lack of perception of the severity on several illness symptoms causes delayed health seeking behaviors (D'Souza 2003; Hadad et al 2002). For example, in their study conducted among mothers in Southeast Brazil, Hadad *et al.* (2002) found a high frequency of use of home treatments rather than health facilities by mothers in the case of the child having diarrhea, vomiting, and fever. According to Hadad *et al.* (2002), this is because mothers are likely to consider these health problems as ordinary events in the place where basic sanitation and safe drinking water are lacking. In this study, *crying* and the presence of a cough were situations that led mothers to seek care in health facilities more frequently.

Likewise, D'Souza (2003) conducted a population-based case control study concerning health-seeking behaviors among mothers in the urban slums of Karachi, Pakistan. Her study found that 55 % of mothers who lost their children due to diarrhea or ARI did not think their child's condition was serious. D' Souza noted the mothers tended to keep their children at home for observation before seeking the care of a health provider.

The level of perception of severity on certain signs and symptoms varies in each place.

Different studies documented that mothers regarded one or more of those symptoms described above as more serious (Miguel et al. 1999; Hussain 1997; Stanton and Langsten 2000). For example, Hussain *et al.* (1997) found that the presence of fever or apparent listlessness was an important determinant for deciding whether to seek outside care, while diarrhea was documented as a determinant by caregivers in other studies (Miguel et al. 1999; Yoder and Hornik 1994). These studies supported that the mother's level of perception of illness severity is associated with their health seeking behavior, which may be varied geographically.

As is discussed in this section, the recognition problem is considered to be an important issue in seeking timely care. However, most studies cited here also pointed out other important factors related to seeking care (Hill et al. 2003). While acknowledging a mothers' recognition problem as a possible barrier, De Zoysa *et al.* (1998) argued that mother's poor recognition of danger signs does not always translate into poor care seeking, as caregivers may respond to other triggers for action. Mother's health-seeking behavior cannot be understood without looking at other factors which may influence mothers and infants. In the following sections, I will discuss these factors with a wide variety of studies which have been conducted in the field of anthropology.

2.6 Health-Seeking Behaviors in Relation to Sepsis Neonatorum

2.6.1 Use of Theory of Reasoned Action/Planned Behaviors

Fishbein and Ajzen's theories of Reasoned Action/Planned Behaviors can predict a variety of factors associated with a mother's health-seeking behaviors. In these theories, one's behavior such as health-seeking behavior is considered to be the result of behavioral intentions (Ajzen 1988). 'A behavioral intention' is an indication of the level of willingness and efforts made by people in order to perform the behaviors. With these theories, one's behavioral

intentions can be predicted by three psychosocial factors: 1) a person's attitudes towards a specific behavior (positive or negative); 2) social influences, such as social pressures perceived by the individual; and 3) self-efficacy, a person's belief concerning her ability to perform the desired behavior (Ajzen 1988; Amooti-Kaguna and Nuwaha 2000; Coreil et al. 2001). Furthermore, external variables are an additional important factor which should not be overlooked. For example, social and economic factors are likely to affect mother's psychosocial factors which are associated with her behavioral intentions (Amooti-Kaguna and Nuwaha 2000). Based on these factors, I would like to introduce the various studies that cover the issues of maternal and child health and health seeking behaviors in the following sections.

2.6.2 Attitudinal Factors

Health seeking behavior is influenced by one's favorable or unfavorable evaluation of the given choice. Ajzen (1988:120) stated 'the attitude toward the behavior is determined by the person's evaluation of the outcomes associated with the behavior and by the strength of these associations'. Negative evaluations toward western healthcare make mothers less likely to seek care at western health facilities. A number of studies have revealed negative attitudes toward western health services (Amooti-Kaguna and Nuwaha 2000; De Zoysa et al. 1998; D'Souza 2003; Hussain et al. 1997; Fernandez et al 2003; Stanton and Langsten 2000; Bhandari et al. 2002).

Many mothers in developing countries are unfamiliar with the diagnostic techniques and treatment used in western medicine. Some studies showed that mothers' unrealistic expectations of service due to their unfamiliarity with western medical services helped form negative evaluations towards a service provided at health centers (Stanton and Langsten 2000). D' Souza's study (2003) in urban squatters of Pakistan reported that the mothers' unrealistic expectations of 'rapid care' caused frequent switching of providers, between physicians and traditional healers, before sick infants complete their treatment. A few other studies also found such expectations

among mothers' of 'rapid care', and the consequence of their frequent provider switching (Hussain et al. 1997; De Zoysa et al. 1998).

The mother's attitude toward health services also needs to be addressed in terms of the quality of the health services provided at health clinics, including attitudes by health workers. Negative experiences with staff members at medical facilities can negatively influence a mother's attitude toward health services provided at a health center. A number of studies reported that poor mothers frequently face rude or insensitive attitudes and behaviors by staff members at modern medical clinics (Amooti-Kaguna and Nuwaha 2000; Coreil et al. 1994; D'Souza 2003; De Souza et al. 2000; Bhandari et al 2002). As described by De Souza and her colleagues (2000), one of the problematic behaviors observed at health centers included poor communication between health care providers and care givers. For example, many mothers who were consulted at health facilities were unlikely to have "a clear understanding of the nature of their child's illness. They also lacked the details of the treatment administration, and did not have enough training to be able to recognize signs and symptoms that require an emergency return to the hospital" (De Souza et al. 2000:1689).

On the other hand, positive evaluations of healthcare service make mothers more likely to seek care at certain health centers. Amooti-Kaguna and Nuwaha's study (2000) showed that despite the high cost of service, private health clinics were perceived by mothers to be very caring and to provide better treatment than public health clinics. Such positive evaluations of private clinics usually result in a higher preference for utilizing private clinics than government clinics, which are frequently documented in many studies (Stanton and Langsten 2000; Fernandez et al. 2003; Bhandari et al. 2002; De zoysa et al. 1998). For example, Stanton and Langsten (2000) found that many poor mothers would prefer either to borrow money to pay for private doctors or to endure the symptoms, rather than to go to a government medical facility.

Mothers frequently indicate their positive attitude toward the service provided by

traditional health practitioners. Traditional practitioners are often described as being empathetic to their clients by being flexible, providing service in kind or on credit (Amooti-Kaguna and Nuwaha 2000). In addition, unlike biomedical practitioners, traditional healers are likely to share the vocabulary and beliefs of care seekers concerning illness causation (De zoysa et al 1998; Mull 1997). Therefore, the ease of communication with traditional practitioners increases the mothers' positive attitudes toward the service given by the traditional health practitioners.

2.6.3 Social Influence

Social influence, the second predictor of behavioral intention, is a social pressure that affects the behaviors of people. It is assumed that the mothers' intention for care seeking depends on "the person's beliefs that specific individuals or groups approve or disapprove of performing the behavior" (Ajzen 1998:121). These individuals are generally within the mother's close social network, and are most often the husband who is the breadwinner in the house, and other important individuals such as the mother-in-law, the mother, aunts, sisters and neighbors (Amooti-Kaguna and Nuwaha 2000; D' Souza 2003; Cody et al. 1997; Ahmed et al. 2001). However, the existence of social influences needs to be established as this may not be always the issue of concern. For example, Hussain *et al.* (1997) reported that the mothers in their study were the main decision-makers concerning child health, and that their decisions concerning seeking care were not influenced by family support or endorsement.

In addition, a mother's competing responsibilities in the household are also a type of social pressure, as the social role expected by family members may hinder a mother's proper health seeking behaviors for her sick infant (Mull and Mull 1994; Coreil et al. 1994). The crucial responsibilities identified by Coreil et al. (1994) were that mothers have to set their priorities for acquiring and preparing foods for their family members in everyday life; and mothers also have to prioritize other family members, whose needs may be considered to be more important than the

potential risk of child illness. Poor mothers who lack resources are likely to have difficulty in achieving a balance between their responsibilities in the household and the perceived needs for their sick child.

2.6.4 Self-Efficacy

Amooti-Kaguna and Nuwaha (2000) defined self-efficacy expectation as “a person’s belief of whether she can perform the desired behavior and can cope with barriers that may hinder actual performance” (205). Many poor mothers in developing countries confront various barriers when seeking health care at health facilities.

The variables of such barriers are classified in terms of accessibility, acceptability, availability, accommodation and affordability as described by Coreil *et al* (1994). Many studies reported accessibility of service, which is defined as geographical distance, availability of transportation as well as weather, which is a major determinant to influence the utilization of services (Coreil *et al* 1994; Amooti-Kaguna and Nuwaha 2000; De Souza 2000). Acceptability, which Coreil *et al.* (1994) referred to as “how well clients’ expectations are met regarding the kind of service they want” (235), and also includes quality of services provided by medical practitioners. As discussed in section 2.6.2, studies have reported that a low quality of service, such as poor communication or insensitive attitudes by medical practitioners, is also a major barrier that hinders mother’s health seeking behaviors (Amooti-Kaguna and Nuwaha 2000; Coreil *et al.* 1994; D’Souza 2003; De Souza *et al.* 2000; Bhandari *et al* 2002).

De Souza *et al.* (2000) have demonstrated the availability of health service as a factor which contributes to high mortality among infants. The problem of getting to health centers in time for consultation, and the unavailability of appropriate care at health clinics was reported by mothers in their studies; this was also found in the study conducted in the Philippines (Hotchkiss 1998; Hoffman *et al* 1997). Mothers have to cope with a barrier related to accommodation, like

the environment of health center, in order to seek care at medical facilities. Several studies reported that mothers perceived a number of difficulties while receiving care at health clinics, such as long-waiting times, overcrowding of lobbies and hospital beds, feeling rushed, and or no empathy sensed from doctors during the consultation (Coreil et al 1994; Bhandari et al 2002).

Finally, mothers also need to take into account affordability when they make a decision about seeking care. The financial ‘cost’ of consultations at health facilities is usually a major component of affordability (Fernandez et al. 2003). However, other ‘hidden costs’ of service utilization are also reported by some studies (Coreil et al. 1994). For example, mothers also consider the cost of their time and the need to have proper attire for consultation as a ‘cost’ related to seeking care at health facilities (Coreil et al. 1994). Many studies noted that improvements in lowering these barriers couldn’t be achieved without coordinated efforts with external factors, which will be discussed in the following section.

2.6.5 Poverty and Health

The external factors are often described as background factors, such as poverty, socio-economic status (SES), or educational level, that predispose people to greater or lesser vulnerability toward certain illness (Coreil et al 2001). These are also expected to influence behavior through behavioral determinants and intention.

Among all the external factors, poverty has been considered the underlying cause of most health problems in the world today (Basch 1999). Poverty consists of diverse elements which influence one’s health directly or indirectly. Several dimensions of poverty were identified by Basch (1999:170-171), they include; an income incapable of providing basic needs; a lack of education, knowledge, and skills; poor health, lack of access to health care; poor housing; lack of access to safe water and sanitation; insufficient food and nutrition; and a lack of control over the reproductive process. Therefore, people who live in poverty are likely to confront a greater health

risk. For example, Guildea *et al.* (2001) noted that social deprivation is an important determinant of ill health which causes wide regional variations in mortality and morbidity. Their study identified a significant association between the level of social deprivation, and infant death due to stillbirth, infection, or sudden infant death syndrome.

The components of poverty usually have an indirect influence over one's health. A low level of education and income are typical characteristics of impoverished people, and are also frequently used to measure one's socioeconomic status in most studies. Several studies which focused on these components reported statistically significant associations between a lower utilization of health services, and mothers with lower levels of education (Zahid 1996), and or those who belong to a low income group (Spencer and Logan 2002; Russo et al 1996). A mothers' low level of education is reported to result in their inability to recognize danger signs and their delaying health seeking behaviors (Hadad et al. 2002; Hussain et al. 1997; D'Souza 2003; De Souza et al 2000). Other related circumstance are also found in Hoffman and his colleagues' study (1997) conducted in urban areas of South Africa, such as employment (e.g., unemployment or employment in low-status jobs), low income, and poor living environment. In addition, poverty severely influences the choices of health care utilization among poor mothers due to the cost of transportation and health services (De Zoysa et al 1998).

Poverty plays a significant role in the quality of the public health system. Whether a poor mother can seek appropriate healthcare at a health facility also depends on the existence of a functioning public health system that can remove barriers that poor mothers experience in seeking care. Wide spread poverty in developing countries lowers the quality of care provided at governmental health clinics. Many studies have addressed the problems of understaffed health clinics, practitioner's improper skills, a lack of available medication, as well as available hospital beds at government health facilities (Hotchkiss 1998; Bhandari et al 2002). These are likely factors which can affect a mother's health seeking behaviors.

Loustaunau and Sobo (1997) pointed out the danger of simply focusing on individual coping and the idea that teaching people to cope with their poverty or life can solve the problem. The limitation of such an approach needs to be recognized as they further stated, “With no real change in the expanding structural environment of poverty, there will be no real change in the health of the poor” (Loustaunau and Sobo 1997:36). Therefore, identifying these external factors is necessary in order to understand poor mothers’ behavioral intentions and to provide appropriate interventions to those poor mothers in developing countries.

2.6.6 Poverty, Health and Urban Squatters

The issues of poverty discussed in the previous section are relevant to all those who live in urban squatters. The great economic discrepancy between rural and urban continuously attracts migrants to the city for a better quality of life. Most migrants, however, only find out that poverty still remains their main problem in urban life. Extremely high land prices and lack of affordable public housing for the poor make it virtually impossible for migrants to own houses in urban areas (Lestari 1997 ; Wang’ombe 1995). As a result, migrants end up residing in illegal settlements that are poorly built in unused land around the city. Most studies identified similar characteristics in all urban squatter settlements, such as overcrowded settlements, poor housing, and the lack of a clean water supply, sanitation facilities, and waste disposal sites (Asthana 1995; Harpham 1996). These studies all agreed that living in such urban settlement is related to high occurrences of communicable diseases in these settlements as I have described in detail in section 2.3.

Harpham (1996) noted that the structural environment of poverty can cause health conditions which are much worse among the urban poor than the rural poor because of their transformation from an informal economy to cash economy in urban life (Harpham 1996). The dominant cash economy in the city makes the poor in urban areas more vulnerable to financial

distress than those in rural areas where foods and services are often paid ‘in kind’. (Harpham and Stephens 1992; Harpham 1996). Accessibility to public health services is also limited in terms of distance and availability (e.g., medicines, quality of services) as most services are planned for the ‘official’ city dwellers (Wang’ombe 1995). Even though the overall health care resources in urban areas are adequate compared to those in rural areas, health resources are usually not equitably distributed to the poor as most services are provided by the private sector (Migasena and Choopanya 1992; Teghrarian 1997). For example In Bangkok, the capital of Thailand, the health care service failed to meet the needs of the urban poor despite the adequate overall health resources available in the city (Migasena and Choopanya 1992).

The rapid growth of the economy in urban areas has consequently created problems related to the health of the urban poor. Social, economic and political actions are of great importance in addressing these structural factors that indirectly impact the health of newborns and people in urban squatter settlements.

2.7 Research Needs

The broad range of research studies provided in this chapter point out a variety of issues related to a problem of sepsis neonatorum; urban environment, newborn practices, mother’s knowledge, and factors related to mothers’ intentions to seek care. All aspects are equally important, yet, there are still more studies needed to evaluate how the interaction of these issues reinforces the health risk among newborns in an urban settlement. The array of studies presented in this chapter were conducted in different geographical areas, which suggests major social and cultural differences exist, including those within different urban districts. More studies, however, are needed to understand the potential risk factors of newborn infections in a variety of settings in the poor urban areas. It is noted studies of this nature are also needed in the urban squatter settlements of the Philippines as very few studies concerning mothers and

newborns have been conducted in this area.

The current research study focus on the socio-demographic aspects of sepsis neonatorum is one unique area where the anthropological perspective can make a great contribution. The target populations of the study, mainly mothers and newborn in urban settlements, live in areas considered to be typical conditions of urban poverty, where the locally unique needs or risk factors related to newborn health in these areas has been unrecognized. The importance of understanding culturally distinct needs and risk factors was discussed in the wide range of anthropological literature used in this chapter. As it shows, medical anthropology is, therefore, an ideal discipline which can provide the researchers critical insights concerning the existing local culture, and what the underlying health problems among mothers and infants in particular urban slum area are. With this research, I will address factors which shape the mothers health behaviors and resulting consequences of newborn health, including the social environment, knowledge, beliefs and intentions, in order to develop appropriate health interventions for the population at risk.

Chapter Three Background of the Study Setting

3.0 Introduction

This chapter describes background information on the area where the study was conducted. It begins with an overview of the country in terms of its geographical location, health situations, and the health care system. The chapter further provides general descriptions of the environmental and social conditions of Muntinlupa city, with particular attention to the urban poor, to help contextualize the findings of this study.

3.1 The Philippines

The Republic of the Philippines is a Southeast Asian country. The nation is an archipelago consisting of 7,107 islands and islets with the South China Sea to the west and the Pacific Ocean to the east. Geographically, the country is divided into three main island groups: Luzon, Visayas and Mindanao (Figure 1). Metro Manila refers to a metropolitan area which composed of the national capital of Manila and other 17 surrounding cities and municipalities. It is situated in the heart of Luzon (Figure 2). According to the national census, the country has a population of 76.5 million with a growth rate of 2.36 percent in 2000. Of those, more than half of the population (56.0%) resides in Luzon (National Statistic Office 2001).

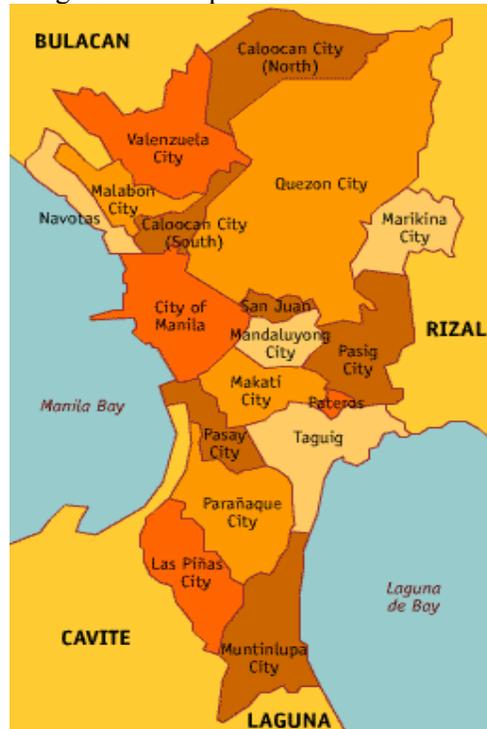
Figure 1: A Map of the Philippines



Source: Wikipedia

(<http://en.wikipedia.org/wiki/Philippines#Demographics>)

Figure 2: A Map of Metro Manila



Source: Wikipedia

3.2 Health Situations in the Philippines

The health situation in the Philippines illustrates a common trend found in developing countries; high fertility rate and high death rates. It is estimated that the country has a birth rate of 25.70 per 1,000 population and death rate of 5.80 per 1,000 population in 2002, with an infant mortality rate of 31.00 per 1,000 live birth in 1999 (WHO 2001). This high infant mortality rate occurs especially among infants whose mothers have no education, no antenatal and delivery care, and who are under the age of 20 or above 40 years of age (Department of Health N.d). According to the latest available health statistics, the leading causes of Filipino infant deaths are respiratory conditions of the fetus and newborn, and pneumonia, followed by congenital anomalies, birth injuries and difficult labor, diarrheal diseases, septicemia, meningitis, other diseases of the respiratory system, nutritional disorders and measles (Department of Health 1998). It is noted that most of these causes of infant mortality including septicemia, are preventable if early

immunization is given, and are curable if early treatment is provided.

3.3 Health Care System in the Philippines

In the Philippines, health care services are provided through the public and private sectors. In the public sector, the Department of Health (DOH) is the leading agency and is the conveyor for all health stakeholders, such as specialty hospitals, regional hospitals and medical centers, which ensure a strong collaboration for health promotion. The DOH has a regional field office in every region. With the devolution of the health care system, the provincial government is now responsible for provincial and district hospitals while the municipal government operates the rural health units (RHUs), and barangay health centers (BHCs) or barangay health stations (BHSs) which are the entry level of the health care system. Every city or municipality has a local health board which serves as advisory body to the local executive on health-related matters.

The private sectors also serve an important role in the nation's health system. This sector is primarily a provider of curative health services in hospitals and clinics. In 1994, there were 1,069 private hospitals, compared with 503 public hospitals in the Philippines (Gross and Conaway 1997). The high cost of service, however, makes it difficult for most poor people to seek health care from private sources despite a large number of private hospitals in the country. In addition to providing health services, the private sector is also active in providing health insurance, manufacturing drugs, medicines and other health-related products, research and development, development of human resources and other health-related services (Department of Health N.d.).

Overall, despite the extensive structure of the health care system, the lack of resources causes a major difficulty in providing effective services to the people. In 2001, only 3.3 percent of the national government expenditure was allocated to health (WHO 2003). Government and private sectors spent only 3.5 percent of GNP in 1997, with heavy spending on personal health

care service (72 %) and extremely low spending on public health service (13%) (Department of Health N.d.). Such low expenditures on health hamper improvement in the quality of health services, especially in preventive health care services in the Philippines.

3.4 Muntinlupa City

Muntinlupa City is situated at the southernmost part of Metro Manila, by the largest lake in the country, Laguna de Bay, to the east (Figure 2). The city was ranked as the sixth most populated city in Metro Manila for the 2001 population projection (City Health Office of Muntinlupa 2001). Like in other cities in Metro Manila, the disparity between the rich and the poor was vast, and continues to increase along with further urbanization of the city. The Urban Health and Nutrition Project conducted in 1994 reported that about 32% (n= 2,883,539) of the total population (n= 9,031,056) of Metro Manila was estimated to be slum and squatter dwellers. In the same report, Muntinlupa was ranked fifth in Metro Manila for areas that produce the highest proportion of urban poor dwellers (46.22%) (Philippine Council for Health Research and Development N.d.). The World Bank has estimated that the country will experience continuous urbanization with an average growth rate of 5.14 percent, while about 35 percent of the urban population will constantly remain slum dwellers (World Bank N.d.).

The majority of slum dwellers are migrants from rural areas who have come to the city looking for job opportunities. Muntinlupa is becoming increasingly attractive to migrants as urban development progresses in this area. Common features of urbanization are observed throughout the city today, such as overcrowding, traffic congestion, pollution caused by motor vehicles and industries, and many squatter settlements. In addition, urbanization is expected to increase the intensity and frequency of seasonal flooding hazards to the city, particularly around areas with poor drainage systems due to coastal settlements by the lake.

Muntinlupa City consists of nine barangays, which are the smallest political subdivisions

in the Philippines (Appendix A). The barangay of Poblacion transverses the city of Muntinlupa from east to west in the south with the majority of the territory located in the southwest. It is estimated that the barangay had a population of 57,805 in 2004, which is the second largest barangay in the city (Muntinlupa City 2001). There were about twenty-two urban squatter settlements with an estimate of about 1,840 households in Poblacion in 2002 (Muntinlupa City 2003). Many were located on government land while others were in dangerous areas like along railroad tracks or the lake. Several demolitions of these settlements have taken place by the government for the purpose of redeveloping the areas. However, the squatter problem is a long-standing issue where the government has yet to find an appropriate comprehensive solution. In this study, two urban squatter communities were selected from these settlements in Poblacion.

3.5 Summary

This chapter has provided the essential background information of the Philippines and Muntinlupa City where this study was conducted. The Philippines shares similar health situations with the many other developing countries. A high infant mortality rate is commonly reported among infants of mothers with no education, no antenatal and delivery care, and who are under 20 years of age, or above 40 years of age. Most infant deaths could be prevented if appropriate immunizations and early treatments are given. Although the country has established an extensive structure of health care delivery through the public and private sectors, it lacks resources which are essential to providing appropriate health care services. Of particular note, the small amount of expenditures allocated to public health activities limits the effort to provide preventive health care services in the country.

Along with other cities in Metro Manila, Muntinlupa has been experiencing rapid urbanization. Growing disparities between the rich and the poor coincide with the growth of squatter settlements in this area. The issue of urban poverty is now an important concern that

requires the government to provide appropriate solutions.

Chapter Four Methodology

4.0 Introduction

In this chapter, I will provide the background for the research settings and the methodology that was used for the study. Each method of data collection and analysis will be discussed in detail. In addition, the ethical considerations of the study are also discussed in this chapter.

4.1 Study Settings: Research Institute for Tropical Medicine

The Research Institute for Tropical Medicine (RITM) (<http://www.ritm.gov.ph/>) is the principal research facility under the Department of Health in the Philippines. The mission of the RITM includes conducting multidisciplinary research programs to contribute significantly to the control of infectious and tropical diseases of public health importance both locally and globally. The RITM designs and carries out most of the health programs and research projects which usually aim to serve the needs of the poor and the underserved. In addition, the RITM also provides comprehensive medical services, such as, emergency treatment and immunization to the public.

The study of sepsis neonatorum started in 2001 when a group of doctors and medical staff at the RITM voluntarily formed a study group after a small outbreak of the case occurred around the area of Muntinlupa City. Most of the studies conducted previously were retrospective analysis, which only focused on the clinical aspects of sepsis neonatorum. While the need for prospective research for this problem had been recognized, such research had never taken place

due to a lack of financial resources. Furthermore, a lack of basic data on sepsis neonatorum in the Philippines, for example, a basic epidemiology of sepsis neonatorum, made it difficult for the doctors to apply for funds because many funding agencies require basic information on the disease as well as specific plans for the project in their application. Therefore, the study of the social and behavioral aspects of sepsis neonatorum is an important preliminary piece of research necessary to gather supporting information concerning the problem of sepsis neonatorum in the Philippines. The study was conducted from September to December 2002.

4.2 Study Design

In this study, I employed a combination of qualitative and quantitative research methods for data collection. Each method has a distinct approach to identifying issues of the problem, and the combination of these methods helps me to recognize the underlying causes of the problem of sepsis neonatorum. Qualitative approaches focus on “processes and meanings that are not rigorously examined, or measured (if measured at all) in terms of quantity, amount, intensity or frequency” (Denzin and Lincoln 1998:8). They help researchers to understand the nature of reality, which is shaped by society, through the close relationship between the researcher and the subject of study, and the environment around them. In this study, a holistic approach is a tool necessary in order to gather rich descriptions and explanations of how certain behavioral choices are made and how such choices might be connected to the given problems.

The qualitative methods employed in this study include: Participant-Observations, Key informant interviews, Focus group discussions and Semi-structured interviews. Quantitative data, which include demographic data and socio-economic data, were gathered through the semi-structured interview. The details of each method and analysis will be discussed in the following sections.

4.3 Training of Research Assistants

Two research assistants were engaged throughout the study period. An additional assistant was recruited during the last phase of the project to aid in the transcription and translation of the interviews. One of the two research assistants had previous experience as a qualitative and quantitative research assistant while the other had a background in Public Health, but did not have previous research experience. Both of the research assistants were fluent in English, and spoke Tagalog, the main language of the Philippines, as their native language. Therefore, these research assistants became a great asset to this study since I did not speak Tagalog.

The several training sessions for the assistants took place for the first two-weeks of the study. The purpose of the training sessions was to give the assistants an opportunity to understand qualitative research and the methodology, the objectives of the study, and their specific roles as research assistants. Training for each research method, such as participant-observation, focus group discussions, and in-depth interviews, was conducted prior to the research activity. An experienced researcher was invited to provide us with proper training in focus group discussions since the researcher was not familiar with this method.

4.4 Study Sites

The barangay is the smallest political subdivision in the Philippines. In Muntinlupa City, there are nine barangays which belong to the City. The Health Officer of Muntinlupa recommended the barangay poblacion where the City Health Office was located, and which was also close to the RITM. After the selection of the barangay, the specific communities of this study were selected. With information from the barangay captain and staff members at the Barangay Health Center, we carried out a field trip to three potential research sites. After visiting these three communities, I have selected two communities as my research areas. The first field

site A was close to the health center. This community is located by the lake, and the area has been flooded in recent times. The second site, the field site B, was located about a half-hour away from the health center by car. The site was situated near the border of the Barangay Poblacion and the Barangay Tunasan.

4.5 Selection of Participants

Participants in this study can be divided in two categories; Primary participants and Secondary participants. The primary participants are mothers of infants who were admitted for sepsis neonatorum and mothers who lived in urban squatter settlements. The first type of mothers was identified from hospital records at the Research Institute for Tropical Medicine between the years of 2001 and 2002. Only mothers who lived in Muntinlupa City were selected from this list and they were contacted through each barangay health center in Muntinlupa City. The second type of mothers was randomly identified from each study site (Total of 24 participants). The criteria for the second type of mothers were: mothers who lived in these research sites with at least one child less than two years old.

The secondary participants included people who had been engaged in providing the health-related services to the population in the urban slum areas of Muntinlupa City. Such participants included a government officer, a barangay captain, three community leaders, staff members at the health centers, two traditional healers, and people from non-profit organizations within the area. The two health centers selected in this study were a barangay health center and a maternity clinic, which provide maternal child health services to the people in the barangay Poblacion. Convenience sampling was employed to select staff members at these health centers, such as doctors, nurses, and midwives, for participation in key-informant interviews. On the other hand, traditional healers and non-profit organizations were identified through snowball sampling in this study. The interviews with the secondary participants were aimed at obtaining

information regarding the available services within the research area and their opinions regarding the health problems that urban poor mothers confront. A summary of all the participants in the study is shown in Table 1.

4.6 Archival Data Collection

Archival data collection was conducted during the early stage of the project. First, information regarding the health care system and health services of the Philippines was obtained through the government publications and web resources. Second, profiles of the city and the barangay poblacion were gathered by reviewing documents that provided the latest statistical data such as basic health indicators, socioeconomic and demographic data. Gathering such data was especially important as it enabled me to understand the general conditions of the areas under study. Third, a map of the barangay poblacion and a list of the squatter settlements were obtained through the Muntinlupa Housing Authority. Subsequently, the areas of the squatter settlements were identified and marked with the help of the barangay health workers in Poblacion. This was very useful in facilitating an understanding of the ways in which urban settlements spread and developed as the researcher was new to the areas. Finally, information on the patients who were admitted to the RITM was gathered through the hospital discharge list between 2001 and 2002. The names of the mothers and their admission numbers were obtained from the nurse's patient list. Then, with that information, the addresses of those mothers as well as the clinical records of the patients were gathered at the admission office. Since these data were not electronically managed at the RITM, gathering and collecting the information took longer than I expected.

4.7 Participant-Observation

Participant-observation was an essential part of the study. It provided me with opportunities for getting to know the people, and also making them feel comfortable enough with

our presence so that we could observe and record information about their lifestyle. The guideline of observation was made and tested prior to the activity. Participant observation took place in the following places; barangay health center, maternity clinic, and two field sites. In health center settings, the interactions between people, especially those between the health practitioners and patients were observed, in addition to the environment of the health center and their routine activities. Informal conversations with health practitioners and mothers at health centers provided great opportunities for us to build positive relationships with them during the observation. Each observation was carried out for approximately one hour. The observations were conducted by either the researcher with one research assistant or by one research assistant. In the field sites, the observation was facilitated by local health staff members and barangay health workers for the purpose of our safety in the urban slum areas. The information obtained through participant observations facilitated the process of formulating questions for both key-informant and in-depth interviews in a culturally appropriate manner.

4.8 Key-Informant Interviews

Key-informant interviews started at the early stage of research activity. The main target of this method was the secondary participants who had been providing some form of health services to the squatter areas of the study. The selected participants included; staff members at the health centers (8), barangay health workers (3), traditional healers (2), a health officer, a barangay captain, community leaders (3), and staff members at non-government organizations (2). A summary of participants is shown in Table 1. These participants were questioned regarding the services they provide to the mothers in urban slums and, their concerns and opinions about the situations in the urban slums related to the health of mothers and infants. Information obtained through the interviews with these key-informants helped me to develop the questions for mothers in the target as well as to decide our study sites for the research. Semi-structured interviewing

was used for this interview, and each interview lasted approximately one to one and a half hours. Half of the interviews were conducted mainly in English by a researcher with a little help with the translations of local terms, and the rest were conducted in both English and Tagalog with an interpreter. Tape recorders were used for every interview except one in order to collect details of the conversation, and then transcribed by the researcher and research assistants.

4.9 Focus Group Discussion

Focus group discussions were used as one of the qualitative methods in this study. This method allows researchers to “simultaneously discover baseline data on targeted issues, while providing important information about cultural interactions between informants during the course of the focus group session” (Trotter II 1991:197). Focus groups usually consist of 6 to 12 homogeneous people (Bernard 1994), and an average of eight mothers participated in the focus groups of this study. A pilot-testing was carried out with a group of mothers who lived in the squatter settlements near the RITM.

Three focus group sessions were held; one with a group of mothers whose infants were admitted for sepsis neonatorum (sepsis group), and two sessions with a group of mothers with a child less than 2 years old in the two squatter settlements which I selected for this study (non-sepsis group). Mothers in the sepsis group were identified from the list of hospital records from 2001 to 2002, and then contacted by health workers in each barangay of Muntinlupa City. Finding participants in the sepsis group took a long time as many mothers did not provide accurate addresses to the hospital, and they were also constantly moving from place to place.

The focus group discussion consisted of two parts. The first part was designed to raise a discussion regarding various delivery places and their experiences, routine and traditional practices of newborn care, and the problems that they experienced during newborn care. In the second part, the mothers were asked to discuss several issues based on the case example that was

given. The purpose of the second part is to understand the mother's health-seeking behaviors, their opinions and knowledge of child illness and available health services. Each focus group discussion lasted approximately one hour to one and a half hours. Complimentary snacks were provided to each mother during or after the discussions. The participants of these focus group discussions were also invited to join in-depth interviews later.

4.10 In-depth Interviews

Based on the criteria, in-depth interviews were conducted with 36 mothers; 12 mothers had babies admitted for sepsis, and 24 mothers comprised the non-sepsis group compiled from the field sites. Of the 36 mothers (7 mothers in the sepsis group, 29 mothers in the non-sepsis group), nineteen of them participated in the focus discussions and the interviews, and seventeen of the mothers (4 mothers in the sepsis group, 13 mothers in the non-sepsis group) participated only in the in-depth interviews.

From the sepsis group, I first selected fourteen mothers who lived relatively close to the RITM. Seven of the mothers agreed to participate in both the focus discussion and the interviews and two mothers participated only in the interviews. Due to the small number of participants in the sepsis group, I invited an additional three mothers whose babies had been diagnosed with sepsis to participate in the study. Two of these mothers were found from the District Hospital located near Muntinlupa City, and the other was the mother of a baby who was admitted to the RITM at the time the research was being conducted. The interviews with these three mothers were undertaken at the very end stage of the fieldwork.

A combination of structured and semi-structured questionnaires was used for In-depth interviews. Structured interviewing was conducted at first to gather the mother's socio-demographic data which include household data, environmental data, maternal health data, and their history of healthcare utilization. Subsequently, mothers were interviewed about their

perceptions of newborn illnesses, health practices related to newborn care, their patterns of healthcare utilization, and the factors which influence their decisions to use such services. Questionnaires of semi-structured interviews included two qualitative methods; free listing and rank ordering. The free listing method was used to reveal the mother's perception of newborn illnesses and the etiology of such illnesses. Rank ordering was used to assess the mother's pattern of health-seeking behaviors. Mothers were asked to arrange eight key places where they could seek treatment in the sequence in which they would choose in each given situation. Follow-up questions were provided to each answer. Case histories were also obtained from those mothers who had babies diagnosed with sepsis neonatorum during in-depth interviews. This allowed the researcher to gather a personal narrative of the mother's life experiences with their infants within their own cultural context.

In-depth interviews took place at the participant's home and hospital ward. The purpose of the study was explained to the participant, and informed consent was obtained before the interview. Of all, only one mother declined to participate. Each interview lasted for approximately one and a half hours to two hours. Interviews with the mothers whose baby had sepsis took longer than those with the mothers in the field sites because of additional questions concerning the mother's life histories with their infants. Interviews were conducted by the researcher and a translator, or research assistants. All the interviews were recorded on tape which was transcribed and translated into English by research assistants.

Table 1: Summary of Methods Used and Numbers and Occupations of the Participants

Methods	Community	Government	Health Center
Observation	Poblacion 1) Fieldstie A 2) Fieldsite B		1) Health Center 2) Maternity Clinic
Key-Informant Interviews	1) Barangay Captain 2) Community Leaders (3) 3) NGOs (2) 4) TBAs*(2)	Health Officer (1)	1) Doctors (2) 2) Nurses (2) 3) Midwives (3) 4) Med Tech (1) 5) BHWs**(3)
Focus Group Discussion	1) Non-sepsis Group (3 sessions) 2) Sepsis Group (1 session)		
Individual Interviews	1) Non-sepsis Group (24) 2) Sepsis Group (12)		

TOTAL= 56 interviews, 4 Group Discussions

*TBA: Traditional Birth Attendant,**BHW: Barangay Health Worker

4.11 Data Analysis

Analysis subsequently started after the data collection began. Since the research methods in this study focused more on qualitative data collection, the largest part of data was analyzed primarily by reviewing field notes and interview transcripts, and then coding these data for major themes which emerged from the interview and my research questions. Coded data were manually cut and pasted onto charts to organize the results. These results were analyzed and compared with each mother's socio-demographic data which was gathered quantitatively. This data analysis allowed me to identify major themes and issues related to urban health and key behavioral patterns across the mothers who participated in this study.

4.11.1 Archival Data

As I mentioned previously, statistical data such as health indicators, socioeconomic and demographic data, were collected from government resources. After reviewing these data, I

selected the data relevant to the study and created the profile of Barangay Poblacion for this study. The profile of the study area was also used to develop specific research questions for observation and interview. The reported number of sepsis neonatorum cases at the City Health Office was also compared to the number of cases found at the RITM.

4.11.2 Participant-Observation

During the period of participant observation, we used a check list of specific points concerning the conditions of the research environment in order to maintain a continuity of data collected by each researcher for each visit of the observation. The findings from each participant observation were then discussed with the research assistants, and these findings were arranged by observation sites. The field notes and the analytic notes in which I kept my thoughts and comments during internship were also examined. I incorporated these notes into the findings from each observation for further analysis of the research sites. The findings from the observation allowed me to understand the general situations of each research site that were described by the participants during the interviews.

4.11.3 Key-Informant Interviews

The analysis of key-informant interviews began by reviewing the transcripts and the field notes. Subsequently, the interview transcripts were coded by categories, such as the health services which the informants provide, their concerns and perceptions of the problems related to the health of the mothers and infants in urban squatters. The manual 'cutting and pasting' of the transcripts on the theme boards took place to examine each health personnel's opinions. The findings of key-informant interviews were later compared to those from the mothers to examine the differences or the similarities in their opinions.

4.11.4 Focus Group Discussion

Each transcript of the focus group discussions was first incorporated with the notes taken during the discussions. I also addressed the mother's reactions that were observed during the discussions and added to the transcript. The method of coding and the manual 'cutting and pasting' of the transcripts on the theme boards were then used for analysis of focus group discussions. The results of the discussions from the sepsis group and the non-sepsis group were compared to analyze the differences of their responses and opinions. The analysis also considered the problems involved with the differences of the socio-demographic status of the participants before making any generalization of the results.

4.11.5 In-depth Interview

The first part of the interview was designed to obtain the socio-demographic data about the mothers. The frequencies of the mother's response in each question were measured by statistical software, and then compared by the mothers in each group. The second part of the interviews were recorded on tape, and were transcribed and translated into English by the research assistants. Of the 36 interviews, three interview tapes were lost (two tapes corrupted and one lost). For these lost tapes, the notes from the interviews were fully utilized for analysis. Contents of the interview were examined through the transcripts and the notes, and coded to arrange these data by major themes in the study questions. The data were then manually integrated to the chart by using a 'cut and past' method. In addition, the data from rank ordering and free listing were grouped by frequencies to identify major behavioral patterns and knowledge or perceptions related to infant health across the participants of the in-depth interviews. These results were also classified by groups, the sepsis group and the non-sepsis group, for comparative analysis. Finally, the case histories which were obtained from the mothers in the sepsis group were analyzed by reviewing each transcript. The passages significant to the study were

highlighted and coded. These codes were integrated into a board to organize the data based on major themes which emerged from the interviews.

4.12 Quality Control of Research

In order to control the quality of data, several transcriptions and translations of arbitrary interviews were randomly tested by having one researcher transcribe and translate the interview, then having a second assistant back-translate the interview. The two transcriptions of the interview were compared to ensure that they hold the same information.

4.13 Ethical Considerations

The research followed the ethical guidelines by the Society for Applied Anthropology (<http://www.sfaa.net/sfaaethic.html>) and the American Anthropological Association (<http://www.aaanet.org/>). In addition, ethical approval was obtained from the University of South Florida and the Research Institute of Tropical Medicine (RITM), Manila, Philippines before the research was undertaken. In this project, the confidentiality of information, and informed consent were the central ethical issues to be concerned. Each participant received two information sheets before each interview or discussion took place. The first information sheet explained the purpose of the study, the type of information that I hoped to obtain, the approximate time that would be involved, and the researcher's contact information. Such information was also explained to the participants verbally in order to ensure their full understanding of the research. The second sheet was a consent form for the research. Consent was obtained either by the signature of the participant or by verbal agreement which was recorded on tape. To further ensure the confidentiality, participant's names were excluded as well as any information that might identify the individuals. Therefore, all the names that appear in this thesis are pseudonyms. Participants were encouraged to ask questions about any concerns they had regarding the research. They were

also ensured that they had the right to refuse to answer any questions they do not wish to answer, and could withdraw from the study at any time without any consequences.

4.14 Summary

This study was conducted as a part of the preliminary research project for a sepsis study group at the RITM. A combination of qualitative and quantitative methods was employed to identify the underlying social and behavioral causes of sepsis neonatorum in urban settlements of Muntinlupa City, the Philippines. A variety of participants were selected in this study. Of importance are the primary participants; mothers of infants who were admitted for sepsis neonatorum and mothers who lived in either of the two urban communities identified in this study. The data were gathered through participant-observations, focus discussions, interviews, and the public archive. Subsequently, I have analyzed these data mostly by reviewing notes and transcripts, manual coding and sorting on the theme boards. An issue of quality control was also addressed during the analysis. Ethical approval was obtained from the Internal Review Board prior to the study. In addition, I have obtained the informed consent from each participant, and paid thoughtful consideration to the confidentiality of the information throughout the study.

Chapter Five Results

5.0 Introduction

This chapter will present the results of the data collection which were described in the previous chapter. First, the data from the archival data collection and participant-observation will provide essential background information for the area where the study was conducted. Second, the information collected through the key-informants allowed me to gather supportive information concerning the issues of sepsis neonatorum which were useful in developing questions for the mothers in the study. The results of the key-informant interviews with the staff members at health centers, traditional birth attendants, and community leaders will be included in the sections of this chapter to support other findings instead of providing a separate section for the results. Third, the results of the focus discussions and in-depth interviews allowed me to reveal the factors that were associated with the problem of sepsis neonatorum. In addition, case histories will be presented to provide further insights into the conditions that poor mothers confront with their sick infants.

5.1 Archival Data Results: Infant Mortality in Muntinlupa City

A lack of health data is a common problem in many developing countries. This was also a major issue in the Philippines. As discussed in the previous chapter, sepsis neonatorum is a health problem among neonates. Therefore, it was relevant for me to obtain data concerning neonatal health (less than 28 days) rather than infant health (from age 0 to 5 years old). However, throughout the study, I was not able to obtain relevant data on neonatal health in either Muntinlupa City or the Philippines since the information was not available either at the City

Health Office or at the Department of Health in the Philippines. Instead, in this study, infant mortality rates (IMR) which specifies children from age 0 to 5 years old, were obtained from the City Health Office of Muntinlupa.

Table 2 shows the top ten infant mortality causes in 1998 and 2001. In both years, sepsis was ranked within the top ten causes of infant mortality. More noteworthy was a great increase of sepsis cases from 1998 to 2001 in Muntinlupa city; nine babies were diagnosed with sepsis in 1998 and 16 babies (almost double in number) were diagnosed with sepsis in 2001. This small outbreak of sepsis led to the current research on sepsis neonatorum at the RITM.

Table 2. Top Ten Infant Mortality Rates in 1998 & 2001 in Muntinlupa City

Rank	1998			2001		
	Causes	No.	Rate	Causes	No.	Rate
1	Pneumonia	23	2.61	Pneumonia/Bronchopneumonia	27	3.02
2	Prematurity	19	2.15	Septicemia/Sepsis	16	1.79
3	Cardiac Arrest	15	1.70	Hyaline Membrane Disease	7	0.78
4	Congenital Anomalies	12	1.36	Congenital Heart Disease	7	0.78
5	Birth Injury	11	1.25	Pneumonia, Measles Complicated by	6	0.67
6	Diarrhea	11	1.25	Prematurity (<37 weeks)	6	0.67
7	Sepsis	9	1.02	Asphyxia	6	0.67
8	Meningitis	4	0.45	Meningitis	6	0.67
9	Suffocation	3	0.34	Diarrhea/Gastroenteritis	3	0.34
10	Medico Legal	3	0.34	Electrolyte Imbalance	3	0.34

Source: Annual Accomplishment Report, City Health Office of Muntinlupa, 2001

Furthermore, the reported number of sepsis cases could have been underestimated due to the following reasons. First, some cases may have been misdiagnosed since the symptoms of sepsis often overlap with those of other common illnesses, such as pneumonia/bronchopneumonia, meningitis and so on. It is also possible that these illnesses could have been a consequence of

infection with sepsis. In either case, diagnosis of sepsis is usually difficult to conduct without the appropriate facilities and techniques which were often major concerns of the health system in the Philippines. Second, the case may have been underreported due to the nature of urban squatters, and the lack of communication among health providers. Such lack of communication between health providers, such as the city health office, private hospitals and the RITM, was mentioned by several key-informants during the interviews.

5.2 Participant-Observation Results

5.2.1 Health Centers

Two health centers, the Poblacion health center and the maternity clinic, were the subjects of my observations during the first month of the study. In the Philippine health system, each barangay (the smallest political subdivision in the Philippines) has at least one barangay health center where they provide free general health services to the people in the barangay. Therefore, the Poblacion health center was the center of health services to those who live within the barangay. The Poblacion health center was located near the market area and was next to the City Health Center. Muntinlupa City has only one public maternity clinic, known as a lying-in center, which was located in the barangay Putatan. The service was open to the public in Muntinlupa City. This center was located relatively close to the Poblacion health center.

Health centers usually consist of doctors, nurses, midwives and utilities. In addition, the barangay health center also has barangay health workers (BHW) who come to the center to help staff members on daily basis. A barangay health worker can be described as a person who voluntarily assists to provide primary health care services to the assigned local communities, including squatter areas, within the barangay. The government usually ensures their status as a barangay health worker with several benefits to the position.

Both health centers provide free services, including the allocation of free medicines, on a

first-come-first served basis. However, a lack of medicines is always a problem at the health centers. Patients at the health centers often receive prescriptions instead of medicines.

The Poblacion health center provides general health care services with strong focus on prevention. Such services include general consultation, dental care, nutrition class, sanitation, and laboratory testing especially for Tuberculosis, and primary health care that include prenatal check-up (up to 7 months), postnatal check-up and immunization. The center easily gets crowded with an average of 140 patients per day. During the interview, several mothers complained of the long waiting time in the health center as well as the negative attitude toward the patients by the staff.

“It’s very difficult because of the long line and then when you get there, you won’t get any medicine, only prescription....they are slow. They do gossip first sometimes, they’ll even get mad at you.” (Mother in the Field site B)

Correspondingly, the staff at the health center also identified such issues as one of the difficulties in providing health services to the people.

“...I need another doctor. Seeing 120 patients, (or) 150 a day, makes me crazy. If you see the patients this morning, oh my goodness, I finished at past 12.” (Doctor at Poblacion health center)

“More people are waiting for their schedule of their consultation, more people are coming here and since there is only one doctor, they wait for a long time.” (Nurse at Poblacion health center)

The maternity clinic, known as a lying-in Center, also provides services free of charge to the mothers. The clinic is open 24 hours. Services focus on prenatal check-ups (after seven months), delivery services, and postnatal check-ups. In contrast to the Poblacion health center, the maternity clinic has stricter policies regarding the acceptance of mothers who wish to use their services. For example, all the mothers are expected to complete up to seven months of prenatal check-ups at their barangay health center, and then are required to attend a Mother’s class where the pregnant women can learn the policy, rules and regulations of the maternity clinic. Only women who were diagnosed as having a normal delivery by the doctor are accepted at the

clinic while the rest of women are referred to other hospitals. There were 133 mothers who delivered a baby at this clinic in the month prior to the observation. According to a staff member, about 500 mothers usually come for check-up, but only around 130 mothers actually delivered the baby in the clinic. It was commonly believed among the staff members at the clinic that many mothers go to see a hilot (Traditional Birth Attendant) for delivery. One of the staff members at clinic expressed her opinions regarding the reason of mother's preference for the hilot as;

“Laziness, they trust hilots more than they do midwives. Hilots are more popular than midwives.... they don't have time to go to the lying-in. Mother thinks that lying-in is more expensive.” (Staff at maternity clinic)

There are nine beds available for post-partum women who usually stay at clinic for 24 hours after delivery. During the time one of the observations was conducted, there were three mothers whose babies had been diagnosed with sepsis in the ward.

The size of the clinic was relatively small; the mothers were usually waiting outside since there was not enough space for mothers to stay in the clinic. However, there was no consideration for the mothers when raining. Friday was the busiest day of the week due to the mothers' class. An average of 40-50 pregnant women attended the mother's class. The clinic had no air-conditioning, therefore, the mothers in the ward would use electric fans which they brought from home. It was noticed that poor quality of the facility was one of the major concerns by the staff members in this clinic.

“First, before we give these services, we have to, our facilities, you see....how can we improve our services if these are the facilities, you see our place looks like that....do you see the ward? Very hot inside...lack of air-conditioning, and toilet...have you seen our toilet?” (Staff at Maternity clinic)

“We have separate ward for sepsis mothers. It is sometimes mixed. Sometimes when there is no bed available, sepsis babies share the bed with normal patients.” (Staff at Maternity clinic)

5.2.2 Field Sites

Pseudonyms were given to both communities due to the ethical considerations.

5.2.2.1 Field Site A

The first field site was located by the lake, Laguna de bay (Figure 3). There were two communities in this area. The communities were positioned relatively close to the barangay health center which was about 10-15 minutes away by tricycle. About 500 families lived in the area at the time the observation was conducted. The housing environment was very poor and crowded as there was hardly any space between the houses. These houses were built with any materials available such as wood, bamboo, sacks and cement. Several wooden bridges were placed between houses. These were used for people to go around the communities when the place gets flooded. There was no drainage system in the area; therefore, it takes a long time for the water to drain after a flood. This water usually gets mixed with miscellaneous drainage, and significantly affects the quality of environment around the areas. There was a lot of garbage observed around the area despite the weekly garbage collection. According to the Barangay Health Workers (BHWs), only few have sanitary toilets while many people throw their wastes around the area, commonly called 'flying-saucers'.

5.2.2.2 Field Site B

The second field site was the furthest squatter area from the Poblacion health center which required about one-hour of driving to reach it (Figure 4). However, there was a newly opened barangay health center which took about 10 minutes by car from the field site B. Although this health center belonged to a different barangay, people in this community were allowed to seek the services at the center.

Field site B looked like a rural area as the area was environed with trees and bushes. There were approximately 265 families living in this community. The area was made up of impoverished houses due to the demolition that had taken place two years ago. Few people were still living in the houses that the demolition destroyed. According to the BHW, the majority of the people living in this community have been doing so for about six years. At the time this

research was conducted, the area was again under pressure from on-going demolition by the Department of Justice. The community was feeling mounting pressure on their life from demolition. For example, the water tank which was previously available to the community was also destroyed, and people were forced to purchase drinking water outside of the community.

“The main problem in our community is poverty and housing. We had a water system before, but we don’t have it now. Our electricity is not continuous because the government does not focus on the basic services of this area.....the most important issue is that we be given the security of our land and social service.”(Community leader in field site B)

“They are always nervous, they might be demolished again....Before, the place was nice and orderly...But now, if somebody says that there is demolition on that day, they are on the lookout. They don’t know what to do. That’s why they are not able to clean.” (Barangay Health Worker at the Field site B)

There was no garbage collection in this area, and only few families had toilet facilities. Like the site A, most people wrap their feces in plastic bags and throw it away around the area.



Figure 3: Field site A



Figure 4: Field site B

5.3 Focus Group Discussion Results

Three focus discussions took place after the participant-observation at each field site. Table 3 shows the basic socio-demographic information of the participants in each group; non-sepsis group and sepsis group. I had two discussions with mothers from the non-sepsis group, and combined the data of these non-sepsis group participants into one category of the table.

Table 3. Socio-demographic Data of Focus Group Participants

	Age (mean \pm σ) (range)	Educational Attainment (mean \pm σ) (range)	No. of Children (mean \pm σ) (range)	Income (number (%))
Non-Sepsis Group (n = 15)	29.87 \pm 7.6 (20 – 43)	7.2 \pm 2.1 (3.0 – 10.0)	3.2 \pm 1.57 (1.0 – 6.0)	P100 – P2,999 ---- 7 (46.67%) P3,000 – P4,999--- 5 (33.33%) P5,000 – P6,999--- 3 (20.0%)
Sepsis Group (n = 7)	27.86 \pm 5.4 (21 – 37)	8.29 \pm 2.4 (6.0 – 12.0)	3.7 \pm 1.25 (2.0 – 6.0)	P100 – P2,999 --- 2 (28.57%) P3,000 – P4,999---3 (42.86%) P5,000 – P6,999---2 (28.57%)

A total of 22 mothers participated in the focus discussion. The results of the socio-demographic data showed the similarity in both groups. The average age of the participants in non-sepsis group was 29 years old (29 \pm 7.6) which was slightly higher than the average age of the participants in the sepsis group (27 \pm 5.4). The participants in both groups had high school level education in average, but the non-sepsis group had a lower education level than the sepsis group. The large range of educational levels was also recognized in both groups. The main difference in the socio-demographic data of the participants was the level of income between two groups. The larger proportion of the mothers in the non-sepsis group concentrated more on lower income level, while an equal distribution of income was observed among the mothers in the sepsis group.

In the first part of focus group discussions, the participants were asked several questions regarding their knowledge, opinions and experiences related to their maternal health practices and health behaviors. I will discuss the results of these questions by theme in the following sections.

5.3.1 Mother's Preference of Place of Delivery

The response to the question regarding their preference of delivery placed a disproportionate emphasis on home delivery. Only two mothers out of all the participants from both groups had delivered their babies at a hospital. Interestingly enough, it was found that one of these two mothers had asked the hilot (TBA) for delivery at home first, and it was the hilot who referred the mother to the hospital for delivery. Most mothers in the non-sepsis group who had delivered the baby at home were assisted by the hilot. On the contrary, in the sepsis group, only one mother was assisted by the hilot while the rest of them were assisted by the midwife.

The participants were subsequently questioned about reasons for their preference of home or hospital delivery. Both groups mentioned that low-expense of home delivery and family's supports to the mother at home were major factors of favoring home delivery. Many mothers expressed comments similar to the followings during the discussion.

"It is expensive in the hospital and you are alone. Unlike at home, somebody is there to take care of you." (Mother in the Sepsis Group)

"...Because in the house, you are well-cared for; in the hospital, not so much. No one gives you milk to drink, no one to feed you...you have to call them first. If you are in the house, there is no problem. The one who will feed will just sit beside you, give you something to drink, help you to stand up because the you-know-what is still painful, especially for those who just gave birth. And then someone can carry you. It's really different in the house compared to in the hospital." (Mother in the Non-sepsis Group, Field site A)

"Because at the hospital, they'll scold you. You bear the pain because you like it. So it's better at home." (Mother in the Non-sepsis Group, Field site B)

It is noted that the presence of family support at home is an important factor determining the mother's preference toward home delivery. Furthermore, a mother's preference can be made as a result of her previous experience of delivery at the hospital. A few mothers had had a previous experience in hospital delivery before home delivery, and made comments like the followings;

"I delivered my first baby in Fabella (private hospital). I was frightened then because they really let you move. Even if you are bleeding, you have to stand up. You have to go to the comfort room to wash but there is no water and the dipper is rusty. I felt like fainting, my blood was gone. So,

what I did for my 2nd baby is that I delivered at home....” (Mother in the Sepsis group)

Although most mothers preferred to have the baby delivered at home, some mothers also noted some advantages of hospital delivery. Such comments were more frequently observed among the mothers in the sepsis group. Participants said that hospital delivery is advantageous if there is any problem in delivery. Whether it is normal delivery or not is the most important factor to decide which place the mother wants to deliver her baby.

“...if you know that it is not allowed, then you should not do it at home like for high blood pressure. And if the baby has a problem, the doctors know where to place them. And if you have normal pregnancy, you can give birth at home. But, if you know that you should not, go to the hospital.” (Mother in the Sepsis group)

“It was a little difficult for me in the house. The reason why I chose to go to the hospital is because, if ever any problem arose, I’m already there.” (Mother in Non-Sepsis Group)

The unavailability of proper medicines at home was another reason for mothers who don’t have normal delivery to give birth at a hospital. One of the participants described the problem related to a lack of proper medicine among mothers;

“What is not good at home is that some don’t buy the medicines prescribed by the doctors especially if they don’t have enough money. So what happens, the problem worsens unlike in the hospital.” (Mother in the Sepsis Group)

Throughout the discussion, only the mothers in the sepsis group mentioned a problem of distance to the clinic as a factor of choosing home delivery.

5.3.2 Problems Experienced During Newborn Care

Focus discussions also addressed problems experienced by mothers during newborn care. Both groups of mothers agreed that sickness of the baby was the major difficulty in newborn care. The mothers in the sepsis group, however, more explicitly expressed their difficulties in such situation from their experiences with their babies who had sepsis neonatorum. As the discussions grew, the participants also identified a variety of issues related to baby’s sickness. Many concerned the expense related to treatment for the baby such as buying

medicines and going to see a doctor for consultation. The mothers in both groups frequently mentioned physical difficulties such as sleeplessness and breastfeeding during newborn care. Several mothers in both groups expressed they had difficulties with breastfeeding due to their jobs. Mothers also mentioned that the breast milk from working mothers causes newborn illnesses as it is described below;

“Usually, it’s the stomach, because she breastfeeds her babies and she works. The babies get sick... 1st baby had bronco-pneumonia; 2nd baby had infection in the head; 3rd baby had infection.” (Mother in the Sepsis group)

“Sometimes the problem is that the mother has no money to buy milk and she doesn’t want to breastfeed her baby.....especially if the mother is working....” (Mother in the Non-sepsis group)

The mothers’ feelings concerning breast milk was further discussed in the sepsis group when asked about newborn illnesses. I will provide more details on their perceptions of illness related to breast milk in section 5.3.7. In addition to the difficulties mentioned above, a few mothers also gave an account of the fear they had of taking care of their firstborn baby which was caused by a lack of experience.

5.3.3 Problem Management

The mother’s problem management mostly focused on how to generate money to see a doctor for their sick babies. Both groups of mothers mentioned that they would borrow money from those who have money in the area. The participants listed their mothers, family members, friends and neighbors as likely candidates. Furthermore, a few mentioned the barangay captain, the Department of Social and Welfare Development (DSWD), the mayor and politicians as other possible people to help them, but no mothers made reference to barangay health workers. Throughout the discussion, neighbors were viewed as an important source of assistance among mothers, especially for those who lived far from their family. One mother stressed that the relationship with her neighbors was as important as that of her family’s. Such strong relationships between mothers in urban areas were described in the research by the Masters

students at the University of Queensland (Jainsrakoo et al. 2000). However, in response to the questions about a level of neighbor's support to their sick babies, one mother expressed her concern for the potentially negative impacts associated with the support of neighbors.

“(mother should go) to the center because neighbors are not a doctor. It's not good to take the wrong medicine for the wrong sickness. She should consult the doctor.”(Mother in the Non-sepsis group)

Despite this comment, the majority of the mothers still gave a positive response to neighbor's support. This is because they were placed in financial and structural predicaments because both mothers and health centers often lack the ability to provide medicines for the sick baby. The comment by one mother well illustrated this point.

“Sometimes, we go to the center and try to ask for some medicine. If they don't have, they'll give you a prescription. It's the same. You'll still go home because you don't have money. Just use herbal.” (Mother in the Non-sepsis group, Field site A)

5.3.4 Story-Based Discussion

The second part of the discussion was based on the case example that had been given to the participants. The case example illustrates a hypothetical situation in which a mother living in a poor socioeconomic status has to make a decision regarding her sick baby based on the following conditions; 1) lack of money, 2) her husband's reluctance to seek care, 3) interpreting the symptoms of the baby's illness. The full scenario, which was used in the discussion, is attached to the appendix of this thesis (Appendix D). This type of discussion was useful, as it allowed the researcher to get the mother's own opinions based on the story. I was able to observe the mother's emotional expression more clearly, which allowed me to increase the reliability of their response.

5.3.5 Decision Maker(s) in Household

Based on the case example, the mothers were asked who would make a decision on the issues related to child illnesses at home. The discussions with the mothers in both groups

revealed the division of roles between mothers and husbands. The majority of mothers identified themselves as the decision maker when the baby gets ill. Only two mothers mentioned that they make decisions together with their husbands. One mother in the sepsis group mentioned that she started making the decisions by herself after her experience with her baby who had sepsis. The majority of mothers agreed that mothers make most decisions concerning child health while the husband takes responsibility of the financial matters.

All groups built up a resentment of the husband in the story who made the decision over the issues concerning the baby's illness, and they showed great sympathy toward the mother in the story who had to follow her husband's decision. The participants felt that the mother should make the decision without waiting for her husband to decide. The type of decisions that mothers could make centered on seeking advices or financial support from her parents, neighbors and friends, giving the baby home remedies (e.g., herbal medicines, commercial medicines, and cold water for fever), and taking the baby to the hospital. Only mothers in the non-sepsis group mentioned that the mothers should take the baby to the hilot first in the case of illness like 'pilay'. This term, 'pilay', was frequently mentioned by the mothers during in-depth interviews. Therefore, I will discuss this concept in the results section of the in-depth interviews in this chapter.

5.3.6 Knowledge of Newborn Illnesses

In order to understand the mother's knowledge of newborn illness, I asked the participants if they were familiar with symptoms which were discussed in the case story; such as weak sucking, diarrhea, and fluctuating fever. The symptoms used in the story were frequently reported among babies with sepsis neonatorum. All groups identified these symptoms as common health problems among the babies in the areas where they live. I asked the participants if they knew anything about this type of sickness. In the non-sepsis group, few mothers mentioned that their babies experienced these symptoms previously. One mother identified this

illness as dengue fever which was caused by mosquitoes.

Discussions regarding newborn illness were more actively conducted with the mothers in the sepsis group. All the mothers agreed that their babies, who were confined at the RITM, had the same symptoms as described in the case story. However, surprisingly only one woman identified the illness as sepsis neonatorum. Two mothers said that the illness in discussion was bronchopneumonia which was the illness that their babies had. Another two mothers mentioned that it was diarrhea. The remaining of two mothers did not clearly remember the name of the illnesses.

5.3.7 Local Perception of Illness: Spoiled Milk

Participants in the sepsis group reported their local perceptions of illness causality during the discussion on newborn illnesses. Several mothers volunteered ideas of how mother's breast milk could cause health problems to newborns. For example, some mothers mentioned that tiredness due to excessive work has negative effects on the mother's breast milk, such as a lack of milk, production of cold milk and/or spoiled milk. Newborn sickness occurs when such milk was transferred to the baby through breastfeeding (cf. A similar belief of 'sickness through breast milk' was also reported in Pakistan by Cody et al. 1997:342). Participants suggested that the working mothers should use caution to avoid having undesirable effects on her breast milk and on the baby's health when breastfeeding. The comments below exemplified this point:

“Because if a mother worked the whole day, her milk will be spoiled so she must squeeze it first then drink something warm before letting her baby suck.” (Mother in the Sepsis group)

“That's why the baby gets indigestion. She should rest first before letting her baby suck.” (Mother in the Sepsis group)

Only one person disagreed that breast milk was a factor of newborn sickness. Instead, she suggested that the mother should always use clean water by boiling. Most participants agreed with this idea, although lack of proper understanding of boiling water was recognized through the discussion. For example, one participant mentioned that the water must be boiled for an hour to

be sterilized.

5.3.8 Available Places to Seek Treatment

Participants were asked where poor mothers like the one in the story could seek health care for her sick baby. Mothers in both groups responded with health centers, private hospitals, hilots, and the RITM. Participants in the non-sepsis group gave specific examples of private doctors who have clinics near their area. Mothers also mentioned that the baby should be brought to the hilot in the special condition that hilot can treat it the best, like “pilyay”, which mothers can usually identify such situation.

After many mothers made positive comments on the services at private clinic, we subsequently asked their opinions about the health center. Mothers provided both positive and negative comments on the service at the health center. The positive response toward service at the health center focused on the availability of services for those who do not have money. The health center was considered a place where poor people still can seek care without money. Because of their financial situation, participants thought that the health center was a great help to them. However, more disadvantages of the free service were discussed by participants in comparison to the service at the private clinic. For example, mothers believe that the private hospital can provide a better quality of service to the patients. Mothers also mentioned that there was a long waiting time, sometimes lasting a half-day at the health center, and a lack of available medicine. Furthermore, one mother mentioned the failure of treatment at the health center while the baby became well quickly after the treatment by the doctor at a private clinic. When we asked which health facility mothers seeking help more often utilize, many participants in the non-sepsis group surprisingly mentioned their frequent utilization of private clinics rather than health centers or public hospitals.

“---To the private where you have to pay because sometimes your baby won't get well at center.”(Mother in the Non-sepsis group, Field site B)

“He is a good doctor (private clinic) because once you bring your child there; the baby will get better the next day. Sometimes the baby does not get better with other doctors. You keep on going there and pay and buy medicines, but he won't get better. My baby didn't get well in the first doctor where we brought him. He had whooping cough. We already went to many doctors but he didn't get well even to the doctor at health center. We spent a lot. He was 2 months then. We also didn't have money but we borrowed money rather than let my baby die.” (Mother in the Non-sepsis Group, Field site B)

The unexpected high utilization of private hospitals was explained during the key-informant interviews. According to the community leaders, some politicians sometimes give mothers health benefit cards. There were also two private hospitals identified as giving some discounts to poor mothers in urban squatters.

5.4 In-depth Interview Results

In-depth interviews with the mothers who met the criteria were conducted subsequently after the focus group discussions. It aimed to validate the findings from focus group discussions, and to explore further issues of mother's health seeking behaviors related to sepsis neonatorum. Additionally, it was recognized that the focus group discussion gave my research assistants and me a great opportunity to establish a rapport with the participants. The interviews with those mothers who had participated in the group discussion provided detailed and richer information from the participants.

5.4.1 Socio-demographic Data

As noted in the previous chapter, we interviewed 36 mothers who met my criteria during the study period. The results of the socio-demographic data of the participants in the in-depth interviews were listed in the table 4. Most of the mothers who participated in the study were relatively young (mean age = 27.83 in the non-sepsis group, 27.42 in the sepsis group); average educational attainment was eight years (high school incomplete) in both groups; they had an average of 3 children (mean = 3.54 ± 2.32 in the non-sepsis group, 3.67 ± 1.87 in the sepsis group). Occupational status was also similar in both groups. The majority of the mothers were

housewives and only few mothers reported having jobs such as selling snacks, washing or ironing, and sewing. However, these jobs were temporary, except the job at sari-sari store (retailer), in which mothers can earn a living when such jobs are available. The data showed a great range of income among mothers; however, in both groups of mothers, the first 50 % of participants had an income level below P 3,999 (about US\$72) per month. More of the mothers who belonged to the income level below P 2,999 were seen in the sepsis group (41.67%) compared to those in the non-sepsis group (33.33%). During the interviews, a few mothers reported that their amount of income varied monthly depending on their husband's employment status. It was found that most husbands also worked temporarily, for example as, construction workers and garbage collectors, therefore, it was uncommon for the family to have an established amount of monthly income. The majority of the mothers (70.83%) in the non-sepsis group lived in their own homes while about 60% of the mothers in the sepsis group lived in either rented homes or in someone else's house.

Multiple answers were accepted in the questions concerning access to water and the methods of garbage removal. Over half of participants in both groups reported to have access to tubed / piped well water, while purchasing water came next in both groups. The data showed that removing household garbage through burning and garbage collection was common practice in both groups of the mothers. The majority in the sepsis group (75.0%) reported having sanitary toilet facilities in house while over a half of the participants (58.33%) in the non-sepsis group did not have such facilities. Those mothers without sanitary toilet facilities reported their alternative methods; using neighbor's toilet facility, using a river, lake and/or canal, and wrapping and throwing waste outside.

Table 4. Socio-demographic Data of the Participants in In-depth Interview

	Non-Sepsis Group (n = 24)	Sepsis Group (n = 12)
Age (mean ± σ) (range)	27.83 ± 6.62 (19 ---- 43)	27.42 ± 5.81 (21 ----- 39)
Marriage Status (number (%))	Yes ----- 12 (50.00%) No ----- 12 (50.00%)	Yes ----- 7 (58.33%) No ----- 5 (41.67%)
Educational Attainment (mean ± σ) (range)	8.38 ± 2.08 (3 ---- 11)	8.67 ± 2.0 (6 ----- 12)
Number of Children (mean ± σ) (range)	3.54 ± 2.32 (1 ----- 10)	3.67 ± 1.87 (1 ----- 7)
Occupation (number (%))	Housewife ----- 20 (83.33%) Seller ----- 2 (8.33 %) Sari-Sari Store*----- 1 (4.17%) Ironing/Washing ----- 1 (4.17%)	Housewife ----- 9 (75.00%) Housekeeper ----- 1 (8.33%) Sawyer ----- 1 (8.33%) Ironing/Washing ----- 1 (8.33%)
Monthly Household Income (number (%))	P 1 ----- P1, 999 --- 5 (20.83%) P 2,000 – P 2,999 --- 3 (12.50%) P 3,000 – P 3,999 --- 4 (16.67%) P 4,000 – P 4,999 ---- 1 (4.17%) P 5,000 – P 6,999 --- 7 (29.17%) P 7,000 – P 8,999 --- 3 (12.50%) P 9,000 – P10, 999 -- 1 (4.17%)	P 1-- ----- P1, 999 --- 3 (25.00%) P 2,000 – P 2,999 -- 2 (16.67%) P 3,000 – P 3,999 -- 1 (8.33%) P 4,000 – P 4,999 --- 2 (16.67%) P 5,000 – P 6,999 -- 2 (16.67%) P 7,000 – P 8,999 ---1 (8.33%) P 15, 000 – more -----1 (8.33%)
Home Ownership (number (%))	Owned ----- 17 (70.83%) Someone' house ----- 5 (20.83%) Rented ----- 1 (4.17%) Other ----- 1 (4.17%)	Owned ----- 5 (41.67%) Rented ----- 2 (16.67%) Someone's house ---- 5 (41.67%)
Access to Water* (number (%))	Community water system --2 (7.41) Tubed/ piped well -----18 (66.67%) Purchased water ----- 6 (22.22%) Other ----- 1 (3.60%)	Community water system 2 (16.67%) Tubed/ piped well ----- 6 (50.00%) Purchased water ----- 3 (25.00%) Open dug well ----- 1 (8.33%)
Households with Sanitary Toilet Facilities (number (%))	Yes ----- 10 (41.67%) No ----- 14 (58.33%)	Yes ----- 9 (75.00%) No ----- 3 (25.00%)
Garbage Removal* (number (%))	Burn -----14 (53.85%) Garbage collection – 9 (34.62%) Lake ----- 2 (7.69%) Pit ----- 1 (3.85%)	Burn ----- 6 (40.00%) Garbage collection -- 6 (40.00%) Pit ----- 1 (6.67%) Unknown ----- 2 (13.33%)

*Multiple answers were obtained

5.4.2 Socio-demographic Data Related to Maternal and Child Health

Socio-demographic data related to Maternal and Child Health revealed the following findings in this study. A large percentage of mothers in both groups, with a slightly higher

proportion in the non-sepsis group, had delivered their baby at home (83.33% in non-sepsis; 66.67% in sepsis) while only few mentioned public hospitals and maternity clinics as a place of delivery. This result was relatively similar to the percentage of home deliveries in Muntinlupa City which accounts for 72.4% of the total deliveries in 2001 (City Health Office of Muntinlupa 2001).

The data showed that the factors which influenced mother's choice of delivery site were the low cost of service (41.67%; 27.27%), followed by the mother's familiarity with service (11.11%; 9.09%), and the mother's belief in good service (11.11%; 13.64%), as well as their known effectiveness of the service (5.56%; 13.64%). Only the participants in the sepsis group (13.64%) mentioned physical accessibility of service (e.g. distance) as a factor in choosing a delivery site.

Those who had home delivery spent an average P1, 145 in the non-sepsis group, and P871.43 in the sepsis group for the service. The reported cost of home delivery service was much cheaper than the services at a hospital for those in the non-sepsis group, while the sepsis group reported a higher average cost for home delivery services than those charged at the hospital or maternity clinic. Free delivery service was reported from four mothers in this study. Of these mothers, two had home delivery; the other two delivered the baby either at a private hospital or at the government maternity clinic.

Hilot (TBA) (34.29%; 21.05%) and midwife (17.14%; 31.58%) were the most popularly listed persons as those who assisted with the delivery in both groups. In a comparison of the two groups, hilots were more commonly mentioned by the non-sepsis group while midwives were more frequently mentioned by the sepsis group. Most mothers identified whether the hilot who assisted their babies had had the proper training or not; however, it was recognized that this information may not have been accurate as I had observed some mothers misclassifying the status of a hilot during the interview. The midwife was another important player in delivery as many midwives privately provide home delivery services on call. The data also showed a relative of

the mother as the person who had assisted the delivery.

High use of prenatal check-ups (75.0% in the non-sepsis group; 83.33% in the sepsis group) was observed in both groups. On the other hand, the percentage of having postnatal check-ups dropped sharply in both groups (25.0% in the non-sepsis group; 8.33% in the sepsis group).

Table 5. Socio-demographic Data related to Maternal and Child Health

	Non-Sepsis Group (n = 24)	Sepsis Group (n = 12)
Place of Delivery	Own home ----- 20 (83.33%) Public hospital/clinic --- 2 (8.33%) Private hospital/clinic ---2 (8.33%)	Own home ----- 8 (66.67%) Public hospital/clinic---2 (16.67%) Gov't maternity clinic---1 (8.33%) Private maternity clinic---1 (8.33%)
Reason for the choice of delivery site*	Low cost ----- 15 (41.67%) Familiarity ----- 4 (11.11 %) Good service ----- 4 (11.11 %) Others ----- 3 (8.33%) Referred by friends ---2 (5.56%) Referred by a health worker-2 (5.56%) Known effectiveness --- 2 (5.56%) Fear ----- 2 (5.56%) Normal delivery ----- 2 (5.56%)	Low cost ----- 6 (27.27%) Good service --- 3 (13.64%) Known effectiveness – 3 (13.64%) Easy to access --- 3 (13.64%) Familiarity ----- 2 (9.09%) Others ----- 2 (9.09%) Referred by friends --- 1 (4.76%) Fear ----- 1 (4.55%) Normal delivery ----- 1 (4.55%)
Person who assisted the delivery*	Hilot (TBA) ---- 11 (34.29%) - untrained hilot ---8 (22.86%) - trained hilot -----3 (8.57%) - trained/untrained – 1 (2.86%) Midwife -----6 (17.14%) Nurse ----- 6 (17.14%) Doctor ----- 4 (11.43%) Relative ----- 4 (11.43%) Others ----- 3 (8.57%)	Midwife ----- 6 (31.58%) Relative ----- 4 (21.05%) Hilot (TBA) -----4 (21.05%) - trained hilot ----2 (10.53%) - trained/untrained –2 (10.53%) Nurse ----- 3 (15.79%) Doctor ----- 2 (10.53%)
Cost of Home delivery service	Home: P1,145.00 ± 822.37 Other: P 3,212.50 ± 3338.76	Home: P871.43 ± 587.97 Other: P425.00 ± 312.25
Status of having prenatal check-ups	Yes ----- 18 (75.00%) No ----- 6 (25.00%)	Yes ----- 10 (83.33%) No ----- 2 (16.67%)
Status of having postnatal check-ups	Yes ----- 6 (25.00%) No ----- 18 (75.00%)	Yes ----- 1 (8.33%) No ----- 11 (91.67%)
Decision maker in newborn care at home*	Self ----- 22 (62.86%) Husband ----- 13 (37.14%)	Self ----- 12 (75.00%) Husband ---- 3 (18.75%) Other ----- 1 (6.25%)

*Multiple answers were obtained

Both groups of mothers reported that the mothers makes most decisions concerning newborn health, for example, seeking healthcare for child sickness, (62.86% in non-sepsis, 75.0%

in sepsis), while some mentioned that their husbands are also involved in such decision making process. Only two mothers in the non-sepsis group described their husband as the sole decision maker.

5.4.3 Local Awareness of Newborn Infection

Table 6 presents the signs and symptoms associated with newborn infection/illness and the factors which were thought by the mothers to be causing the infection among newborns. The mothers were asked to list as many answers as possible for these questions. Most mothers were not familiar with the word “infection”; therefore, the word “newborn illness” was interchangeably used to encourage the mothers to respond to these questions. Fever (n= 22 in the non-sepsis group; n=12 in the sepsis group), Cold (n=12; 7) and Cough (n=14; 6) were the most frequent responses in both groups of mothers. Only two mothers in the non-sepsis group mentioned the Cord stump infection as a sign associated with newborn illness. Mothers provided a variety of answers in the question concerning the factors causing newborn infection. Table 6 documents the responses which were mentioned by more than two mothers.

Newborn infection/illness was perceived to result from parental factors, environmental factors, etiological factors which involve pathogens, contagion and heredity. Parental factors, which place the newborn at risk of infection/illness, were most frequently the response given by the mothers in both groups. Among these are the mother’s lack of care; “baby’s back gets wet due to milk or urine” because of the mother’s failure of care; lack of foods/vitamins; lack of proper cord care; and baby’s consumption of dirty milk and or foods. The mother’s food habits, such as eating salty/smelly/bloody foods, as well as the mother’s breastfeeding practices such as breastfeeding when the mother is tired or after having a cold beverage are also thought to be associated with newborn infections/illnesses as breastfeeding is considered a primary factor for the well-being of the baby.

Table 6. Free-Listings: Signs & Symptoms and Causes of Newborn Infection/Illness

Signs & Symptoms Associated with Infection/Illness in babies	Causes of newborn infection/illness
Sepsis Group (n = 12)	
12 Fever 7 Cold 6 Cough 5 Constantly Crying 4 Changes in skin color, rashes, yellowish 4 Poor suck 4 No sleep 3 Restless 2 Diarrhea 2 Unlively 2 Weak 2 Irritable 2 Not feeling well	6 Baby's back gets wet due to milk or urine 5 Dirty surroundings around house 5 Mother's lack of care 5 Baby drinks dirty milk and/or foods 4 Dirty water 3 Lack of foods/vitamins 3 Transmitted illness from sick persons 3 Born with poor resistance 2 Lack of proper cord care 2 Carrying wrong way causes 'pilay' 2 Weather (Cold & Hot) 2 Lack of check-ups at the center 2 Unwashed baby 2 Breastfeeding when mother is tired
Non-Sepsis Group (n = 24)	
22 Fever 14 Cough 12 Cold 8 Diarrhea 7 Constantly crying 5 Poor suck 5 Pale 5 Weak 4 Vomit 4 Restless 4 Babies get yellowish; skin, eyes 3 Difficulties in breathing 3 Irritable 2 Stomachache 2 Sleepy 2 Cord stump infection 2 Sunken eyes	13 Mother's lack of care 8 Weather (Cold & Hot) 7 Dirty water 6 Dirty surroundings around house 6 Lack of foods/vitamins 5 Mother had cold beverages before breastfeeding 4 Lack of proper cord care 4 Carrying wrong way causes 'pilay' 4 Breastfeeding when mother is tired 3 Mother eats bad foods: salty/smelly/bloody foods 3 Sweat caused pneumonia 3 Baby drinks dirty milk and/or foods 3 Transmitted illness from sick persons 3 Mosquitoes 3 Cold & Cough 2 Baby's back gets wet due to milk or urine 2 Bacteria/ Germs 2 Baby gets wet in rain 2 Dirty bottle used for feeding

Environmental factors were thought to be another important factor which affects the well-being of newborns. A few factors were suggested by the mothers in both groups, such as dirty surroundings around house, dirty water and changes in the weather. In terms of etiological factors, only two mothers in the non-sepsis group noted that bacteria/germs cause infection and illness among newborns. Mothers in the sepsis group thought of newborn infection/illness in relation to a heredity factor. Mothers cited that the baby was born with poor resistance.

Transmission of illnesses from sick people was mentioned as a cause of newborn infection/illness in both groups, and three mothers in the non-sepsis group associated the infection/illness with mosquitoes.

5.4.4 Local Perception of Illness: Pilay

The term, “pilay”, emerged as a commonly reported health problem in newborns as well as children throughout the focus discussions and in-depth interviews. “Pilay” can be translated as “sprain” in English, but the word has a profound meaning which can not be explained with such a simple translation of English. Tayag cited “pilay” is “sprain which is said to cause a dislocation of a bone or a displaced organ, precipitating internal conditions such as a respiratory disease” as a result of fatigue or overwork (e-mail to author, October 13 2003). As table 6 showed, the interviews with mothers in this study revealed that “pilay” in newborns usually occurs due to mother’s wrong way of carrying the baby which predisposes the newborn to illness. The signs and symptoms of illness due to “pilay” were described differently by each participant in this study, but those most frequently mentioned were cough, and fever. It is noted that these are also typical symptoms of any newborn illness, including sepsis neonatorum.

The study conducted by Tayag (1998) found that local people in the Philippines perceived “pilay” as an illness that can be treated only by a hilot who specializes in massage to fix a dislocation of a bone. My interviews with mothers also supported these findings. The notion of “pilay” and mother’s faith in a hilot for the treatment of “pilay” may place newborns in an undesirable situation as a result of the delayed admission to proper health facility. It is because recognition of early danger signs and prompt admission to appropriate health facilities are particularly important for the health of newborns. How the notion of “pilay” influences a mother’s patterns of health-seeking behaviors will be presented and discussed further in the later section of the results from rank ordering methods.

5.4.5 Newborn Care: General Health Practices

In terms of newborn care, the mothers were first asked their general practices of newborn care. The most common responses by informants in both groups were bathing, feeding at the right time and giving vitamins. Only 11 informants who belonged to the non-sepsis group mentioned ‘immunization’ as a part of their general health practice for their newborn.

Specific questions of their health practices were asked regarding umbilical cord care since cord infection is one of the common causes of sepsis among newborns. When asked how the mothers take care of the umbilical cord, almost all the participants responded with alcohol to clean the umbilical stump. Only two mothers in the sepsis group did not mention the use of alcohol. Instead, one of them reported to use baby oil and mild soap to clean the umbilical stump. Eight mothers reported that they had somebody else to take care of their baby’s umbilical cord. Of these mothers, six had service by a hilot, while the rest had service by either a midwife or from her own mother. During the interviews with the hilots, one of them stated that it was a part of her duty to visit the mother’s home and check the baby’s umbilical cord after the delivery. Therefore, such statements by the hilots confirmed the service described by the mothers. When asked how often they treated the umbilical cord per day, the average number of treatment per day turned out to be very similar (1.95 in the non-sepsis group [*average was calculated without outlier]; 2.3 in the sepsis group). In response to the question of how long the mothers treated the umbilical cord, the mothers stated that they continued until the cord stump became dry. The reported length of such treatment varied by mothers (Table 7);

Table 7. Length of Umbilical Cord Treatment: Number and Percentage of Response

	Non-Sepsis Group (n=23)* N (%)	Sepsis Group (n=11)* N (%)
1--- 7 days	10 (43.48 %)	6 (54.55 %)
8 --- 14 days	7 (30.43 %)	3 (27.28 %)
15 --- 29 days	1 (4.35 %)	1 (9.09 %)
≥ 30 days	5 (21.74 %)	1 (9.09 %)

*Frequency Missing = 1 in each group

Although the majority of mothers (73.91% in the non-sepsis; 81.82% in the sepsis) reported the duration of umbilical stump treatment to be within 2 weeks, six mothers (26.09%) in the non-sepsis group reported a fairly long duration of umbilical cord care. The mothers mentioned that the slow process of healing for the baby's umbilical stump was due to the mother's consumption of salty foods. It is a local belief that salty foods consumed by the pregnant mother are passed onto the baby which makes it difficult for the umbilical stump to heal. The longest reported cord care was nine months; however, I was not able to confirm the accuracy of this information through the follow-up question.

5.4.6 Newborn Care: Traditional Health Practices

Participants were subsequently asked if they knew any traditional practices related to newborn care. A variety of response came back from all the participants except for five mothers in the non-sepsis group who stated that they do not believe in or and practice any traditional health practices. Table 8 presents the results of the mother's responses concerning their traditional practices. Due to the large variety of responses, I have provided only the practices that were mentioned by more than two mothers in this table.

The findings gathered from the questions regarding their traditional practices were similar to each other. The majority of the traditional practices listed were mentioned in both groups. It was found that the mother's use of acete de manzanilla oil, a type of mentholated chamomile oil, was ranked within the top 3 in both groups. This was an interesting and important finding for this study since the staff members at the health center mentioned that many cases of umbilical cord infections occurred due to this practice. Several participants also mentioned the concept of 'pilay' and 'spoiled milk' as a type of traditional practice.

Table 8. Traditional Practices related to Maternal and Child Health

Traditional Practices related to Maternal and Child Health	
Sepsis Group (n=12)	
7	Put acete de manzanilla/oil on the baby's head, feet and/or belly
6	Do not give the baby a bath every Tuesday and/or Friday
4	Avoid foods which are not good for a baby
4	Do not bring the baby outside after dark
4	Avoid cutting the nails on Friday
3	Put a rosary to the baby to avoid evil spirits
3	Expose the baby to the sun every 7am
2	Do not carry the baby in the "wrong" way which leads to undesirable 'pilay'
2	Bath the baby early in the morning
2	Do not let others kiss the baby
2	Apply proper feeding and vitamins
Non-Sepsis Group (n=24)	
12	Do not give the baby a bath every Tuesday and/or Friday
11	Avoid foods which are not good for the baby
8	Put acete de manzanilla/oil on the baby's head, feet and/or belly
4	Do not breastfeed when the mother is tired
4	Do not bring the baby outside after dark
4	Put a rosary on the baby to avoid evil spirits
2	Give herbal medicines (ampalaya or bitter melon) if the baby has a cough
2	Avoid cutting the nails on Friday
2	Do not let others kiss the baby
2	Bath the baby early in the morning
2	Do not cut the hair until the baby reaches one year of age
2	Do not expose the baby to the rain

5.4.7 Mother's Source of Information

A majority of the mothers identified their own mother as a primary source of information for maternal and child health practices (83.33% in both groups). Neighbors (33.33% in the non-sepsis group; 54.54% in the sepsis group) and relatives (37.50%; 41.67%) were second most popular answers in both groups. Five mothers (20.83%) in the non-sepsis group also identified the hilot as their information source. In both groups, only a few people named medical practitioners, such as a midwife (n=1), doctor (n=3) or health center (n=2) as their source for knowledge on newborn practices.

5.4.8 Health-Seeking Behaviors

5.4.8.1 Mother's Perception of Availability of Services

Participants were asked to list all of places they knew were the available for mothers to seek care when their babies become sick (Table 9). This question sought to understand the level of information the mothers had regarding available services in the area, and to identify the services or places that are perceived as available to the mothers. All the participants except one mother mentioned the health center as a place available for poor mothers. Remarkably, the hilot (n=22 (91.67%); 9 (75.0%)) was the next most frequent answer given by the participants in both groups. The Public Hospital (n=14 (58.33%); 8 (66.67%)) and Private Hospital (n=12 (50%); 7 (58.33%)) were then mentioned by the mothers, but the number of participants who identified these places significantly dropped in the non-sepsis group. Less than half of the participants listed the rest of the available services in the table, such as the RITM, the Philippine general hospital, Hospital of Muntinlupa, herbal treatment, maternity clinics (both private and public), relatives and church.

Table 9. Free-Listing: Available Places to Seek Care

Non-Sepsis Group (n = 24)	Sepsis Group (n = 12)
23 Health Center	12 Health Center
22 Hilot/Alburalyo (TBA/Traditional Healers)	9 Hilot/Alburalyo (TBA/Traditional Healers)
14 Public Hospital	8 Public Hospital
12 Private Hospital	7 Private Hospital
5 Philippine General Hospital (PGH)	3 RITM
4 RITM	2 Philippine General Hospital (PGH)
2 Use Herbal Treatment	2 Maternity Clinic (Private)
1 Hospital of Muntinlupa-semi-government	1 Use Herbal Treatment
1 Relatives	1 Church
	1 Maternity Clinic (Public)

5.4.8.2 Patterns of Health Care Utilization (Rank-Ordering)

I utilized the method of rank ordering to understand the patterns of the mother's health

seeking behaviors. In this question, I asked the participants in the study to arrange the places where they would seek treatment in the sequence that they would choose for the following situations: if the baby has a cough; if the baby has poor feeding (weak sucking); if the baby has fluctuating fever; if the baby has diarrhea/vomit; and if the baby has a smelly umbilical cord. Participants were asked to only choose the places they would seek for treatment in reality. The choices of places to choose were given to the participants, and the participants were also encouraged to add other places they would seek for service if they were not on the list. Follow-up questions were asked immediately after the selection of rankings by the mother. Figure 5–14 and Table 10–19 showed the results of the rank ordering in both groups by each situation.

The mother's utilization of home remedies and the health centers were reported throughout the data of the participant in both groups. The health center was ranked as the number one choice above all other choices in both groups in the situation in which the newborn had poor feeding (50.00% in the non-sepsis group; 66.67% in the sepsis group) (Figure 7 and 8, Table 12 and 13), diarrhea (41.67%; 41.67%) (Figure 11 and 12, Table 16 and 17) and smelly umbilical cord (33.33%; 41.67%) (Figure 13 and 14, Table 18 and 19). The follow-up questions were asked to the mothers regarding their choice of home remedies and the traditional birth attendant.

5.4.8.2.1 Home Remedies

Utilization of home remedies as the first resort was the most frequent response in the situation in which the baby had cough and fluctuating fever in both groups (Figure 5 and 6, 9 and 10; Table 10 and 11, 14 and 15). Of the total participants in this study, 86% of the mothers used home treatment in at least one of the situations described in this question. When we asked what kinds of treatment the mother give to the child at home, over a half of the mothers (n=18) reported the use of commercial medicines which include fever medications such as Paracetamol (n=5), Temptra (n=4); and diarrhea medication such as oresol (n=3) and so on. A few mothers mentioned that they obtained these drugs from their sisters or neighbors who had purchased the

medicines for someone else. The use of herbal medicines was reported by over 50% of the participants. Almost all the mothers who mentioned the use of herbal medicines reported to use an extract of leaves, such as oregano and bitter melon, for the newborn who had cough. Other home remedies reported in the interview include checking temperature (n=1), putting a damp towel on the baby (n=2) and bathing (n=2) for fever; checking cord and applying alcohol to vicks (abdominal binder) for smelly umbilical cord (n=3); steaming him using vicks for cold (n=1); and simply observing the condition (n=2).

The length of home treatment depends on the seriousness of the condition of the newborn. However, the majority of mothers who used the home remedies reported an average of 3 days for treatment and observation of their child before seeking care outside the home.

5.4.8.2.2 Hilot/ Traditional Birth Attendant (TBA)

A mother's utilization of a traditional birth attendant (TBA) or "hilot" the Filipino term, was found to be used in the case of cough, fever and smelly umbilical cord. The hilot was more commonly reported as used in these situations by the participants of the non-sepsis group.

In the non-sepsis group, when the baby had a cough, the hilot was ranked third in the first resort for seeking health care (Table 10). In addition, half of the participants, who chose to use home remedies or a health center, indicated they used the services of a hilot as their second resort. Similar responses were found for the case of fluctuating fever also. About half of the mothers (44.44%) who selected home remedies as their first resort chose the hilot as their next resort (Table 14). However, only one person selected the hilot as her second resort after first choosing the health center. In contrary, in the situations of cough and fluctuating fever, all the mothers who selected the hilot as their first resort indicated that they would utilize the health center as their next choice.

In the sepsis group, the utilization of the hilot was reported in only the following situations; cough, fluctuating fever, and smelly umbilical cord (Table 11, 15 and 19). However,

the number of mothers who chose the service of a hilot was not large. It is recognized that the small sample size of the sepsis group is a possible underlying factor for such a result.

The most commonly reported reason for choosing the hilot was the thought that the baby might have “pilay” which can only be treated by the hilot. As described earlier, cough and fever were considered as general symptoms of pilay. In addition, three mothers also stated the possibility that evil spirits might be causing the baby sickness such as cough and fever. The participant explained that the illnesses caused by pilay and or evil spirits reside inside of the baby’s body which needs to “get to the surface” through the practices of the hilot (i.e., massage). Therefore, it is likely that the high frequency of utilization of the TBA reported by the mothers is related to their beliefs in pilay and evil spirits. Furthermore, one participant identified diarrhea also as a symptom of pilay in this study, and this participant selected the TBA as her first resort for seeking care when the baby had diarrhea. If the baby’s condition, such as cough and fluctuating fever, did not improve by visiting the hilot, over 90% of the mothers reported taking the baby to the Health Center.

Utilization of the hilot was also observed in the case of the smelly umbilical cord (Table 18 and 19). Three mothers said that they chose the hilot because “the hilot was the one who delivered the baby”. As it was stated earlier, the hilot mentioned that the care of the umbilical cord after the delivery was a part of her responsibilities in providing maternal services. Therefore, it is likely that the mothers consider the hilot to be a professional in the field who might be able to give advice in this situation. Similar reasons can be assumed for the mother’s relatively frequent utilization of the midwife in this situation. A few mothers identified the midwife as the person who knows how to treat problems of the umbilical cord. In the present study, both the midwife and hilot were the most frequently utilized form of health service for delivery by the participants in both groups (See the table 5 in the previous section).

Figure 5. Rank Ordering: Cough (Non-Sepsis Group)

Non-Sepsis Group: First Choice

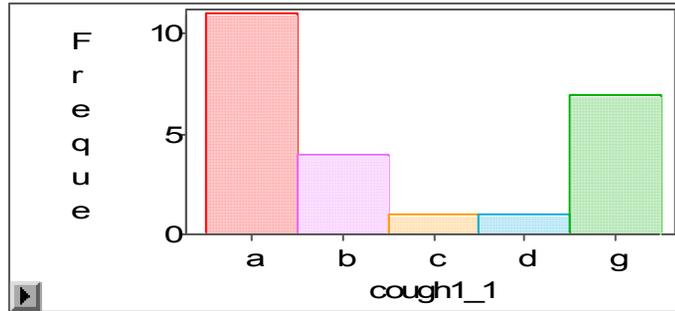


Figure 6. Rank Ordering: Cough (Sepsis Group)

Sepsis Group: First Choice Cough

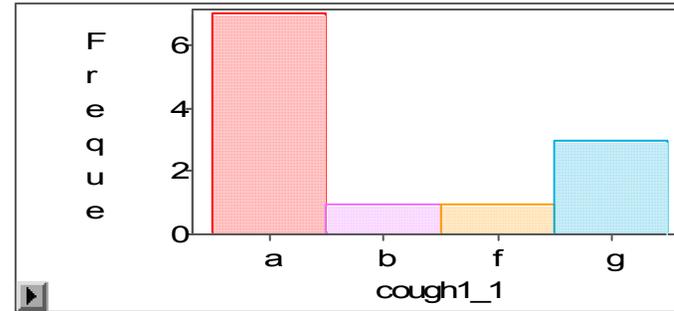


Table 10. Non-Sepsis Group: First Choice–Second Choice (Cough)

First Choice (N) (%)	Second Choice (N)	%
A (11) (45.83)	B (4)	36.36
	C (1)	9.09
	G (6)	54.55
B (4) (16.67)	G (4)	100.00
C (1) (4.17)	G (1)	100.00
D (1) (4.17)	G (1)	100.00
G (7) (29.17)	B (4)	57.14
	E (2)	28.57
	F (1)	14.29

Table 11. Sepsis Group: First Choice–Second Choice (Cough)

First Choice (N) (%)	Second Choice (N)*	%
A (7) (58.33)	B (2)	28.57
	C (1)	14.29
	F (1)	14.29
	G (3)	42.86
B (1) (8.33)	G (1)	100.0
F (1) (8.33)	-	-
G (3) (25.00)	E (2)	66.67
	F (1)	33.33

* Frequency Missing = 1

CODE

A	Home Remedies	E	Private Hospital
B	Hilot/ TBA	F	Public Hospital
C	BHW	G	Health Center
D	Midwife	H	Other

Figure 7. Rank Ordering: Poor Feeding (Non-Sepsis Group)

Non-Sepsis Group: First Choice

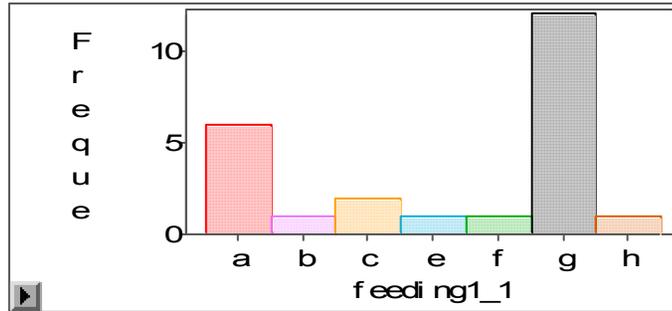


Figure 8. Rank Ordering: Poor Feeding (Sepsis Group)

Sepsis Group: First Choice

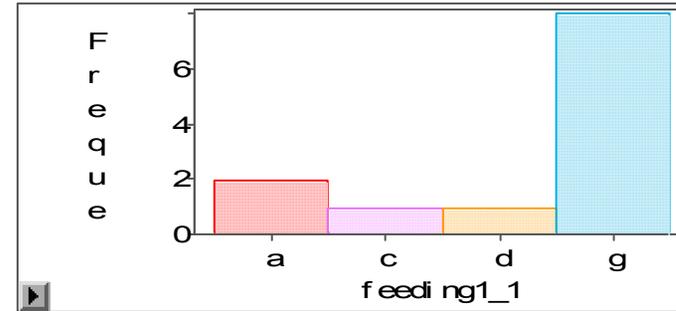


Table 12. Non-Sepsis Group: First Choice–Second Choice (Poor Feeding)

First Choice (N) (%)	Second Choice (N)*	%
G (12) (50.00)	B (2)	22.22
	E (6)	66.67
	F (1)	11.11
A (6) (25.00)	B (1)	20.00
	G (4)	80.00
C (2) (8.33)	G (2)	100.00
B (1) (4.17)	D (1)	100.00
E (1) (4.17)	–	–
F (1) (4.17)	A (1)	100.00
H (1) (4.17)	G (1)	100.00

* Frequency Missing = 5

Table 13. Sepsis Group: First Choice –Second Choice (Poor Feeding)

First Choice (N) (%)	Second Choice (N)	%
A (2) (16.67)	F (1)	50.00
	G (1)	50.00
C (1) (8.33)	G (1)	100.00
D (1) (8.33)	G (1)	100.00
G (8) (66.67)	A (2)	25.00
	E (1)	12.50
	F (5)	62.50

CODE

A	Home Remedies	E	Private Hospital
B	Hilot/ TBA	F	Public Hospital
C	BHW	G	Health Center
D	Midwife	H	Other

Figure 9. Ranking Order: Fluctuating Fever (Non-Sepsis Group)

Non-Sepsis Group: First Choice

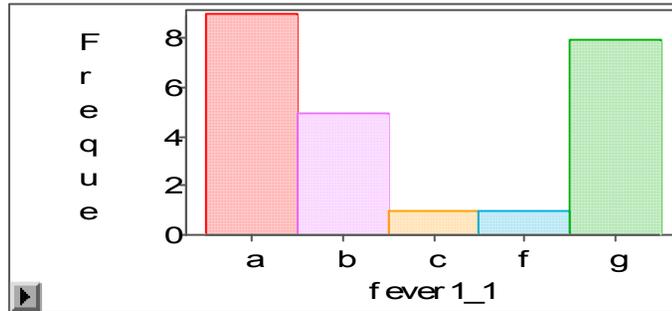


Table 14. Non-Sepsis Group: First Choice – Second Choice (Fever)

First Choice (N) (%)	Second Choice (N)	%
A (9) (37.50)	B (4)	44.44
	G (5)	55.56
B (5) (20.83)	G (5)	100.00
C (1) (4.17)	G (1)	100.00
F (1) (4.17)	B (1)	100.00
G (8) (33.33)	B (1)	12.50
	E (5)	62.50
	F (2)	25.00

CODE

A	Home Remedies	E	Private Hospital
B	Hilot/ TBA	F	Public Hospital
C	BHW	G	Health Center
D	Midwife	H	Other

Figure 10. Ranking Order: Fluctuating Fever (Sepsis Group)

Sepsis Group: First Choice

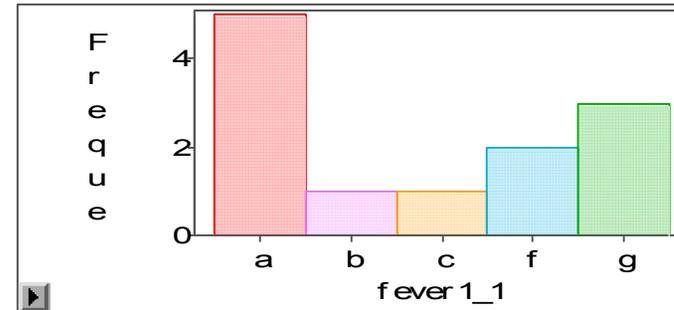


Table 15. Sepsis Group: First Choice – Second Choice (Fever)

First Choice (N) (%)	Second Choice (N)*	%
A (5) (41.67)	B (1)	20.00
	F (2)	40.00
	G (2)	40.00
B (1) (8.33)	D (1)	100.00
C (1) (8.33)	F (1)	100.00
F (2) (16.67)	E (1)	100.00
G (3) (25.00)	F (3)	100.00

* Frequency Missing = 1

Figure 11. Ranking Order: Diarrhea (Non-Sepsis Group)

Non-Sepsis Group: First Choice

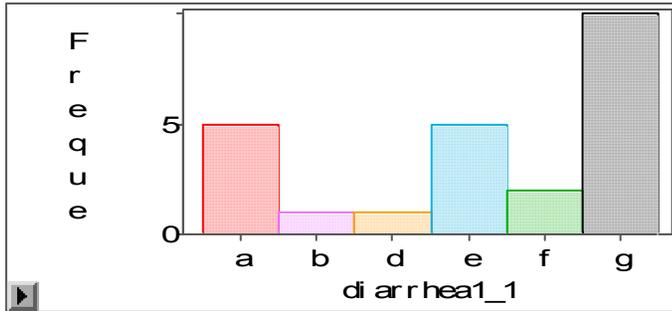


Table 16. Non-Sepsis Group: First Choice – Second Choice (Diarrhea)

First Choice (N) (%)	Second Choice (N)*	%
A (5) (20.83)	B (1)	20.00
	C (1)	20.00
	E (1)	20.00
	G (2)	40.00
B (1) (4.17)	D (1)	100.00
D (1) (4.17)	G (1)	100.00
E (5) (20.83)	F (1)	50.00
	G (1)	50.00
F (2) (8.33)	G (1)	100.00
G (10) (41.67)	C (1)	10.00
	E (3)	30.00
	F (6)	60.00

* Frequency Missing = 4

Figure 12. Ranking Order: Diarrhea (Sepsis Group)

Sepsis Group: First Choice

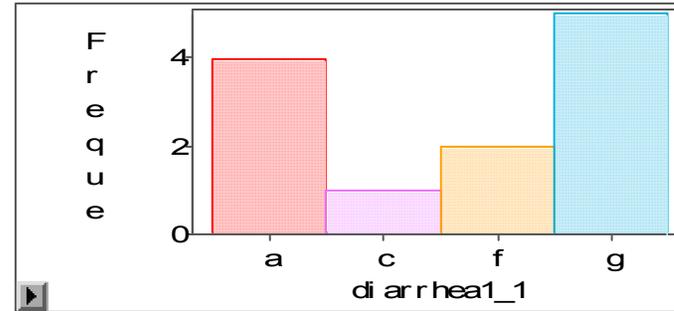


Table 17. Sepsis Group: First Choice – Second Choice (Diarrhea)

First Choice (N) (%)	Second Choice (N)*	%
A (4) (33.33)	B (1)	25.00
	F (2)	50.00
	G (1)	25.00
C (1) (8.33)	F (1)	100.00
F (2) (16.67)	–	–
G (5) (41.67)	A (1)	20.00
	C (1)	20.00
	F (2)	40.00

* Frequency Missing = 2

CODE

A	Home Remedies	E	Private Hospital
B	Hilot/ TBA	F	Public Hospital
C	BHW	G	Health Center
D	Midwife	H	Other

Figure 13. Ranking Order: Smelly Umbilical Cord (Non-Sepsis Group)

Non-Sepsis Group: First Choice

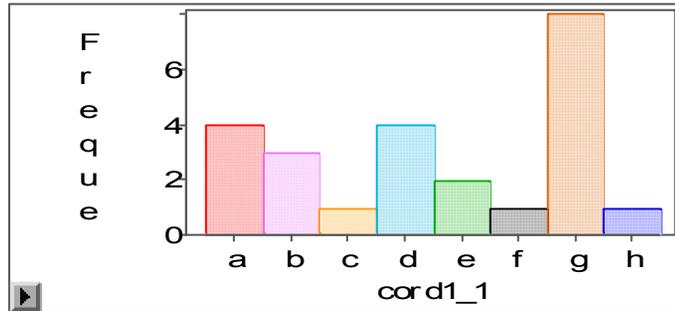


Table 18. Non-Sepsis Group: First Choice – Second Choice (Cord)

First Choice (N) (%)	Second Choice (N)*	%
A (4) (16.67)	D (1)	25.00
	G (3)	75.00
B (3) (12.50)	C (1)	33.33
	D (2)	66.67
C (1) (4.17)	G (1)	100.00
D (4) (16.67)	A (1)	25.00
	E (2)	50.00
	G (1)	25.00
E (2) (8.33)	-	-
F (1) (4.17)	-	-
G (8) (33.33)	C (1)	20.00
	E (2)	40.00
	F (2)	40.00
H (1) (4.17)	-	-

* Frequency Missing = 7

Figure 14. Ranking Order: Smelly Umbilical Cord (Sepsis Group)
Sepsis Group: First Choice

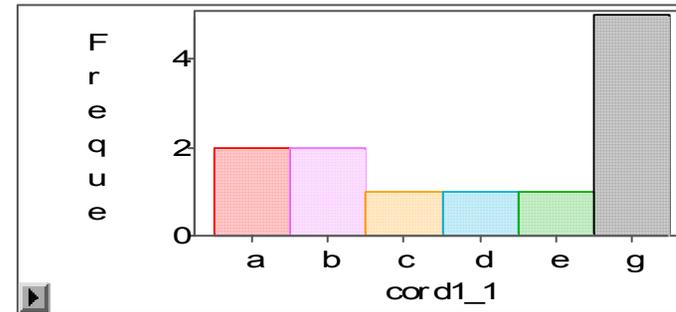


Table 19. Sepsis Group: First Choice – Second Choice (Cord)

First Choice (N) (%)	Second Choice (N)*	%
A (2) (16.67)	F (1)	100.00
B (2) (16.67)	D (1)	50.00
	G (1)	50.00
C (1) (8.33)	G (1)	100.00
D (1) (8.33)	G (1)	100.00
E (1) (8.33)	-	-
G (5) (41.67)	E (2)	40.00
	F (3)	60.00

* Frequency Missing = 2

CODE

A	Home Remedies	E	Private Hospital
B	Hilot/ TBA	F	Public Hospital
C	BHW	G	Health Center
D	Midwife	H	Other

5.4.8.3 Factors Related to Mothers' Health Behaviors

After conducting the ranking order, the mothers were asked what factors they took into account when deciding which services to use. The majority (83.33% in both groups) of mothers responded with a financial factor as their major concern, followed by opinions from others such as neighbors and husband (33.33% in the non-sepsis group; 50.00% in the sepsis group), seriousness of the baby's condition (33.33%;16.67%), familiarity to the service (20.83%; 16.67%), and distance (12.50%; 25.00%).

The second rank ordering was conducted in order to further understand mothers' health seeking behaviors. It was intended to examine how financial problems influence mothers' patterns of health seeking behavior in each situation, and to further identify other possible factors associated with mother's decisions of seeking care. Mothers were asked if they would change their order to seek care if the money was not their problem, and then, they were asked to rearrange the sequence of their health-seeking behaviors accordingly.

Slightly under half of the participants (45.83%; 33.33%) adjusted their preference of the sequence in each situation. Table 20 shows the results of the second rank ordering (only the first choice site) and the difference in the proportion of each site between the first and the second rank ordering in the five situations. The rest of the mothers (54.17%; 66.67%) responded that they would not change their answer due to their beliefs and familiarity in the services that they had chosen previously.

As the Table 20 shows, significant increase in the utilization of the private hospital was found across the data. The utilization of the private hospital as the first resort shows the increase between 8.34% and 26.09% in proportion in each situation. On the other hand, significant decrease of the utilization was found in home remedies and health center throughout the data. The use of home remedies decreased between 4.17% and 25.00% except in the cases of poor feeding and smelly umbilical cord in the sepsis group which did not show any change in proportion. In the use of health center, the decrease in proportion was found from -8.34% to

-33.34% with the highest in the case of poor feeding in the sepsis group. The upward shift of utilization to the private hospital was more likely to have been occurred among those who chose home remedies and health center as little change of reduction was observed in the utilization of hilot and other services.

Mothers frequently said that they feel more confident with the services provided by private hospitals rather than health centers or public hospitals. “Faster service” and “better medicines/treatment” were the most frequently given reason for choosing the private hospital. These voices were mainly heard from those mothers who switched their choice from the health center to the private hospital. In addition, the little shift in the utilization of hilot suggests that regardless financial factors, the hilot is still considered to have an important role in providing health services among urban mothers.

Table 20. Ranking Order: Second Part

1. Cough

Non-Sepsis Group

Code*	1 st Ranking** (N)	2 nd Ranking*** (N)	Difference (N)(%)
A	11	6	-5 (-19.74%)
B	4	2	-2 (-7.97%)
C	1	1	0 (+0.18%)
D	1	1	0 (+0.18)
E	0	6	+ 6 (+ 26.09)
G	7	7	0 (+ 1.26)

Sepsis Group

Code	1 st Ranking (N)	2 nd Ranking (N)	Difference (N)(%)
A	7	4	-3 (-25.00%)
B	1	0	-1 (-8.33%)
E	0	3	+3 (+25.00%)
F	1	1	0 (0.00)
G	3	4	+1 (+8.33)

***CODE**

A	Home Remedies	E	Private Hospital
B	Hilot/ TBA	F	Public Hospital
C	BHW	G	Health Center
D	Midwife	H	Other

2. Poor Feeding (Weak Suck)

Non-Sepsis Group

Code	1 st Ranking (N)	2 nd Ranking (N)	Difference (N)(%)
A	6	5	-1 (-4.17%)
B	1	1	0 (0.00%)
C	2	2	0 (0.00%)
E	1	5	+5 (+20.83%)
F	1	1	0 (0.00%)
G	12	8	- 4 (-16.67%)
H	1	1	0 (0.00%)

Sepsis Group

Code	1 st Ranking (N)	2 nd Ranking (N)	Difference (N)(%)
A	2	2	0 (0.00%)
C	1	1	0 (0.00%)
D	1	1	0 (0.00%)
E	0	3	+3 (25.00%)
F	0	1	+1 (+8.33%)
G	8	4	-4 (-33.34%)

**1st Ranking: The data comes from the first choice in the first rank ordering.

***2nd Ranking: The data comes from the first choice in the second rank ordering.

Table 20. (Continued)

3. Fluctuating Fever

Non-Sepsis Group

Code	1 st Ranking (N)	2 nd Ranking (N)	Difference (N)(%)
A	9	6	-3 (-12.50%)
B	5	4	-1 (-4.16%)
C	1	1	0 (0.00%)
E	0	5	+5 (+20.83%)
F	1	1	+1 (+4.16%)
G	8	6	-2 (-8.33%)

Sepsis Group

Code	1 st Ranking (N)	2 nd Ranking (N)	Difference (N)(%)
A	5	3	-2 (-16.67%)
B	1	1	0 (0.00%)
C	1	1	0 (0.00%)
E	0	3	+3 (+25.00%)
F	2	3	+1 (+8.33%)
G	3	1	-2 (-16.67%)

4. Diarrhea

Non-Sepsis Group

Code	1 st Ranking (N)	2 nd Ranking (N)	Difference (N)(%)
A	5	1	-4 (-16.66%)
B	1	1	0 (0.00%)
D	1	0	-1 (-4.17%)
E	5	11	+6 (+25.00%)
F	2	3	+1 (+4.17%)
G	10	8	-2 (-8.34%)

Sepsis Group

Code	1 st Ranking (N)	2 nd Ranking (N)	Difference (N)(%)
A	4	3	-1 (-8.33%)
C	1	1	0 (0.00%)
E	0	3	+3 (+25.00%)
F	2	2	0 (0.00%)
G	5	3	-2 (-16.67%)

5. Smelly Cord

Non-Sepsis Group

Code	1 st Ranking (N)	2 nd Ranking (N)	Difference (N)(%)
A	4	1	-3 (-12.50%)
B	3	3	0 (0.00%)
C	1	1	0 (0.00%)
D	4	1	-3 (-12.50%)
E	2	8	+6 (+25.00%)
F	1	0	-1 (-4.17%)
G	8	9	+1 (+4.17%)
H	1	1	0 (0.00%)

Sepsis Group

Code	1 st Ranking (N)	2 nd Ranking (N)	Difference (N)(%)
A	2	2	0 (0.00%)
B	2	2	0 (0.00%)
C	1	0	-1 (-8.33%)
D	1	0	- (-8.33%)
E	1	2	+1 (+8.34%)
F	0	2	+2 (+16.67%)
G	5	4	-1 (-8.34%)

5.4.9 Social Factors around Mothers and Newborns

5.4.9.1 Local Attitudes toward Mothers with Sick Babies

The social environment can influence a mother's life positively and/or negatively. A positive social environment increases the chances for mothers to obtain support from the outside, while a negative social environment decreases such chances. Coreil et al. (2001) noted that one's social environment is shaped by the concept of social roles, which are the behavioral norms and expectations associated with a defined position in the social structure (2001:103). Therefore, the micro level of the social environment surrounding mothers and sick babies, such as families, friends and neighbors, can be learned by how people positively or negatively perceive the mother in relation to the performance of her social roles. People's attitudes toward a mother with a sick newborn were examined by asking informants to describe their opinions about mothers whose baby had an infection in general. The majority (83.33% in the non-sepsis group; 75.00% in the sepsis group) characterized mothers with such babies as either 'negligent' or 'irresponsible'. The participants thought that mothers were to bear the full responsibility of a newborn's health; therefore, if the newborn had an infection, the mother was blamed for her failure to fulfill her job.

However, contrary to the informant's negative perceptions of a mother's performance, the actual social environment surrounding the mothers in the study turned out to be rather supportive. For example, when we asked the question, over a half of the participants in both groups (58.33% in the non-sepsis group; 50.0% in the sepsis group) also mentioned that they would give advice to the mother of a newborn. The severe condition of life in the urban squatters was likely to make people more understanding of the failures of a mother's performance in newborn care. A few mothers stated that a mother sometimes has little control over a newborn's infection due to the poor conditions where they live. One mother expressed her feelings as follows;

"I'll feel bad because we can't really avoid our children in getting sick especially in an area like here that is so dirty and so muddy." (Mother in the non-sepsis group)

The difficulties of life in the urban settlement may create a supportive social environment among poor mothers.

5.4.9.2 Problems in Life Surrounding Urban Poor Mothers

The participants were further asked to describe the difficulties that they encounter in everyday life, and how they approach these problems. These questions were aimed at understanding further details of the social environment in which urban poor mothers live, and how these mothers approach the given issues if they can.

The similar difficulties were listed in the top four rankings by both groups; financial problems (91.67% in the non-sepsis group; 100.0% in the sepsis group), lack of jobs (33.33%; 50.0%), a lack of daily foods (50.0%; 41.67%), and a lack of housing (16.67%; 41.67%). As I expected, financial problems were the biggest burdens in the life of urban poor mothers as a lack of financial resources are also related to other problems such as a lack of housing and foods. It is noted that a lack of housing as well as a lack of jobs was more frequently reported by the mothers in the sepsis group compared to those in the non-sepsis group. A lack of food was a serious concern of both groups of mothers in their daily lives. During the interview, a few mothers mentioned that they fed their newborns with water since they were not able to provide either breast milk or baby formula.

The majority of mothers reported to eke out a bare living through support from the outside. Of these, over 90 % of the participants in both groups mentioned receiving support from their family members, such as parents, siblings, and in-laws. Support from their neighbors was the second most frequent response given by the mothers (45.83% in the non-sepsis group; 66.67% in the sepsis group).

5.5 Case Histories of Mothers: Sepsis Neonatorum

At the end of the interview, case histories were obtained from all the mothers with babies who had sepsis neonatorum. Additional case stories were gathered from three mothers in the non-sepsis group who previously lost their children possibly due to sepsis. These mothers were found during the in-depth interviews. The signs and symptoms they described are very similar to those of sepsis neonatorum. However, it is noted that the actual cause of the baby's death is not known because the mother did not know or recall the cause of baby's death, and also because the baby died before being diagnosed by a doctor.

The participants were asked about their experiences with their sick babies based on the interview guideline (Appendix F). The purposes of the case stories were to understand the sets of conditions in which the mothers and their sick newborns dealt with their circumstances, and to examine the processes of health seeking behaviors of the mother's along with some rationale for such actions from the mother's viewpoint. The current study aimed to identify the socio-cultural factors which put mothers and their babies at an increasing risk of sepsis neonatorum. With the case stories described below, I was able to discover some important issues in the problem of sepsis neonatorum. All the names used in case stories are pseudonyms.

5.5.1 The Case of Jonalyn

A 21 year old mother of three boys, Jonalyn, was at first wondering why her one-month-old baby, Rico, was having diarrhea with fever. She delivered her baby at home with the help of a midwife, and had prenatal check ups, but did not have any postnatal check ups. Rico was continuously defecating, about six times a day. Jonalyn could not think of any reason as she always used mineral water for his milk. She gave the baby some commercial medicines for diarrhea, such as oresol, which she used for her first son who had had the same problem previously. Unfortunately, Rico's condition did not improve with these medicines. After two days,

Jonalyn's mother in law suggested that the baby be taken to the RITM, so, Jonalyn brought her baby to the Research Institute for Tropical Medicine (RITM).

Jonalyn did not notice any improvement in Rico's condition even after four days of being treated at the RITM. Furthermore, the staff members at the RITM did not tell her what kind of treatment they had been giving to her baby as Rico's condition had continued to worsen. By that time, the baby had diarrhea almost 10 times a day. Jonalyn and her family decided to transfer the baby to the Philippine General Hospital (PGH). However, a staff member at the RITM told them that they would not have any responsibility for the baby if Jonalyn moved the baby from the hospital. The staff at the RITM also warned Jonalyn that if she brought the baby home, diarrhea still would continue and it would worsen Rico's condition. However, she still decided to bring the baby home. As the staff at the RITM warned, Rico's condition became severely worsened. Now, Rico had diarrhea despite the fact that he had stopped taking any milk at all.

Jonalyn and her family observed the baby's condition at home while her husband went out and asked for help from their neighbors on what to do. They borrowed the car of a neighbor so that they could go to the PGH. Another neighbor gave approximately P100~200 for gasoline and P100 for other expenses. When they arrived at the PGH, the staff attended to Rico immediately because he was severely dehydrated. They examined his blood and Jonalyn and her family stayed there for 3 days. The baby recovered from the illness this time. Jonalyn recalled that her mother in law suggested that Rico be taken to the RITM because of the distance and the affordable price. However, Rico did not get well because Jonalyn thought the RITM did not have good quality of treatment. She still did not understand why the baby who had been fed with mineral water had developed diarrhea. She was told by others that her baby may have become sick due to spoiled milk, or another disease like infection in the lungs or an infection in the urine.

5.5.2 The Case of Rebecca

The second case comes from Rebecca, 23 years old; who has four children. Her baby, Jessie, died at the age of 2 weeks due to sepsis neonatorum. Like Jonalyn in the previous case story, Rebecca also delivered her baby at home with the help of a hilot. She had prenatal check-ups, but did not have any postnatal check-ups. On the first week after delivery, Rebecca woke up and noticed blood on Jessie's umbilical belt. Rebecca just thought that something was pulled or maybe the cord was touched by something because Jessie kept on moving while he was sleeping. The mother recalled that Jessie's umbilical cord was almost dry at that time. Rebecca did not think it was necessary to take her baby to the hospital since the blood was just flowing rather than spurting. She tried to treat the umbilical cord by herself and observed Jessie's condition at home.

After 3 days, Rebecca and her husband finally decided to take the baby to the Babaran private hospital as Jessie's condition became serious. Rebecca said that she wanted to take her baby to the Philippine General Hospital (PGH), but she was not able to do so because of a lack of money. Her mother and neighbors let the couple borrow some money for transportation to go down to the municipal hall. At the municipal hall, the couple asked for emergency assistance from the Department of Social Welfare Development (DSWD). However, they were not able to give any help at that time. The baby's condition was getting very serious. She described the situation as follows; "At the municipal hall, all I asked from them was the vehicle, ambulance. They pointed us to the lying-in, but the lying-in had no driver. The ambulance was there, but there was no driver. What could I have done?" People at the municipal hall told the couple that they had to wait for somebody to come before they could bring the child to the hospital. However, Jessie's condition worsened, and he had his last breath in front of the municipal hall.

5.5.3 The Case of Yunita

A 22-year-old mother of three, Yunita, delivered her baby-boy, Saldo, at home with the

help of a midwife. A month after delivery, Yunita noticed that her baby had a fever and some red marks on his face. At first, Yunita observed Saldo's condition at home, but she did not see any improvement. Fever continued, and the red marks now seemed to be spreading all over his face.

On the 4th day, Yunita and her husband decided to take the baby to the doctor. Since the health center was closed at time due to it being a weekend, the couple took her baby to the private clinic. The doctor at the private clinic took a blood sample, and found out that Saldo had an infection. They told Yunita and her husband that Saldo needed to be treated for 7 days with injections; therefore, they had to bring back the baby to the clinic for 7 days. The couple went back home and discussed the expenses that they might incur in order to treat the baby at the clinic. The baby, Saldo, still had a fever and red marks on his face. Her neighbor suggested that they should take the baby to the RITM where the price is much cheaper than at the private clinic.

Since the couple had already spent most of their money by taking the baby to the clinic, they had to borrow some money from neighbors to go to the RITM. After they arrived at the RITM, Saldo was found to have a blood infection, and was treated there for seven days. Their next problem was to manage a way to find money to pay the bill. Yunita and her baby were not able to leave the RITM for 2 weeks because they did not have the money to pay the bill. Her husband went to look for money, and he was finally able to receive financial support from the mayor.

5.6 Summary of Results

The results present a variety of information which include; the mothers' socio-demographic data, their knowledge related to newborn illnesses and infections, their practices of newborn care, their patterns of health-seeking behaviors, and the social and political environment surrounding them, and each individual mother's experience with her sick baby. The data obtained from the questions were classified, and then compared by group. It was found that both groups of

mothers showed many similarities in their data while some differences in response were also observed.

The overall demographic data for both groups of participants turned out to be similar to each other. Nevertheless, the data shows that mothers in the sepsis group are slightly poorer in terms of monthly income, and much less likely to own their own home than the mothers in the non-sepsis group. The demographic data related to maternal health reveals the mothers' frequent use of home delivery in both groups. However, use of home delivery was more frequently reported among mothers in the non-sepsis group compared to those in the sepsis group. The majority of the participants had a home delivery assisted by a hilot (TBA) or midwife with a history of prenatal check-ups, but no postnatal check-ups. The use of a hilot was slightly more frequent in the non-sepsis group while the midwife was more frequently listed than others in the sepsis group. A higher number of home ownership was reported in the non-sepsis group while access to sanitary toilet facilities was higher in the sepsis group.

The participant in both groups identified 'fever', 'cold' and 'cough' as signs and symptoms associated with newborn infection/illness. Only two mothers in the non-sepsis group mentioned the 'cord stump infection' as a sign associated with newborn illness. Mothers in both groups provided a variety of responses to the questions concerning the factors causing newborn infection. Newborn infections were thought to occur due to parental factors, environmental factors, and etiological factors. Only a few mothers in the non-sepsis group identified bacteria/germs as a cause of infection. On the other hand, mothers in the sepsis group thought newborn infection was related to heredity factors. The ethnomedical view of illness was observed in the majority of mothers in both groups. The most frequently mentioned local perceptions of illness related to newborn health were 'spoiled milk' and 'pilay'.

Mothers in both groups reported that bathing, feeding at the right time, and giving vitamins were major practices of newborn care. Immunization was mentioned only in the

non-sepsis group. Regarding umbilical cord care, all mothers except two mothers in the sepsis group reported using alcohol to clean the baby's umbilical stump. A long duration of umbilical cord care due to slow process of healing was observed in the non-sepsis group. The mothers associated the cause of the slow process of healing with mother's consumption of salty foods which was also a traditional belief among mothers. Other practices related to mother's traditional beliefs were explored. Similar beliefs and practices were found in both groups. More noteworthy was the use of acete de manzanilla oil (mentholated chamomile oil) on the baby which was ranked within the top 3 in both groups. During the key-informant interview, the staff member at the health center mentioned that many cases of umbilical cord infections occurred due to this practice. The concepts of 'spoiled milk' and 'pilay' were also mentioned as a type of traditional practice. Of all, only 5 mothers in the non-sepsis group stated that they did not practice any traditional newborn care.

The majority of participants in both groups identified the health center and hilot as their preferred available health service. The majority of the sepsis group also mentioned public and private hospitals while only half of the mothers in the non-sepsis group considered these services to be available. Both groups of mothers expressed positive opinions about services provided at private hospitals. On the other hand, mothers expressed both positive and negative opinions toward health centers. The participant mentioned that long waiting time, a lack of available medicines and the failures of treatment are the main problem at health center.

The results of rank ordering show that health centers were most commonly utilized by mothers in both groups for the situation where the baby had problem of poor feeding, diarrhea or umbilical cord. The majority of participants in both groups mentioned that they would utilize home remedies as their first resort for a situation in which the baby had a cough and or a fluctuating fever. The majority of mothers reported to spend an average of 3 days of home treatment before seeking care outside the home. Utilization of a hilot was reported in the cases of

cough, fever, and smelly umbilical cord. The mothers in the non-sepsis group reported higher utilization of the services from a hilot than those in the sepsis group. Again, the mothers mentioned their beliefs in 'pilyay' for the reason of their preference.

The participant in both groups mentioned financial factors as their major concern for deciding their health behaviors, followed by opinions from others, perceived severity of illness, and familiarity with the service and distance. In a hypothetical situation where money was not a problem, a half of participants in both groups adjusted their health seeking behaviors. The mothers in both groups showed their preference of utilization of service at a private hospital. The upward shift of use towards the private hospital was likely to have occurred among those who had chosen home remedies or the health center in the previous rank ordering as little downward shift was observed in the use of hilot and other services.

The majority of participants characterized mothers with sick newborns negatively, for being 'negligent' or 'irresponsible'. However, despite their negative perceptions toward such a mother, the mothers in both groups noted that they have noticed a relatively supportive social environment surrounding mothers with sick babies. Over half of the participants in both groups mentioned that they would give advice to a mother with a sick baby. As a few mothers implied in interviews, the severe conditions of urban life might make people more understanding of the failures of a mother's performance in newborn care.

The results also show that majority of the mothers in both groups have been confronting a variety of difficulties in everyday life. The top four rankings of difficulties listed by both groups include; financial problem, lack of jobs, a lack of daily foods and a lack of housing. Of particular note is that the mothers in the sepsis group are much more likely to suffer from the problems of unemployment and inadequate housing than those in the non-sepsis group. Over 90% of the participants in the study reported to seek support from their family members for emergencies, followed by their neighbors. Finally, the case histories obtained from three mothers illustrated

mothers' experiences with their sick babies, which gave me further insights of mothers' health-seeking behaviors and social environment.

Chapter Six Discussion, Recommendations and Conclusion

6.0 Introduction

In this final chapter of my thesis, I will discuss the implications of the findings which I believe are of particular importance in this study. These implications are discussed with reference to previous studies conducted in the field of Anthropology and Public Health. I will first start this chapter by addressing the limitations of the study. After the discussion of the results of this study, I will provide a set of recommendations which may well assist in the design of effective health interventions to reduce the risk of sepsis neonatorum in urban settlements. Finally, I will conclude this thesis with the application of this study to the field of Applied Anthropology and the Public Health.

6.1 Study Limitations

There were several limitations recognized during the study. First, the current study may not have been fully representative of the general population of urban areas due to the small number of participants enrolled in this study. The limited time available for the study made it difficult for me to identify the participants and to conduct interviews. Locating participants for the sepsis group was especially time-consuming as most mothers did not report their correct address and or they had already moved away from the address they provided at the RITM.

Second, there is the concern of rapport with regards to the participants in this study. Due to a lack of time, my research assistants and I may not have been able to build sufficient rapport with the participants in the study. During the interview, mothers were asked several questions

concerning their personal life experiences with their sick babies. Having positive rapport with participants seemed to be particularly important to elicit such potentially sensitive information from mothers, while inadequate rapport may hinder the chances for gathering such information.

Third, it is noted that information bias might have had effects on the data due to the nature of the interviews utilized in this study. In this study, I conducted in-depth interviews to gather information regarding the medical and social causes of neonatal death from the participants. The validity of the accounts from the mothers is uncertain as the participants have little or no medical background. The question of the validity of caregivers' accounts was reported in Sloan and her colleague's study (2001). In it they found a large number of inconsistencies in the information between death certificates and caregivers' accounts regarding the causes of maternal death in Mexico. For example, in their study, the mothers' accounts showed significant overestimation and underestimation of the attribution of maternal death compared to the death certificates. Such problems with the validity of mothers' accounts are also a concern in my study.

Fourth, other sources of information bias, such as recall bias or reporting bias, may have played a role in the study. In most cases, mothers were required to answer our interview questions while taking care of their infant. The interviews were frequently distracted as the baby started crying and asked for the mother's attentions. Under these kinds of conditions, it is likely that mothers might have neglected to report potentially important information. Subsequently, it is noted that there might have been a reporting bias during the interview. In this study, a few interviews were conducted in the presence of a staff at a health center who accompanied me to the field sites. The presence of a health practitioner might have caused the mother's reluctance to report certain issues she is aware of because of attitudes, beliefs and perceptions during the interview.

Finally, there was the limitation of language. As I did not speak Tagalog, the main language of the study area, some participants appeared to be reluctant to talk openly or appeared

shy during the interview. It is noted that the interview conducted by myself via the translators interrupted the natural flow of conversation with the participants. Therefore, it often made it difficult to explore further details of issues mentioned by mothers during the interview.

6.2 Implications for Interventions

This study revealed that both groups of mothers are very similar to each other in terms of their socio-demographic background, their knowledge and practices of newborn care, and their health seeking behaviors. Although differences in the socio-demographic data and opinions are recognized between the groups, the data found that the infants of the mothers in the non-sepsis group are likely to live in similar risk conditions for sepsis neonatorum as that of the infants of those in the sepsis group.

Similar to the reported frequency of home delivery in Muntinlupa City (City Health Office of Muntinlupa 2001), the study showed a high frequency of home delivery among mothers in both groups. The utilization of delivery services from the TBAs (hilots) is still common among mothers in the urban slums. However, the birth practices by the TBA may not be a factor which causes sepsis neonatorum, as the larger number of the mothers in the sepsis group reported to have received delivery services from the midwife compared to the TBA in this study. The data collected by this study do not allow me to conclude that there is a causal relationship of the use of TBAs and the incidence of sepsis neonatorum. As was reported in various studies (Paul and Rumsey 2002; Hoque and Selwyn 1996; Amooti-Kaguna and Nuwaha 2000), this study also showed that a mothers' preference for home delivery is due primarily to cost, unconstructive attitudes perceived at health clinics, the status of normal/abnormal pregnancy, the existence of family supports, and also the problem of distance.

In this study, almost all mothers in both groups identified the general routine practices of newborn care, such as regular feeding, bathing and cord care. On the other hand, only a few

mothers in the non-sepsis group identified immunizations and regular check ups as a part of their newborn care practices. A significant low level of attendance of postnatal check ups was recognized in both groups.

The findings of this study raised other issues related to the mothers' general practices. Almost all the participants in this study reported the use of alcohol in cleaning the umbilical cord. In agreement with a previous report by the WHO, the findings suggest that the long duration of the healing process may have been caused by the use of alcohol for umbilical cord care (WHO 1998). The long duration of the healing process was observed in this study especially among mothers in the non-sepsis group. The traditional explanation of a long healing process of the umbilical cord considers the mother's inappropriate consumption of 'smelly foods' as a cause; therefore, it prohibits mothers to consume certain types of foods. However, such perceptions could be a problematic in the given urban life where the lack of food is one of major concern for urban poor. The further understanding of the effectiveness of using alcohol, and how the long duration of the healing process may affect a risk of infection among the newborns need to be assessed.

Additionally, similar to the findings of a previous study in Bangladesh (Darmstadt and Saha 2002), the application of oil to the newborn was also prevalent practice in urban slums of the Philippines. The study found that the majority of mothers routinely applied aceite de manzanilla oil (chamomile oil) to the skin of newborns. The potential effectiveness or harmfulness of such oil application was not certain in this study. However, some staff members at health centers reported that this practice appeared to be an important component in the pathway of infection to the newborns. Therefore, the study suggests that future studies should explore mothers' oil use in terms of cultural meanings, its effectiveness, and alternative oil for aceite de manzanilla oil that mothers may use for this practice.

The study conducted by Scheper-Hughes (1984) documented mothers' poor feeding

practices attributed to mother's job, mothers' negative perceptions of breast milk, or insufficiency of milk. The findings of this study also found that these barriers hinder mothers' appropriate breastfeeding practices. Additionally, the concept of 'spoiled milk', one of the local perceptions of illness, was identified in relation to mothers' poor feeding practices. It was believed that a mother would produce 'spoiled milk' due to physical tiredness, and such milk would cause undesirable effects on the newborns when the mother breastfeed her child. Cody and her colleague (1997) have found a similar belief in Pakistan whereby mothers would pass coldness, a locally believed cause of pneumonia, from her body to the baby via her breastmilk. In contrast, a previous study conducted in the Philippines (Abada et al. 2001) did not find such local concepts or traditional factors to be associated with mother's feeding practices.

The local perception of illness, 'pilay', is another important concept which emerged in this study. Previous studies conducted in different parts of the Philippines also reported the concept of 'pilay' (Lieban 1976; Nichter and Nichter 1994; Tayag 1998). In urban slums of Philippines, Libean (1976) showed that the local perception of 'pilay (piang)' significantly influences mothers' decision to use traditional care when their infants had cough and or fever. Similar to Libean's study, this study also showed that many mothers identified 'cough' and 'fever' as signs of possible 'pilay', and showed their preference of seeking care from a traditional healer. The problem of 'pilay' is that it shares the same general symptoms with other common illnesses or diseases including sepsis neonatorum. Delayed admission to a medical facility is likely to occur when a mother perceives the causation of newborn's illness as 'pilay', and takes her newborn to the traditional healer. In this situation, the problem would arise if such newborn illness were caused by infection of sepsis. Therefore, developing a partnership with a traditional birth attendant is important to understand local beliefs and to obtain their cooperation for promoting mothers' timely admission of sick infants to a health facility.

This study revealed that a number of different issues seemed to be important in

influencing a mother's decision and choice of health seeking behaviors when her newborn becomes sick. Attitudinal factors are likely to play a role when a mother decides which service to utilize. Similar to previous studies (Amooti-Kaguna and Nuwaha 2000; D'Souza 2003; Stanton and Langston 2000), this study found the mother's favorable perception toward private clinics and traditional health services to be an important predictor of their decision to seek care. In these previous studies, it was found that mothers preferred private clinics because of the higher quality of service, faster services, and the resources available (Amooti-Kaguna and Nuwaha 2000; D'Souza 2003), while empathetic service was the central reason of consulting traditional healers (Stanton and Langston 2000). On the contrary, aside from providing free services, mothers are likely to identify the services at a health center to be unfavorable in comparison to private clinics or traditional healers (De Zoysa et al. 1998).

This study revealed a potential problem due to the mothers' dominant preference toward private clinics. The preference of private hospitals could result in unfavorable experiences if the fundamental issue of poverty is not addressed. For example, as Yunita's case story demonstrated, choosing the private hospital as the first resort for outside care may cause much higher expenditures as she was not able to afford to pay the service fee at the private hospital. And then, she and her husband had to generate more money for another transportation fee in order to seek other services. This resulted in the further delay of the admission of the newborn to a hospital.

The fact that many poor mothers are likely to be unfamiliar with western diagnostic tools suggests that a lack of communication between medical practitioners and mothers can cause wrong conceptions or understandings of treatment provided at a health facility, which further influence mother's health seeking behaviors. For example in this study, Jonalyn's case study showed that her dissatisfaction with the service provided at the RITM led to her very risky decision to move the baby who was in critical condition from the RITM to seek other health services. Similar findings have been reported in other regions (Hussain et al. 1997; Stanton and

Langsten 2000). In urban squatter settlements of Pakistan, Hussain *et al.* (1997) found that the misperception of ‘quick care’ causes mothers to frequently switch health providers, which did not allow the infant to have the necessary series of antibiotic treatment. The findings of my study also identified the mothers had an expectancy of ‘quick care’ in the service provided at a medical facility. It suggests that better communication between medical staff and mothers is important to solving mothers’ misunderstandings of the service which may contribute to her negative attitude toward the service and cause potentially risky health seeking behaviors.

Several previous studies have attributed the opinions of others, such as husbands or parents, to a mother’s health seeking behavior for ill infants (Ahmed *et al.* 2001; Amooti-Kaguna and Nuwaha 2000; D’Souza 2003). However, such social pressure did not seem to be a definitive factor in determining a mothers’ decision to seek outside care in either focus discussions or interviews. Rather, opinions from others, such as spouse, mothers-in-laws, and neighbors, appeared to be a supportive factor for mothers to make their decision. The difficulty of care seeking due to the mother’s competing responsibilities was not directly mentioned as most mothers perceived childcare to be their major responsibility. Yet, mothers are likely to face several other difficulties while taking care of their newborns, for example, their regular work, and finding food for family members. As identified in previous studies (Coreil *et al.* 1994; Mull and Mull 1994), these mothers’ regular house chores can be a competing responsibility which makes it difficult for mothers to seek timely outside care for their sick infants. This suggests that the involvement of family members is necessary to create a more supportive environment for mothers to seek outside care for their sick babies.

This study revealed several factors which are likely to shape a mother’s efficacy related to seeking care. For example, difficulty in obtaining transportation, including emergency service, were important obstacle as was mentioned in the case story. This finding is not consistent with other studies, which found accessibility as a less important factor in seeking care in urban areas

(Fernandez et al 2003). The availability of the health center was not mentioned as a problem during the focus discussions. However, mothers' accounts of their experiences with sick newborns showed there was a problem with available services at the health center if the poor mother brought the infant to the center after office hours.

The majority of the participants cited the problem of the financial cost, which was associated with the mother's health seeking behavior. Nevertheless, it was found that this is not the only factor which influences a mother's decision. Some mothers reported that they are likely to be able to generate some financial support from neighbors, their parents or relatives in cases of need. Such a supportive environment among urban poor mothers was also documented in the prior study conducted in this area (Jainsrakoo 2000). As Coreil and her colleague pointed out in their study (1994), 'the hidden cost' of mother's time is likely to affect mother's efficacy of affordability. The finding showed that mothers are likely to perceive the long-waiting time as a problem in utilizing health services. The problem of the long-waiting time lowers a mother's perceived quality of service at the health facility, along with other factors such as the health staff's attitudes, conditions of the health facility (e.g., poor facility, overcrowding), and treatments they receive (e.g., prescriptions for drugs instead of actual medicines). Similar to the findings in other studies (Bhandari et al. 2002; D'Souza 2003; De Zoysa et al. 1998), these are likely to be major factors which influence a mother's decision of health seeking behaviors.

The finding in the study conducted by Amooti-Kaguna and Nuwaha (2000) identified that a mother's 'habitual activities shape her health seeking behaviors. Consistent with their study, the findings of my study showed that a mother's patterns of health seeking behaviors were likely to be influenced by her habitual choice. In this study, about a half of the participants did not change their preference of health providers in the situation where money was not a problem. For such reasons, the mothers reported that they would prefer to engage in familiar behaviors regardless of their financial problems. This suggests that it is essential to educate mothers regarding the

possibility of life-threatening infections which can occur among newborns and the importance of early admission to the appropriate health facility in order to alter existing habitual patterns of mother's health seeking behaviors.

Finally, the study revealed that the maternal behaviors and the risk of neonatal sepsis were consequences of other broader factors which are driven by the widespread poverty of the Philippines. Consistent with a number of existing studies in this area (Asthana 1995; Harpham and Stephens 1992; Wang'ombe 1995), poverty is found to shape the environmental conditions (i.e., the level of access to resources as well as hygiene) around mothers and newborns and determines the mother's health seeking behaviors. In this study, the two field sites had prominent characteristics of the deprived environments in urban slum settlements, such as flooding and demolition. These factors make it more difficult for mothers to seek outside care for their ill infants. The demolition of urban squatter settlements seemed to be particularly problematic as the government conducted the activity which put urban poor in a more difficult situation. It is noted that there are uncoordinated efforts within governmental departments, in this instance, between the Department of health and the Department of Justice, to approach the problem of the urban poor. As poverty is also a nationwide problem, I argue that more coordinated efforts within governments are necessary in order to promote overall health for the people through the limited financial resources available.

6.3 Recommendations

Based on the issues that I have discussed in this chapter, I have attempted to make recommendations that would be feasible to implement in the current political and economic structure of the Philippines.

1. Improving the quality of service provided at health center.

The current economic conditions in the country make it difficult to solve the problems concerning resources, such as the lack of staff members and available drugs, at health centers. Therefore, health intervention should focus on the improvement in quality of services provided at health centers. This could be best achieved by implementing a training program for health staff members, which aims at improving their awareness of cultural differences such as the mothers' health beliefs (e.g., pilay), practices and behaviors, and increasing their cultural sensitivity toward mothers who might have these different beliefs and values. This type of training could be beneficial for health providers helping to provide more culturally sensitive services, which can result in gaining more trust from mothers, and having better communication with mothers who otherwise may develop misconceptions or misunderstandings about the treatments and services provided at the health centers. These are important components to achieving the most appropriate care for both health providers and patients.

2. Implementing community-based maternal education programs which involve other members of the family.

It is necessary to implement maternal education programs which address factors associated with newborn health. Education programs should not only provide mothers with information regarding prenatal and birth practices, but also should educate them regarding routine newborn care, and the potential danger signs and symptoms of illness among newborns. Educational programs should involve other influential family members in order to further develop a supportive social environment for mothers when problems arise. Therefore, such a program should be implemented at a community level where access to the program is ensured to all the members. Barangay Health Workers who were responsible for the community could be ideal personnel to facilitate such programs in each community. In addition, the implementation of such education programs should also take into account the existing local culture, such as their local

newborn practices or concepts of illness (e.g., ‘pilay’), to provide culturally sensitive education messages in the area.

3. Developing a partnership with traditional birth attendants

It was noted that the mother’s utilization of the TBA is still popular for delivery and in the case of some newborn sickness. Therefore, providing continuous training is important to enhance the skills of TBAs. In addition to such importance, providing TBAs further training is beneficial in promoting mothers’ early admission to the appropriate health facility. With respect to the local culture, the TBA could be trained regarding potentially dangerous illness symptoms among newborns, which resemble the local illnesses such as ‘pilay’. Developing a partnership with TBAs could encourage mothers to use both services simultaneously, and also allow for establishing a referral system between TBAs and health facilities. This could help to avert neonatal death due to the delayed admission.

4. Establishing active referral systems between health sectors.

Developing active referral systems between health centers, private clinics, and government hospitals could improve mothers’ timely access to the appropriate health facility. The referral system reduces the mother’s time deciding on another health provider, and it also enables the medical workers to follow up on the cases of sepsis neonatorum. Additionally, the improved reporting system between these sectors would further allow obtaining more reliable data on the neonatal mortality in the area, as well as helping local health facilities to conduct investigations of possible causes of the incidence.

5. Improving the measures which support access to the medical facility.

Intervention should focus on supporting access to the medical facility, especially in the

case of an emergency. A functioning emergency service could lead to the saving of lives of infants. It is noted that a mother's delayed admission was attributed to the lack of such functioning emergency services, and a lack of information regarding health services provided by public health facilities in an emergency situation. While improvement of emergency services cannot be over emphasized, the dissemination of information regarding the available public health services in an emergency could improve the mother's access to appropriate medical facilities.

6.4 Dissemination of Research Results

This study was conducted as a preliminary research project to develop a health intervention program to address the problem of sepsis neonatorum in urban districts of Muntinlupa City. The preliminary findings of this study have been presented to the members of sepsis group at the RITM following the end of my research project in the Philippines. In addition, as a final report of the research, this thesis will be sent to the sepsis group of the RITM for future health interventions concerning the problem of sepsis neonatorum and possibly other related health problems among infants in this area.

6.5 Contributions to Anthropology/Medical Anthropology

The discipline of anthropology values the integrity and diversity of human culture. This value of anthropology is also fundamental to medical anthropology. Medical anthropology attempts to understand the diversity of human culture in relation to human health. It acknowledges the diverse perceptions and interpretations of health and illness which are influenced by cultural norms, beliefs, values and social structure. Therefore, as Loustaunau and Sobo (1997) noted, the anthropological perspective recognizes "an appreciation for and an understanding of cultural diversity, as well as commonalities, which are essential to developing a

unified and effective system of health care delivery” (5). This research contributed to the field of anthropology/medical anthropology by describing a new example of such diverse perceptions of health and illness, and how these perceptions affected related health behaviors. The appreciation for cultural diversity was underscored as my recommendations attempted to create a harmony between biomedical knowledge and local knowledge of health, rather than to confront the existing culture. With these recommendations, I believe this study would further promote the anthropological values in public health interventions.

6.6 Contributions to Applied Anthropology

This study has provided broad insights into the micro level perspective of the local culture which mothers and newborns experience in their daily lives. In addition, the macro level perspective addresses the broader problems of the social and economic systems which are likely to be associated with the risk of sepsis neonatorum. The core value of the ‘holistic approach’ in anthropology was employed to understand the major issues around the problems, and to develop a bridge of knowledge and understanding between existing biomedical and traditional health systems in the study area. Although some weaknesses of the study were recognized, the findings of this study were able to voice the mothers’ opinions about their problems in urban settlements, and discover possible explanations of why certain health behaviors are taking place. Based on these findings, I was able to present a set of practical recommendations that could be integrated in designing health intervention programs for urban communities. By doing so, I believe this study contributes to applied anthropology whose fundamental value is the applicability of the anthropological perspectives to help solve human problems in non-academic settings.

6.7 Contributions to the Public Health

Public health activities aim at preventing diseases and promoting the health of the

population as a whole through assessment, policy development and assurance. These activities generally require researchers to have a variety of skills and knowledge in medicine, nursing, or general health science. While such skills and knowledge are important, the fields of anthropology and social behavioral science still have much to offer the public health activities of today. Using the problem of sepsis neonatorum in urban communities, this study provided an example of the application of anthropological perspectives to public health activities. For instance, one of the major findings in this research includes the possible relationships between socio-cultural factors and a mother's pattern of health seeking behavior, which may lead to an increased risk of neonatal mortality. I believe the anthropological approaches used in this study have provided useful information that health practitioners can integrate in future public health activities.

6.8 Conclusion

In conclusion, this research has described social and demographic dimensions of the problem of sepsis neonatorum. The development of health intervention programs are needed to prevent any further outbreak of sepsis infection in urban communities. Furthermore, I underscore that the intervention can not bring about the needed change without addressing the needs of the target community, along with all other key factors, such as local cultures, and social and political structures.

With the combined perspectives of applied anthropology and public health, I have addressed the environmental, social, behavioral and political determinants that affect health of newborns in the urban communities of Muntinlupa City. Based on the findings of the research, I have attempted to provide several recommendations which, I believe, can help design more effective health interventions in these communities.

Lastly, with several weaknesses found in this study, I acknowledge there is a pronounced need to conduct more studies to understand the existing local practices and beliefs in relation to

the risks of sepsis neonatorum. Still yet, this study provided useful insights into the conditions of the urban environment, local cultures related to newborn illness, and patterns of health seeking behaviors among urban poor mothers. I believe that the contribution my research makes to applied anthropology and public health is that it has provided another example of the benefits of integrating these two fields in understanding a neonatal health problem.

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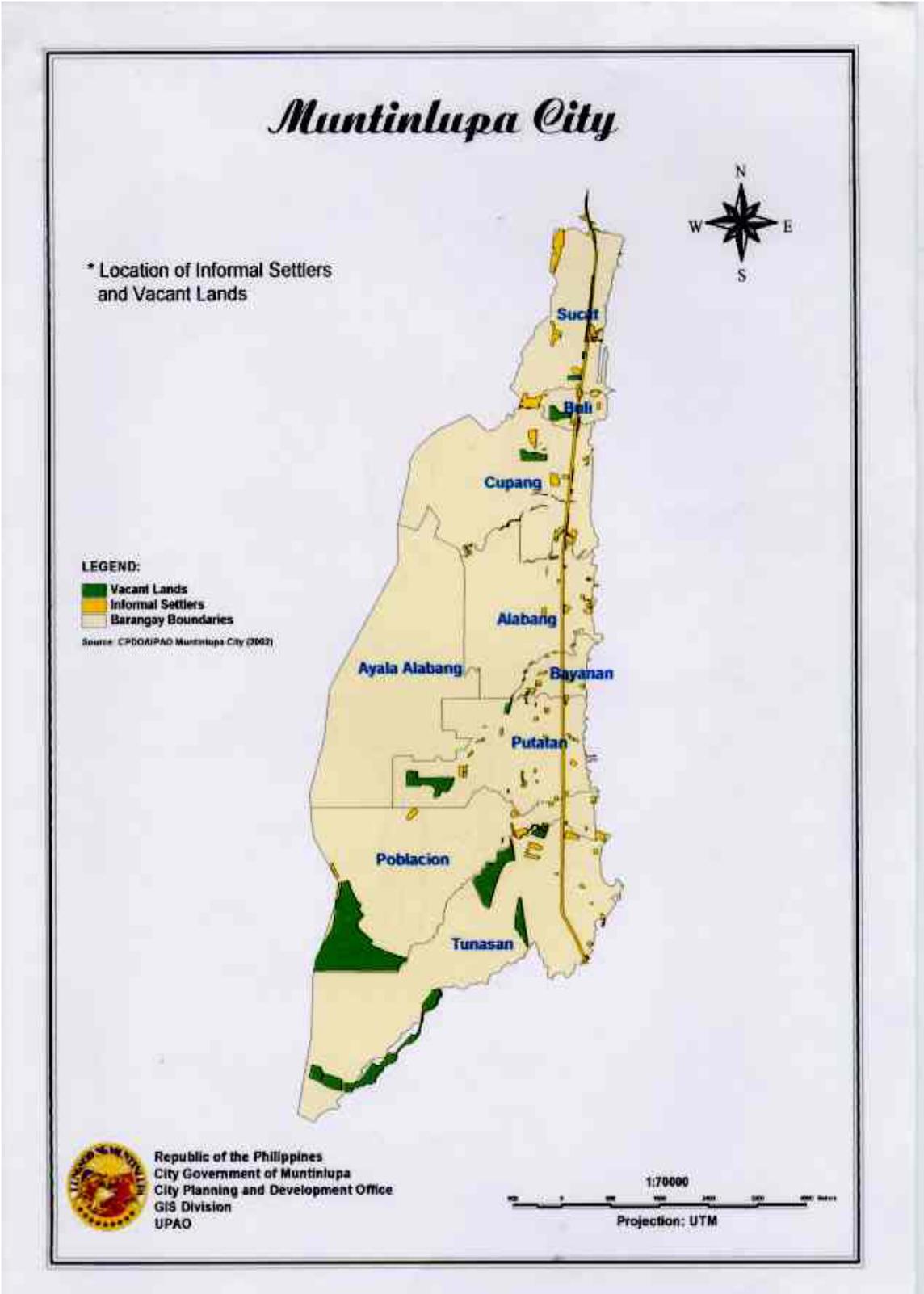
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Appendices

Appendix A: A Map of Muntinlupa City



Appendix B: Participant Observation Checklist: Field Sites

Date: ____ / ____ /2002 Name of Investigator _____

Time: From _____ to _____ Weather _____

1. Name of the location: _____
2. The Level of City: Large / Medium / Small / Barangay
3. List of Available Health Services (includes # of each service):
 - 1) Hospitals: private/public
Location: _____
 - 2) Health Clinics:
Location: _____
 - 3) Barangay Health Centers:
Location: _____
 - 4) Traditional Healers:
Location: _____
 - 5) Drug Stores: Includes the convenience stores that sell drugs/ prescription drugs
Location: _____
 - 6) Others:
Location: _____
4. Availability of other resources, such as public facilities (include # of each); (E.g. School)
5. Where do they access to the water?
6. How is the drainage system in the communities?
7. How is the sanitation facility (toilet)?
8. How is the garbage collected in the community?
9. Any hazards in the community?: Potential of pollution, train truck etc..., with reasons why you think
10. What is the general environment like?: crowded and so on
11. How is the housing condition in this community?
 - Types of materials used
 - Conditions: old/new, ventilation, etc...
12. Other findings: Especially from the conversation with people
 - related to living conditions, accessibility to health facilities, and so on.
 - Interaction between neighbors.
13. Description of your activities in this community
14. Comments:

Appendix C: Participant Observation Checklist: Health Center

Date: ____ / ____ / 2002 Name of Investigator _____
Time: From ____ to ____
Weather: _____

1. Observation Sites: _____
Types of clinics: Outpatient Clinics, Lying-in Center, Barangay Health Center
2. What is the overall environment like?
 - 1) Cleanliness: (Dirty- 1 2 3 4 5 Clean)
Criteria:
 - (1) Litter on the floor
 - (2) Trash can
 - (3) Bad odor
 - (4) Cleanliness of bathroom
 - (5) Cleanliness of desk/table: organized or disorganized?
 - (6) Dust
 - (7) Condition of ceiling
 - (8) Cleanliness of delivery room
 - (9) Ward
 - (10) Insects
 - 2) Ventilations
 - 3) Size of facility/ Space: # of rooms, ratio of patient to size of rooms
 - 4) Lobby: Are there enough chairs/ tables for patients? Is there any consideration for patients when it is raining?
 - 5) Other findings; lights
3. What kinds of services do they offer?
4. How do they examine patients, especially children? (Methods of use)
5. Types of patients: Walk-in/ Appointment
6. How long does patient have to wait?
7. What is their business hour?
8. # of health workers & # of hours/ days they work
Doctor:
Nurse:
Barangay Health Workers:

Midwife:
Other:
9. Average # of patients per day
10. Average # of patients for Maternal Child Health per day
11. What is the interaction between doctors, nurses, BHWs, and patients?
 - What is the role for each worker at health clinic?
Doctor:
Nurse:
BHW:
 - Time spent for each patient
Time from patient to meet midwife/ Time from midwife to Nurse, to doctor
 - How is the interaction like between health workers and patients?
- Ex.) Information giving/ Information taking?

Appendix C: (Continued)

Ex.2) Does patient ask questions? If so, how many?

12. Activities going on at the same time/place, if any
13. Other findings: E.g. findings from conversation with people
14. Comments

Appendix D: Focus Group Discussion Guideline

1. Where do people in your community deliver their baby?
- Probes: e.g.) Anything else?
2. What do you think are the advantages and disadvantages of having a delivery at the place you mentioned?
- Probes
 - 1) What are some ways of having a delivery at _____ could help or harm a woman/baby?
 - 2) What are some reasons that people you know might/ might not want to use the place you mentioned?
3. How do mothers take care of their baby?
4. Can you tell us what you know about the traditional practices related to newborn care?
5. Can you tell us about any problems mothers experience when they are taking care of newborns?
- Probes
 - 1) Tell me more about that.
 - 2) Can you give me some examples?
6. How do mothers manage problems related to _____?
7. Who do they go for help to manage problem with?
8. How is that approach helpful in managing problems related to _____?

Story-Based Question

Rebecca is living with a man by the name of Malvin. Malvin is a construction worker, and Rebecca is doing washing for money once a week. Rebecca has five kids at home; the oldest one is 7 years old, the youngest one is 2 months. Malvin gives money for food in the house, but he does not provide enough for everyone. One day, Rebecca noticed that her 2-month-old baby has been sucking weakly for few days and had a little bit of high temperature. She worried about her baby, so she asked her husband if she should take her baby to the clinic. Malvin told her not to go to the clinic because it costs a lot of money to get there. So, she did not take her baby to the clinic. Her baby still does not suck well, and now the baby has diarrhea and a fluctuating body temperature. Malvin tells Rebecca that their baby will be better soon, so they don't have to take him to the clinic. Rebecca worries about her baby very much, but she does not know what she should do.

1. What do you think about the way Malvin and Rebecca are living? (women's decisions, and men's decision)
2. Who makes the decision to do when their children get sick?
3. What do you think this woman should do?
4. If the woman does what you are saying, how do you think the man will react?
5. Do you think that the woman should talk to somebody about her problem? If so, who will be the person that she should talk? What can this person do for this problem?
6. Have you ever heard of the illness described in this story? As far as you know, how do people in general do when their baby becomes sick like this?
7. What are the available places for the mother like Rebecca to seek for advices or treatment when her baby gets sick?
- Probe:
 - 1) How can the place you mentioned help you?
 - 2) In your opinion, which healthcare services are most used in your community

Appendix D: (Continued)

3) What/ Who influences their decision to use this service?

Appendix E: Household Schedule Form

IDENTIFICATION	
CITY	Muntinlupa City
BARANGAY	
INDIVIDUAL CODE NUMBER	
ADDRESS	

INTERVIEWER VISITS				
	1	2	3	Final visit
Date				Day
				Month
Interviewer's name				Name
Result				Result
Next visit: Date	_____	_____		Total Number of visit
Name of respondent	_____	_____		
Time				
*Result Codes: 1. Completed 2. No competent respondent at home at time of visit of entire household absent for extended period 3. Call back 4. Refused				
Language of questionnaire:				
Name	Filed Edited By	Translated By	Keyed By	
Date	_____	_____	_____	

Appendix F: Guideline for In-Depth Interview: Semi-Structured Part

Semi-structured interview

Name of Participant _____ CODE# _____ DATE _____

QUESTIONS FOR MOTHER IN SEMI-STRUCTURED PART

I. QUESTIONS RELATED TO INFECTION (SEPSIS NEONATORUM)

1. Could you please describe the sign and symptoms of infection/sickness in very young babies (less than 2 months)?
 - What are the signs and symptoms?

PROBE
2. Could you tell me all the reasons you can think of why the very young baby gets infection or sickness which has the symptoms like; cough, weak suck, up and down fever, diarrhea/vomiting, and smelly umbilical cord?
3. What do you do to prevent your very young baby from getting such infection during the 1st month? And 2nd month?
4. If the very young baby got an infection, what do people think about the mother of that baby?

II. QUESTIONS RELATED TO CHILDCARE

1. How did/do you take care of your baby when she was 1-2 months old?
 - Where did you learn the practices that you mentioned?
2. How did/do you take care of the umbilical cord? Bathing? Bowel movement?
 - Explore the followings for each: 1) Length of taking care of umbilical cord
 - 2) How often?
 - 3) What did you use? How?
 - Where did you learn these practices?
3. What are the traditional practices of taking care of babies?
 - Among those you mentioned, which do you still practice? Why are you so persistent to do this?
 - Where did you learn these practices?
4. Have you had any problems or difficulties in taking care of your baby? Could you tell me your personal experience of taking care of your baby?

III. QUESTIONS RELATED TO HEALTH-SEEKING BEHAVIORS

1. Could you list all the places you can think of where you can have your baby treated?
2. RANK ORDERING:

Please order the card in the sequence you will choose in the following situation.

Selection	a) Home Remedies, b) Hilot/Folk Healer, c) BHW referral, d) Midwife referral, e) Hospital referral, f) Health Center referral, g) Other (Specify:)
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- (1) Your baby has cough
 - ()→()→()→()→()→()
 - *Could you tell me why you prefer to use these in this order?
- (2) Your baby has poor feeding (weak suck)
 - ()→()→()→()→()→()
- (3) Your baby has fluctuating fever (up-down fever)
 - ()→()→()→()→()→()
- (4) Your baby has diarrhea/ vomit

Appendix F: (Continued)

(5) Your baby has smelly umbilical cord
()→()→()→()→()→()

*FOLLOW-UP QUESTIONS

- **Home Remedies:** What kinds of home remedies do you use?
- **Hilot:** What kinds of treatment do they give?
- **Hospital/Hlth Ctr:** Why do you want to bring your baby to the hospital?; If private, why would you choose to bring your baby to the private hospital?
- **Other:** What kind of place is it? What kinds of treatment/service you can get from there?

3. What are the factors that you take into account when making a decision on where to seek treatment? (money? Somebody's opinion? If so, who?)

4. RANK ORDERING: Second part

If the money weren't your problem, where would you take your baby for treatment in the following situation?

(1) Your baby has cough
()→()→()→()→()→()

*Could you tell me why you prefer to use these in this order?

(2) Your baby has poor feeding (weak suck)
()→()→()→()→()→()

Your baby has fluctuating fever (up-down fever)

()→()→()→()→()→()

(3) Your baby has diarrhea/ vomit
()→()→()→()→()→()

(4) Your baby has smelly umbilical cord
()→()→()→()→()→()

(5) Your baby has smelly umbilical cord
()→()→()→()→()→()

5. How do you feel about the health center in your barangay? Did you have any problems or difficulties in seeking services at health center? If so, what are those? How can the center be improved?

IV. QUESTIONS FOR THE MOTHER WITH SEPSIS BABIES (Case Stories)

1. Could you describe your experience with your baby who was admitted at RITM?
 - Where did you deliver your baby?
 - When did the illness start?/ What were the symptoms?
 - What did you think was the reason for your baby's sickness? Did you think of any specific name for your baby's illness?
 - Why did you decide to take your baby to the RITM?
 - Did you ask somebody for help? Did somebody help you? If so, how?
2. Could you describe your problems or difficulties in your life?
 - How do you manage the problems?
 - Why do you go for help to manage problem with?
 - Is that approach always helpful to solve your problems?