

**FACTORS RELATED TO REGULAR UTILIZATION OF
ANTENATAL CARE SERVICE AMONG POSTPARTUM
MOTHERS IN PASAR REBO GENERAL HOSPITAL JAKARTA,
INDONESIA**



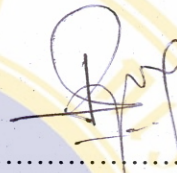
**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF PRIMARY HEALTH CARE MANAGEMENT
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY**

2008

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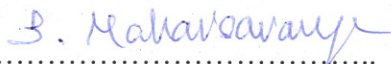
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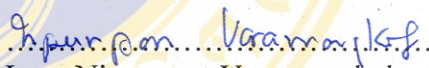
**FACTORS RELATED TO REGULAR UTILIZATION ANTENATAL CARE
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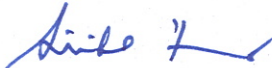
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Rustam Effendi

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FACTORS RELATED TO REGULAR UTILIZATION OF ANTENATAL CARE SERVICE AMONG POSTPARTUM MOTHERS IN PASAR REBO GENERAL HOSPITAL JAKARTA, INDONESIA

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ABSTRACT

A hospital based cross sectional study was conducted to determine the factors related to regular utilization antenatal care (ANC) among postpartum mothers in Pasar Rebo General Hospital Jakarta, Indonesia. The sample consisted of 177 postpartum mothers who came to the Obstetric Department of the Pasar Rebo General Hospital Jakarta, Indonesia and were admitted to the inpatient wards in the hospital after delivery of live birth babies were interviewed. Data were collected from 7th to 31st of January 2008 by using structured questionnaires. Data was analyzed by using the Minitab Program and was tabulated and presented in frequency and percentage for descriptive statistics. For inferential statistic Chi-Square and Crude Odds Ratio were used.

The study revealed that 80.0% of postpartum mothers regularly utilized the ANC service. The favorable mother's and husband's education, husband's occupation, family income, knowledge and attitude towards ANC, distance to ANC service and duration of waiting time in the ANC service area, source of information from family members and friends were found to be in a significant association with the regular utilization of ANC service among postpartum mothers (P-value < 0.05).

These findings suggested that close follow-up or home visits to mothers who have low education and income should be emphasized. Health education on the importance of ANC should be provided to family members and friends of the postpartum mothers. In addition, health education through mass media is still important for the public at large.

**KEY WORDS: REGULAR UTILIZATION / ANTENATAL CARE /
POSTPARTUM MOTHERS**

90 pp.

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LIST OF ABBREVIATION

ANC	:	Antenatal Care
AUSAID	:	Australian Agency for International Development
HB	:	Hand Book
MMR	:	Maternal Mortality Ratio
MCH	:	Maternal and Child Health
M.P.H.M	:	Master of Primary Health Care Management
WHO	:	World Health Organization
UNICEF	:	United Nations Children Fund

CHAPTER 1

INTRODUCTION

1.1 Rationale and Justification

Maternal mortality is the health indicator which shows the greatest differential between developed and developing countries, with the lifetime risk of death related to pregnancy and childbearing estimated to be 500 times as high for women in Africa as for those in developed countries (1). Of many health indicators that demonstrate comparison between developed and developing countries, maternal mortality shows the greatest disparity. Every year, eight million women suffer severe complications as a consequence of pregnancy, childbirth and unsafe abortion (2).

Maternal Mortality Ratio (MMR) in Indonesia (about 307 per 100,000 live births in 2002) is still the highest in the South East Asia region (National Health Demographic Survey, 2002-2003). Therefore an estimated 18,300 mothers die during childbirth each year, or 2 deaths every hour (3).

In the developing countries more than 150 million women become pregnant each year and an estimated 500,000 of them die from pregnancy related causes. At least 7 million pregnancies result in stillbirth or infant death within the first week of also because of maternal health problem. The death of women of reproductive age translated into substantial economic and social hardship for her families and communities. Most women in the developing world lack regular access to modern method of contraception (4). The high maternal mortality in developing countries relative to that in developed ones as result of two factors, high fertility and high risk of dying each time women become pregnant (5). As many as one-third of deaths among women of reproductive age (15-49 years old) may be due to pregnancy-related causes (6).

Each year, globally, 40-60 million women seek termination of an unwanted pregnancy under unsafe conditions (2). Globally, 80% of maternal deaths are due to direct obstetric complications: hemorrhages (25%), sepsis (15%), unsafe abortion (13%), hypertensive disorders of pregnancy, eclampsia (12%) and obstructed labor (8%), other direct causes like ectopic pregnancy, embolism, and anaesthetic-related (8%) and indirect causes like malaria, anemia and heart disease (8%). Poor maternal health also affects the chances of survival of the newborn (2).

Two important points in preventing maternal death are prevention of the pregnancy and the prevention of the risk factors, during pregnancy and delivery. What the woman behave is very important for the prevention effort. The behavior during pregnancy should be related with the maternal mortality besides many other factors (7). Because of the lack of ANC, maternal morbidity and mortality is the highest for poor women in developing countries.

To prevent unwanted outcomes of pregnancy, ANC is the most important method to detect the pregnancy problems in the early period. ANC is the provision of health services to pregnant women by professionals (Obstetrician, medical doctors, midwives, assistant midwives and nurses) during their pregnancies, which follow the existing ANC guidelines emphasizing on preventive and promotive activities. The ANC utilization rate is still low due to many factors which still need to be examined such as socio-demographic factors, knowledge or social support on ANC, accessibility and quality of ANC services (6). One of the most important functions of ANC is to offer the women advice information about the appropriate place of delivery given her own particular circumstances and health status. ANC is also an opportunity to inform women about the danger signs and symptom for which assistance should be sought from a health care provider without delay (2). The need for reducing maternal mortality has become a paramount concern in developing countries including Indonesia. One of the strategies for reducing maternal mortality in Indonesia is the provision of antenatal care (ANC). Previous studies have reported the advantages and disadvantages of ANC (8)

Utilization of ANC service may influence by variety reason, some of which relative directly to the lives of women whose are the main users. In many area women overburdened: they spend all their days working on the field, fetching water, preparing meals and procuring food for the family. They may have little energy and time left seek health care, especially when it is not accessible. Also in some societies, women prefer to consult or be examined by female health workers who may not be available (6). Utilization of antenatal services has been shown to be an important factor, affecting outcome of pregnancies. However, there are many populations of pregnant women who lack access to ANC (9)

This study was conducted in order to develop recommendations to increase regular utilization of ANC services among postpartum mothers in Pasar Rebo General Hospital Jakarta, Indonesia. The researcher expects to better understand the situation and factors associated with regular utilization of ANC service.

1.2 The Research Questions

The purpose of this study was to answer the following research questions:

- 1 What is the level of regular utilization of ANC services among postpartum mothers in Pasar Rebo General Hospital Jakarta, Indonesia?
- 2 What are the factors associated with regular utilization of ANC services among postpartum mothers in Pasar Rebo General Hospital Jakarta, Indonesia?

1.3 Research Objectives

1.3.1 General Objective

To identify the factors associated with regular utilization of ANC services among postpartum mothers in Pasar Rebo General Hospital Jakarta, Indonesia.

1.3.2 Specific Objectives

1. To determine the level of regular utilization of ANC service among postpartum mothers in Pasar Rebo General Hospital Jakarta, Indonesia.

2. To describe predisposing factors (socio economic status, knowledge and attitude on ANC, reproductive health history: parity; complications of past and present pregnancy), enabling factors (distance, travel cost, medical fee, satisfaction on service: waiting time; room environment; skills of health personnel) and reinforcing factors (source of information: health personnel, family members, friends, mass media; and support from husband) of the respondents.

3. To determine the relationship between predisposing factors and regular utilization of ANC service

4. To determine the relationship between enabling factors and regular utilization of ANC service

5. To determine the relationship between reinforcing factors and regular utilization of ANC service

1.4 Conceptual framework

The conceptual framework of this study is developed under the guideline of PRECEDE Model as shown in Figure 1.

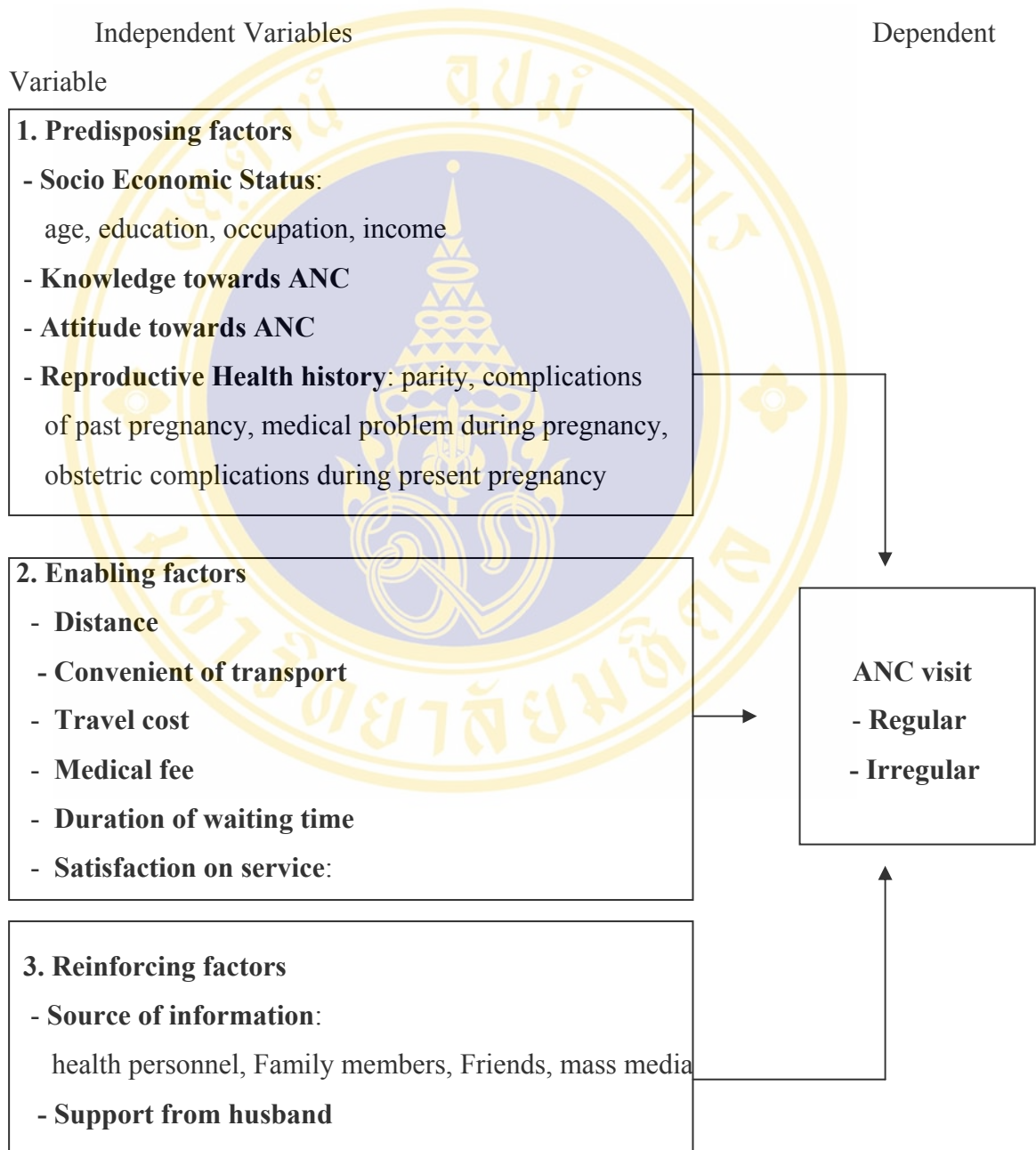


Figure 1 Conceptual framework

1.5 Operational definition of study variables

Age of respondents: refers to age of the respondents classified into three categories:

- < 20 years old (younger high risk)
- 20-35 years old (proper child bearing age)
- > 35 years old (elder high risk)

Education levels: refers to the level of education obtained by respondents, classified by: No schooling, primary school, secondary school, high school, academy/university, others.

Occupation: refers to respondents occupation, categorized as: housewife for women (unemployed for men), government officer, private job, labor, others

Monthly family income: refers to total income of husband and wife per-month. The minimum standard worker salary in Indonesia (DKI Jakarta Province) is about RP 819,000,-/month (current exchange rate US \$ 1 = RP 9,000 (10). Classified into three categories: < RP 1,000,000, RP 1,000,000 - RP 2,000,000 and > RP 2,000,000

Knowledge on ANC visits of postpartum women: means the information and understanding that postpartum women have gained through learning or experiences about the concept of ANC, important of ANC, schedule of ANC, service in ANC. This part includes 12 questions with total score of 12. One point was given as point 1 for correct answers and 0 point for incorrect answers, and do not know or no response. In descriptive analysis, knowledge is divided in to three levels: high, moderate and low knowledge:

High = score > 80 %

Moderate = score 60 – 80 %

Low = score < 60 %

Attitude towards ANC visits of postpartum women: means the degree of positive or negative views that postpartum women feel towards ANC. In this study the attitude levels of postpartum mothers towards ANC was divided into three groups as positive attitude, fair attitude and negative attitude, with concerning to the criteria, which above percentile 75, percentile 25 to 75 and less than percentile 25 respectively.

Positive attitude means score $= > P 75$

Fair attitude means score $= P 25 - 75$

Negative attitude means score $= < P 25$

It is measured by asking mother 10 questions with a total score of 30. These sentences consisted 6 positive and 4 negative attitude questions sentences and with 3 possible responses (agree, undecided and disagree) to a statement. For positive question:

Agree = 3 points

Undecided = 2 points

Disagree = 1 point

For negative questions:

Disagree = 3 points

Undecided = 2 points

Agree = 1 point

Parity: means the total number of deliveries when the pregnancy has lasted 28 weeks or more including live birth, fetal death. In this study parity classified into two levels: first and ≥ 2

Complications of past pregnancy: (past history of obstetrics) means history of complications during previous pregnancy and delivery. For example: abortion, preterm, low birth weight, bleeding, toxemia, etc. It is divided into 2 groups: never and ever.

Medical problem and complications of present pregnancy: means the medical illness and complications during present pregnancy. It is divided into 2 groups: yes and no.

Distance: The distance to nearest ANC service was classified into four levels: ≤ 5 kilometers, 6 - 10 kilometers, 11 - 15 kilometer and > 15 kilometers.

Convenient of transportation: Convenient of transportation is assessed from the perception of respondents. It is divided into convenient and inconvenient.

Travel cost: The travel cost is assessed from the perception of respondents.

Medical fee: means respondents have to pay for ANC service from their pocket. It is divided into expensive and inexpensive.

Duration of waiting time: means opinion of the respondents towards waiting time in the ANC service area. This consisted of 1 question about the duration of waiting time: less than 30 minute, 30 – 60 minute and more than 60 minute

Satisfaction on service: means perception of the respondents towards waiting time, ventilation, service area, manner and skill of health personnel. This part includes 5 questions with 5 scale of answer: very satisfy, satisfy, neutral, dissatisfy, very satisfy. The satisfaction is divided into 3 levels: high, moderate, and low by percentile ($> P 75$, $P 25-75$, $< P 25$ respectively).

Supports from husband: means the support from husband in term of information, encouragement, advice, money and accompany women to ANC service. This consisted 5 questions related to the social support from husband about ANC service. Score 1 was given for yes answer and a 0 was given for no answer of each question. The level of social support from husband divided into high (score \geq median) and low ($<$ median).

Source of information: in this study is defined as postpartum women receiving information regarding ANC from health personnel, mass media such as

newspaper, television, health magazine, and radio, friends, and members in family about ANC service. This consisted of 7 questions related to the source of information.

Regular utilization of ANC service: Regular practice on ANC service obtained by postpartum women during pregnancy at least 4 times complete the guideline of WHO. The pregnant women should come to ANC service for check up one time at 1st trimester, one time at 2nd trimester, and two times at 3rd trimester during pregnant period. Incomplete utilization of ANC service means irregular practice on ANC service obtained by pregnant women during pregnancy less than 4 times or not to follow the guideline of WHO.

1.6 Limitation of study

This hospital based study could not be generalized widely for the entire population, according to the study.

CHAPTER 2

LITERATURE REVIEW

2.1 Global and Indonesia situation of Maternal Mortality Rate

Maternal mortality is health indicator which shows the greatest differential between developing and industrialized countries. The lifetime risk of death as a result of pregnancy or childbirth is estimated at one in twenty-three for women in Africa, compared to about one in 10,000 for women in Northern Europe (1). Every year there are approximately 36,000 maternal deaths in 12 countries in the region of East and South East Asia (ESEA). Four countries (Cambodia, Lao DPR, Myanmar and Timor Leste) have high levels of maternal mortality, with over 300 deaths per 100,000 live births (11).

Globally, 60-80 per cent of maternal deaths are due to obstetric hemorrhage, sepsis (infection), obstructed labor, and hypertensive disorders of pregnancy (including exlampsia) and complication of unsafe abortion. These complications are unpredictable and most occur within hours or days after delivery (11). In the world especially in developing countries, complications of pregnancy and childbirth rate are the leading cause of death among women of reproductive age. More than one woman die every minute from such causes, 585,000 women die every year. Less than one percent of these deaths occur in developed countries, demonstrating that they could be avoided if resources and services were available (4).

The fifth MGD has a target of reducing the maternal mortality ratio. Indonesia reduced maternal mortality ratio (MMR) from 390 to 307 per 100,000 live births for the period 1998-2003 but is unlikely to achieve the MDG target. However due to Indonesia's large population, in practice a reduction of MMR of this magnitude into saving many women's lives. Philippines lowered MMR from 209 to 172. In the ESEA region, China, DPR Korea, Malaysia and Thailand have relatively lower MMRs (11).

Maternal Mortality Ratio (MMR) in Indonesia (about 307 per 100.000 live births in 2002) is still the higher in the South East Asia region (National Health Demographic Survey, 2002-2003). Therefore an estimated 18,300 mothers die during childbirth each year, or 2 deaths every hour. Maternal Mortality Ratio at hospital in Indonesia decreased significantly from 16 per 1.000 live births in year 2000 to 7.5 per 1.000 live births. The decreasing of this Maternal Mortality Ratio was caused by an increase in the number of live births. Then the next two years, the MMR in hospital decreased from 5.1 per 1.000 live births in 2002 to 1.1 per 1,000 live births in 2003. In 2004, number of live births was 25.797 so MMR increased to 8.6 per 1.000 live births. This showed the decreasing trend of routine checkups of pregnant mothers in hospitals, so the MMR was high and the Birth Rate was low. Regarding the causes of maternal death, the most common causes in 2004 were pregnancy complication such as delivery and post partum problems that accounted for 61.1% of maternal deaths. From CFR (Case Fatality Rate), the highest death was caused by eclamsia and preeclamsia with CFR 1.8%, although the percentage of its cases was not high that was 4.8% (12).

2.2 Historical aspect of Antenatal Care Service

Historically antenatal care began as social service in Paris in 1788 at two shelter homes for abandoned women. Antenatal care as we know today is a relatively new development in medicine. It can be said to have originated in Boston in the first decade of this century. Before that time, the patient who thought she was pregnant may have visited a clinic for confirmation of her diagnosis but did not come to the clinic again until delivery was imminent. In England the services started in 1919 with midwifery service, home visiting nurse. These services became so popular that in 1944. England and Wales' local authority clinics provided antenatal care for 77% of the total registered birth and 69.8% received an early home visit by a health visitor. A quarter of a century ago the World Health Organization expert committee on maternal and child health defined maternity care. This definition was later adopted with minor amendment by the WHO expert committee on the midwife in maternity care and continuous a globally accepted standard today (13).

2.3 What is antenatal care?

Antenatal care is the provision of health services to pregnant women by professionals (Obstetrician, medical doctor, midwives, assistant midwives, and nurses) during their pregnancies (12). Antenatal care is the care of pregnant women during their pregnancies. The aim of antenatal care is to see each women at least once in early pregnancy in order to advise her for achieving a safe and healthy pregnancy and to identify any pre-existing factors that could increase risks to her or her infant (14). The goal of antenatal care is to monitor the progress of pregnancy and to identify potential problems before they become serious for either mom or baby. And also, antenatal care is an umbrella term used to describe the medical procedures and care that are carried out during pregnancy. In promoting antenatal care, it is essential that the effectiveness of this service leaves no room for doubt (15).

In theory, antenatal care reduces maternal and prenatal morbidity and mortality directly through the detection and treatment of pregnancy-related or intercurrent illness or indirectly through the detection of women at increased risk of complications of delivery by ensuring that they are cared for in a suitably equipped facility. The basic content of care at each visit has not changed substantially over the years, although modern technology has led to the introduction of several new elements in pregnancy surveillance. In countries where women usually attend antenatal services early in pregnancy, the average number of visits is 10-12, and attendance rates are nearly 100%. Recently, trials have indicated that reducing the number of antenatal visits does not affect overall outcome (16).

In developing countries, where 80% of the world's women live, the process of pregnancy and childbirth is still sometimes quite dangerous (13). The recommended programs of antenatal care in most developing countries are often similar to those used in developed countries. However, departure from the standard programs is almost always the rule, usually the result of insufficient resources or women's lack of attendance (17).

Women who regularly go to antenatal care institutions and have good health as well are more likely to have live-birth while women who had bad health and had no antenatal care services were more prone to have dead babies and women who had good health and receive no or insufficient antenatal care services are more likely to have live-births except in a very few cases, where there were some medical problems that increase their liability to have stillborn babies (18).

2.4 Benefits of antenatal care

In Indonesia antenatal care follow the existing antenatal care guideline emphasizing on preventive and promotional activities. Result of antenatal care can be seen from K1 and K4 service coverage. K1 coverage that is also called the access to pregnant woman care is a general description of pregnant women who have conducted their first visit to health care facilities to obtain antenatal care. While K4 is general description of pregnant women who have abstained pregnant mother care according to standard during at least 4 visits with a distribution of one visit in the first semester, one visit in the second semester and two in a third semester. This number can be utilized to look at the quality of health care for pregnant women (12). As one of the basic components of maternal care on which the life and health of mothers and their children depends. UNICEF has stated that ANC services improve the survival and quality of life of mothers and babies.

A study from Indonesia found that women who received no ANC were more than five times as likely to die from pregnancy related causes as those who attended an antenatal clinic (19). The other study in Surabaya, Indonesia showed that low socio-economic factors, such as living in rural area, unemployment, poor hygiene and unavailability of antenatal care, have an influence on the high maternal mortality (20).

Most formal investigation of the effectiveness of ANC programs whether in developed or developing countries, have concentrated on the effect of care on infant outcomes, prenatal mortality, preterm delivery and low birth weight (1). Indirect effect of antenatal care attendance is difficult to assess, but important to consider.

Routine antenatal care visit may raise awareness about the need for care at delivery or give women and their families a familiarity with health facilities that enables them to seek help more efficiently during crisis. Numerous studies have examined the relationship between antenatal care utilization and maternal outcome. Such as, retrospective studies in other countries found that a lack of antenatal care was an important risk factor for maternal death. The results of this study show that antenatal care utilization is an important determinant of safe delivery care and this suggest that enabling women to get better antenatal care will increase the use of safe delivery care as well (21).

ANC is still one of the most widely used strategies to improve maternal health particularly during pregnancy in the developing countries. The aim of ANC is produce a healthy mother and baby at the end of the pregnancy by prevention and treatment of pregnancy-related morbidity and the detection of women at high risk for delivery complications (8).

The World Health Organization (WHO) has proved how effective ANC can be in improving maternal health when it is used to prevent and to treat infection and anemia; to detect and treat hypertension due to pregnancy (8).

Nuraini and Parker ascertained if a new approach to ANC can improve pregnant women's knowledge of its benefits. The findings showed that the improvement of knowledge is significant particularly in the knowledge about healthy pregnancy ($p=0.012$), pregnancy complications ($p=0.01$), safe birth ($p=0.01$) and taking care of the newborn ($p=0.012$). The improvement of knowledge was significantly influenced by the respondents' educational back ground ($p=0.002$) and socio-economic status ($p=0.027$). This study recommends that the new approach to ANC be considered to educate pregnant women regarding safe birth and it is considered as one of the strategies that maybe adopted to reduce maternal mortality (8).

2.5 Theoretical model

2.5.1 PRECEDE model used for the construction of framework.

This study applies the PRECEDE model to explore variant factors related to regular utilization of ANC service. PRECEDE is an acronym for predisposing, enabling, reinforcing factor causes in educational diagnosis and evaluation). Therefore, the major outlines of this model are the way of presentation to emphasize socio economic status, knowledge and attitude on ANC, reproductive health history, distance, travel cost, medical fee, satisfaction on service, source of information and support from husband as independent variables that influences regular utilization of ANC service as dependent variable(s). According to PRECEDE framework, predisposing, enabling and reinforcing factors are used which will be described below. In this current study factor affecting regular utilization of ANC service, modified PRECEDE-PROCEED model was used for making the conceptual framework (Figure 2).

The PRECEDE model is a framework for the process of systematic development and evaluation of health education programs. An underlying premise of this model is that health education dependent on voluntary cooperation and participation of the client in a process which allows personal determination of behavioral practices is directly related to the degree of participation of the client. Therefore in this model appropriate health education is considered to be the intervention/treatment for properly diagnosed problem in a target population. The PRECEDE model was developed by Lawrence Green and Kreuter to help health educators to evaluate all factors involved in planning wide health program. The PRECEDE model was named the PRECEDE-PROCEED model because its acts with the implementation and evaluation (22).

This model is multidimensional, founded in the social/behavioral sciences, epidemiology, administration and education. As such, it recognizes that health and health behaviors have multiple causation which must be evaluated in order to assure appropriate intervention. The comprehensive nature of PRECEDE allows for

application in a variety of setting such as school health education, patient education, community health education, and direct patient care setting. The description of the model of this study includes 9 phases:

Phase 1 Social Diagnosis

To identify and evaluate the social problems and which impact the quality of life of target population. This requires planners to gain an understanding of the social problems, which affects the quality of life of patient, consumer, student, or community, as those populations. This is followed by the establishment of a link between these problems and specific health problem, which may become the focus of health education. The link is essential in life and, in turn, how the quality of life affects social problems.

Phase 2 Epidemiological Diagnosis

To identify specific health problem and factors which are associated with a poor quality of life, we must describe the health problems. Describing these health problems can: 1) help establish relationship between health problems, other health conditions, and the quality of life; 2) lead to the setting of priorities which will guide the focus of program development and resources utilization; 3) make possible the delineation of responsibilities between involved professionals and organizations and agencies. These priorities are defined as program objectives which define the target population (WHO), the desired outcome (WHAT), and how much benefit the target population should receive, and by WHEN that benefit should occur.

Phase 3 Behavioral and Environmental Diagnosis

Focuses on the systematic identification of health practices and other factors which seem to be linked to health problems defined in phase 2. This includes non-behavioral causes (personal and environmental factors) that can contribute to health problems, but are not controlled by behavior. These could include genetic

predisposition, age, gender, existing diseases, climate, and workplace, the adequacy of healthcare facilities, etc. Also assessed are behaviors, which cause health problems in the target population. Another important component of this phase is the determination of the importance and relative changeability of each behavioral cause. It is critical that a behavioral diagnosis is completed for each health problem identified on Phase 2. This will be all the planners to choose target behaviors which will become the focus of specific educational interventions.

Phase 4 Educations and Organizational Diagnosis

This phase assesses the causes of health behaviors which were identified in phase 3. The critical element of this phase is the selection of the factor which if modified, will be most likely to result in behavior change. This selection process includes identifying and sorting (positive and negative) these factors in appropriate category, prioritizing factors among categories, and prioritizing with categories. Prioritization of factors is based on relative importance and changeability. Learning objectives are then developed which focus on these selected factors. Pinpoint the factor that must be changed to initiate and maintain behavioral change. It is during this phase that specific intervention objectives are created and the intervention itself will be implemented. Education and organizational diagnosis looks at the specifics that hinder or promote behaviors related to health issue. The kinds of this phase are:

Predisposing factors, any characteristic of a person or population that motivates behavior prior to the occurrence of that behavior:

- Knowledge
- Beliefs
- Value
- Attitude

Enabler characteristic of the environment that facilities action and any skill or resource required to attain specific behavior:

- Accessibility

- Availability
- Skills
- Laws (local, state, federal)

Reinforcers do so through rewards or punishments following or anticipated as a consequence of a behavior. They serve to strengthen the motivation for behavior:

- Family
- Peers
- Teacher

Phase 5 Administrated and policy Diagnosis

This phase focuses on the administrative and organizational concern which must be addresses prior to program implementation. This includes the assessment of resources, budget development and allocation, development of an implementation timetable, organization or personnel within programs and coordination of the program with all other departments and institutional organizations and the community (22).

Phase 6 Implementation of the program

Phase 7 Process evaluation

This phase is used to evaluate the process by which the program is being implemented.

Phase 8 Impact evaluation

This phase measures the program effectiveness in terms of intermediate objectives and changes in predisposing, enabling and reinforcing factors.

Phase 9 Outcome evaluation

This phase measures change in terms of overall objectives and changes in health and social benefits or the quality of life. It takes a very long time to get results and it may take years before an actual change in the quality of life is seen (21).

The PRECEDE-PROCEED model provides a comprehensive structure for assessing health and quality-of-life needs and for designing, implementing, and evaluating health promotion and other public health programs to meet those needs. PRECEDE (*Predisposing, Reinforcing, and Enabling Constructs in Educational Diagnosis and Evaluation*) outlines a diagnostic planning process to assist in the development of targeted and focused public health programs. PROCEED (*Policy, Regulatory, and Organizational Constructs in Educational and Environmental Development*) guides the implementation and evaluation of the programs designed using PRECEDE.

PRECEDE consists of five steps or phases (see Figure 2). Phase one involves determining the quality of life or social problems and needs of a given population. Phase two consists of identifying the health determinants of these problems and needs. Phase three involves analyzing the behavioral and environmental determinants of the health problems. In phase four, the factors that predispose to, reinforce, and enable the behaviors and lifestyles are identified. Phase five involves ascertaining which health promotion, health education and/or policy-related interventions would best be suited to encouraging the desired changes in the behaviors or environments and in the factors that support those behaviors and environments.

PROCEED is composed of four additional phases. In phase six, the interventions identified in phase five are implemented. Phase seven entails process evaluation of those interventions. Phase eight involves evaluating the impact of the interventions on the factors supporting behavior, and on behavior itself. The ninth and last phase comprises outcome evaluation—that is, determining the ultimate effects of the interventions on the health and quality of life of the population (22).

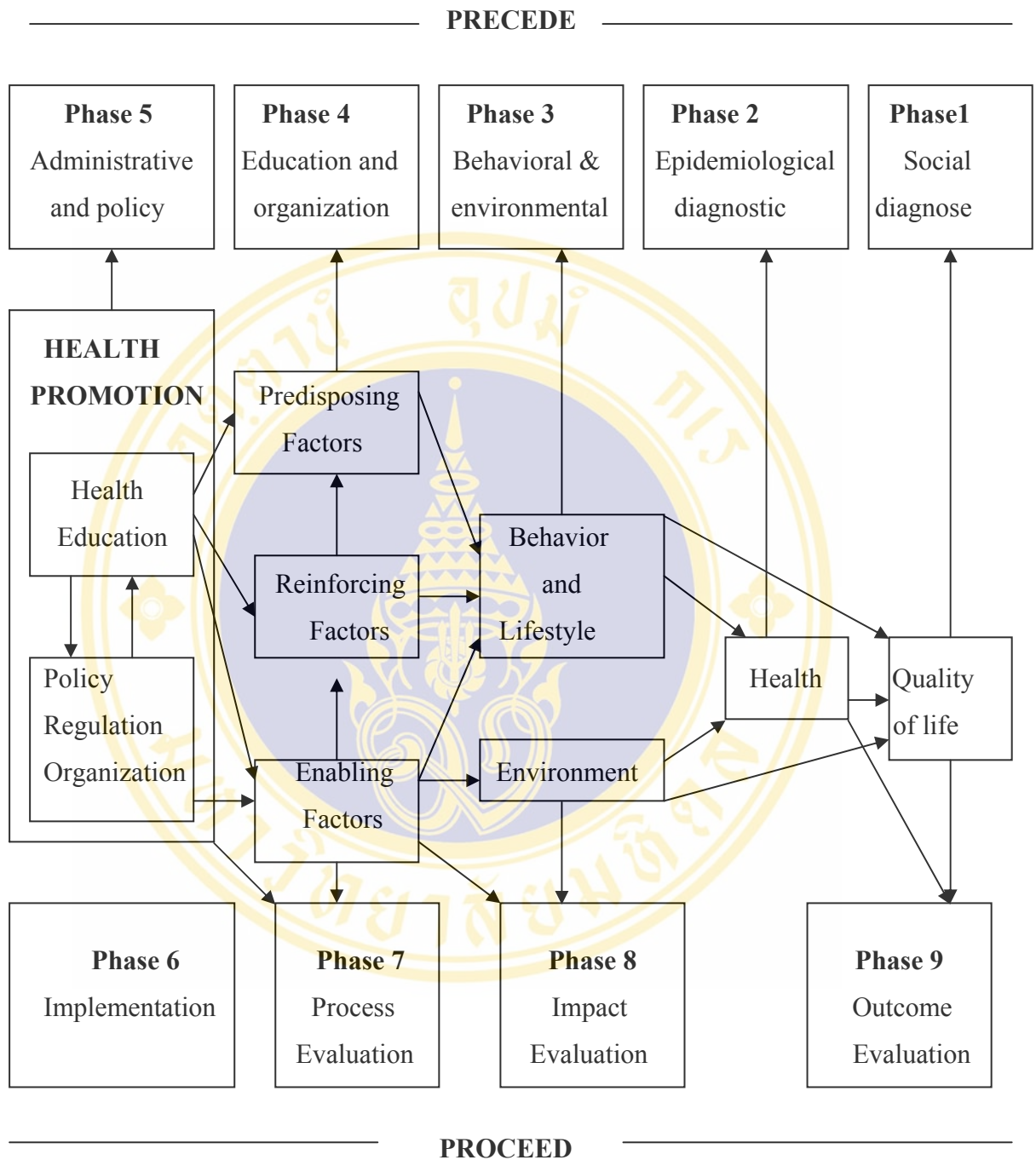


Figure 2 PRECEDE PROCEED (22)

2.6 Factors related to regular utilization of ANC service

2.6.1 Socio-demographic factors

Many studies found that there was a direct relationship between socio-demographic status and regular utilization of antenatal care service. Some literature showed that socio class education, occupation and family income were the important factors utilization of health care service (35).

2.6.1.1 Age of the pregnant women

Puthong S found that women whose age is between 20-24 years old sought the most professional ANC at least 5 visits, the next were women aged between 25-29 years old and those whose age older than 35 years old sought least professional antenatal care (23).

Study from Bangladesh in 2004 revealed that more young pregnant women (< 20 years) had the higher use of ANC (59%) than women aged 35-49 years (43%). Considering maternal age, ANC utilization varied significant between age group: older mothers were less likely to use ANC than younger (<20 years) mothers. Possible reasons are that most women under 20 are first-time mothers and fearful about pregnancy complications. Irrespective of wealth, they tend to visit healthcare providers for ANC more than any other age group (24).

2.6.1.2 Education of the pregnant women and the husband

Previous studies revealed that the lower-educated mothers had fewer visits than the higher-educated. However, according to WHO, the relationship between educational factors (formal and non-formal schooling, literacy and traditional form of education) and health is complex and not easily to described (6).

Puthong's study also showed that pregnant mothers who had an education higher than diploma level sought ANC 5 times whereas, three fourths of those who had education lower than prathom did not attend any antenatal care before delivery (23). Other studies from Bangkok found that the education of both wife and husband supported by the good maternal behavior and this is very meaningful to influence their perception toward the regularity of ANC in health center and also affected maternal and child health during pregnancy (25). Younger women with higher educational attainment and women of higher family income visit either ANC clinics, the health centers or at the general hospitals more often than the older women with less education and women with lower family income (26, 27). Studies from other countries showed the same pattern. The first contact of pregnant women with ANC service and the pregnancy in attending ANC clinics depend on level of education influence by demography and economic factors. Ellenewcie (28) and Zambara (29) also stated that low maternal education in Los Angeles contributed to delay in attending ANC.

In a study of the influence of social and political violence on the risk of complications of pregnancy, Zapata et-al found that women with low education had more complications during pregnancy (30).

From Jordan Population and Family Health Survey and also Turkey Demographic and Health Survey, mother's education level was found to be a factor affecting ANC utilization. In Saudi Arabia, a sample of pregnant women attending health centers in Riyadh, higher education level of mothers was found to be associated with earlier gestational age at registration and more antenatal visits (9). A number of studies from developing countries have reported that a minimum of seven years of school is needed for a positive impact on age of marriage and fertility (31).

From study in Arab population found Father's education may have more immediate impact on the use of ANC services than women's education in this population. In this study, higher paternal education was association with increased use of ANC services (9). Another study from Princy Yesudian compared to illiterate

mothers, mothers with some level of education were nearly two times and mothers with high school and above education were three times more likely to utilize full ANC (32). The study of Amal Krisna and colleagues found that ANC visits were high among educated mothers (77%) compared with no education (38%). An established that education is another positive factor for ANC use: educated mothers utilized ANC more than uneducated mothers (24).

2.6.1.3 Occupation and income

One study in 3 villages of Tambol Huapo in Bangpae district of Ratchaburi Province it was found that more than 79% of pregnant mother had medium economic status and most of them started antenatal care too late (33).

The study of Sudha Puthong showed that most of the pregnant women who had higher education, high income were government officials and sought professional ANC more than 5 visits. In contrast most of pregnant women who had low education, low income, whose occupation were farming did not attend any ANC before delivery (23).

The study of Boonlert Leoprapai found that the constraints of pregnant mothers who come to health centers were due to low income (27). Another study of Maria Dewi Tjandra found that family occupation were laborer of 50.7% wives and 85.5% husband with income between 6,000 up to 12,000 baht per month. This condition is more adequate for patients who come to health center seeking for ANC (25).

Malee Charoenmuang study showed that pregnant women who were house wives had the most adequate ANC 71.9% and those with self business had the most inadequate ANC 52.2% but the result between proportion of ANC attendance of pregnant women by occupation was not significant association. Pregnant women with highest family annual income of more than 50,001 Baht had the most adequate ANC

attendance 70.40% on the other hand those who had lower family annual income of less than 10,001 Baht had the most inadequate ANC attendance (34).

2.6.2 Reproductive health history

2.6.2.1 Parity and number of pregnancy

The study of Paungrat showed that mothers who did not use of available ANC had more children than ones who have less. These factors will affect their decision to use available ANC services and low income factors may add to this problem. It was difficult for them to make use of ANC. This study found that there was a negative association between experience in pregnancy and use of available ANC (35).

The other study also found that ANC visits were highest among pregnant women without children, compared with those who already had children (24).

2.6.2.2 Obstetrical complications during previous and present pregnancy

Older women (over 35 years old) were more likely to suffer from chronic problems such as persisting hypertension or diabetes, complications during pregnancy and delivery, and account for greater prenatal mortality. These and other abnormal conditions can be prevented by skilled ANC (4).

Another study of Malee Charoenmuang showed that pregnant women who had previous and present obstetrical complications had more ANC than those had none, but there was no statistical significant association between previous and present obstetrical complications and ANC attendance (34). Study from Australia found that women who have had a previous caesarean delivery are aware of the risk of pregnancy complications and therefore, more likely to seek ANC early (36).

2.6.3 Knowledge, attitude and regular utilization of ANC service during pregnancy

In the study of Laode Budiono the majority of pregnant mothers had a very high score on knowledge of ANC which included iron tablet function (87.4%), tetanus toxoid vaccination (73.7%). A medium score on knowledge included correct number of times for ANC (67.2%) and a low score on knowledge included fetal movement. Disappeared or reduced movement was harmful (37.8%). In his overall assessment of knowledge according to the scoring system, Laode found that 27.85 of pregnant mothers had good level of knowledge on ANC (37).

Another study of Krongkun Siripakdee showed a positive relationship between pregnancy knowledge and attitude and health practice of women. The pregnant women who had good knowledge on pregnancy tend to have good health practice during pregnancy (38). The study of Malee Charoenmuang found that among 233 postpartum women 63.9% had adequate ANC attendance and 36.1% had inadequate ANC (34).

2.6.4 Accessibility

According to WHO, the existence of facilities for maternal health care does not necessarily mean that they will be used by women who have been expressly advised to use them. The explanation is that simple and obvious, the clinic or hospital is too far from a woman's home and she lacks time, transport, or possibly the money to reach it (7).

The study of Saroj Prasad stated that the women whose houses were near the hospital or health center used maternal ANC and child care service more than women who were far from the hospital or health center (39).

Malee Charoenmuang was noted that the relationship between ANC attendance of pregnant women and the distance from home to maternal and child hospital was statistically significant (34).

The utilization of ANC was much higher among women living in urban areas than among those living in rural areas. As found earlier, participation in economic activity and difficulty in accessing the health facilities had significant negative consequences on the use of ANC services (40).

However, the study of Nurul Hoque stated that utilization pattern and social-economic and culture factors affecting utilization of ANC services. Economic factors are relatively less important factors for determining the use of ANC service. Less than half of them use it because of the low cost of the service (33).

2.6.5 Source of information

A study from Tanzania found that complications can arise during pregnancy and delivery because of lack of awareness on the part of mothers on how to manage themselves during pregnancy (41). In term of source of information one study showed that the respondents were already familiar with multimedia information such as television, radio, newspaper, and information that were disseminated by health personnel (25).

The study of Princy Yesudian found that mothers who were exposed to at least one media were twice as likely to take full ANC than mothers who were not exposed to any media (32). Study from Australia also found that the younger women, especially teenagers are more likely to have unplanned pregnancies and lack information and the resources to access ANC services (36).

2.6.6 Support from husband

Many studies in western countries have shown that persons who have a high level of social support are likely to have better health behaviors, including use of preventive health services than those who have low support.

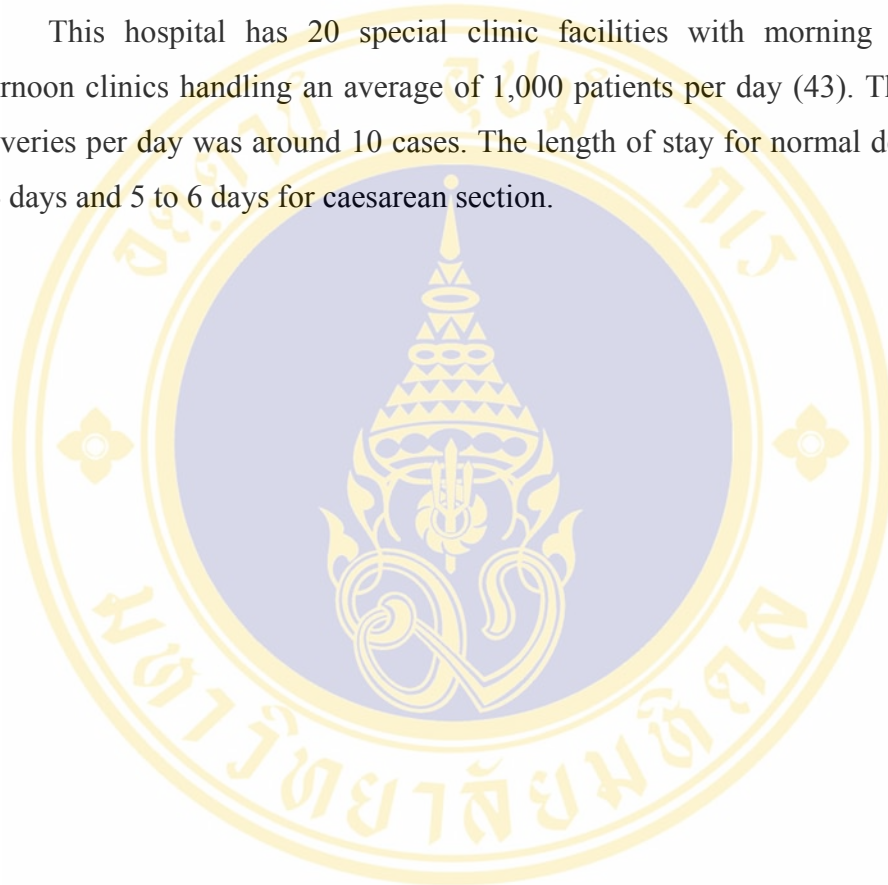
A the study in Saudi Arabia recommended that programs encourage adequate utilization of the services provided should include not only promotion of maternal literacy, but also intervention programmer directed toward increasing the understanding of husbands of the importance of ANC for their wives. In addition, it is important to encourage grass-roots community involvement in order to increase awareness of the importance of ANC and to allow the community to organize a culturally and socially appropriate way to provide child-care and transportation for mothers attending ANC services (9).

2.7 Study site at Pasar Rebo General Hospital

Government hospitals in Indonesia are classified into categories A, B, C and D according to the services and facilities provided. Class A hospitals represents the largest and most technical, Class D represents the smallest and most basic. The following is a brief description of each class. There are two Class A teaching hospitals with approximately 1450 beds each. These hospitals have specialized staff and technical equipment. There are 15 class B hospitals ranging in size from 300 to 800 beds with an average of 625 beds. While lacking the sophisticate technical services available as in Class A hospitals, Class B hospitals are also highly differentiated by function with about 10 specialty departments and some are teaching hospitals. There are 79 class C hospitals ranging in size from 50 to 390 beds with an average of 190 beds. These are specialty hospitals. There are 217 class D hospitals with 70 beds per hospital in average. Class D hospitals provide only general services; there are no specialty services (42).

Pasar Rebo General Hospital in Jakarta was class B hospital. This Hospital has 10 specialty departments on services such as obstetrics gynecology, pediatrics, internal medicine, surgery, neurology, Dermatology, radiology, and etc. Pasar Rebo General Hospital has 275 beds and for postpartum ward are about 45 beds.

This hospital has 20 special clinic facilities with morning services and afternoon clinics handling an average of 1,000 patients per day (43). The number of deliveries per day was around 10 cases. The length of stay for normal delivery was 3 to 4 days and 5 to 6 days for caesarean section.



CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research design

This study was a cross-sectional study

3.2 Study area

The study was conducted at Pasar Rebo General Hospital Jakarta, Indonesia

3.3 Study population

The study population was postpartum women who came to the Obstetric Department of the Pasar Rebo General Hospital Jakarta, Indonesia during the data collection and were admitted to the inpatient wards in the hospital after delivery of live birth babies.

3.4 Sample size

The sample size is calculated according to the following formula:

$$n = \frac{Z^2 \alpha / 2 pq}{d^2}$$

n = estimated sample size

Z = standard score, in this study is set at 95% confidence interval (Z=1.96)

$P = 0.79$ (estimate proportion of ANC coverage by DKI Jakarta province in 2004, from report on Directorate of family health) (8)

$$q = 1 - p = 1 - 0.79 = 0.21$$

$d =$ relative precision desired in the study is assumed at 6% from previous study; $d = 0.06$

$$\text{so; } n = (1.96)^2(0.79)(0.21)/(0.06)^2 = 0.63732144 / 0.0036 = 177$$

The required sample size was 177 at least cases.

3.5 Sampling technique

The Pasar Rebo General Hospital Jakarta was selected for the study area. The number of delivery per day was around 10 cases. The length of stay for normal delivery was 3 to 4 days. Total cases required at least 177 postpartum women. Postpartum women corresponding admitted in the Obstetric ward should be interviewed each day, and approximate 17-24 days for data collection, until get the total cases.

3.6 Research instruments

Patient record chart and a structured questionnaire were the instruments in this study. Most of questions were close-ended questions, and a few are open-ended questions.

Main questionnaire was prepared in English and was translated into Indonesian language for data collection. The questionnaire was divided into four parts as follow:

Part I Predisposing factors

This part includes:

1. The questions about socio-economic status of postpartum women such as age, educational level (also of her husband), occupation (also of her husband), and family income.

2. Knowledge of postpartum women towards ANC service

This part includes 12 questions with total score of 12, 1 point for a correct answer and 0 points for an incorrect answer, do not know or no response. Knowledge is divided into three levels: high, moderate and low.

3. Attitude of postpartum women towards ANC service

This part includes 10 questions with a total score of 30 used for measuring the attitude towards regular utilization of ANC service. These sentences consisted of 6 positive and 4 negative attitude sentences. There were 3 choices of answer in each sentence which were agree, undecided and disagree.

4. Reproductive health history

This part includes questions about parity, complications of past pregnancy included abortion, premature delivery, stillbirth, bleeding per vagina and neonatal death, complications of present pregnancy included bleeding, hypertension, infection, edema, anemia, eclampsia, and medical illness.

Part II Enabling factors

This part includes the questions asking about accessibility to ANC service. It consists of distance, convenience of transportation and travel cost from home to hospital, medical fee, duration of waiting time and satisfaction on service.

Part III Reinforcing factors

This part includes the questions asking about:

1. Source of information

Consisted questions related to source of information about ANC service consisting health personnel, mass media, family members and friends.

2. Support from husband

Consisted questions related to the social support from husband about ANC service. The support from husband in term of information, encouragement, advice, money and accompany women to ANC service.

Part IV ANC visit

This part includes the questions asking about regular practice on ANC service at least 4 times complete the guideline on one time at 1st trimester, one time at 2nd trimester, and two times at 3rd trimester during pregnant period or less than 4 times or not to follow the guideline. The information was obtained from hospital records.

3.7 Test for validity and reliability

Test for content validity

The questionnaire was examined for the content validity by experts then translate to the Indonesian local language before running the pretest.

Test for reliability

The questionnaire was pretested for the reliability in 30 cases of postpartum mothers. After collecting pretested questionnaire and evaluated feedback from interviewers, main questions were checked and repaired. Analysis of reliability for knowledge toward ANC service by Kuder-Richardson (KR) 20 was 0.79 and for attitude part by the Cronbach's alpha test was 0.68.

3.8 Data collection procedure

The structured questionnaire as a tool used for data collection was developed by investigator. Data was also collected from patient record chart.

Firstly, researcher met the Hospital Director to get his permission for this study and briefly describe the aim of this study. After getting permission from the Hospital Director, researcher conducted face to face interviewing with sample population.

Then the questionnaire was covered by a letter, informing the study objective to respondents and asking them to participate confidentially and anonymously. After

collecting data, the questionnaires were immediately checked for its completeness and accuracy.

Finally, after finishing data collection, the interviewers allowed the mothers to ask questions if any.

3.9 Data analysis

The questionnaires was coded and analyzed by using Minitab Program.

1. Descriptive statistic: Frequency, Percentage, Mean and Standard deviation, maximum and minimum to describe variables of interest.
2. Inferential statistic:
 - 2.1 Chi-Square test for the association between regular utilization of ANC services and each variable of the following factors.
 - 2.2 Crude Odds Ratio is performed to determine the strength of association between risk factors and utilization of ANC.

The significant level of statistical test was set up at $\alpha = 0.05$

CHAPTER 4

RESULTS

This cross-sectional study was conducted to investigate the factor related to regular utilization antenatal care among postpartum mothers in Pasar Rebo General Hospital Jakarta-Indonesia. The data collection was performed for three weeks from 7th to 31th of January 2008. The postpartum mothers who admitted to the Obstetric Department of the Pasar Rebo General Hospital Jakarta, Indonesia were interviewed.

One hundred and seventy seven postpartum mothers who admitted in the Obstetric ward after delivery live birth babies were face to face interviewed by using structured questionnaire. The research results have been tabulated and presented in frequency and percentage. The association between the independent variables and ANC visit was statistically determined, using Chi-Square test and Crude Odds Ratio analysis with the level significant at $\alpha = 0.05$. The independent variables found to be significantly associated with regular utilization ANC service. The results were presented in the two following parts:

Part 1 Descriptive analysis which describes the frequencies and percentage of each independent and dependent variables as follows:

1. ANC visits
2. Socio-economic status of respondents
3. Knowledge on ANC visits
4. Attitude towards ANC visits
5. Reproductive health history
6. Accessibility to ANC service
7. Satisfaction on service
8. Source of information
9. Support from husband

Part 2 The association between the predisposing factors (age, education, occupation, family income, knowledge on ANC visits, attitude towards ANC visits, reproductive health history), the enabling factors (distance, convenient of transport, travel cost, medical fee, waiting time, satisfaction on ANC service), reinforcing factors (source of information, support from husband) and regular utilization of ANC service.

Part 3 The analysis of association by crude odds ratio

4.1 Descriptive analysis

4.1.1 ANC visit

Table 1 Frequency and percentage of the respondents by number of ANC visits

ANC visit	Frequency	Percentage
Regular visit (≥ 4 times)	143	80.8
Irregular visit (< 4 times)	34	19.2
Total	177	100.0

It was found that 80.8% of postpartum mothers had ANC visit 4 times or more and 19.2% of postpartum mothers had ANC visit less than 4 times (Table 1).

4.1.2 Socio economic status

Table 2 Frequency and percentage of the respondents by socio economic status

Socio economic status	Frequency n = 177	Percentage
Age group (years)		
< 20	5	2.8
20-35	142	80.2
> 35	30	17.0
Mean = 29.47 SD = 5.84 Median = 29 Minimum = 18 Maximum = 44		
Mother's Education		
Primary School	7	3.9
Secondary School	26	14.7
High School	115	65.0
Academic/University	29	16.4
Husband's Education		
Primary School	4	2.3
Secondary School	7	3.9
High School	118	66.7
Academic/University	48	27.1
Mother's Occupation		
House wife	139	78.5
Government officer	10	5.6
Private job	24	13.6
Others	4	2.3
Husband's Occupation		
Unemployed	-	-
Government officer	21	11.9
Private job	131	74.0
Labor	11	6.2
Others	14	7.9

Table 2 Frequency and percentage of the respondents by socio economic status (cont.)

Socio economic status	Frequency n = 177	Percentage
Family income (Rupiah/Month)*		
< 1,000,000	43	24.3
1,000,000 – 2,000,000	105	59.3
> 2,000,000	29	16.4
Mean = 1,598,305 SD = 876,118 Median = 1,500,000 Minimum = 350,000 Maximum = 6,200,000		

* 1 Bath = 277 Rupiah, US \$ 1 = 9,000 Rupiah

Age

The age ranged from 18 to 44 years old. The average age was 29.47 with standard deviation of 5.84. Among 177 postpartum mothers 80.2% belonged to the age group 20-35 years (proper child bearing age), the age group less than 20 year's old (younger high risk) was only 2.8%, and age group equal or more than 35 (elder high risk) was 17.0%.

Education level of mothers

Regarding the education level of mothers, the majority of postpartum mothers were high school level (65.0%), 16.4% were academic/university level and 14.7% were secondary school level. Only 3.95% were primary school level. Nobody had no schooling.

Education level of husband

Regarding the education level of husbands the majority were high school level (66.7%), 27.1% were academic/university level, 3.9% were secondary school level and only 2.3% of them were primary school level. Nobody had no schooling.

Occupation of mothers

The majority of postpartum mothers were housewife (78.5%), mother having private job were 13.6%, and government officers were 5.6%. Other occupations such as trader, maid servant were only 2.3%. Nobody worked as laborer.

Occupation of husband

The majority of husbands had private job (74.0%), 11.9% of them were government officers and 6.2% were laborer. Other occupation such as trader, driver were 7.9%. Nobody was unemployed.

Family income

Family income of postpartum mothers and husband ranged from 350,000 to 6,200,000 Rupiah/month. The average income was 1,598,305 with standard deviation of 876,118. More than half of them (59.3%) had family income from 1,000,000 to 2,000,000 Rupiah. The families having an income less than 1,000,000 Rupiah were 24.3%, while 16.4% of respondents had family income more than 2,000,000 Rupiah.

4.1.3 Knowledge on ANC visits

Table 3 Frequency and percentage of the respondents who provided correct answer for knowledge on ANC visits

No	Statement	Correct Answer	
		Frequency n = 177	Percentage
1	ANC is the care of pregnant women during their Pregnancy	111	62.7

Table 3 Frequency and percentage of the respondents who provided correct answer for knowledge on ANC visits (cont.)

No	Statement	Correct Answer	
		Frequency	Percentage
		n = 177	
2	ANC is the provision of health services to pregnant women by professional (Obstetrician, medical doctor, midwives, assistant midwives and nurses)	144	81.4
3	Pregnant women should visit ANC services first time when they felt fetal movement	114	64.4
4	Pregnant women should attend ANC clinic at least 4 times	121	68.4
5	Only primipara women should go to ANC	164	92.7
6	Usefulness of ANC attendance to make reservation for delivery in hospital	141	79.7
7	Uncomplicated pregnant women do not need for ANC	161	91.0
8	ANC is an opportunity to inform pregnant women about the Danger signs and symptom	167	94.3
9	Pregnant women will receive tetanus toxoid during ANC to prevent her from tetanus	3	1.7
10	Pregnant women should attend ANC as soon as if they miss menstrual period	51	85.3
11	Blood testing during ANC is necessary to assess anemia status of pregnant women	165	93.2
12	Mother attended ANC will know about fetal well being	175	98.9

Table 3 and Table 4 show the knowledge score of postpartum mothers on ANC visits. A full mark score is 12. The average score of knowledge on ANC was 9.14 with the standard deviation of 1.80. The frequency and percentage of the answers to each question for respondents was presented in Table 3. Table 3 showed that almost all postpartum mothers (98.9%) know the benefit of ANC for fetal well-being, 94.3% of them knew that ANC inform about complication of pregnancy. The majority (93.2%) of respondents knew the advantage of the blood testing during ANC, 92.7% and 91.0% of them also knew that the all of pregnant women should go to ANC. The question number 9 might be controversial for mother. The main objective of giving tetanus toxoid during pregnancies is to prevent tetanus

neonatorum . The prevention of tetanus of mothers is by product. Therefore the percentage of correct answer is very low (1.7%).

The knowledge level of postpartum mothers on ANC by Bloom cut-off point was used for classify level of knowledge, as presented in Table 4. Half of postpartum mothers had high knowledge (50.3%), one-third of them had moderate level of knowledge (33.3%) and 16.4% had poor knowledge.

Table 4 Frequency and percentage of respondents classified by level of knowledge on ANC visits

Level of knowledge		Frequency n = 177	Percentage
High	(score > 9)	89	50.3
Moderate	(score 8-9)	59	33.3
Low	(score < 8)	29	16.4
Mean = 9.14 SD = 1.80 Median = 10		Minimum = 3	Maximum = 11

4.1.4 Attitude towards ANC visits

Table 5 Frequency and percentage of the respondents classified by level of attitude towards ANC visits

No	Statement	Scale of Agreement (n=177)					
		Agree		Undecided		Disagree	
		n	%	n	%	n	%
1	I received good service during ANC	167	94.4	8	4.5	2	1.1

Table 5 Frequency and percentage of the respondents classified by level of attitude towards ANC visits (cont.)

No	Statement	Scale of Agreement (n=177)					
		Agree		Undecided		Disagree	
		n	%	n	%	n	%
2	I felt peaceful when I visited ANC with my husband or my family the first time	171	96.6	1	0.6	5	2.8
3	I am afraid of blood testing at ANC	1	17.5	3	1.7	14	80.8
4	I feel tired of waiting during ANC	20	11.3	6	3.4	151	85.3
5	I receive good rapport from health personnel during ANC	177	100	-	-	-	-
6	I feel comfortable when I meet other pregnant women during ANC visits	177	100	-	-	-	-
7	I feel I receive useful information from ANC visits	175	98.9	1	0.6	1	0.6
8	I feel shy when health personnel examine my abdomen	17	9.6	1	0.6	159	89.8
9	I feel safe when I go for an ANC appointment	161	91.0	8	4.5	8	4.5
10	If I have no complication during pregnancy I will not go to ANC	12	6.8	16	9.0	149	84.2

Table 5 and Table 6 show the frequency and percentage of respondent's attitude toward ANC visit. A full mark is 30. The average score of attitude toward ANC visit was 28.67 with the standard deviation of 1.94. The frequency and percentage of the answers to each question of respondents were presented in Table 5. All of respondents agree that they received good rapport from health personnel and felt comfortable when they meet other pregnant women during ANC visit. Likewise, 98.9% of them agree that received useful information from ANC visit. Most respondent had positive attitude towards ANC in each item.

Percentage of postpartum mothers who had positive attitude towards ANC were 55.9 %, fair attitude was 26.0% and 18.1% of them had negative attitude. The minimum of attitude score was 22 and maximum was 30.

Table 6 Frequency and percentage of respondents classified by level of attitude towards ANC

Level of attitude	Frequency n = 177	Percentage
Positive (score > 29)	99	55.9
Fair (score 28-29)	46	26.0
Negative (score < 28)	32	18.1
Mean = 28.67 SD = 1.94 Median = 30 Minimum = 22 Maximum = 30		

4.1.5 Reproductive health history

Table 7 Frequency and percentage of the respondents by reproductive health history

Reproductive health history	Frequency n = 177	Percentage
Parity		
First	64	36.2
≥ 2	113	63.8
Complications of past pregnancy		
Never	148	83.6
Ever	29	16.4
Medical problem during pregnancy		
No	170	96.0
Yes	7	4.0
Obstetric complications of present pregnancy		
No	145	81.9
Yes	32	18.1

Regarding to the number of deliveries among postpartum mothers, more than half of them had equal or more than 2 times were 63.8%. Only 36.2% of them had the first time.

The majority of the respondents never had complication of past pregnancy (83.6%). Only 16.4% of them ever had complications.

Almost all postpartum mothers (96.0%) no had diseases during pregnancy. Only 4.0% of them had diseases.

The majority of postpartum mothers (81.9%) no had obstetric complications of present pregnancy. Only 18.1% of them had complications.

4.1.6 Accessibility to ANC service.

Table 8 Frequency and percentage of the respondents by level of accessibility on ANC

Accessibility	Frequency n = 177	Percentage
Distance (Km)		
≤ 5	87	49.1
6-10	64	36.2
11-15	18	10.2
> 15	8	4.5
Convenient of transport		
Convenient	171	96.6
Inconvenient	6	3.4
Travel cost		
Expensive	7	4.0
Inexpensive	170	96.0
Medical fee		
Expensive	10	5.6
Inexpensive	167	94.4
Waiting time (Minute)		
< 30	44	24.9
30-60	114	64.4
> 60	19	10.7

Table 8 showed the frequency and percentage of respondents regarding the accessibility to ANC service.

Distance: Nearly half of respondents (49.1%) lived near ANC service, and 36.2% of them lived 6-10 km far from ANC service. While 10.2% and 4.5% of them lived far from ANC service for 11-15 km and > 15 km respectively.

Convenient of transport: The majority of postpartum mothers (96.6%) felt convenient when they went to ANC service. Only 3.4% of respondents felt inconvenient.

Travel cost: The majority of respondents (96.0%) stated inexpensive of travel cost when they went to ANC service. Only 4.0% of them answered that the travel cost was expensive.

Medical fee: The majority of respondents (94.4%) answered that the medical fee for ANC service was inexpensive. Only 5.6 % of them answered that it is expensive.

Waiting time: More than half (64.4%) of respondents had to wait from 30-60 minutes, 24.9% of them waited less than 30 minutes, and only 10.7% of them waited more than 60 minutes.

4.1.7 Satisfaction on service

Table 9 Frequency and percentage of respondents classified of satisfaction towards ANC services

No	Statement	Scale of Satisfaction (n=177)									
		VS		S		N		DS		VDS	
		n	%	n	%	n	%	n	%	n	%
1.	Waiting time is acceptable	3	1.7	89	50.3	68	38.4	16	9.0	1	0.6
2.	Ventilation is good	5	2.8	128	72.3	39	22.0	5	2.8	-	-

Table 9 Frequency and percentage of respondents classified of satisfaction towards ANC services (cont.)

No	Statement	Scale of Satisfaction (n=177)									
		VS		S		N		DS		VDS	
		n	%	n	%	n	%	n	%	n	%
3.	Service area/room easily to found	7	3.9	158	89.3	10	5.6	2	1.1	-	-
4.	Health providers are very good	7	3.9	157	88.7	12	6.8	1	0.6	-	-
5.	Health providers are very competent and skillful	10	5.6	155	87.6	11	6.2	1	0.6	-	-

Note VS = Very satisfy, S = Satisfy, N = Neutral, DS = Dissatisfy, VDS = Very dissatisfy

Table 9 showed the frequency and percentage of respondents regarding satisfaction towards ANC service. A half (52%) of postpartum mothers were satisfied and very satisfied with the waiting time of ANC service, only 0.6% of them answered very dissatisfaction. More than 90% of them were satisfied with service areas, the manner and skills of health providers, and 75% were satisfied with ventilation of service area.

Satisfaction levels of postpartum mothers towards ANC service was divided into three levels as high, moderate and low. As shown in Table 10, the average score of satisfaction towards ANC visit was 19.09 with the standard deviation of 1.80. Most of postpartum mothers (64.4%) had moderate level of satisfaction towards ANC, 29.9% of them had low level, and only 5.7% of them had high level. The minimum of satisfaction score was 14 and the maximum score was 25.

Table 10 Frequency and percentage of the respondents classified by level of satisfaction toward ANC services

Level of satisfaction	Frequency n = 177	Percentage
High (score > 20)	10	5.7
Moderate (score 19-20)	114	64.4
Low (score < 19)	53	29.9
Mean = 19.09 SD = 1.80 Median = 19 Minimum = 14 Maximum = 25		

4.1.8 Source of information

Table 11 Frequency and percentage of the respondents by source of information

Source of information	Frequency n = 177	Percentage
Health personnel		
Yes	169	95.5
No	8	4.5
Family members		
Yes	79	44.6
No	98	55.4
Friend		
Yes	124	70.1
No	53	29.9
Newspaper		
Yes	30	16.9
No	147	83.1
Television		
Yes	88	49.7
No	98	50.3

Table 11 Frequency and percentage of the respondents by source of information (cont.)

Source of information	Frequency n = 177	Percentage
Health magazine		
Yes	56	31.6
No	121	68.4
Radio		
Yes	15	8.5
No	162	91.5

Table 11 show sources of ANC information obtained by respondents. Most of respondents (95.5%) received ANC information from health personnel, 70.1% of them received ANC from friends and 44.6 % received from family members. Some of them received ANC information from mass media such as television (49.7 %), health magazine (31.6 %), newspaper (16.9 %) and radio (8.5%).

4.1.9 support from husband

Table 12 Frequency and percentage of respondents by support from husband

Support from husband	Frequency n = 177	Percentage
ANC information		
Yes	46	26.0
No	131	74.0
Encourage to follow the guideline of ANC		
Yes	170	96.1
No	7	3.9
Advise to go to ANC services regularly		
Yes	169	95.5
No	8	4.5

Table 12 Frequency and percentage of respondents by support from husband (cont.)

Support from husband	Frequency n = 177	Percentage
Provide money to visit ANC services		
Yes	174	98.3
No	3	1.7
Accompany to visit ANC services regularly		
Yes	100	56.5
No	77	43.5

Table 12 show support from husband for postpartum mothers to attend ANC service. Most common support were provide money (98.3%), encourage to follow the guideline of ANC (96.1%), advise to go to ANC service regularly (95.5%), accompany to visit ANC services regularly (56.5%). The less support from husband was about ANC information (26.0%).

The level of support from husband was divided into two groups as high (score \geq median) and low ($<$ median). As shown in Table 13, the average score of support from husband was 3.72 with the standard deviation of 0.90. More than half (61.6%) of husband provided high support for postpartum mothers to visit ANC services, only 38.4% provided low support. The minimum of support score was 1 and the maximum score was 5.

Table 13 Classified by level of Frequency and percentage of the respondents support from husband

Support from husband	Frequency n = 177	Percentage
High (score ≥ 4)	109	61.58
Low (score < 4)	68	38.42
Mean = 3.72 SD = 0.90 Median = 4 Minimum = 1 Maximum = 5		

4.2 The association analysis between the predisposing factors, the enabling, and the reinforcing factors and regular utilization of ANC service.

All independent factors in the conceptual framework were cross-tabulated with the utilization of ANC service. Chi-Square test was used to ascertain the significant of association. The research revealed the following results.

Table14 Association between social economic status and ANC visit

Social Economic Status	ANC visit				χ^2	P-value
	Regular n=143		Irregular n=34			
		%		%		
Age (years)						
≤ 35 (139)	111	79.9	28	20.1	0.365	0.546
> 35 (38)	32	83.3	6	15.8		
Mother's education						
≤ Secondary school (33)	22	66.7	11	33.3	5.214	0.022*
≥ High school (144)	121	84.0	23	16.0		
Husband's education						
≤ Secondary school (11)	6	54.5	5	45.5	5.206	0.023*
≥ High school (166)	137	82.5	29	17.5		
Mother's occupation						
House wife (139)	108	77.7	31	22.3	**	0.046*
Working women (38)	35	92.1	3	7.9		

Table 14 Association between social economic status and ANC visit (cont.)

Social Economic Status	ANC visit				χ^2	P-value
	Regular n=143	%	Irregular n=34	%		
Husband's occupation						
Office worker (152)	127	83.5	25	16.5	**	0.021*
Labor worker (25)	16	64.0	9	36.0		
Family income (Rupiah/month)						
< 1,000,000 (low) (43)	30	69.8	13	30.2	4.447	0.035*
≥1,000,000 (high) (134)	113	84.3	21	15.7		

* P-value by Chi-Square test

** P-value by Fisher exact test

Age: As shown in Table 14, 79.9% of postpartum mothers who had age less than 35 years old were regular ANC visit, compare with 84.2% of them who were 35 years old above. The result revealed that was no significant association between age of postpartum mothers and regular utilization of ANC service.

Education levels of mother and husband: The result revealed that there was a significant association between education levels of mother (P-value = 0.022) and husband (P-value = 0.023) and regular utilization of ANC service, as shown in Table 14. This result shows that 84.0% of mother who had high education and 82.5% of mothers whose husband had high education were regular ANC visit compare with the lower education group.

Mother's Occupation: The result revealed that there was a significant association between occupation mother and regular utilization of ANC service (P-value = 0.046), as shown in Table 14. This result showed that 77.7% of mothers who were housewives had regular ANC visit compare with 92.1% of working mothers.

Husband's Occupation: The result revealed that there was a significant association between husband's occupation and regular utilization of ANC service (P-

value = 0.021), as shown in table 14. This result showed that mothers whose husbands were office workers were more likely to have regular ANC visit, compared with the other group.

Family income: The result revealed that there was a significant association between family income and regular utilization of ANC service (P-value = 0.035), as shown in Table 14. This result showed that mothers with high family income were more likely to have regular ANC visit compared with the low income group.

Table15 Association between knowledge on ANC and ANC visit

Level of Knowledge	ANC visit				χ^2	P-value
	Regular n=143		Irregular n=34			
	n	%	n	%		
High (89) score > 9	80	89.9	9	10.1	9.545	0.002 *
Low (88) score ≤ 9	63	71.6	25	28.4		

Knowledge on ANC visits: The result revealed that there was a significant association between the knowledge of mother on ANC visits and regular utilization of ANC service (P-value = 0.002), as shown in Table 15. Mothers who had high level of knowledge on ANC were more likely to have regular ANC visit compared with mothers of low level of education.

Table 16 Association between attitude towards ANC and ANC visit

Level of Attitude	ANC visit				χ^2	P-value
	Regular n =143		Irregular n=34			
	n	%	n	%		
Positive (99)	91	92.0	8	8.0	17.927	< 0.001*
Negative (78)	52	66.7	16	33.3		

Attitude towards ANC visits: The result revealed that there was a significant association between the attitude of mother towards ANC visits and regular utilization of ANC service (P-value < 0.001), as shown in Table 16. This result showed that almost of postpartum mothers (92.0%) who had positive attitude towards ANC attended regular ANC visit compared with 66.7% of mothers who had negative attitude.

Table 17 Association between reproductive health history and ANC visit

Reproductive Health History	ANC visit				χ^2	P-value
	Regular n=143	%	Irregular n=34	%		
Parity					0.459	0.498
First (64)	50	78.1	14	21.9		
≥ 2 (113)	93	82.3	20	17.7		
Complications of past pregnancy					1.756	0.185
Never (148)	117	79.1	31	21.0		
Ever (29)	26	89.7	3	10.3		
Medical problem during pregnancy					0.114	0.736
No (170)	137	80.6	33	19.4		
Yes (7)	6	85.7	1	14.3		
Obstetrics Complications of present pregnancy					0.005	0.942
No (145)	117	80.7	28	19.3		
Yes (32)	26	81.3	6	18.7		

Parity: The result revealed that there was no significant association between parity and regular utilization of ANC service, as shown in Table 17.

Complications of past pregnancy: The result revealed that there was no significant association between complication of past pregnancy and regular utilization of ANC service, as shown in Table 17.

Medical problem during pregnancy: The result revealed that there was no significant association between diseases of during pregnancy and regular utilization of ANC service, as shown in Table 17.

Obstetric complications of present pregnancy: The result revealed that there was no significant association between obstetric complications of present pregnancy and regular utilization of ANC service, as shown in Table 17.

Table 18 Association between accessibility and ANC visit

Accessibility	ANC visit				χ^2	P-value
	Regular n= 143	%	Irregular n= 34	%		
Distance (Km)						
≤ 5 (short distance) (87)	62	71.3	25	28.7	10.006	0.002*
> 5 (long distance) (90)	81	90.0	9	10.0		
Convenient of transportation						
Convenient (171)	140	81.9	31	18.1	**	0.051
Inconvenient (6)	3	50.0	3	50.0		
Travel cost						
Expensive (7)	6	85.7	1	14.3	**	0.736
Inexpensive (170)	137	80.6	33	19.4		
Medical fee						
Expensive (10)	7	70.0	3	30.0	**	0.373
Inexpensive (167)	136	81.4	31	18.6		
Duration of waiting time (Minute)						
< 30 (short time) (44)	28	63.6	16	36.4	11.104	0.001*
≥ 30 (long time) (133)	115	86.5	18	13.5		

**** Fisher's exact test**

*** Significant at $\alpha = 0.001$**

Distance: The result revealed that there was a significant association between distance to ANC service and regular utilization of ANC service (P-value = 0.002), as shown in Table 18. This result showed that the majority of the respondents (90.0%) who lived long distance had regular ANC visit compared with 71.3% who lived nearby.

Convenient of transportation: The result revealed that there was no significant association between convenient of transportation and regular utilization of ANC service, as shown in Table 18.

Travel cost: The result revealed that there was no significant association between travel cost and regular utilization of ANC service, as shown in Table 18.

Medical fee: The result revealed that there was no significant association between medical fee and regular utilization of ANC service, as shown in Table 18.

Duration of waiting time: The result revealed that there was a significant association between duration of waiting time in the ANC service area and regular utilization of ANC service (P-value = 0.001), as shown in Table 18. This result showed that mothers who waited long time were more likely to have regular ANC visit.

Table 19 Association between satisfaction on service and ANC visit

Satisfaction On Service	ANC visit				χ^2	P-value
	Regular n=143		Irregular n=34			
	n	%	n	%		
High (124)	100	80.7	24	19.3	0.006	0.940
Low (53)	43	81.1	10	18.9		

Satisfaction on Service: The result revealed that there was no significant association between satisfaction on ANC service and regular utilization of ANC service, as shown in Table 19.

Table 20 Association between source of information and ANC visit

Source of Information	ANC visit				χ^2	P-value
	Regular n=143		Irregular n=34			
		%		%		
Health personnel						
Yes (169)	138	81.7	31	18.3	**	0.179
No (8)	5	62.5	3	37.5		
Family members						
Yes (79)	72	91.1	7	8.9	9.846	0.002*
No (98)	71	72.5	27	27.5		
Friends						
Yes (124)	109	87.9	15	12.1	13.498	< 0.001*
No (53)	34	64.2	19	35.8		
News paper						
Yes (30)	22	27.3	8	26.7	1.295	0.255
No (147)	121	82.3	26	17.7		
Television						
Yes (88)	69	78.4	19	21.6	0.640	0.424
No (89)	74	83.2	15	16.8		

Table 20 Association between source of information and ANC visit (cont.)

Source of Information	ANC visit				χ^2	P-value
	Regular n=143	%	Irregular n=34	%		
Health magazine						
Yes (56)	50	89.3	6	10.7	3.809	0.051
No (121)	93	76.7	28	23.1		
Radio						
Yes (15)	14	93.3	1	6.7	**	0.197
No (162)	129	79.6	33	20.4		

* Significant at P-value < 0.05

** Fisher's exact test

Health personnel: The result revealed that there was no significant association between source of information from health personnel and regular utilization of ANC service, as shown in Table 20.

Family members: The result revealed that there was a significant association between source of information from family members and regular utilization of ANC service (P-value = 0.002), as shown in Table 20. This result showed that mother who received information from family members were more likely to attend regular ANC visit.

Friends: The result revealed that there was a significant association between source of information from friends and regular utilization of ANC service (P-value < 0.001), as shown in Table 20. This result showed that mothers who received information from friends were more likely to have regular ANC visit.

News paper: The result revealed that there was no significant association between source of information from mass media such as news paper and regular utilization of ANC service, as shown in Table 20.

Television: The result revealed that there was no significant association between source of information from mass media such as television and regular utilization of ANC service, as shown in Table 20.

Health magazine: The result revealed that there was no significant association between source of information from mass media such as health magazine and regular utilization of ANC service, as shown in Table 20.

Radio: The result revealed that there was no significant association between source of information from mass media such as radio and regular utilization of ANC service, as shown in Table 20.

Table 21 Association between support from husband and ANC visit

Support From husband	ANC visit				χ^2	P-value
	Regular n=143	%	Irregular n=34	%		
High (109)	91	83.5	18	16.5	1.328	0.249
Low (68)	52	76.5	16	23.5		

Support from husband: The result revealed that there was no significant association between support from husband to ANC service and regular utilization of ANC service, as shown in Table 21.

4.3 Association Analysis to show the strength of association

Table 22 The strength of association between factors and Utilization ANC service

Factors	Crude Odds Ratio	95% confident interval for OR		P-value
		Lower	Upper	
1. Predisposing factors				
<u>Social economic status</u>				
Age (> 35 years old vs ≤ 35 years old)	0.74	0.28	1.95	0.547
Mother's Education (≥ high school vs ≤ secondary)	2.63	1.12	6.15	0.026*
Husband's Education (≥ high school vs ≤ secondary)	3.94	1.12	13.7	0.032*
Mother's Occupation (house wife vs working women)	3.35	0.96	11.63	0.057
Husband's Occupation (office worker vs labor worker)	2.86	1.14	7.19	0.026*
Family income (high vs low)	2.33	1.05	5.19	0.038*
Knowledge on ANC (high vs low)	3.53	1.54	8.09	0.003**
Attitude on ANC (positive vs negative)	5.69	2.40	13.48	< 0.001**
<u>Reproductive health history</u>				
Parity (≥ 2 vs first)	1.30	0.61	2.80	0.499
Complications of past pregnancy (never vs ever)	0.44	0.12	1.53	0.196
Medical problem during pregnancy (no vs yes)	0.69	0.08	5.95	0.737

Table 22 The strength of association between factors and Utilization ANC service
(cont.)

Factors	Crude Odds Ratio	95% confident interval for OR		P-value
		Lower	Upper	
Obstetric complications of present pregnancy (no vs yes)	0.96	0.36	2.57	0.942
2. <u>Enabling factors</u>				
Distance (> 5km vs ≤ 5 km)	0.28	0.12	0.62	0.002**
Convenient of transportation (convenient vs inconvenient)	0.22	0.04	1.15	0.073
Travel cost (inexpensive vs expensive)	0.69	0.08	5.95	0.737
Medical fee (inexpensive vs expensive)	1.88	0.46	7.68	0.379
Waiting time (≥ 30 minute vs < 30 minute)	0.27	0.12	0.60	0.001**
Satisfaction on service (high vs low)	0.97	0.43	2.20	0.940
3. <u>Reinforcing factors</u>				
<u>Source of information</u>				
Health personnel (yes vs no)	0.37	0.08	1.65	0.194
Family members (yes vs no)	0.26	0.10	0.62	0.003**
Friends (yes vs no)	0.25	0.11	0.54	< 0.001**
<u>Mass media</u>				
Newspaper (yes vs no)	1.69	0.68	4.22	0.259
Television (yes vs no)	1.36	0.64	2.88	0.425
Health magazine (yes vs no)	0.40	0.15	1.03	0.057
Radio (yes vs no)	0.28	0.04	2.20	0.226
Support from husband (high vs low)	1.56	0.73	3.31	0.251

Note: The first figure in bracket is reference group, the second figure in bracket is risk group.

*** Significant at P-value < 0.05**

**** Significant P-value < 0.01**

Table 22 showed the strength of association between all independent factors and regular utilization of ANC service of respondents by Crude Odds Ratio

The results indicated that the education of respondents was found to be statistically significant association with regular utilization of ANC service among postpartum mothers (P-value < 0.05). The odds ratio show that mother's education level equal or less than secondary school were 2.63 times get irregular ANC visits compared to mother's education level equal or more than high school.

Likewise the husband's education was found to be statistically significant determinant of the regular utilization of ANC service (P-value < 0.05). The odds ratio shows that mother with husband's education level equal or less than secondary school were 3.94 times get irregular ANC visits compared to mother with husband's education level equal or more than high school.

The husband's occupation was also found significant associated with the regular utilization of ANC service (P-value < 0.05). The odds ratio show that husband's occupation as labor worker was 2.86 times of having irregular ANC visits compared to husband's occupation as office worker.

Family income was found to be statistically significant determinant of the regular utilization of ANC service (P-value < 0.05). The odds ratio shows that the postpartum mothers with family income low were 2.33 times get irregular ANC visits compared to mothers with family income high.

The knowledge on ANC was also found to be a statistically significant determinant of the regular utilization of ANC service (P-value = 0.003). The odds ratio show that the postpartum mothers had low knowledge on ANC was 3.53 times risk of irregular ANC visits rather than mother had high knowledge. Likewise the

attitude towards ANC visits was also found to be a statistically significant determinant of the regular utilization of ANC service (P-value < 0.001), the odds ratio show that the negative attitude of postpartum mothers was 5.69 times risk of irregular ANC visits compared with positive attitude.

The distance to ANC service was also found to be a statistically significant determinant of the regular utilization of ANC service (P-value = 0.002). The odds ratio show that the distance nearly to ANC service was 0.28 times get irregular ANC visits than the distance far from ANC service.

The duration of waiting time was also found to be significant associated with the regular utilization of ANC service (P-value = 0.001). The odds ratio show that the waiting time in the ANC service area less than 30 minute was 0.27 times affect to the postpartum mothers get irregular ANC visits compared to the long waiting time.

The source of information of ANC service from family members and friends were also found to be a statistically determinant of regular utilization of ANC service (P-value = 0.003) and (P-value < 0.001) respectively. The odds ratio show that the postpartum mothers did not receive information of ANC service from family members and friends were 0.26 times and 0.25 times having irregular ANC visits, as shown in Table 22.

Table 23 Summary of Significant variable of association between factors and Utilization ANC service

Factors	Crude Odds Ratio	95% confident interval for OR		P-value
		Lower	Upper	
1. Predisposing factors				
Mother's Education (\geq high school vs \leq secondary)	2.63	1.12	6.15	0.026*
Husband's Education (\geq high school vs \leq secondary)	3.94	1.12	13.7	0.032*
Husband's Occupation (office worker vs labor worker)	2.86	1.14	7.19	0.026*
Family income (high vs low)	2.33	1.05	5.19	0.038*
Knowledge on ANC (high vs low)	3.53	1.54	8.09	0.003**
Attitude on ANC (positive vs negative)	5.69	2.40	13.48	< 0.001**
2. Enabling factors				
Distance (> 5km vs \leq 5 km)	0.28	0.12	0.62	0.002**
Waiting time (\geq 30 minute vs < 30 minute)	0.27	0.12	0.60	0.001**
3. Reinforcing factors				
Source of information				
Family members (yes vs no)	0.26	0.10	0.62	0.003**
Friends (yes vs no)	0.25	0.11	0.54	< 0.001**

* Significant at P-value < 0.05

** Significant P-value < 0.01

CHAPTER 5

DISCUSSION

This study was conducted to determine the factors related to regular utilization of antenatal care service among postpartum mothers in Pasar Rebo general hospital Jakarta-Indonesia. Maternal and Child Health (MCH) is a very basic element of primary health care. The antenatal care service is one of the most effective methods to decrease maternal mortality rate, to decrease infant mortality rate and achieve the goal “Health for Indonesia 2010”. This study also is performed to use the outcomes as input information for local professional to develop the quality of health promotion strategies and to encourage the maternity health care by regular utilization of ANC service. In this chapter, the discussion is presented as follows:

- Part 1. Study design and research methodology
- Part 2. Regular utilization of ANC service among postpartum mothers.
- Part 3. The association between the predisposing factors and the regular utilization of ANC service among postpartum mothers
- Part 4. The association between the enabling factors and the regular utilization of ANC service among postpartum mothers
- Part 5. The association between the reinforcing factors and the regular utilization of ANC service among postpartum mothers

5.1 Study design and research methodology

The study was a cross-sectional analysis that appropriate which collected data from primary source. The target population was postpartum women in Pasar Rebo general hospital Jakarta, Indonesia appropriate with this study site that Pasar Rebo general hospital was hospital based. The data was collected by interviewed face to face structured questionnaire which consist of 56 questions to cover all objectives of the study. By interviewing the respondent were explained clearly about the questions

and the research could receive complete information but sometimes there was have any obstacle during collecting data which the mothers could not cooperation, so we should be approach such as introduce ourselves, and waited to good feeling of the mothers.

5.2 Regular utilization of ANC service among postpartum mothers.

From the results of this study, the majority of postpartum mothers (80.79%) were regular utilization of antenatal care service (equal or more than 4 times) while postpartum mothers who irregular (less than 4 times) were only 19.21% (Table 1). This result corresponds with the result from the study of Firdaus Yusuf Rusdhy revealed that mothers who complete utilized ANC service were 81.2% (7). Likewise the results from the study of Babu Ram Gautam revealed that postnatal mothers who had ANC service 4 times or more were 61.6% (4). The reasons why majority of postpartum mothers have regular utilization of ANC service are that most of them had high education level high level of knowledge on ANC, and positive attitude towards ANC visits.

5.3 The association between the predisposing factors and the regular utilization of ANC service among postpartum mothers

Age

In this study mother who had less than 35 years old were majority (79.9%) regular ANC visits, 84.2% of them had an age 35 years old or more. Comparison between regular utilization of ANC service and age of mothers in this study was showed in Table 14. It was found that there is no statistically significant association between mother's age and regular utilization of ANC service (P-value = 0.546). This indicated that age of postpartum mothers is not related to regular utilization of ANC service in Pasar Rebo general hospital. Age is not important factor contributed to the regularity of ANC visit. Mothers of any age with different background of educational level, knowledge level on ANC, and attitude towards ANC might attend ANC differently. This study corresponds with the study of Wandaningsih (13) revealed that

there was no association between ANC attendance and age those the majority of the women came from the age group 20-30 years old, but not with the study from Bangladesh (24).

Education level of mothers and husband

It shows that the low educated mother is 2.63 times more likely to have irregular ANC visit than high educated mothers. It could be explained that the higher education is very meaningful to influence mothers' perception towards the regularity of ANC in hospital. They are able to analyze the benefits over the obstacles of regular ANC visit for their health and their babies' health. So that they would come regularly to ANC visit. The findings supported by the study of Princy Yesudian (32) revealed that mothers with high school and above education were three times more likely to utilize full ANC and also supported by the study in Saudi Arabia (9) revealed higher education level of mothers was associated with earlier gestational age at registration and more antenatal visits.

It showed that the mothers whose husbands with low education level is 3.94 times more likely to attend irregular ANC service than mothers whose husbands with high education level. It could be explained that high educated husbands may aware of the necessary of ANC and then encourage their wives to attend regular ANC visit The findings supported by the study in Saudi Arabia (9) revealed that higher paternal education was association with increased use of ANC services.

Mother's occupation

There was no significant association between mother's occupation and regular utilization of ANC service by Crude Odds Ratio. No matter of occupation type, if mothers had high knowledge on ANC and had positive attitude towards ANC, they will attend ANC regularly.

Husband's occupation

It showed that mothers whose husbands were labor workers that more likely to ANC irregularly (OR = 2.86). It could be explained that the postpartum mothers those

whose husband's occupation were office workers have good monthly salary than labor workers which affect regular ANC visit. The finding supported by the study of Maria Dewi Tjandra (25). The high income group was seeking regular ANC visit.

Family income

The result found that there was statistically significant association between family income and regular utilization of ANC among postpartum mothers (P-value < 0.05). Low income group was more likely to have irregular ANC visit (OR = 2.33). The result followed the findings of the study of Nguyen Viet Hung (6) revealed that pregnant women with higher income utilized ANC more than pregnant women with lower income. Participating in ANC clinic, mothers had to spend some money for transportation and some medical expense if any.

Knowledge on ANC visits

Concerning the knowledge on ANC visits of postpartum mothers, the finding of this study showed that there were strongly statistically significant association between knowledge and regular utilization of ANC with P-value 0.003 and odds ratio equal 3.35 (Table 22). The postpartum mothers who had low knowledge on ANC more likely had irregular utilized ANC compare the mothers had high knowledge. This result supported the study of Malee Charoenmuang (34) revealed that the pregnant women who had higher intellectual level of knowledge on pregnancy would have adequate ANC attendance than those who had lower and also supported the study of Nguyen Viet Hung (6) revealed that the pregnant women who completely utilized ANC service had higher knowledge than pregnant women who did not completely utilized ANC service. High knowledge mothers knew the benefit of ANC for their health and their babies' health.

Attitude towards ANC visits

Concerning the attitude towards ANC visit of postpartum mothers there were strongly statistically significant association between attitude towards ANC and regular utilization of ANC with P-value < 0.001 and odds ratio equal 5.69 (Table 21). This result was found that the postpartum mothers had negative attitude towards ANC

more likely to irregular ANC visit than the mothers had positive attitude. This result also supported the study of Malee Charounmuang (34) revealed that the score of attitude towards pregnant women who had adequate ANC attendance would be higher than those who had inadequate ANC attendance. It also supported by the study of Babu Ram Gautam (4) and Nguyen Viet Hung (6) that pregnant women who had positive of attitude utilized ANC completely and regularly. Mothers who had positive attitude towards ANC might be aware of and willing to attend ANC.

Parity

The result found that there was no statistically significant association between parity and regular ANC visit with P-value 0.499 and odds ratio equal 1.30 (Table 17 and 22). This finding was the same as the study of Nguyen Viet Hung (6). Nevertheless, the finding of this study was different from the findings of Praungrat's study (35) that showed a negative association between experience in pregnancy and utilization of ANC service, those mothers who did not use of ANC service had more children. The awareness and positive attitude towards ANC were more important than parity.

Complications of past pregnancy

The result of this study was found that there was no statistically significant association between complications of past pregnancy and regular utilization ANC service with P-value 0.196 and odds ratio equal 0.44 (Table 17 and 22). The awareness of benefit of ANC and positive attitude towards ANC might be the reasons regardless the complications of past pregnancy.

Medical problem during pregnancy

The finding showed that there was no statistically significant association between medical problem during pregnancy and regular utilization ANC service with P-value 0.737 and odds ratio equal 0.69, as shown in Table 17 and 22. This finding was also supported by study of Babu Ram Gautam (4) that showed there was no relationship between utilization of ANC service and present medical complications during pregnancy of postnatal mothers. The awareness of benefit of ANC and positive

attitude towards ANC might be the reasons regardless the medical problems during pregnancy.

Obstetric complications of present pregnancy

Concerning the obstetric complications of present pregnancy of postpartum mothers, the finding of this study showed that there was no statistically significant association between two variables with P-value 0.492 and odds ratio equal 0.96, as shown in Table 17 and 22. The awareness of benefit of ANC and positive attitude towards ANC might be the reasons regardless the obstetric complications of present pregnancy. The finding of this study was supported by study of Babu Ram Gautam (4) that there was no relationship between utilization of ANC service and present obstetrics complications of postnatal mothers.

5.4 The association between the enabling factors and the regular utilization of ANC service among postpartum mothers

Distance

The result in this study revealed that the postpartum mothers who live nearby ANC service less than 5 kilometers had irregular ANC visit compared to those who live long distance. There was statistically significant association between distance to ANC service and regular utilization of ANC service with P-value 0.002 and odds ratio equal 0.28, as shown in Table 18 and 22. This finding was as that short distance should contribute to regular utilization of ANC service. This result contrast with the finding of Malee Charounmuang (34) revealed that the pregnant women whose house were more than 20 kilometers far the hospital had the most adequate ANC attendance (72%) and the pregnant women whose house were less than 6 kilometers far from the hospital had the most inadequate ANC attendance (65%).

Convenient of transportation

There was no statistically significant association between convenient of transportation to ANC service and regular utilization of ANC service with P-value 0.073 and odds ratio equal 0.22, as shown in Table 18 and 22. It could be explained

that convenient of the transport was not the main obstacle to attend regular ANC. If they aware of benefit of ANC and had positive attitude towards ANC, they will attend regularly. This finding followed the study of Babu Ram Gautam (4) revealed that there was no relationship between utilization of ANC service and convenient of transportation.

Travel Cost

There was no statistically significant association between travel cost to ANC service and regular utilization of ANC service with P-value 0.737 and odds ratio equal 0.69, as shown in Table 18 and 22. It could be explained that no matter of travel cost, if they had enough income, good knowledge on ANC, and positive attitude towards ANC, they were likely to attend regular ANC visit. The study supported by study of Babu Ram Gautam (4) revealed that the pregnant women who said that the travel cost was inexpensive had more ANC service 4 times or more, there was no relationship between these variables.

Medical fee

There was no statistically significant association between medical fee to ANC service and regular utilization of ANC service with P-value 0.379 and odds ratio equal 1.88, as shown in Table 18 and 22. The family income, knowledge and attitude towards ANC might be encouraging factors rather than medical fee. In addition the medical fee for ANC in Indonesia is affordable. The study supported by study of Nguyen Viet Hung (6) and also study of MD Nurul Haque (33) revealed that most of the mothers (93.5%) perceived that cost of service was not expensive, and there was no relationship between these variables.

Duration of waiting time

There was statistically significant association between duration of waiting time and regular utilization of ANC service with P-value 0.001 and odds ratio equal

0.27, as shown in Table 18 and 22. The result was the same as the study of Nguyen Viet Hung (6), but different from the study of Malee Charoenmuang (34) revealed that was no correlation between the waiting time for ANC services and the ANC attendance of the pregnant. The finding was contrary to the expectation. Mothers who were waiting too short might satisfied and willing to attend ANC regularly.

Satisfaction on service

There were no statistically significant association between satisfaction on ANC service and regular utilization of ANC service with P-value 0.940 and odds ratio equal 0.97, as shown in Table 19 and 22. Mothers were quite satisfaction with ANC service: mean score was 19, minimum score was 14 and maximum score was 25 from the total score of 25 (Table 10). Therefore the low satisfied group was still somewhat satisfied with the service. The finding supported by study of Nguyen Viet Hung (6) revealed that there was no significant relationship between two variables.

5.5 The association between the reinforcing factors and the regular utilization of ANC service among postpartum mothers

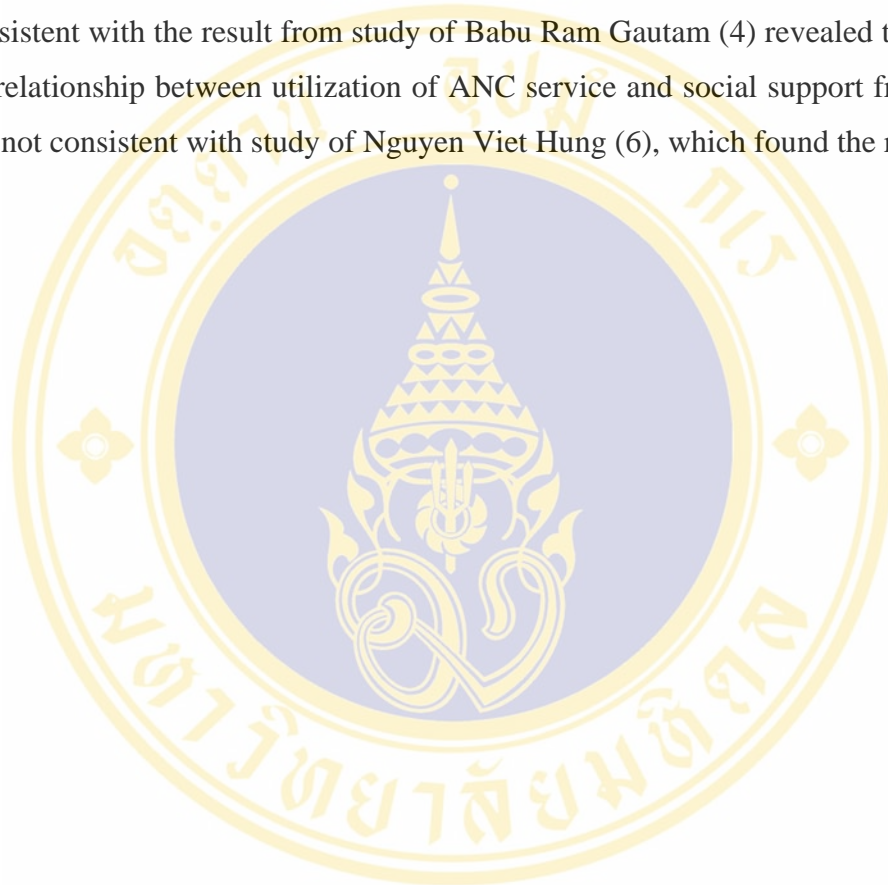
Source of information

There were statistically significant association between source of information from family members and friends and regularity of ANC visit (OR = 0.26, OR = 0.25, respectively). These people are very close to the postpartum mothers and usually influence their perception and attitude and also frequently exchange information together. If there people give incorrect information, the mothers might practice ANC improperly. The findings contrast with the study of Babu Ram Gautam (4) and Nguyen Viet Hung (6) that found no significant relationship.

Other sources of information were not association with the regularity of ANC visit. Mothers have less frequent to contact with health personnel compared with their relatives and friends. They may less listen or read to the ANC message from mass media or the ANC message in these media may not exist.

Support from husband

There was no statistically significant associated between support from husband and regular utilization of ANC service with P-value 0.251 and odds ratio equal 1.56, as shown in Table 21 and 22. From Table 12, the respondents' husbands mostly support the money and accompany them to ANC clinic. This finding was consistent with the result from study of Babu Ram Gautam (4) revealed that there was no relationship between utilization of ANC service and social support from husband, but not consistent with study of Nguyen Viet Hung (6), which found the relationship.



CHAPTER 6

CONCLUSION AND RECOMMENDATION

6.1 Conclusion

Antenatal care is the provision of health services to pregnant women by professionals (obstetrician, medical doctor, midwives, assistant midwives, and nurses) during their pregnancies. In Indonesia antenatal care follow the existing antenatal care guideline emphasizing on preventive and promotional activities. Result of antenatal care can be seen from K1 and K4 service coverage. K1 coverage that is also called the access to pregnant women care is a general description of women who conducted their first visit to health care facilities to obtain antenatal care. While K4 is general description of pregnant women who have abstained pregnancy care according to standard during at least 4 visits with a distribution of one visit in the first semester, one visit in the second semester and two in a third semester. This number can be utilized to look at the quality of health care for pregnant women.

This research has the objective of determination the factors related to regular utilization of antenatal care service among postpartum mothers in Pasar Rebo general hospital Jakarta, Indonesia. It was performed to study the regular utilization of ANC service and the association between predisposing factors, enabling factors and reinforcing factors.

The design of this study was cross-sectional study. The data were collected from 7th to 31th of January 2008 among 177 postpartum mothers who admitted to the Obstetric Department of the Pasar Rebo General Hospital Jakarta, Indonesia by interviewed face to face with structured questionnaire, which consists of 56 questions to cover all objectives of this study. The questionnaire was previously tested for reliability at hospital in Jakarta, Indonesia. Cronbach's alpha coefficient of the reliability was 0.68 for attitude and by Kuder-Richardson (KR) 20 was 0.79 for

knowledge part. The analysis (mean, standard deviation, frequency and percentage) was employed to provide description in the descriptive part. Chi-Square test was used to assess the significant association between each independent variable of interest and regular utilization of antenatal care service among postpartum mothers. Crude Odds Ratio was further employed to evaluate the magnitude of the association.

Based on results and discussion, the conclusion was made as follows:

Almost all respondents had utilized ANC services regularly (80.8%) which were more in age group of over 35 years old (84.2%). Concerning education, 84.0% and 82.5% of them and their husbands had high school level or more. Most of them were housewife (77.7%) and 83.6% of their husbands were office worker. Most of them had high family income (84.3%). The majority respondents had high level of knowledge (89.9%) and positive attitude towards ANC visit (92.0%).

Only 19.2% of respondents had utilized ANC services irregularly which were more in age group of 35 years old or less (20.1%). According education level, 33.3% and 45.5% of them and their husbands had secondary school level or less than. Most of them were housewife (22.3%) and 36.0% of their husbands were labor workers. Most of them had low family income were low (30.2%). Most of them had low level of knowledge (28.4%) and negative attitude towards ANC (33.3%).

Concerning the respondents' characteristic, 80.2% of respondents belonged to the age group 20-35 years old (proper child bearing age) which were high school level of education of mothers (65.0%) and their husbands (66.7%). Majority of respondents were housewife (78.5%) and 74.0% of their husbands were private job. More than half of them had family income from 1,000,000 to 2,000,000 Rupiah (59.3%). Half of respondents had high level of knowledge (50.3%) and positive attitude towards ANC (55.9%). Regarding to number of deliveries among respondents, more than half of them had 2 times or more (63.8%). Majority of them never had complications of past pregnancy (83.6%). Almost all respondents (96.0%) and 81.9% of them no had medical problem during and obstetric complications present pregnancy. Half of

respondents live long distance from ANC service (50.9%). Majority of them felt convenient (96.6%) and 96.0% stated inexpensive of travel cost when they went to ANC service. Almost all respondents answered that the medical fee for ANC service was inexpensive and 64.4% of them had to wait from 30-60 minute for ANC service. Most of respondents had moderate level of satisfaction towards ANC (64.4%). Almost all respondents received ANC information from health personnel, 70.1% of them received from friends and 44.6% received from family members. Some of them received ANC information from mass media. More than half of husbands provided high support for respondents to visit ANC service (61.6%).

The association by Crude Odds Ratio shows the strength association with regular utilization. The significant variables of predisposing factors were mothers and husband's education, husband's occupation, family income, knowledge and attitude towards ANC with P-value < 0.05.

The mother's education level was found significant association with P-value < 0.05. The mother's education level secondary school or less have chance 2.63 times ANC visit irregularly than mother's education level high school or more. The husband's education level was found significant association. The mothers whose husband's education level secondary school or less have chance 3.94 times ANC visit irregularly than mothers whose husband's education level high school or more.

The husband's occupation was found significant association. The husband's occupation as labor workers was 2.86 times affect to ANC visit irregularly than husband's occupation as office worker.

Family income was found significant association. The mothers had low family income have chance 2.33 times ANC visit irregularly than high family income.

According knowledge on ANC of respondents that shows strong association with P-value 0.003. The postpartum mothers having low level of knowledge was 3.53 times affected to ANC visit irregularly than whom having high level of knowledge.

The attitude towards ANC visit was found strong association. The postpartum mothers having negative attitude was 5.69 times affect to ANC visit irregularly than those who having positive attitude.

According the enabling factors were distance to ANC service was found significant association with regular utilization of ANC service with P-value 0.002. The mothers who lived nearby from their house were 0.28 times more likely to have ANC visit irregularly than who lived long distance.

Duration of waiting time in the ANC service area was found significant association with regular utilization of ANC service with P-value 0.001. The mothers who waited short time in the ANC service area were 0.27 times more likely to have ANC visit irregularly than who waited long time.

Regarding reinforcing factors, source of information from family members was found significant association with regular utilization of ANC service with P-value 0.003 and odds ratio equal 0.26. The postpartum mothers did not receive ANC information from family members were 0.26 time more likely to have ANC visit irregularly than who received.

Likewise source of information from friends, it was found significant association with regular utilization of ANC service with P-value < 0.001 . and odds ratio equal 0.25. The postpartum mothers did not receive ANC information from friends was 0.25 times more likely to have ANC visit irregularly than who received ANC information from friends.

6.2 Recommendations

6.2.1 Recommendations for implementation

From the outcomes of this study, some points of recommendations could be beneficial to improving for the further implementation, regarding regular utilization of ANC service that will give impact to increase antenatal care service:

1. Regarding predisposing factors, the mothers who are less likely to attend ANC clinic regularly are less education, low family income, low knowledge towards ANC and have negative attitude towards ANC. It is recommended that
 - 1.1 close follow-up or make home visit to mothers of low education and low income.
 - 1.2 emphasize the important of ANC through health education and various means, and MCH-HB
2. Regarding enabling factors, every mother should be motivated to attend ANC clinic regularly through various means such as health education, home visit and close monitoring activities.
3. Regarding reinforcing factors, family members and friends have an influence to postpartum mothers for practicing regular ANC visit. Therefore health education should be provided to family members and friends of the postpartum mothers through various channels. However, health education through mass media is still important for public at large.

6.2.2 Recommendation for the further study

1. The follow-up study should be conducted to identify pregnancy outcomes of ANC service
2. The study was conducted only in urban area in DKI Jakarta province. In the future the study should be conducted in remote area in DKI Jakarta and also the other provinces in Indonesia.
3. Study the effectiveness of quality of ANC and pregnancy outcome.

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APPENDIX A QUESTIONNAIRE

FACTORS RELATED TO REGULAR UTILIZATION OF ANTENATAL CARE SERVICE AMONG POSTPARTUM MOTHERS IN PASAR REBO GENARAL HOSPITAL JAKARTA, INDONESIA

This questionnaire is prepared only for the MPHM thesis writing purpose. The questionnaire is constructed for assessing your utilization of antenatal care services provided by the hospital. Your answers will be kept completely confidential and not exposed to other purpose.

ID Number.....

Address of respondent

Name of respondent.....

PART 1 PREDISPOSING FACTORS

This part includes questions to obtain the predisposing factors of postpartum mothers such as socio economic status: age, education, occupation, and family income.

1. What is your age? years

2. What is your education level?

- | | | |
|--|---|--|
| <input type="checkbox"/> 1. No schooling | <input type="checkbox"/> 2. Primary school | <input type="checkbox"/> 3. Secondary school |
| <input type="checkbox"/> 4. High school | <input type="checkbox"/> 5. Academic/University | <input type="checkbox"/> 6. Others (specify) |

3. What is your husband's education level?
1. No schooling 2. Primary school 3. Secondary school
4. High school 5. Academic/University 6. Others (specify)
4. What is your occupation?
1. House wife 2. Government office 3. Private job
4. Labor 5. Others (specify)
5. What is your husband's occupation?
1. Unemployed 2. Government office 3. Private job
4. Labor 5. Others (specify)
6. What is your family income/month?.....Rupiah
7. How many times have you delivered a baby?times
8. Did you ever have any the following past obstetric complicationsm?
- 8.1. Abortion Never Ever
8.2. Premature delivery Never Ever
8.3. Stillbirth Never Ever
8.4. Bleeding per vagina Never Ever
8.5. Neonatal death Never Ever
8.6. Others (specify).....
9. Have you ever had any the following diseases during this pregnancy?
- 9.1. Heart diseases No Yes
9.2. Rheumatic fever No Yes
9.3. Allergy No Yes
9.4. TB No Yes
9.5. STD. No Yes
9.6. Diabetes mellitus No Yes
9.7. Nephritis No Yes

9.8. Malaria No Yes

9.9. Others (specify).....

10. Did you have any the following complications in your present pregnancy?

10.1. Bleeding No Yes

10.2. Hypertension No Yes

10.3. Infection No Yes

10.4. Edema No Yes

10.5. Anemia No Yes

10.6. eclampsia No Yes

10.7. Others (specify).....

Knowledge ANC services. Please select only one appropriate answer according to your understanding.

T = True, F = False, and DK = Do not Know

No	STATEMENT	T	F	DK
11	ANC is the care of pregnant women during their pregnancy			
12	ANC is the provision of health services to pregnant women by professional (Obstetrician, medical doctor, midwives, assistant midwives and nurses)			
13	Pregnant women should visit ANC services first time when they fell fetal movement			
14	Pregnant women should attend ANC clinic at least 4 times			
15	Only primipara women should go to ANC			
16	Usefulness of ANC attendance is to make reservation for delivery in hospital			
17	Uncomplicated pregnant women do not need for ANC			

18	ANC is an opportunity to inform pregnant women about the danger signs and symptom			
19	Pregnant women will receive tetanus toxoid during ANC to prevent her from tetanus			
20	Pregnant women should attend ANC as soon as if they miss menstrual period			
21	Blood testing during ANC is necessary to assess anemia status of pregnant women			
22	Mother attended ANC will know a fetal well being			

Attitude towards ANC. Please select only one answer that corresponds with your feeling.

A = Agree, UD = Undecided, and DA = Disagree

No	STATEMENT	A	UD	DA
23	I receive good service during ANC			
24	I felt peaceful when I visited ANC with my husband or my family at the first time			
25	I am afraid of blood testing at ANC			
26	I feel tired of waiting during ANC			
27	I receive good rapport from health personnel during ANC			
28	I feel comfortable when I meet other pregnant women during ANC visits			
29	I feel I receive useful information from ANC visit			
30	I feel shy when health personnel examine my abdomen			
31	I feel safe when I go for an ANC as appointment			
32	If I have no complication during pregnancy I will not go to ANC			

PART 2 ENABLING FACTORS

33. How far is your house from hospital?

- 1. ≤ 5 kilometers
- 2. 6 – 10 kilometers
- 3. 11 – 15 kilometers
- 4. > 15 kilometers

34. Is it convenient for you to get to hospital?

- 1. Yes
- 2. No

1. Is the travel cost from your house to the hospital expensive?

- 1. Yes
- 2. No

2. Do you think that the medical fee you pay for ANC services is expensive?

- 1. Yes
- 2. No

3. How long have you been waiting for ANC services?

- 1. < 30 minute
- 2. 30 – 60 minute
- 3. > 60 minute

Please tick (✓) in the relevant boxes to identify your satisfaction level towards statements. Scale:

5 = very satisfied, 4 = satisfied, 3 = neutral, 2 = dissatisfied, 1 = very dissatisfied

No	Satisfaction toward ANC services	Satisfaction level				
		5	4	3	2	1
38	Waiting time for ANC service is acceptable					
39	The ventilation inside the hospital is good					
40	The service area/rooms can be found easily					
41	Health providers are very good at explaining about ANC services					
42	They are very competent and skillful					

PART 3 REINFORCING FACTORS

Sources of information: select only one answer of each question.

	STATEMENT	Yes	No
43	Did you get any information about ANC from health personnel?		
44	Did you get any information about ANC from your family members?		
45	Did you get any information about ANC from your friend?		
46	Did you get any information about ANC from newspaper?		
47	Did you get any information about ANC from television?		
48	Did you get any information about ANC from health magazine?		
49	Did you get any information about ANC from radio?		

Support from husband: select only one answer of each question.

	STATEMENT	Yes	No
50	Did your husband give information about ANC services to you?		
51	Did your husband encourage you to follow the guideline of ANC?		
52	Did your husband advise you go to ANC services for check up regularly?		
53	Did your husband provide money for you to visit ANC services?		

BIOGRAPHY

NAME	Rustam Effendi
DATE OF BIRTH	April 28, 1966
PLACE OF BIRTH	Sepang (OKI)
INSTITUTION ATTENDED	Academic of Nursing: 1989 University of Indonesia, Indonesia Bachelor of Public Health (SKM), 2004 Mahidol University, Thailand ASEAN Institute for Health Development Master of Primary Health Care Management (MPHM), 2007-2008
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