



**SERVICE QUALITY FOR ANTENATAL CARE  
USING THE “SUPREME SERVICE MODEL”  
IN PHRAMONGKUTKLAO HOSPITAL**

**BY**

**CAPTAIN WATTANEE WARATCHANONT**

**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE  
(INNOVATIVE HEALTHCARE MANAGEMENT)**

**CHULABHORN INTERNATIONAL COLLEGE OF MEDICINE  
THAMMASAT UNIVERSITY**

**ACADEMIC YEAR 2018**

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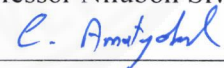
on May 21, 2019

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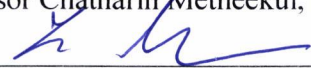
(Associate Professor Chumpot Amatyakul)

Member



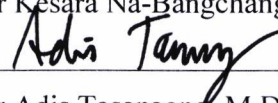
(Assistant Professor Chatnarin Metheekul, M.D.)

Director, Graduate Studies



(Professor Kesara Na-Bangchang, Ph.D.)

Dean



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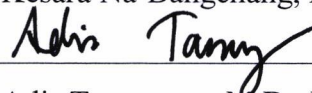
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Thesis Title	SERVICE QUALITY FOR ANTENATAL CARE USING THE “SUPREME SERVICE MODEL” IN PHRAMONGKUTKLAO HOSPITAL
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## ABSTRACT

**Background:** Globalization had a great influence on people’s healthcare systems. People should have the equal right to access the global standard of healthcare service. It was important to deliver a high quality healthcare service for all patients. The “Supreme Service Model” had been launched by Royal Thai Army Medical Department which comprised of the three concepts as P1place, P2people, and P3process. This model was regarded as the excellent strategies for building a long-term relationship with service receivers. Antenatal Care unit was very necessary to help promote pregnancy outcomes. The level of pregnant women’s satisfaction still had been decreased respectively. Consequently, the satisfaction of pregnant women was one of the indicators for measuring service quality and could reflect to the defect of Antenatal Care service system. Inadequate care during pregnancy service could affect mother and baby in morbidity and mortality. Thus, it was necessary to focus on pregnant women’ needs in-depth understanding. The problems of service quality at Antenatal Care unit should be reviewed.

**Objectives:** The purposes of this research were to investigate service quality basing on the level of pregnant women’s satisfaction, to study the problems of service quality that should be improved, and to provide the suggestions of service quality by using the “Supreme Service Model” at Antenatal Care unit, Phramongkutklao Hospital.

**Methods:** The population groups were comprised of the group of service receivers, the group of service providers, and the group of administrators. The sample of service receivers were 330 pregnant women selected by accidental sampling. The quantitative data was collected by using the questionnaires including the general information and the service receivers' opinions about service quality. The rating scales and the mean score were interpreted into five levels ranging from a very low to a very high level. The descriptive statistic for data analysis used frequency, percentage, mean, and standard deviation. Then, the qualitative data from 31 service providers and 9 administrators was collected by using the in-depth interview. The data analysis method was content analysis

**Results:** The level of pregnant women's satisfaction toward service quality showed the aspect concerning P2people at a very high level  $\bar{X} = 4.26$  (95% CI 4.20 - 4.32). It was revealed that P2people in the aspect of service time should be improved. More personnel should be provided in order to enable faster service. Moreover, there was the same level at a high level in aspect concerning P3process  $\bar{X} = 4.16$  (95% CI 4.10 - 4.22) and P1place  $\bar{X} = 4.06$  (95% CI 4.00 - 4.12) respectively. The study indicated that P3process should be improved regarding an advice and guidance point. Health education advices should be given through various media or an appointment system, whereas, P1place should be improved by adding a sign noticing each service areas in English language that suggested the service points for foreigners.

**Conclusion:** Providing the "Supreme Service Model" would lead to the proposed service quality in pregnancy care to promote their pregnancy outcomes. Healthcare team leaders should drive a proper service quality policy at all levels. In the aspect concerning P2people, the policy should be focused on service providers which were considered as the key effectiveness. Regarding the aspect concerning P3process and P1place, the policy should be more concerned to improve service quality.

**Keywords:** Service quality, Antenatal Care, "Supreme Service Model", Phramongkutklao Hospital

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Captain Wattanee Waratchanont

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## LIST OF ABBREVIATIONS

<b>Symbols/Abbreviations</b>	<b>Terms</b>
ANC	Antenatal Care
BFHI	Baby Friendly Hospital Initiative
CCTV	Closed Circuit Television
CD	Compact Disc
CI	Confidence Interval
IOC	Index of Congruence
IRB	Institutional Review Board
KPI	Key Performance Index
NST	Non Stress Test
OB-GYN	Obstetrics and Gynecology Department
OPD	Out Patient Department
PMK	Phramongkutklao
PV	Per Vagina
RTA	Royal Thai Army
U/S	Ultrasound

# CHAPTER 1

## INTRODUCTION

### 1.1 Problem statement

Nowadays, globalization has a great influence on society, economy, and politic. These factors also have an effect on people's healthcare systems in any countries around the world. Additionally, people should have the equal rights to access to the quality healthcare and service standard without any errors. Also, it is important to deliver a high quality healthcare service for all patients (Wisagorn Modthong, Phannipha Rakphanit, & Uracha Ampaipit, 2014, pp. 1044-1050).

According to the healthcare challenges and the visioning quality of care, better health of Thai people has been promoted, especially, when the national strategy of Thai government releases model of development, Thailand 4.0, for the stability, prosperity, and sustainability to transform the country's healthcare systems (Ministry of Public Health, Office of the Permanent Secretary for Public Health, Division of Strategy and Planning, 2017). The cooperation networks have been organized to develop the healthcare systems including hospitals. Nowadays, the hospital is considered as center of healthcare service (Pierangelo, Mario, & Paolo, 2018, pp. 333-338).

Beyond the healthcare reform in Thailand, the hospital must consider service quality. Service quality is the service receivers experience and expect for the satisfied service outcomes. Accordingly, to manage service quality, the hospitals should know the expectations of service receivers. Royal Thai Army (RTA) Medical Department has launched the "Supreme Service Model" project since 2015. This project will be continued until 2021 to provide a service excellence and to build a long-term relationship with service receivers. In addition, it is regarded as one of the strategies for achieving the operational excellence that mainly focuses on service receivers (Royal Thai Army Medical Department, 2017). The three components of the "Supreme Service Model" are comprised of three aspects (3P) with P1place, P2people, and P3process.

P1place, Firstly, P1 refer to “place” which is an arrangement for adequate services with clean space and accommodation prepared for relatives. Also, English information signs and labels are provided to support foreign patients. Moreover, the place especially for the elderly will be arranged and developed in the future. Consequently, P1place focuses on location management, and equipment and supplies.

P2people, Secondly, P2 represents “people” are educated officers at all levels in both science and art. Also, this includes multidisciplinary teamwork for patients and relatives who have great capability in holistic service and service mind. Accordingly, P2people focuses on service mind, personnel competency, and human resource management.

P3process, The third is P3 refer to the “process” for supporting and serving is a clear service system to reduce waiting time. Therefore, P3process focuses on a clear step of service and process management (Royal Thai Army Medical Department, 2017).

According to the healthcare’s reformation in the hospital, this project helps promote a trend by focusing on service receivers’ needs to improve healthcare management and service level in the organization (Clark & Lindsey, 2013; Astron Hospital and Health Care Consultants, 2018; Omachonu & Einspruch, 2010, pp. 1-20). Furthermore, the “Supreme Service Model” policy has been applied to all departments in Phramongkutklao (PMK) Hospital, a military backgrounded hospital. This policy is essential for a large hospital that has to handle a large number of patients. The development in any organizations has to be continually followed their policy for further development. Consequently, the Obstetrics and Gynecology department (OB-GYN) has followed the policy initiative. Out Patient Department (OPD) is considered an important component of the hospital. This is because it is the first place that patients come to visit before being transferred to other units.

Antenatal Care (ANC) unit is the unit in subspecialties of Obstetrics which provides pregnancy care for pregnant women to promote pregnancy outcomes and a fetal health. ANC unit provides high volume of services to non-admitted pregnant women. The number of times that pregnant women receive ANC service has grown steadily. On the contrary, the level of satisfaction pregnant women still has been decreased respectively (Phramongkutklao Hospital, Obstetrics and Gynecology



Nursing Department, 2018). In a healthcare sector, the satisfaction which service receivers perceived is regarded as a strong effect for service quality (Yasin, Augusto, Lisboa, & Miller, 2011, pp. 433-442). Consequently, the satisfaction of pregnant women is one of the indicators for measuring service quality and can reflect to the defect of ANC service system. The high quality of pregnancy care is a key strategy for healthcare service systems. Inadequate care during pregnancy service can affect mother and baby in morbidity and mortality (Lincetto, Mothebesoane-Anoh, Gomez, & Munjanja, 2010, pp. 51-62). Thus, it is necessary to focus on pregnant women' needs in-depth understanding. The problems of service quality at ANC unit should be reviewed. Accordingly, the recognizing of the "Supreme Service Model" is the key trends which will change management to investigate service quality at ANC unit, PMK Hospital.

## **1.2 Limitations and assumptions**

The topic of this research is service quality for Antenatal Care using the “Supreme Service Model” in Phramongkutklao Hospital.

### **1.2.1 Limitation of area**

The area of study is at ANC Unit, OB-GYN department, PMK Hospital.

### **1.2.2 Limitation of content**

The research content is associated with service quality including P1place, P2people, and P3process of ANC unit, PMK Hospital.

### **1.2.3 Limitation of time**

Time limitation has started from September, 2018 to June, 2019.

### **1.2.4 Limitation of population**

The population group in this study includes the group of service receivers at ANC unit, the group of service providers at ANC unit, and the group of administrators at OB-GYN department.

**1.2.4.1 The group of service receivers at ANC unit** is pregnant women during the first, the second, and the third trimester of pregnancy receiving services at ANC unit, OB-GYN department, PMK Hospital.

**1.2.4.2 The group of service providers at ANC unit** is residents, register nurses, practical nurses, nurse aids, general staffs, medical staffs, and laboratory staffs.

**1.2.4.3 The group of administrators at OB-GYN department** is staffs, nursing director, head nurses, subhead nurses, and nursing instructors.

### **1.3 Specific objectives**

**1.3.1** To investigate service quality basing on the level of pregnant women's satisfaction by using the "Supreme Service Model" at ANC unit, PMK Hospital.

**1.3.2** To study the problems of service quality that should be improved at ANC unit following the "Supreme Service Model".

**1.3.3** To provide the suggestions of service quality by using the "Supreme Service Model" for further development at ANC unit, PMK Hospital.

### **1.4 Research questions**

**1.4.1** How the service quality of place at ANC unit should be improved following the "Supreme Service Model"?

**1.4.2** How the service quality of people at ANC unit should be improved following the "Supreme Service Model"?

**1.4.3** How the service quality of process as screening point, blood pressure and weight measurement point, queue for doctor meeting point, and advice and guidance point at ANC unit should be improved following the "Supreme Service Model"?

### **1.5 Significant of the research**

**1.5.1** To provide the proposed service quality basing on the level of pregnant women's satisfaction by using the "Supreme Service Model" at ANC unit, OB-GYN department, PMK Hospital.

**1.5.2** To indicate the problems of service quality that should be improved at ANC unit following the "Supreme Service Model".

**1.5.3** To expand the results and the suggestions of service quality by using the "Supreme Service Model" that can be used as a guideline for further development at ANC unit and other departments in PMK Hospital.

## 1.6 Definition

**1.6.1 Service quality** is the service receivers experience and expect for the satisfied service outcomes compared with their expectations.

**1.6.2 Pregnancy** is the pregnant women during the first, the second, and the third trimester of pregnancy getting the pregnancy care at ANC unit, PMK Hospital.

**1.6.3 Antenatal Care** is a set of care and procedures providing promotion, preventive and professionals to follow up pregnant women's health at ANC unit, PMK Hospital.

**1.6.4 The "Supreme Service Model"** is the ability to provide the proposed service quality and build a long term relationship to pregnancy women related to the place, the service providers, and the process. Additionally, this service help improve the healthcare management as well as the healthcare quality of ANC unit at PMK Hospital.

**1.6.5 P1place** is the service quality of arranged place at ANC unit, PMK Hospital.

**1.6.6 P2people** is the service quality of service providers at ANC unit, PMK Hospital; such as, staffs, residents, register nurses, practical nurses, nurse aids, general staffs, medical staffs, and laboratory staffs.

**1.6.7 P3process** is the service quality of process of ANC service point which includes screening point, blood pressure and weight measurement point, queue for doctor meeting point, and advice and guidance point at ANC unit, PMK Hospital.

**1.6.8 Service receivers** is pregnant women during the first, the second, and the third trimester of pregnancy receiving service at ANC unit, OB-GYN department, PMK hospital.

**1.6.9 Service providers** is the persons who provide service to the service receivers at ANC unit; such as, residents, register nurses, practical nurses, nurse aids, general staffs, medical staffs, and laboratory staffs.

**1.6.10 Administrators** is the persons who determine the policies and manage the operation of the OB-GYN department; such as, staffs, nursing director, head nurses, subhead nurses, and nursing instructors.

## **CHAPTER 2**

### **REVIEW OF LITERATURE**

This chapter reviews literatures related to the research study. There are four main sections in this chapter. The first section describes ANC service system. Next, the concept of innovation is indicated in the following section. The third section presents of the “Supreme Service Model”. Then, the last section is service quality.

#### **2.1 ANC service system**

##### **2.1.1 Background of ANC unit**

##### **2.1.2 Flow of service system at ANC unit**

#### **2.2 Innovation**

##### **2.2.1 Concept of Innovation**

##### **2.2.2 Healthcare innovation**

#### **2.3 The “Supreme Service Model”**

##### **2.3.1 P1place**

##### **2.3.2 P2people**

##### **2.3.3 P3process**

#### **2.4 Service quality**

##### **2.4.1 Service**

##### **2.4.2 Concept of service quality**

##### **2.4.3 Related literatures**

## 2.1 ANC service system

### 2.1.1 Background of ANC unit

OB-GYN is the medical specialty department which is the service segment of PMK Hospital. The department consists of two subspecialties of Obstetrics (pregnancy, childbirth, and postpartum period) and Gynecology (the health of female reproductive systems; such as, vagina, uterus, and ovaries) (Wikipedia, 2018, October 17). The vision of OB-GYN is to provide efficacious service and academic excellence that follow “Supreme Service Model” policy’s initiative.

The two types of OB-GYN service as include;

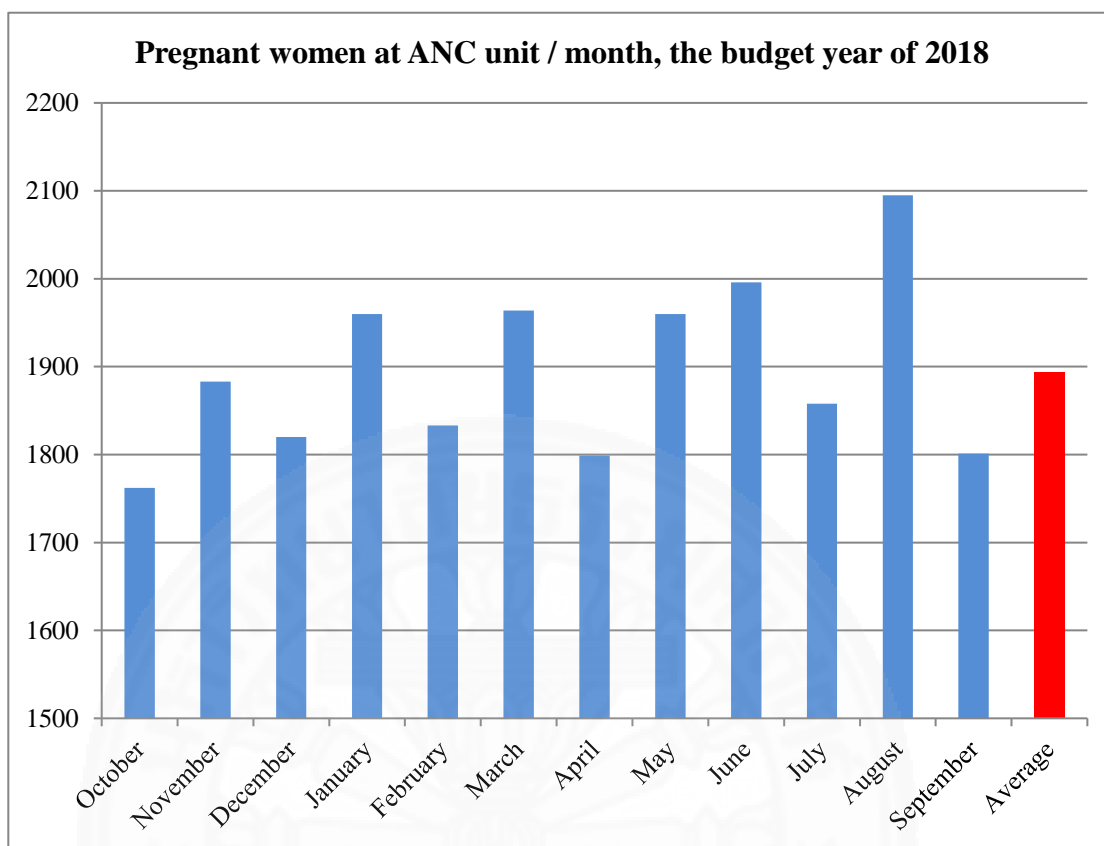
a. Out Patient Department (OPD)

OPD is the area where patients are not admitted to the hospital. It is also the place where is used for patients visiting checkup in daytime in order to get healthcare service.

b. In Patient Department (IPD)

IPD is the area where admitted patients stay overnight in the hospital for medical reasons and requires a higher level of care and intensity of treatment.

ANC unit is the unit in OPD with subspecialties of Obstetrics which provides pregnancy care for pregnant women to promote pregnancy outcomes and a fetal health. Getting early and regular pregnancy care can improve the chances of a healthy pregnancy. Pregnant women’s gestational follow up in a different way by physical and emotional changes. The service includes a set of care and procedures which provide protection, promotion, and support of breastfeeding as the Baby Friendly Hospital Initiative (BFHI) (United Nations Children's Fund, 2018). There are parents’ school, breast feeding clinic, pregnancy checkup, high risk clinic, genetic counselling, chromosome result clinic, and ultrasound during pregnancy. The risk of problems during pregnancy can be reduced through education, counselling and various interventions (Asturiano da Silva et al., 2018, pp. 1014-1019; Nwaeze, Enabor, Oluwasola, & Aimakhu, 2013, pp. 22-28; The U.S. Department of Health and Human Services, National Institute of Child Health and Human Development, 2017).



**Figure 2.1** The number of times that pregnant women receive ANC service / month from the budget year 2018

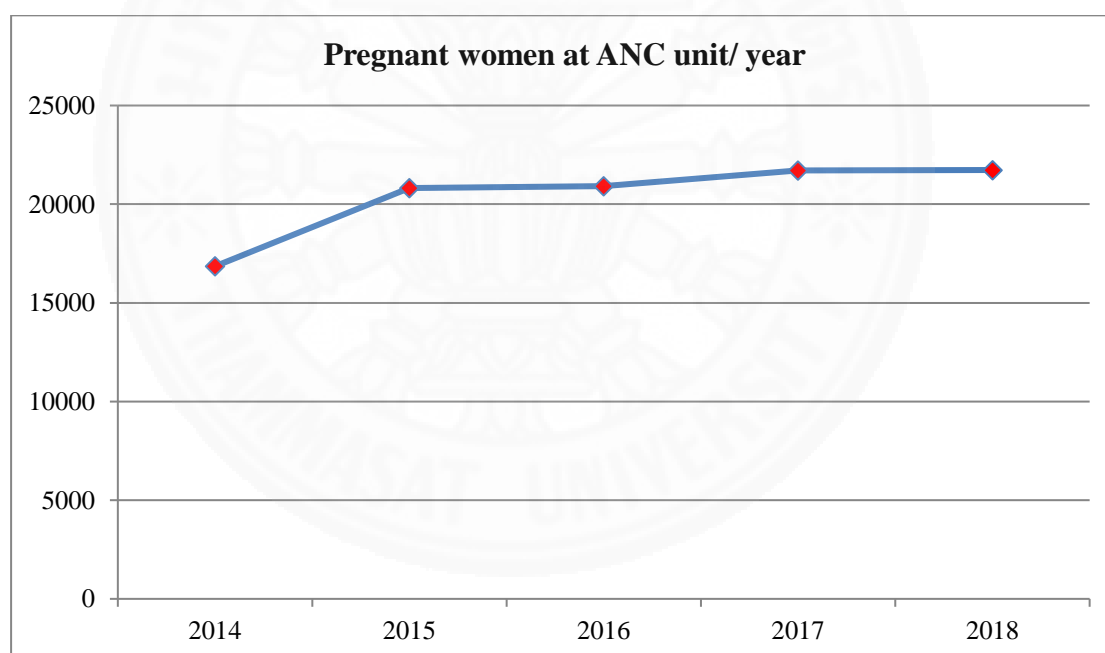
Note. Adapted from *Statistics for Antenatal Care Service for The Year 2018*, by Obstetrics and Gynecology Nursing Department, Phramongkutklao Hospital, 2018, Bangkok: Phramongkutklao Hospital press.

The average of times that pregnant women receive ANC service / month in the budget year from October to September in 2018 is 1,894.25 persons/month (Phramongkutklao Hospital, Obstetrics and Gynecology Nursing Department, 2018).

**Table 2.1** The number of times that pregnant women receive ANC service in the budget year from 2014 to 2018

Year	2014	2015	2016	2017	2018
The number of times that pregnant women receive ANC service	16,853	20,818	20,912	21,705	21,731

Note. Adapted from *Statistics for Antenatal Care Service for The Year 2018*, by Obstetrics and Gynecology Nursing Department, Phramongkutklao Hospital, 2018, Bangkok: Phramongkutklao Hospital press.

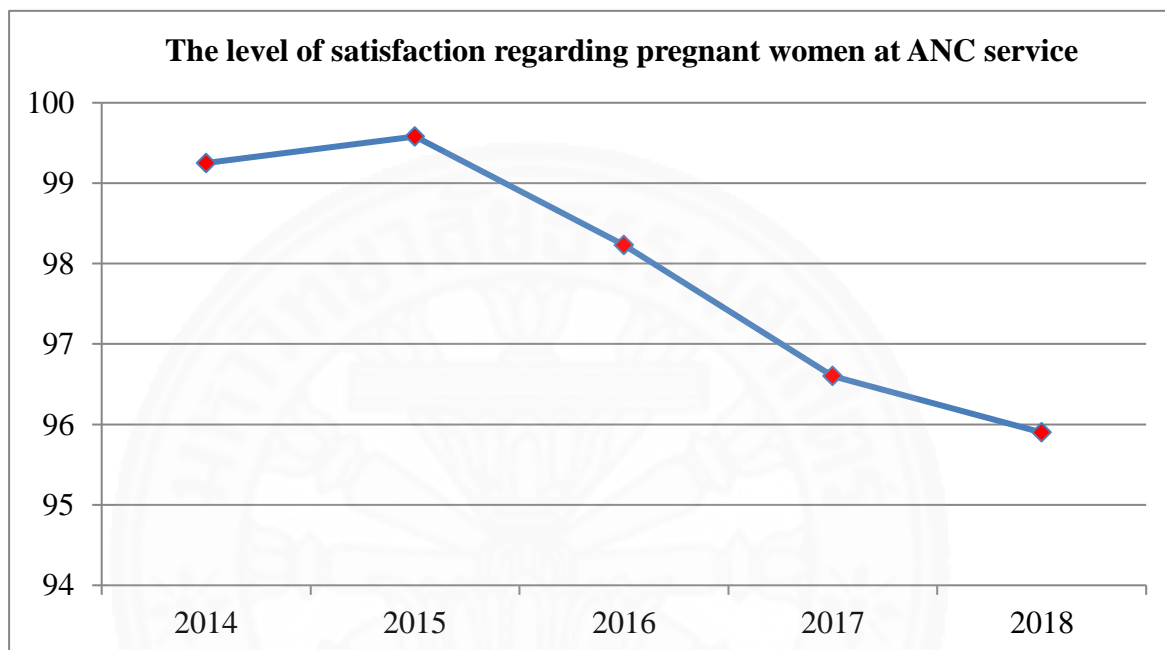


**Figure 2.2** The number of times that pregnant women receive ANC service in the budget year from the budget year 2014 to 2018

Note. Adapted from *Statistics for Antenatal Care Service for The Year 2018*, by Obstetrics and Gynecology Nursing Department, Phramongkutklao Hospital, 2018, Bangkok: Phramongkutklao Hospital press.



ANC unit provides high volume of services to non-admitted pregnant women. The number of times that pregnant women receive ANC service has grown steadily in the budget year from 2014 to 2018 (Phramongkutklao Hospital, Obstetrics and Gynecology Nursing Department, 2018).



**Figure 2.3** The level of satisfaction regarding pregnant women in the budget year from 2014 to 2018

Note. Adapted from *Statistics for Antenatal Care Service for The Year 2018*, by Obstetrics and Gynecology Nursing Department, Phramongkutklao Hospital, 2018, Bangkok: Phramongkutklao Hospital press.

Basing on the information mentioned above, the number of times that pregnant women receive ANC service has grown steadily. On the contrary, the level of satisfaction regarding pregnant women each year has decreased respectively. Regarding ANC service, the level of satisfaction pregnant women in the budget year from 2014 to 2018, the percent has been decreased respectively as 99.25, 99.58, 98.23, 96.60, and 95.90 (Phramongkutklao Hospital, Obstetrics and Gynecology Nursing Department, 2018).

In a healthcare sector, the satisfaction which service receivers perceived is regarded as a strong basis for service quality (Yasin et al., 2011, pp. 433-442). The satisfaction of pregnant women is one of the indicators for measuring quality and can reflect to the defect of ANC service system. The high quality of pregnancy care is a key strategy for healthcare service systems. Inadequate care during pregnancy can affect mother and baby in morbidity and mortality (Lincetto et al., 2010, pp. 51-62). According to the study pregnancy care for rural pregnant women, the result shows that 26.4% of them are not satisfied with equipment, waiting area, follow up service, and health service which are provided during pregnancy respectively (Soliman, 2015, pp. 1-9). Therefore, it is necessary to focus on pregnant women' needs in-depth understanding.

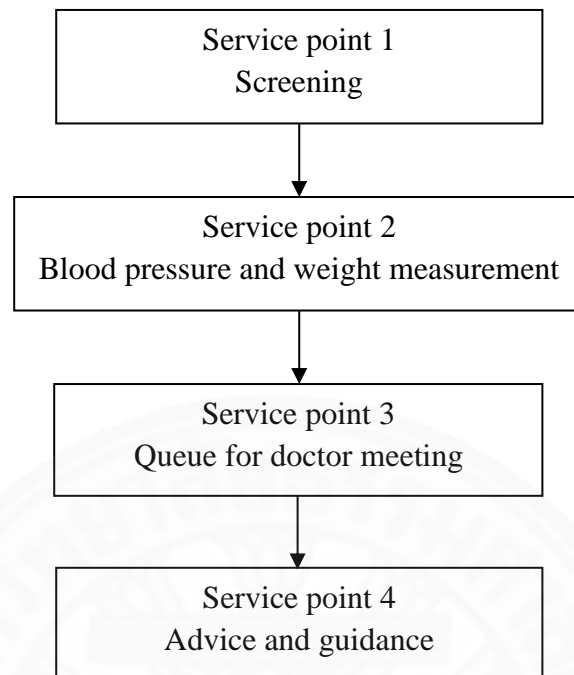
### **2.1.2 Flow of continuous pregnancy care at ANC unit**

Pregnancy is typically divided in three trimesters. The first trimester is from one week through 13 weeks including conception. The second trimester is from 14 weeks through 28 weeks. The third trimester is from 29 weeks through 42 weeks (Cunningham et al., 2010).

Pregnant women who get the pregnancy care for the first time will be provided pregnancy services from ANC unit. This also includes those who have urine pregnancy test with a positive result, and those who used to take pregnancy care from other hospitals. The pregnancy service at ANC unit will be provided on Tuesday to Friday from 10 a.m. until 2 p.m. during office hours. The services include counselling, suggesting, and giving the first health education in parents' school. Then, they will get an appointment to follow up in one or two weeks for the second time pregnancy care.

For the second time pregnancy care, pregnant women will get the second health education in parents' school. Their pregnancy's status will be checked as a continuous pregnancy care on Monday to Friday from 7 a.m. to 4 p.m. except Thursday.

Up to the second time, the continuous pregnancy care will be provided on Monday to Friday from 7 a.m. to 4 p.m. except Thursday until delivery.



**Figure 2.4** Flow of continuous pregnancy care at ANC unit

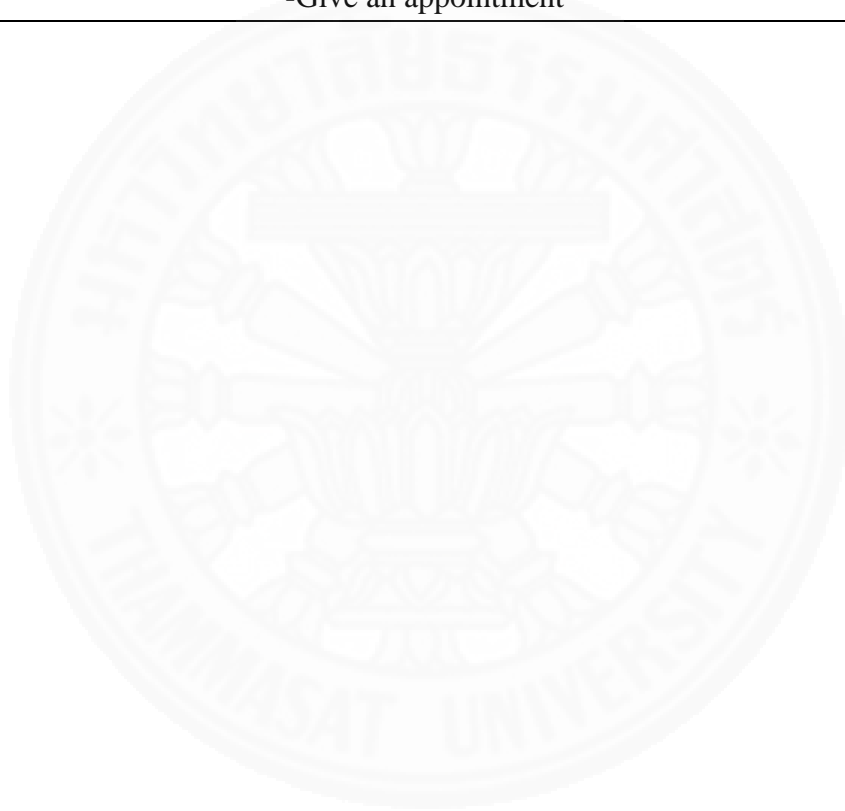
The process of ANC service point as the figure, there will be staffs in each service points to provide ANC service smoothly and systematically (Phramongkutklao Hospital, Obstetrics and Gynecology Nursing Department, 2018).

**Table 2.2** The process of continuous pregnancy care at ANC unit (Continued on next page)

Service point	Service	Job	Treatment
1	Screening	<ul style="list-style-type: none"> <li>-Screening early warning signs</li> <li>-Counselling</li> <li>-Suggestions</li> <li>-Giving queue</li> </ul> <hr/> <ul style="list-style-type: none"> <li>-Print OPD card</li> <li>-Check lab</li> <li>-Print lab</li> <li>-Key bill</li> <li>-Counselling</li> <li>-Suggestions</li> </ul>	Notify doctors and check quickly when pregnant women having early warning signs
2	Blood Pressure and weight measurement	<ul style="list-style-type: none"> <li>-Record weight</li> <li>-Record vital sign</li> <li>-Screening early warning signs</li> <li>-Counselling</li> <li>-Suggestions</li> <li>-Suggest to pay bill</li> </ul> <hr/> <ul style="list-style-type: none"> <li>-Check albumin/ sugar</li> <li>-Check lab HIV, pap smear</li> </ul>	
3	Queue for Doctor Meeting	<ul style="list-style-type: none"> <li>-Check Lab</li> <li>-Print Lab</li> <li>-Line up queue (Normal pregnant, High risk clinic, Genetic counselling, Chromosome clinic</li> </ul>	<ul style="list-style-type: none"> <li>-Non stress test (NST)</li> <li>-Ultrasound (U/S) (Check baby well-being)</li> <li>-Per Vagina (PV) examination</li> <li>-Procedure examination</li> <li>-Medicine/ blood injection</li> </ul>

**Table 2.2** The process of continuous pregnancy care at ANC unit (Continued)

Service point	Service	Job	Treatment
4	Advice and Guidance	<ul style="list-style-type: none"> <li>-Check documents</li> <li>-line up queue</li> <hr/> <li>-Key bill</li> <hr/> <li>-Counselling</li> <li>-Suggestions</li> <li>-Give an appointment</li> </ul>	



## 2.2 Innovation

### 2.2.1 Concept of innovation

Innovation significantly benefits to individuals, groups, or further organizations and intends to organizational goals (Hargrave & Van De Ven, 2006, pp. 864-888). An innovation can be included product, process, marketing, or organization (Organization for Economic Co-operation and Development Statistical Office of the European Communities, 2005). This following literatures show the definition of innovation proposed by different researchers.

**Table 2.3** The definition of innovation

The definition of innovation	References
A new product or concept developed from limited resources or tight budgets	Clark and Lindsey, 2013
A new application of ideas, products, processes, or service	West, 1990, pp. 309-333
A new implementation of management practice, structure, or technique that is the state of the art.	Birkinshaw, Hamel, and Mol, 2008, pp. 825-845
A new difference in the form, quality, or management activities in an organization	Hargrave and Van De Ven, 2006, pp. 864-888
A new practices and a new processes for reducing quality defects and improving service receivers' satisfaction	Zbaracki, 1998, pp. 602-636

In conclusion, innovation is a new concept that is developed from limited resources, ideas, products, processes, or service in an organization to reduce quality defects, and respond service receivers' needs.

### **2.2.2 Healthcare innovation**

The hospital is considered as a center of healthcare service. The successful healthcare organization of the future has to identify a new product, a new process, or a new service by focusing on service receivers' needs for enhancing quality of life, the options of diagnostic and treatments, as well as the efficiency and cost effectiveness. This process to improve the healthcare quality will be changed the management functions and administrative tasks which can improve the service receivers' experience during the medical treatment.

Accordingly, innovation in the healthcare organization, hospital 4.0, has its own challenge. The healthcare innovation framework changes the method and technology level transformed to a multi-functional center by different units to an integrated center which can be provided a personal care service. Therefore, healthcare innovation should be promoted in order to improve hospital management and the quality of medical services in order to achieve service excellence (Clark & Lindsey, 2013; Qian, Li, Wang, & Chen, 2011, pp. 108-111; Pierangelo et al., 2018, pp. 333-338; Omachonu & Einspruch, 2010, pp. 1-20).

According to hospital innovation and its impact on service receivers' perceived quality of care, hospital innovation is both medical and administrative innovation. Hospital innovation has explained service receivers' perceived quality of care. Medical innovation including technology and method innovation will effectively improve the quality of care in process. In addition, administrative innovation is positively related with management activities such as medical and computer-based registration, human resource management, and drug management. As a result, it will provide the service receivers' health status, appropriate methods of treatment, and knowledge of medical staffs which indicates an excellence quality of care (Wu & Hsieh, 2015, pp. 46-61).

### 2.3 The “Supreme Service Model”

RTA Medical Department is the service segment of the RTA. It is in charge of the field and base medical affairs to provide medical care, train personnel in research agriculture, and supervise the other medical divisions within the RTA (Wikipedia, 2018, October 15). The “Supreme Service Model” is one of the strategies to achieve operational excellence focused on service receivers. This project has been launched by RTA Medical Department since 2015 and will be continued until 2021 to provide excellent service to customers and build a long-term relationship.

PMK Hospital, a military background for the RTA Medical Department, is the tertiary care hospital that has facilities of 1,200 beds, located in Ratchathewi district, Bangkok, Thailand.

The hospital strategic plans are demonstrated for quality development as follows (Royal Thai Army Medical Department, 2017). Therefore, the mission, vision, and values of PMK Hospital has been responded to the “Supreme Service Model” policy which is to have service excellence with service receiver focus and applied to all departments in PMK Hospital. The implementation of service quality improves operational efficiency in the healthcare sector, resulting in optimum resource allocation, minimum waste of available resource and significant improvement of the quality to protect the interests of patients (Prabhakar Kalepu, 2014, pp. 7-28). Moreover, improving the quality of service also requires the effective managing of service environment and service delivery (Oliver & Rust, 1994, pp. 1-20; Umar et al., 2013, pp. 158-172). Accordingly, the quality development in the PMK Hospital is very important.



**Table 2.4** PMK Hospital's strategic plan

The mission	To be the leader of the military medical institution in Asia
The vision	To provide medical services as the tertiary care level, to the military, families, and publics To provide medical academy by creating an innovation and adding value to customers To respond the Army's mission effectively
The values	To be unity - workforce focus To be unity discipline - leadership, altruism, honor system, integrity To have service excellence - service receiver focus, management by fact, individual and organization learning, focus on future, agility To be excellent working - focus on result To be praise moral

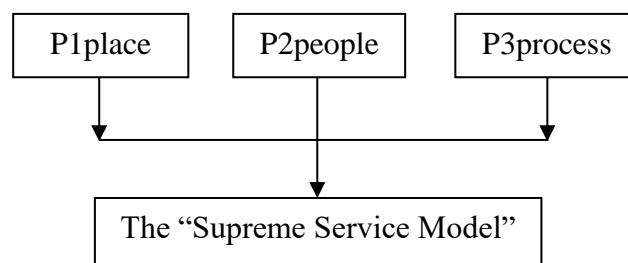
Note. Adapted from Royal Thai Army Medical Department. (2017, October). Project to support the strategic of Royal Thai Army Medical Department 2017-2021 [Web site]. Retrieved from [www.amedstgy.com/download-file-upfile-20180702083148.pdf](http://www.amedstgy.com/download-file-upfile-20180702083148.pdf)

Consequently, the Obstetrics and Gynecology department (OB-GYN) has followed the policy initiative. One of the qualities is the service quality development especially in OPD. OPD is considered an important component of the hospital. This is because it is the first place that service receivers come to visit before being transferred to other units. The high quality of pregnancy care is a key strategy for healthcare service systems (Lincetto et al., 2010, pp. 51-62). It is necessary to promote its pregnancy health cycle and family by focusing on pregnant women's needs in-depth understanding. On the contrary, the level of pregnant women's satisfaction still has been decreased respectively. Thus, the problems of service quality at ANC unit should be reviewed. In addition, the recognizing of the "Supreme Service Model" is the key trends which will change management to investigate service quality at ANC unit, PMK Hospital.

**Table 2.5** The definition of the “Supreme Service Model”

The definition of the “Supreme Service Model”	The researchers
The “Supreme Service Model” is regarded as an service excellence specially provided service quality to service receivers in order to make them impressed, and able to return for service again	Royal Thai Army Medical Department, 2017
The ability to delight service receivers, enhance loyalty, and build long-term relationships	Asif and Gouthier, 2014, pp. 511-531
The ability to provide an service excellence to attract and retain service receivers	Umar et al., 2013, pp. 158-172

Therefore, the “Supreme Service Model” is an ability to provide the proposed service quality to service receivers and build a long term relationship with them. Additionally, the “Supreme Service Model” is comprised of three aspects (3P) which are important for effective understanding of the interaction as demonstrated in the following figure.

**Figure 2.5** The three components of the “Supreme Service Model”

Note. Adapted from Office of Strategy Management, Phramongkutklao Hospital. (2018). Hospital profile [Web blog message]. Retrieved from <http://www.pmk.ac.th/>.

### 2.3.1 P1place

Firstly, P1 refer to “place” which is an arrangement for adequate services with clean space and accommodation prepared for relatives. Also, English information signs and labels are provided to support foreign patients. Moreover, the place especially for the elderly will be arranged and developed in the future. Consequently, P1place focuses on location management, and equipment and supplies.

### 2.3.2 P2people

Secondly, P2 represents “people” are educated officers at all levels in both science and art. Also, this includes multidisciplinary teamwork for patients and relatives who have great capability in holistic service and service mind. Accordingly, P2people focuses on service mind, personnel competency, and human resource management.

### 2.3.3 P3process

The third is P3 refer to the “process” for supporting and serving is a clear service system to reduce waiting time. Therefore, P3process focuses on a clear step of service and process management. In addition, the key performance index (KPI) for the OPD’s process at the tertiary care military hospital is to reduce the average waiting time (minutes) as (Royal Thai Army Medical Department, 2017);

**Table 2.6** KPI of the “Supreme Service Model” for the OPD’s process

KPI	Goal			
	2018	2019	2020	2021
Reduce waiting time average (minutes) upon service time	110	100	90	80

Note. Adapted from Office of Strategy Management, Phramongkutklao Hospital. (2018). Hospital profile [Web blog message]. Retrieved from <http://www.pmk.ac.th/>.

## 2.4 Service quality

### 2.4.1 Service

Service that creates satisfaction has five important characteristics as follows;

a. Equal service should be provided. All people must have equal rights to receive service with the same standard and must not be divided by gender, race, skin or poverty as well as social status.

b. Fast and on-time service will lead to an effective work.

c. Service should be provided with suitable people in the right place and also at the right time.

d. Continuous service as service must be ready and being regular training all the time.

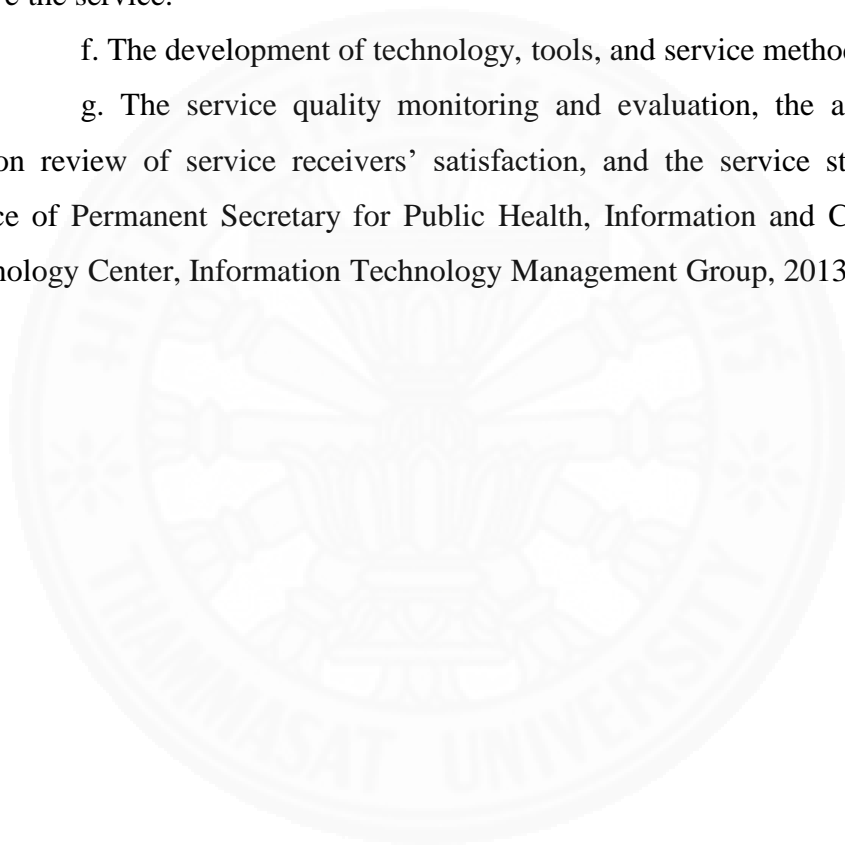
e. Advanced service which progress in performance, quality, and modern technology (Millett, 1954).

Healthcare service in terms of the Ministry of Public Health is the service for health promotion, prevention, treatment, and rehabilitation which helps provide service excellence and to meet the needs of service receivers. Therefore, the process of quality in the hospital can be divided into four issues; namely, service process, service personnel, facilities, and service quality (Puongphaka Masena & Pranot Nanthiyakun, 2014, pp. 88-101).

The art of service that should be followed is service mind to deliver excellent service. SERVICE is comprised of S smile, E enthusiasm, R rapidness, V value, I impression, C courtesy, and E endurance. In addition, MIND is comprised of M make believe, I insist, N necessitate, and D devote (Chandrakasem Rajabhat University, Dean's Office Faculty of Management Science, 2012).

The important strategies to have the excellent service mind are as follows;

- a. A clean work place with good environment and one stop service.
- b. Willingness and enthusiasm to provide service with smile.
- c. The interaction with service receivers should begin with greeting the contact by questioning in polite manners, showing enthusiasm, and friendliness.
- d. Good communication.
- e. Always thinking about the feelings of service receivers that come to receive the service.
- f. The development of technology, tools, and service methods.
- g. The service quality monitoring and evaluation, the assessment and opinion review of service receivers' satisfaction, and the service standard setting (Office of Permanent Secretary for Public Health, Information and Communication Technology Center, Information Technology Management Group, 2013).



### 2.4.2 Concept of service quality

**Table 2.7** The definition of service quality

The definition of service quality	References
The outcomes of an evaluation which the service receivers compare their perception to their expectations with the service received.	Christian, 1984, pp. 36-44
Effectively managing service requires a clear understanding of what service means to service receivers. Thus, we must understand the nature of service receivers when experiencing a service.	Oliver and Rust, 1994, pp. 1-20; Umar, Kasim, and Martin, 2013, pp. 158-172
A service receivers' attitude regarding the inferiority/superiority of the organization and its services.	Bitner, Faranda, Hubbert, and Zeithaml, 1997, pp. 193-205
The expected service outcomes in needs, lifestyles, and technological innovations are closely observed by service receivers.	Prabhakar Kalepu, 2014, pp. 7-28
A perception of service receivers to expect satisfied service can be shown in the three aspects of structure, process, and outcomes.	Wu and Hsieh, 2015, pp. 46-61

In conclusion, effective service quality is the service receivers experience and expect for the satisfied service outcomes compared with their expectations.

### 2.4.3 Related literatures

The review of several service qualities has shown that many new ideas regarding service are currently focusing on the better understanding of how service receivers are affected by the standard of service systems and how the key trends are likely to affect service relationship in the coming years.

According to the factors affecting hospital choice decisions in three public and one private hospital, the importance of service accessibility of service receivers in hospital choice shows the role of hospital's image first. Accordingly, it is essential for hospital managers to create a good image for service receivers' prospective. Besides, the hospital's reputation continues to play an important role in hospital choice decisions. Secondly, its physical appearance of the facilities which are currently owned and might be acquired in the future must offer the medical technology in their facilities. The third is technological capabilities since many patients want to take an advantage of the advanced technology, demand reduction in diagnosis errors, and time losses in treatment (Akinci, Esatoğlu, Tengilimoglu, & Parsons, 2004, pp. 3-19).

According to the comparative study of service quality measurement between private versus government hospital using the application of SERVQUAL model, the result shows that government hospital performs patient's expectation in service, courtesy and empathy better than private hospital. However, private hospitals can response in terms of reliability, communication, and assurance better. In addition, responsiveness and understanding are indifferent from their expectations (Jurairat Chutinan, 2011).

According to the role of tangibility in service quality and its impact on external customer satisfaction, tangibility in service represents a key role in customer decision-making. Besides, the officers should use creative symbols and images to promote these services; for instance, five-star hotels or ISO 9000 certified hospitals. In addition, images which are used to reflect the tangibility should reinforce the benefit or value that the hospital provides. Moreover, the tangibility in the form of physical environment seems to be a significant factor affecting the pre-purchase behavior and perceived customer satisfaction in the hospitals which are selected (Panda & Das, 2014, pp. 53-69).

According to service quality in healthcare sector: exploratory study on hospitals, public and private hospitals attempt to improve their service quality to fulfill the needs of service receivers. The demographic factors and socioeconomic status play a vital role in patients' satisfaction towards service quality. However, public hospitals suffer from low productivity and low service quality, while the private hospitals make use of the available opportunity (Prabhakar Kalepu, 2014, pp. 7-28).

According to the model of an excellent service of the private hospitals in Thailand, the service excellence is classified into four characteristics. Firstly, the physician and nursing service which consists of general management, human resources, applying knowledge, and budgeting. The second is the diagnosis service which consists of a variety of diagnosis models and effective quality and continuous of quality improvement. Thirdly, receptionist staff service consists of basic competency and specific competency. Fourthly, cashier staffs' service consists of basic competency and specific competency. Therefore, private hospital administrators should have a great vision to encourage their personnel and launch the strategic planning which can be promptly adjusted to each different situation. Moreover, they also should develop knowledge skills, abilities, and creating a happy workplace for everyone (Rungroj Songsraboon, 2016, pp. 54-56).

According to the development of service quality model of patient care for excellence in Roi-Et Hospital, the services quality for excellence involves the continuous development in knowledge, the nursing care program, and the factors for developing patient care. The results examine the coordination of teamwork in nursing with the concept of sustainable development (Panida Sutthiprapa, Ravadee Somsup, & Maliwan Angkhanit, 2018, pp. 244-253).



According to the administration of hospital service quality in the ministry of public health, the level of service receivers' satisfaction for service process, service quality, and facilities in public hospitals is 83 percent with the average of 41.5 percent. The strategy of the administration of organization has an effect on the quality of the government hospital. Moreover, the administration by developing quality of officers, the information system, and the evaluation leads to be the quality management in every level of the hospital (Puongphaka Masena & Pranot Nanthiyakun, 2014, pp. 88-101).



## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

This chapter describes the research methodology and separates them into six main sections. The first section presents population group and sample size. The second section describes study method. The third section shows research tools which help support the research methodology. The fourth presents conceptual framework. The fifth section demonstrates step of research methodology. Finally, the last section shows research framework.

#### **3.1 Population group and sample size**

##### **3.1.1 Population group**

**3.1.1.1 The group of service receivers at ANC unit**

**3.1.1.2 The group of service providers at ANC unit**

**3.1.1.3 The group of administrators at OB-GYN department**

##### **3.1.2 Inclusion criteria of sample size**

**3.1.2.1 The group of service receivers at ANC unit**

**3.1.2.2 The group of service providers at ANC unit**

**3.1.2.3 The group of administrators at OB-GYN department**

##### **3.1.3 Exclusion criteria of sample size**

#### **3.2 Study method**

#### **3.3 Research tools**

##### **3.3.1 Set of tools for collecting data**

###### **3.3.1.1 Questionnaires**

**(1) Part 1 General information**

**(2) Part 2 The service receivers' opinions on service quality**

###### **3.3.1.2 In-depth interview**

### **3.4 Conceptual framework**

### **3.5 Step of research methodology**

#### **3.5.1 Study and state background problems**

#### **3.5.2 Study related to the theory and the literatures**

#### **3.5.3 Define objectives and scope**

#### **3.5.4 Develop conceptual framework**

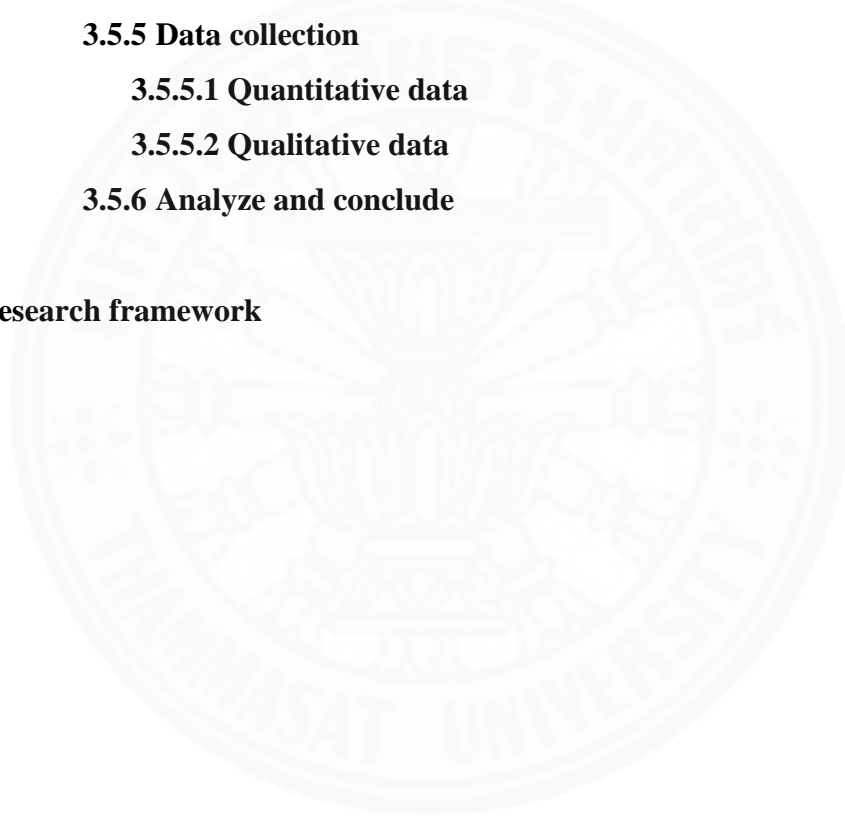
#### **3.5.5 Data collection**

##### **3.5.5.1 Quantitative data**

##### **3.5.5.2 Qualitative data**

#### **3.5.6 Analyze and conclude**

### **3.6 Research framework**



### **3.1 Population group and sample size**

#### **3.1.1 Population group**

The population group in this study includes the group of service receivers at ANC unit, the group of service providers at ANC unit, and the group of administrators at OB-GYN department.

**3.1.1.1 The group of service receivers at ANC unit** is pregnant women during the first, the second, and the third trimester of pregnancy receiving service at ANC unit, OB-GYN department, PMK hospital.

**3.1.1.2 The group of service providers at ANC unit** is residents, register nurses, practical nurses, nurse aids, general staffs, medical staffs, and laboratory staffs.

**3.1.1.3 The group of administrators at OB-GYN department** is staffs, nursing director, head nurses, subhead nurses, and nursing instructors.

#### **3.1.2 Inclusion criteria of sample size**

##### **3.1.2.1 The group of service receivers at ANC unit**

Pregnant women of all gestational age during the first, the second, and the third trimester of pregnancy receiving service at ANC unit, OB-GYN department, PMK Hospital. Moreover, they are willing to participate in this research by voluntarily signing informed consent as evidence.

The average of pregnant women at ANC unit/ year from October to September in 2018 is 21,731 persons/ year. To determine the sample size, the formula of Yamane is adopted (Yamane, 1967, p. 886 cited by Israel, 2003, pp. 1-5). Regarding the calculation, the sample size of pregnant women is 393 persons that are selected by accidental sampling. Furthermore, the data collection in this group consists of questionnaires.

n = The sample size

N= The population size

e = The level of precision 0.05%

$$n = \frac{N}{1 + N(e)^2}$$

$$= \frac{21,731}{1 + 21,731(0.05)^2} = 393 \text{ persons}$$

### **3.1.2.2 The group of service providers at ANC unit**

Data collection in this group consists of in-depth interview total = 31 persons. The sample group consists of residents including all of resident 1, 2, 3 N = 13 persons, register nurses at ANC unit N = 2 persons, practical nurses at ANC unit N = 2 persons, nurse aids at ANC unit N = 10 persons, pharmacists involved in ANC unit N = 2 persons, and laboratory staffs involved in ANC unit N = 2 persons. Moreover, they are willing to participate in this research by voluntarily signing informed consent as evidence.

### **3.1.2.3 The group of administrators of OB-GYN department**

Data collection in this group consists of in-depth interview total = 9 persons. The sample group consists of staffs of OB-GYN N = 2 persons, nursing director N= 1 person, head nurses of OB-GYN N= 2 persons, subhead nurses of OB-GYN N = 2 persons, and nursing instructors involved in ANC unit N = 2 persons. Moreover, they are willing to participate in this research by voluntarily signing informed consent as evidence.

### **3.1.3 Exclusion criteria of sample size**

The service receivers, service providers, or administrators who do not voluntarily sign the informed consent are not willing to participate in this study.

### **3.2 Study method**

This study uses mixed method using quantitative and qualitative method to investigate service quality basing on the level of pregnant women's satisfaction, to study the problems of service quality that should be improved, and to provide the suggestions of service quality by using the "Supreme Service Model" at ANC unit, PMK Hospital.

### **3.3 Research tools**

In this section, the research tools which are used for supporting the research methodology are described.

#### **3.3.1 Set of tools for collecting data**

A set of tools which is used to support this study are questionnaires and in-depth interview.

##### **3.3.1.1 Questionnaires**

Questionnaires are designed to be part of data collection which will be used in analyzing and supporting the research. The quantitative data for the group of service receivers at ANC unit was collected. A total of 393 questionnaires are distributed to service receivers which are pregnant women selected by accidental sampling. Among those, the study has received valid questionnaires from 330 pregnant women. This survey consists of two parts which are the general information and the service receivers' opinions regarding service quality. Questionnaires will be in the closed-ended form. The statistics for the quantitative data analysis are descriptive statistics including frequency, percentage, mean, and standard deviation.

##### **(1) Part 1 General information**

This baseline characteristics is consists of the general information on seven sections which include gestational age, age, highest level of education, occupation, scheme, times receiving the service, and a salary per month.

##### **(2) Part 2 The service receivers' opinions on service quality**

This part consists of the check list which involves in three aspects which are P1place, P2people, and P3process.

**Table 3.1** The rating scale on service quality

The rating scale on service quality	Interpretation
1	Very low
2	Low
3	Medium
4	High
5	Very high

The rating scales of service receivers' opinions regarding service quality can be divided and interpreted into five point Likert type scale. The scale starts from 5 to 1 in descending-ordered scales as very high (5 ), high (4 ), medium (3 ), low (2 ) and very low (1 ) respectively. Moreover, at the end of each aspect, there will be an open-ended form to allow pregnant women to give suggestions.

**Table 3.2** Mean score interpretation

Mean	Interpretation
1.00 - 1.80	Very Low
1.81 - 2.60	Low
2.61 - 3.20	Medium
3.21 - 4.20	High
4.21 - 5.00	Very High

Note. Adapted from "Malaysian principals' technology leadership practices and curriculum management," by Hamzah, M. I. M., Juraimi, F., & Mansor, A. N., 2016, *Creative Education*, 7(7), pp. 922-930.

Mean score interpretation can be divided and interpreted into five levels. Mean score starts from 5 to 1 in descending scales in descending as a very high (S.D.= 4.21-5.00), a high (S.D.= 3.21-4.20), a medium (S.D.= 2.61-3.20), a low (S.D.= 1.81-2.60), and a very low (S.D.= 1.00-1.80) respectively.

### 3.3.1.2 In-depth interview

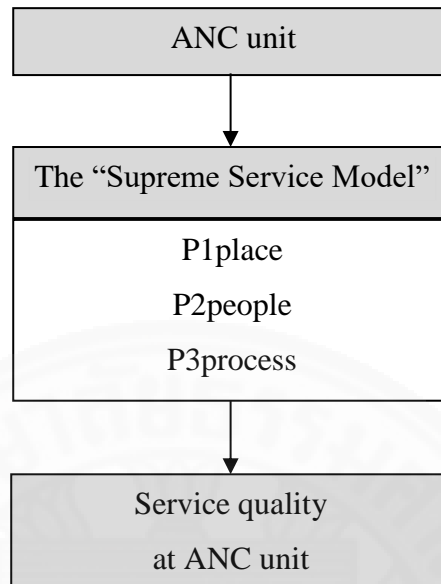
Data collection from 31 service providers at ANC unit and 9 administrators of OB-GYN department consists of in-depth interview. Accordingly, the qualitative data are content analysis.

**Table 3.3** The research questions of in-depth interview

The research questions	In-depth interview
1	How the service quality of place at ANC unit should be improved following the “Supreme Service Model”?
2	How the service quality of people at ANC unit should be improved following the “Supreme Service Model”?
3	How the service quality of process as screening point, blood pressure and weight measurement point, queue for doctor meeting point, and advice and guidance point at ANC unit should be improved following the “Supreme Service Model”?



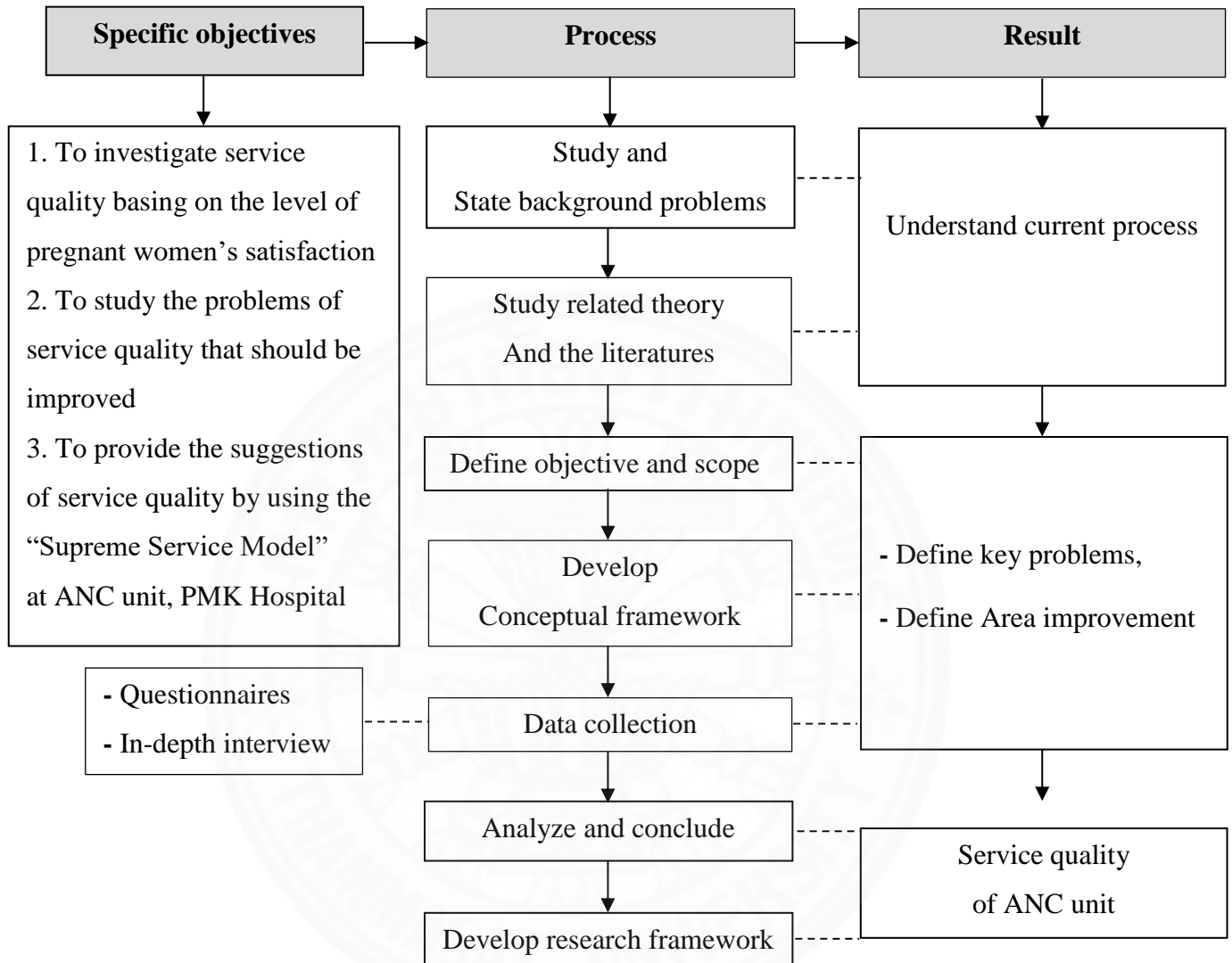
### 3.4 Conceptual frame work



**Figure 3.1** Conceptual framework

This conceptual framework begins with service receivers at ANC unit, pregnant women, who receive ANC service. In accordance with the opinions of service providers at ANC unit and administrators at OB-GYN department who participated in the research give suggestions for service quality in terms of P1place, P2people and P3process by using the "Supreme Service Model". To summarize the problems and the improvements will be the most important benefits to pregnant women in achieving service quality of ANC unit.

### 3.5 Step of research methodology



**Figure 3.2** Step of research methodology

### **3.5.1 Study and state background problems**

This step studies the service system in ANC unit to understand current process. Not only that it helps find the main problems, but it also helps study the way to figure out how the issues can be improved.

### **3.5.2 Study related to the theory and the literatures**

This step is to study the theory and the literatures which are related to the key problems. The key structure of theory and literatures is divided into four main sections which are ANC service system, innovation, the “Supreme Service Model”, and service quality. Finally, the analysis of literatures’ reviewed will be done and the research for this study will be proposed.

### **3.5.3 Define objectives and scope**

Research has started from September 2018 to June 2019. As reviewed on the previous step, the objective of this research is defined. Furthermore, this research aims to investigate service quality basing on the level of pregnant women’s satisfaction, to study the problems of service quality that should be improved, and to provide the suggestions of service quality by using the “Supreme Service Model” at ANC unit, PMK Hospital.

### **3.5.4 Develop conceptual framework**

This step is to develop the conceptual framework.

### **3.5.5 Data collection**

Firstly, a set of tools of questionnaires and in-depth interview have been developed and clarified to the three professionals; Asst. Prof. Col. Prisana Panichkul, M.D., Col. Phanida Jarruwale, M.D., and also Maj. Patcharin Junasa for content validity with Index of Congruence (IOC). Then, applying a pilot trial 30 samples size for reliability with Cronbach’s alpha = 0.94.

Secondly, the process in this step has been applied for ethical documents to the Institutional Review Board committee of RTA Medical Department (IRB RTA) for the Ethical Clearance Certificate. The IRB RTA has approved since April 9<sup>th</sup>, 2019 to April 8<sup>th</sup>, 2020 with IRB No. IRBRTA 379/2562 and project code Q001q/62\_Exp.

Thirdly, it is essential for this process to ask permission for a data collection to nursing division, OB-GYN, and PMK Hospital.

### 3.5.5.1 Quantitative data

Quantitative data for the group of service receivers at ANC unit was collected.

(1) The researcher publicizes about the research data with a small amplifier for pregnant women who come to get pregnancy care in front of ANC unit during 8 a.m. to 12 a.m. from Monday to Friday. In addition, the researcher will provide additional details such as the data collection process which will not interfere or delay the service. Moreover, clarifying the participation in this research will not have any compensation for the research participants and cannot be used as special privileges in coming to receive any service.

(2) After pregnant women are informed about the intention to participate in the research, they are invited into a meeting room which had desks and chairs for privacy answering session. Then, the researcher provides suggestions, details, and questionnaires about the research. The information uses in the study will be kept secret for developing service quality only without any effects on ANC service. In addition, pregnant women can deny participation in this research at any time.

(3) Then, the written informed consent which is developed for service receivers' opinions should be read and signed before moving on to another session, questionnaires completion. Answering questionnaires will take around fifteen minutes. After completing questionnaires, the participants have to return to the researcher directly.

(4) The opinions of pregnant women participating in the research will only be collected from questionnaires not from an in-depth interview at all. The researcher will conceal information from questionnaires by specifying codes as the number of service receivers. These codes do not show any name or information identifying each of pregnant women, as it only appears in the questionnaires of the group of service receivers at ANC unit as "P-XXX".

### 3.5.5.2 Qualitative data

Qualitative data for the group of service providers at ANC unit and the group of administrators of OB-GYN department was collected.

(1) The researcher coordinates with the group of service providers at ANC unit and the group of administrators of OB-GYN that are selected by purposive sampling for in-depth interview. Then, the researcher gives suggestions and details about the research.

(2) Then, the written informed consent which is developed should be read and signed before conducting in-depth interview. The information used in the study will be kept secret for only developing service quality without any effects on the operation. In addition, they can deny participation in this research at any time.

(3) The location of in-depth interview will be a private meeting room. This in-depth interview will take about thirty minutes per person and must not disturb the working time of each person.

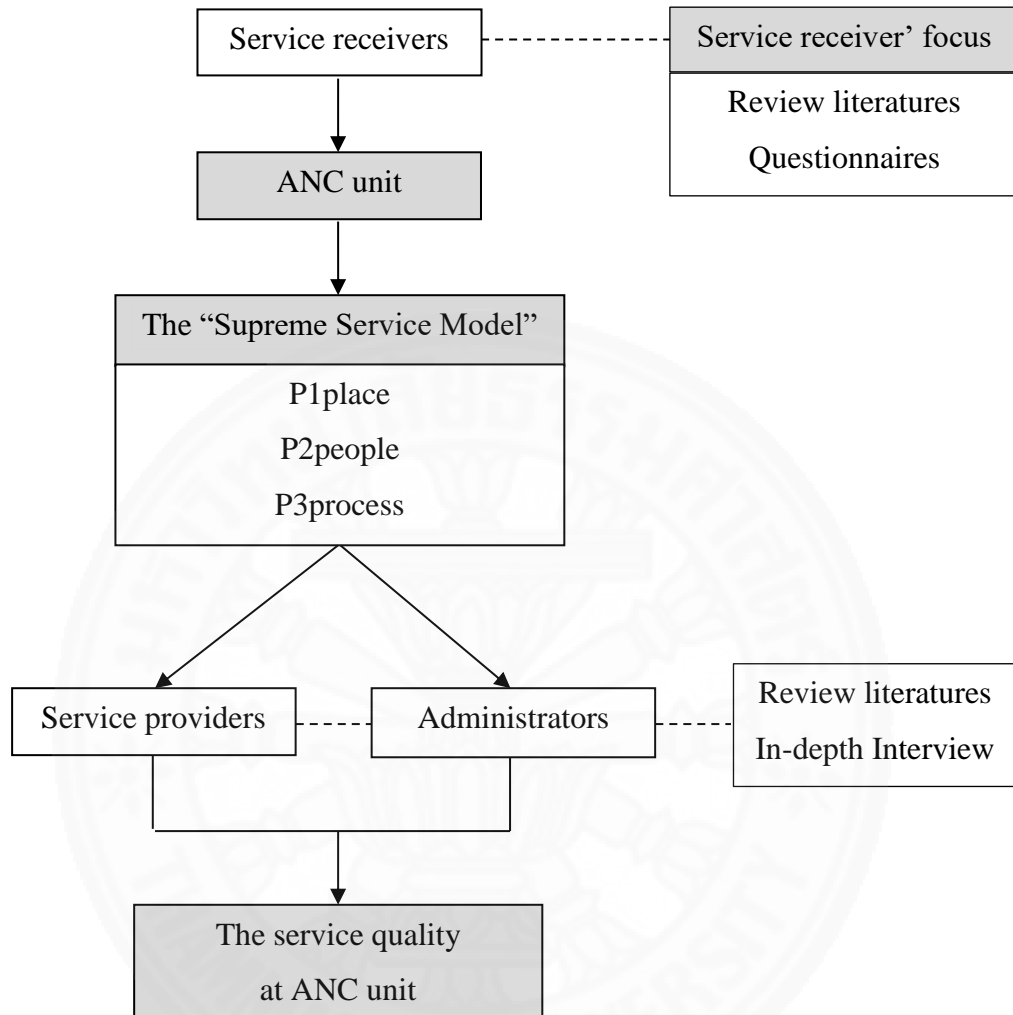
(4) The researcher will conceal information from in-depth interview by specifying codes as the number of service receivers and the number of administrators of OB-GYN. These codes do not show any name or information identifying the group of service providers at ANC unit and the group of administrators of OB-GYN department by using as “S-XXX” and “A-XXX” respectively.

(5) During in-depth interview, the researcher will ask permission to record the interview by using a digital sound recorder. If they deny, the researcher will use the note-taking method instead. After that, the content analysis is summarized in various issues.

### 3.5.6 Analyze and conclude

After data collection, the outcomes will be reported. Then, analyze and conclude the results with content analysis. Next, the proposed service quality for ANC using the “Supreme Service Model” in PMK Hospital will be evaluated. Some topics the additional information has to be reviewed for guidance development.

### 3.6 Research framework



**Figure 3.3** Develop research framework

## **CHAPTER 4**

### **RESULTS AND DISCUSSION**

This chapter presents the findings from this research through the results and the discussion. This step is to define key problems or critical areas to investigate service quality basing on the level of pregnant women's satisfaction, to study the problems of service quality that should be improved, and to provide the suggestions of service quality by using the "Supreme Service Model" at ANC unit, PMK Hospital.

Thus, this chapter is separated into four main sections. The first section describes the baseline characteristics of service receivers. The second demonstrates the service quality of P1place. The third describes the service quality of P2people. Finally, the last section presents the service quality of P3process.

#### **4.1 The baseline characteristics of service receivers**

#### **4.2 The service quality of P1place**

#### **4.3 The service quality of P2people**

#### **4.4 The service quality of P3process**

The population groups are comprised of the group of service receivers at ANC unit, the group of service providers at ANC unit, and the group of administrators at OB-GYN department. The sample of service receivers are 330 pregnant women selected by accidental sampling.

The quantitative data is collected by using the questionnaires including the general information and the service receivers' opinions about service quality. Then, the qualitative data from 31 service providers and 9 administrators is collected by using the in-depth interview.

#### 4.1 The baseline characteristics of service receivers

The baseline characteristics of service receivers consist of the general information of pregnant women on seven sections: There are gestational age, age, highest level of education, occupation, scheme, times receiving the service, and salary per month.

**Table 4.1** The baseline characteristics (Continued on next page)

The baseline characteristics		
Gestational age	Frequency	Percentage
Less than 14 weeks	39	11.80
14-28 weeks	121	36.70
29-42 weeks	170	51.50
Total	330	100.00
Age	Frequency	Percentage
Less than 20 years old	22	6.70
20-34 years old	219	66.40
Up to 35 years old	89	27.00
Total	330	100.00



**Table 4.1** The baseline characteristics (Continued)

The baseline characteristics		
Highest level of education	Frequency	Percentage
Primary school	5	1.50
High school	95	28.80
Vocational Certificate	38	11.50
High Vocational Certificate	35	10.60
Bachelor Degree	122	37.00
Master Degree	25	7.60
Ph.D.(Doctor of Philosophy)	3	0.90
Others	7	2.10
Total	330	100.00
Occupation	Frequency	Percentage
Student	11	3.30
Government officer	56	17.00
Private organization's employee	120	36.40
State enterprise employee	14	4.20
Freelance	30	9.10
Housewife	26	7.90
Vendor / Self-employed	40	12.10
Unemployed	19	5.80
Others	14	4.20
Total	330	100.00

**Table 4.1** The baseline characteristics (Continued)

The baseline characteristics		
Scheme	Frequency	Percentage
Eligible disbursements from the Comptroller General's Department	67	20.30
Bangkok's disbursements	14	4.20
State enterprise	10	3.00
Social Security of Phramongkutklao Hospital	6	1.80
30-baht healthcare of Phramongkutklao Hospital	16	4.80
Cash (Other hospital's social security)	147	44.50
Cash (30 baht from other hospitals / 30 baht from other provinces)	45	13.60
Others	25	7.60
Total	330	100.00
Experience	Frequency	Percentage
1-5 times	168	50.90
6-10 times	109	33.00
More than 10 times	53	16.10
Total	330	100.00
Salary / month	Frequency	Percentage
Less than 10,000 baht	45	13.60
10,000 - 20,000 baht	185	56.10
20,000 - 30,000 baht	78	23.60
30,000 - 40,000 baht	16	4.80
40,000 - 50,000 baht	2	0.60
More than 50,001 baht	4	1.20
Total	330	100.00

According to table 4.1, the sample group includes a total of 330 pregnant women. There are 170 persons (51.50 percent) having gestational age 29-42 weeks. Also, 121 persons (36.70 percent) are gestational age 14-28 weeks and 39 persons (11.80 percent) are gestational age less than 14 weeks.

For ages, more than half of them in 219 persons (66.40 percent) are aged between 20 to 34 years old. Also, those over 35 and under 20 years old include 89 persons (27.00 percent) and 22 persons (6.70 percent) respectively.

For highest level of education, about 122 persons (37.00 percent) graduate with bachelor degree, whereas, 95 persons (28.80 percent) graduated in high school. Also, 38 persons (11.50 percent) have vocational certificate for their educational degree.

Regarding occupation, most of them are private employee with 120 persons (36.40 percent). 56 persons (17.00 percent) are government officers, while, 40 persons (12.10 percent) are vendor / self-employed.

For their scheme, most of them use cash (other hospital's social security) with 147 persons (44.50 percent). The second scheme is eligible disbursements from the comptroller general's Department with 67 persons (20.30 percent). The third scheme is cash (30 baht from other hospitals / 30 baht from other provinces) with 45 persons (13.60 percent).

Experience, most of experience is 1-5 times in 168 persons (50.90 percent). The second experience is 6-10 times in 109 persons (33.00 percent). The third experience is more than 10 times in 53 persons (16.10 percent).

For monthly salary, the majority of them with 185 persons (56.10 percent) earn 10,000-20,000 baht per month, while, 78 persons (23.60 percent) have monthly income at 20,000-30,000 baht. However, those with less than 10,000 baht include 45 persons (13.60 percent).

## 4.2 The service quality of P1place

This section shows the service quality of P1place at ANC unit which should be improved following the “Supreme Service Model”.

**Table 4.2** Mean, standard deviation, and meaning of pregnant woman on service quality in aspect concerning P1place

P1place	$\bar{X}$ (95% CI)	S.D.	Interpretation
1.Clean place, enough light, and no bad odor.	4.48 (4.42 - 4.54)	0.59	Very high*
2.The location of the service is convenient for the service receivers, and no crowded.	4.03 (3.95 - 4.11)	0.77	High*
3.There are enough toilets for users. The toilet is clean without odor.	3.82 (3.73 - 3.91)	0.80	High*
4.Equipment and supplies provided are clean, adequate, and ready-to-use, for example, the lobby chairs, drink dispenser, automatic sphygmomanometer.	4.08 (4.00 - 4.16)	0.73	High*
5.There are enough marks and arrow signs. Each service point is clear and easy to understand.	4.17 (4.09 - 4.25)	0.70	High
6.There is an English language sign that suggests the service points for foreigners.	3.78 (3.70 - 3.86)	0.78	High*
P1place total	4.06 (4.00 - 4.12)	0.54	High*

Note. Mean score interpretation, 4.21 - 5.00 = Very High, 3.21 - 4.20 = High

\* Statistically significant

**Table 4.3** The aspect concerning P1place in location management, and equipment and supplies (Continued on next page)

The aspect concerning P1place	
1. Location management	
Area	Opinions
<p><b>-Maintain in a good condition</b></p> <p><b>-Aware of Standard cleanliness</b></p> <p>Overall, an ANC unit has adequate lighting. However, some areas do not have enough lighting due to broken light bulbs that should be fixed. The overall area looks beautiful and hygienic. This area should be carefully maintained in a good condition as it is regarded as the first impression. Also, it should ensure a high standard of cleanliness and hygiene regarding the infection control. Moreover, the head should motivate staffs to be aware of the cleanliness of the area.</p>	<p>“The strengths of this place are its cleanliness and good lighting, so pregnant women are willing to come to this place for getting the pregnancy care. Also, the area is comfortable and not too crowded making it good for their mental. However, some light bulbs are not working causing not enough lighting.” P-084</p> <p>“This place looks more beautiful than many public hospitals and other private hospitals.” A-002</p> <p>“Our OPD is well known for its elegance and innovation as it has just been renovated. Therefore, the owner of OPD should always keep the place new because if it looks too old, people's first impression about the place would be worse. Besides, the important issue regarding the hospital is cleanliness that the owner should consider. The cleanliness of the place should be well managed according to the infection control as this is concerned about service receivers' reliability. Also, the aseptic</p>

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The aspect concerning P1 place

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technique should be considered. Each of our staffs should be motivated to realize the importance of this issue.” A-006

“One of the impressive things about this hospital is that it has better smell compared to other places.” A-009

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**-Provide a special area to relax**

It should provide a special area for pregnant women and their relatives to relax while they are waiting such as music zone, silent zone, and relaxation zone. However, this area should not disturb doctor's visit. This could make them feel good when experiencing long waiting time.

“If it possible, it should have the area that allows listening relaxing music while not disturbing doctor's visit. Also, the relaxing music is good for pregnant women but some might get more stressful.” A-001

“Relaxation area and music should be provided; however, the music can disturb doctor's call if it's too loud and there are lots of service receivers at that moment. This is one of the reasons that hospitals do not turn on the music. For other private hospitals I have visited, there are fewer service receivers but still looks beautiful same as this place.” A-002

“There should be a relaxation area where relatives can get relax while waiting or a kid area when service receivers come with their kids. Also, relaxing and clam music should be considered to add in this area.” A-006

“For a relaxation area, it should be provided for public hospitals where there are a huge number of service receivers.

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The aspect concerning P1 place	
	The hospitals should consider the way to make their service receivers relaxed and impressed when having to wait for a long time.” A-009
<p><b>-More Closed Circuit Television (CCTV)</b></p> <p>More Closed Circuit Television (CCTV) should be installed in the hospital in order to increase the safety because there are an increasing number of pregnant women receiving the service.</p>	<p>“CCTV should be installed as there are an increasing number of pregnant women coming for getting the pregnancy care, which can cause the unsafety for their body and assets.” S-011</p>
<p><b>-A shop selling foods and snacks</b></p> <p>There should be a shop selling foods and snacks in the area of ANC unit for pregnant women and their relatives.</p>	<p>“There should be a shop selling food and snack pregnant women and their relatives as I sometimes experienced those pregnant women got hungry and fainted.” S-029</p>
<p><b>-Well organized area and documents</b></p> <p><b>-Rearrange service areas</b></p> <p>The area should be well organized as well as the documents. Different service areas should be rearranged as they are all located closely to each other making it too narrow and chaotic.</p>	<p>“The counter is too small. It should be bigger.” P-061</p> <p>“Each of service areas is located in a small counter, and located too close to each other.” S-017</p> <p>“For me, the screening area is too small especially the counter.” S-024</p> <p>“The counter looks chaotic in terms of a document process. It should be organized.” A-003</p> <p>“The size of this area doesn't match with the amount of service receivers. The area is too small and it is not well organized. It looks very crowded as the staffs are</p>

The aspect concerning P1place	
	behind the counter as well.” A-005
Examination room	Opinions
<p><b>-Privacy</b></p> <p>For some of the examination rooms, there are three pregnant women per one room. Thus, they might not feel private and uncomfortable to share some information that should be kept secret. Some examination rooms contain two beds that are separated by curtain. For privacy, one examination room should be for only one person.</p>	<p>“Pregnant women don't feel comfortable to show their stomach in the examination room with three beds.” S-001</p> <p>“Beds are separated with only a curtain, so it is not private. For me, it should be one room for one bed.” S-010</p> <p>“There is a privacy concern that should be improved. There should be any partition for the examination room with three pregnant women in case that they have some secret information that cannot be shared.” S-024</p> <p>“An examination room should be 1:1 for privacy concern. Also, doctor's advices are different for each pregnant woman, so they might get confused.” S-031</p>
<p><b>-More examination rooms</b></p> <p>PMK Hospital is also a hospital school that has regular classes; therefore, there should be more examination rooms in the hospital. Also, office and injection room should be improved and renovated. Examination rooms should have more space to support the increasing number of professors and students.</p>	<p>“There should be more examination rooms because sometimes there is not enough room for doctors.” S-15</p> <p>“As this is a hospital school, examination procedures require a large room that can fill up professors and students. However, as the number of students is increasing, the insufficient number of rooms is the issue that should be improved. Currently, office and injection rooms are separated away, so the area and space should also be divided proportionally and renovated</p>



The aspect concerning P1 place	
	to increase utility.” A-005
<p><b>-Improve and renovate for convenience</b></p> <p>Doctor's table and examination table should be placed closely to each other for pregnant women's convenience. They do not have to get on and off the bed several times. Besides, telephone should be near the table as it is easier and faster for staffs to coordinate.</p>	<p>“Doctor's table and examination table should be placed closely to each other so that pregnant women do not have to move several times. Also, it would be more convenient for doctor to check up pregnant woman on the bed and just turn to write on the table. I think it would also be faster that doctor can check up and talk to pregnant women at the same time.” S-009</p> <p>“Telephone is too far, so when the staffs from the farthest table want to use telephone, they have to walk to another table making it inconvenient. Thus, they should have telephone near the table.” S-018</p>
<p><b>-Keep place and environment quiet</b></p> <p><b>-Attractive pictures feel relax</b></p> <p>There should keep the place and environment around examination rooms quiet as well as pleasant. Attractive pictures can be attached in order to make service providers and pregnant women feel relaxed.</p>	<p>“Air condition is so loud that cannot hear anything while measuring blood pressure.” S-014</p> <p>“Rooms should be well decorated with some nice pictures” S-016</p>
<p><b>-Sign noticing</b></p> <p>As there were some pregnant women going to the wrong doctor's room and some of them cannot even find the room. Thus, there should be a sign noticing</p>	<p>“Confusing signs. The layout of ANC unit is unclear. More guideposts should be added as sometimes pregnant women might get confused and go to the wrong room or even go home.” S-004</p>

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The aspect concerning P1place

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each service areas, and a sign in front of doctor's room. Also, the layout of ANC unit should be clearer.

“I have met a pregnant woman waiting for doctor but she went to the wrong room. There should be a sign informing pregnant women to wait at the right place. Also, the sign should clearly explain the location so that the pregnant women will not get confused and have to walk back.”

S-027

Toilets	Opinions
<p><b>-Take better care of toilets</b></p> <p>There are inadequate the number of toilets in the hospital. Toilet paper is not enough for a large number of service receivers. Also, the toilets are not clean, so staffs should take better care of toilets.</p>	<p>“Toilets are dirty due to a large number of service receivers. Staffs should clean toilets more often.” P-12</p> <p>“Toilet paper is adequately provided.” P-93</p> <p>“Even though this is such a large hospital, toilet paper is not enough for a large number of service receivers.” P-172</p> <p>“Too few toilets.” P-228</p> <p>“Long waiting time as not enough toilets.” P-250</p>
<p><b>-Manage this area for urine test</b></p> <p>There are urine containers in front of the toilet provided for pregnant women for urine test. Staffs should manage this process and area to be looked more pleasant.</p>	<p>“The toilet is not clean. Staff should come to check the toilet's cleanliness more often. Also, the rooms for urine test, so it does not look much proper when there are too many urine collection containers placed together. Thus, this should be improved to make it look more pleasant.”</p> <p>A-004</p>

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The aspect concerning P1 place	
2. Equipment and supplies	
Automatic blood pressure monitor and scale	Opinions
<p><b>-More provide</b></p> <p><b>-Monitor to ensure the standard of its usage</b></p> <p>There is the only one automatic blood pressure monitor and one scale which are not enough for a number of pregnant women. Thus, the hospital should provide more automatic blood pressure monitor and scale, so that they do not have to wait in a queue and in case that some are broken. Besides, the equipment should always be monitored to ensure the standard of its usage.</p>	<p>“It is too crowded at the pressure measurement point.” P-160</p> <p>“There should be more than one automatic blood pressure monitor and scale, so that they do not have to wait in a queue and in case that some are broken. Also, there should be a system to monitor the equipment.” P-175</p> <p>“There is only few of automatic blood pressure monitor causing a long waiting line.” P-278</p>
Seats	Opinions
<p><b>-Adequate seats</b></p> <p>There are a lot of pregnant women coming for checkup, therefore, adequate seats or extra chairs should be prepared.</p>	<p>“The seats for pregnant women and their relatives should be separated, so that pregnant women are able to find the seat to sit.” P-044</p> <p>“There is not enough chairs and should provide more. Relatives or husband shouldn't sit while letting pregnant women standing.” P-113</p> <p>“A sufficient number of chairs should be provided as there are a large number of service receivers. Also, add extra chairs at the service area as tend to wait for a long time at this area.”</p>

The aspect concerning P1 place	
	<p>“Inadequate seat for service receivers. Some of them have to stand.” P-236</p> <p>“More chairs should be provided in front of an examination room because pregnant women have to wait here for minutes.” P-324</p>
Medical equipment	Opinions
<p><b>-Medical equipment in the examination room</b></p> <p>There should be medical equipment in the examination room. It might take less time to examine pregnant women as doctors do not have to walk to different rooms. For example, U/S machine, PV examination bed, toilet for urine test, and changing room for pregnant women can be in the same examination room.</p>	<p>“In the examination room, there should be a PV examination bed for pregnant women so that they don't have go to another room. Also, toilet and changing room should be inside the examination room because some of them takes long time to go to toilet to collect urine” S-002</p> <p>“A procedure room should be more proportional with full of medical equipment prepared.” S-006</p> <p>“It would be perfect if all of the equipment is in one examination room. For example, PV examination and U/S machine should be in the same room.” S-015</p> <p>“There should be a proper area or a room for pregnant women's urine test instead of toilet. Also, urine test at the counter is not appropriate. Therefore, it would be better if there is a toilet inside an examination room as the process would finish inside the room without any confusion.” A-003</p>

Consequently, the level of pregnant women's satisfaction regarding service quality has shown the aspect concerning P1place at a high level  $\bar{X} = 4.06$  (95% CI 4.00 - 4.12), (S.D.= 0.54). P1place focuses on location management, and equipment and supplies. According to a review of service excellence models, improving the quality of service also requires the effective managing of service environment (Oliver & Rust, 1994, pp. 1-20; Umar, Kasim, & Martin, 2013, pp. 158-172).

According to location management, It is shown that a clean place, enough light, and pleasant odor obtain a very high mean score 4.48 (95% CI 4.42 - 4.54), (S.D.= 0.59). However, according to the location management, the lowest mean score is an English sign that suggests the service points for foreigners at a high mean score 3.78 (95% CI 3.70 - 3.86), (S.D.= 0.78).

**4.2.1** It shows that a clean place, enough light, and no bad odor obtain a very high mean score 4.48 (95% CI 4.42 - 4.54), (S.D.= 0.59). A clean work environment is very important for running a successful service. To clarify, ANC unit needs regularly cleaning and maintenance services in order to ensure that service providers enjoy their work. Then, they will increase the productivity to make a first impression in service. In addition, leaving a good potential to service receivers.

According to location management, the strengths of this place are its cleanliness, good lighting, and better smell when comparing to other places. Overall, an ANC unit has adequate lighting. However, some areas do not have enough lighting due to broken light bulbs that should be fixed. The overall area looks beautiful and hygienic. This area should be carefully maintained in a good condition as it is regarded as the first impression. Also, it should ensure a high standard of cleanliness and hygiene regarding the infection control. Moreover, the head should motivate staffs to be aware of the cleanliness of the area.

**4.2.2** Providing enough marks and arrow signs of each service point that are clear and easy to understand are the second factor with a high mean score 4.17 (95% CI 4.09- 4.25), (S.D.= 0.70). The power of symbols and signs can express a creative language more than words.

According to location management, there were some pregnant women going to the wrong doctor's room and some of them cannot even find the room. Thus, there should be a sign noticing each service areas, and a sign in front of doctor's room. Also, the layout of ANC unit should be clearer.

**4.2.3** Equipment and supplies provided are clean, adequate, and ready-to-use; such as, the lobby chairs, drink dispenser, automatic sphygmomanometer at a high mean score 4.08 (95% CI 4.00 - 4.16), (S.D.= 0.73). Technology equipment and supplies should be added in the process of service delivery. This is because it will help avoid the wasting of time and make the process faster in every service point.

According to equipment and supplies, there are a lot of pregnant women coming for checkup; therefore, adequate seats or extra chairs should be prepared. Also, free drinking water should be offered for service receivers with enough disposable glass. Moreover, there is the only one automatic blood pressure monitor and one scale which are not enough for a number of pregnant women. Thus, the hospital should provide more automatic blood pressure monitor and scale, so that they do not have to wait in a queue and in case that some are broken. Besides, the equipment should always be monitored to ensure the standard of its usage.

In addition, there should be medical equipment in the examination room. It might take less time to examine pregnant women as doctors do not have to walk to different rooms. For example, U/S machine, PV examination bed, toilet for urine test, and changing room for pregnant women can be in the same examination room.

**4.2.4** The convenient location of the service for service receivers and the hospital crowding are at a high mean score 4.03 (95% CI 3.95 - 4.11), (S.D.= 0.77). It should be kept in mind that happy workplace and safe environment can help promote a good health of pregnant women.

According to location management, for area, ANC unit is well known for its elegance and innovation as it has just been renovated. Therefore, the head should always keep the place new because if it looks too old, service receiver's first impression about the place would be worse. The comfortable area and not too crowded is good for their mental. Consequently, it should provide a special area for pregnant women and their relatives to relax while they are waiting such as music zone, silent zone, and relaxation zone. However, this area should not disturb doctor's visit. This could make them feel good when experiencing long waiting time.

Moreover, more CCTV should be installed in the hospital in order to increase patient safety because there are an increasing number of pregnant women receiving the service. Also, there should be a shop selling foods and snacks in the area of ANC unit for pregnant women and their relatives. Accordingly, the area should be well organized as well as the documents. Different service areas should be rearranged as they are all located closely to each other making it too narrow and chaotic.

In addition, for examination room, PMK Hospital is also a hospital school that has regular classes; therefore, there should be more examination rooms in the hospital. Also, office and injection room should be improved and renovated. Examination rooms should have more space to support the increasing number of professors and students. Moreover, for some of the examination rooms, there are three pregnant women per one room. Thus, they might not feel private and uncomfortable to share some information that should be kept secret. Some examination rooms contain two beds that are separated by curtain. For privacy, one examination room should be for only one person. Doctor's table and examination table should be placed closely to each other for pregnant women's convenience. They do not have to get on and off the bed several times. Besides, telephone should be near the table as it is easier and faster for staffs to coordinate. There should keep the place and environment around examination rooms quiet as well as pleasant. Attractive pictures can be attached in order to make service providers and pregnant women feel relaxed.

**4.2.5** There are enough toilets for users. The toilet is clean without odor at a high mean score 3.82 (95% CI 3.73 - 3.91), (S.D.= 0.80). Everyone needs a clean and fresh toilet. If hospital wants to have the best toilet, it is crucial to keep cleanliness and maintenance.

According to location management, there are inadequate the number of toilets in the hospital. Toilet paper is not enough for a large number of service receivers. Also, the toilets are not clean, so staffs should take better care of toilets. Moreover, there are urine containers in front of the toilet provided for pregnant women for urine test. Staffs should manage this process and area to be looked more pleasant.

**4.2.6** However, the lowest mean score is an English sign that suggests the service points for foreigners at a high mean score 3.78 (95% CI 3.70 – 3.86), (S.D.= 0.78). English language is very important in the world today since it is the national language which is use to share ideas and communication through many different regions. Therefore, service providers should also communicate in English to provide a good service.

According to the location management, Thai pregnant women are still confused about the signs and still go to the wrong doctor's room. Especially, for the foreigners do not provide the clear signs which help indicate the direction as well. Thus, there should be a sign noticing each service areas, and a sign in front of doctor's room. Also, the layout of ANC unit should be provided in English language.



### 4.3 The service quality of P2people

This section shows the service quality of P2people at ANC unit which should be improved following the “Supreme Service Model”.

**Table 4.4** Mean, standard deviation, and meaning of pregnant woman on service quality in aspect concerning P2people

P2people	$\bar{X}$ (95% CI)	S.D.	Interpretation
1.The staffs provide the service with a polite manner.	4.33 (4.26 - 4.40)	0.65	Very high*
2.The staffs are attentive and helpful when requesting for a service.	4.29 (4.22 - 4.36)	0.61	Very high*
3.Staffs treat pregnant women and their relatives equally and respectfully.	4.36 (4.30 - 4.42)	0.60	Very high*
4.Staffs are full of enthusiasm in helping facilitate the service receivers.	4.26 (4.19 - 4.33)	0.63	Very high
5.When the service receivers have any questions, staffs can answer them clearly, and ready to give a useful advice.	4.32 (4.25 - 4.39)	0.65	Very high*
6.Staffs can provide the information about the antenatal room and the clear steps of procedure that the service receivers should do when they come to receive the services.	4.37 (4.30 - 4.44)	0.66	Very high
7.Staffs listen to the opinions of the service receivers.	4.23 (4.16 - 4.30)	0.65	Very high
8.The service time is fast because there are enough staffs who are ready to serve the service receivers.	3.94 (3.85 - 4.03)	0.80	High
<b>P2people Total</b>	<b>4.26 (4.20 - 4.32)</b>	<b>0.55</b>	<b>Very high</b>

Note. Mean score interpretation, 4.21 - 5.00 = Very High, 3.21 - 4.20 = High

\* Statistically significant

**Table 4.5** The aspect concerning P2people in service mind, personnel competency, and human resource management (Continued on next page)

The aspect concerning P2people	
1. Service mind	
Staffs	Opinions
<p><b>-Service mind training for all levels</b></p> <p><b>-Service standard and etiquette</b></p> <p>Overall, staffs offer service excellence with a polite manner as well as considerate language. However, some of the staffs show anger and impolite expression. Therefore, service training should be arranged for all levels of staffs in order to have a good service mind such as providing service with nice smile and sincerity as well as being generous with pregnant women. When having conversation with pregnant women, staffs should use soft and friendly tone of voice with a polite manner. Also, service standard and etiquette should be considered by all staffs including the head to offer the best service.</p>	<p>“Overall, staffs have a polite and friendly manner with soft language, but some are bad-mannered and have angry facial expression to pregnant women. For me, they should use polite and friendly tone of voice instead of a harsh tone when pregnant women ask anything or even ask too many questions.” P-071</p> <p>“Staffs politely offer a great advice and try to make pregnant women understand what they say” P-124</p> <p>“Staffs should be trained to offer a better service especially providing service and advice with a smile and kindness. Also, service etiquette should be also considered.” A-004</p> <p>“Staffs should be more service mind as the low standard service is one of the problems here. We should encourage our staffs to have appropriate manner such as being generous and sincere as service receivers can feel the staffs' sincerity and perceive service value. Also, this can reduce dissatisfaction towards some issues that accidently occur such slow</p>

The aspect concerning P2people	
	service and long waiting time.” A-006 “The ability to respectfully treat and encourage staffs to comply with the rules is such an important thing. If the head is unable to encourage them to work with standard of care, the benefits that service receivers would receive will not likely to be great. In OPD department, I would be to see staffs with service mind as well.” A-008
<b>-Dress politely and neatly</b> Staffs should dress politely and neatly.	“Staffs should dress politely and neatly.” S-026
2. Personnel competency	
Staffs	Opinions
<b>-Effectively give a useful advice</b> <b>-Willingly answer questions and suggestions</b> <b>-Consultants be involved</b> <b>-Train knowledge, skill, and work co-ordination</b> <b>-Continuous personnel development</b> Personnel at all levels must be confident, ready to effectively give a useful advice and assistance to pregnant women who came to receive the service. The staffs are able to clearly understand and give useful information to pregnant women. Furthermore, they can willingly answer their questions and suggest them to ready for the next appointment. In addition, the	“Able to ask relevant questions, answer to service receivers’ inquiry effectively and give a useful advice.” P-145 “Staffs should be well trained in decision making, problem solving, and training to be knowledgeable. Although the staffs might not be able to decide how the case should be done sometimes, be trying to solve the problems by using the previous experience.” S-003 “For the staffs’ working skills, they need to learn and the follow up assessment should be done in order to check whether the matter can be done or not for improving the staffs’ work” S-008 “With the current situation, there is a

The aspect concerning P2people	
<p>consultants with rich experience should be involved in order to help make a clear and precise decision. Lastly, staffs must be trained continuously in order to obtain an extensive knowledge, develop reasoning skill in solving specific problems occurring. This also includes a good work co-ordination of both inside and outside the network. A follow up assessment for a continuous personnel development should also be done.</p>	<p>shortage in personnel at all levels. How to motivate the staffs at all levels to work effectively. Accordingly, the practices to increase their knowledge should be done.” A-001</p> <p>“Able to give a good service, clearly explain the information which makes the service receivers understand easily and suggest them to ready for the next appointment.” A-005</p> <p>“Personal management should be mainly based on confidence. Besides, the various principles in the matter of personality, rationality, emotional, and immediate problem solving should be conveyed effectively together with a consultant who has a rich experience in the related field.” A-007</p>

3. Human resource management	
Staffs	Opinions
<p><b>-More personnel be provided for a faster service</b></p> <p>There are not enough staffs for the pregnant women. Additionally, pregnant women have to wait for a very long time at some service points resulting in a slow service flow. Therefore, more personnel should be provided for a faster service.</p>	<p>“There should be more staffs at each service point due to the large number of service receivers who sometimes have to wait for a very long time.” P-038</p> <p>“Doctors need to give a very quick consultation due to a large number of pregnant women.” P-210</p> <p>“An appropriate number of staffs should be allocated at each service point and the work should be done in a faster manner.”</p>

The aspect concerning P2people	
	<p>S-005</p> <p>“Due to a limited number of professors, some pregnant women’s checkup service is needed to be reduced. However, this problem would be solved temporarily.”</p> <p>A-005</p>
<p><b>-Professional requirement</b></p> <p>More nurses are required because there is diversity in pregnant women. Some of them have to receive an advice specifically from nurses only. Besides, other personnel cannot substitute for due to the professional requirement.</p>	<p>“If compared to other hospitals, there will be more nurses in OPD than this hospital. This is because each case, especially for our high-risk cases, is diverse. If the screening process is not approved by the nurse, the case might be failed. Thus, increasing the number of nurses is a good option; however, this issue is still unsolved.” A-004</p> <p>“From limited number of nurses, should increase more nurses.” A-007</p>
<p><b>-Having a staff in every examination room</b></p> <p>Should be having a staff in every examination room in order to help facilitate doctors and pregnant women. A good example of this is when calling pregnant women in the examination room to receive the service. The staffs can help the doctor during the examination, finding the documents, and coordinate with other staffs in order to make the process become faster. Moreover, it is a matter of privacy, the rights, and the</p>	<p>“In the examination room, there should be someone to help. If someone helps find the documents, it would help save a lot of time in finding the documents.” S-012</p> <p>“I would like to have a staff to help because pregnant women who sit in front of the examination room tend to not hearing their names when they are called.” S-017</p> <p>“When there is a problem, the doctors have to go to the service counter which makes the examination not flow</p>

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The aspect concerning P2people

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prevention of possible ethical litigation. continuously. Thus, at least 1-2 staffs should be provided to assist.” S-022

“Actually, it would be good if there is a staff inside every examination room when the doctor examined. This is because there are more problems regarding a matter of privacy and the subject of the rights. For example, sometimes the doctor is a man and pregnant women are women. Therefore, there must be an assistant who should stay with the doctor and pregnant women at all times.” A-003

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The level of pregnant women’s satisfaction about service quality has shown the aspect concerning P2people at a very high level  $\bar{X} = 4.26$  (95% CI 4.20 - 4.32), (S.D.= 0.55). P2people focused on service mind, personnel competency, and human resource management. According to the model of an excellent service of the private hospitals, administrators should have a great vision to encourage their personnel and launch the strategic planning which can be promptly adjusted to each different situation (Rungroj Songsraboon, 2016, pp. 54-56).

Also, it indicates that staffs can provide the information about the antenatal room and the clear steps of procedure that the service receivers should follow when they come to receive the services, showing a very high mean score 4.37 (95% CI 4.30 - 4.44), (S.D.= 0.66). However, according to human resource management, the lowest mean score is the service time. The service time flows fast because there are enough staffs who are ready to serve the service receivers at a high mean score 3.94 (95% CI 3.85-4.03) (S.D.= 0.80).

**4.3.1** It shows that staffs can provide the information about the antenatal room and the clear steps of procedure that the service receivers should do when they come to receive the services at first, showing a very high mean score 4.37 (95% CI 4.30 - 4.44), (S.D.= 0.66). Working with confident manners makes the service providers appear more professional. Moreover, they can help service receivers feel exceed their expectations.

According to personnel competency, staffs clearly explain the information which makes the service receivers understand easily. Personnel at all levels must be confident and assistance to pregnant women who came to receive the service.

**4.3.2** The way staffs treat pregnant women and their relatives equally and respectfully is ranked as the second at a very high mean score 4.36 (95% CI 4.30 - 4.42), (S.D.= 0.60). ANC unit have to build a culture of equality and respect in workplace. Therefore, all levels of staffs have to raise their awareness of routine monitoring and reviewing processes.

According to service mind, equal service should be provided not only by service providers, but also concerning the way they treat service receivers. All of the staffs have to treat with respect regardless the differences. All people must have equal rights to receive service with the same standard and must not be divided by gender, race, skin or poverty as well as social status (Millett, 1954).

**4.3.3** Service provided by staffs with a polite manner also has a very high mean score 4.33 (95% CI 4.26 - 4.40), (S.D.= 0.65). The lack of appropriate manners is the problem. Consequently, the service standard and etiquette guideline in workplace are crucial.

According to service mind, overall, staffs offer service excellence with a polite manner as well as considerate language. However, some of the staffs show anger and impolite expression. Therefore, service training should be arranged for all levels of staffs in order to have a good service mind such as providing service with nice smile and sincerity as well as being generous with pregnant women. When having conversation with pregnant women, staffs should use soft and friendly tone of voice with a polite manner. Also, service standard and etiquette should be considered

by all staffs including the head to offer the best service. Moreover, staffs should dress politely and neatly.

**4.3.4** When the service receivers have any questions, staffs can answer them clearly, and always be ready to give a useful advice at a very high mean score 4.32 (95% CI 4.25 - 4.39), (S.D.= 0.65). Excellent advices from service providers can create a good relationship with service receivers. The service providers should give advice helpful and careful manners.

According to personnel competency, staffs are able to give a good service and give a useful advice. Personnel at all levels must be ready to effectively give a useful advice. Furthermore, they can willingly answer their questions and suggest them to ready for the next appointment. In addition, the consultants with rich experience should be involved in order to help make a clear and precise decision. Lastly, staffs must be trained continuously in order to obtain an extensive knowledge, develop reasoning skill in solving specific problems occurring. This also includes a good work co-ordination of both inside and outside the network. A follow up assessment for a continuous personnel development should also be done.

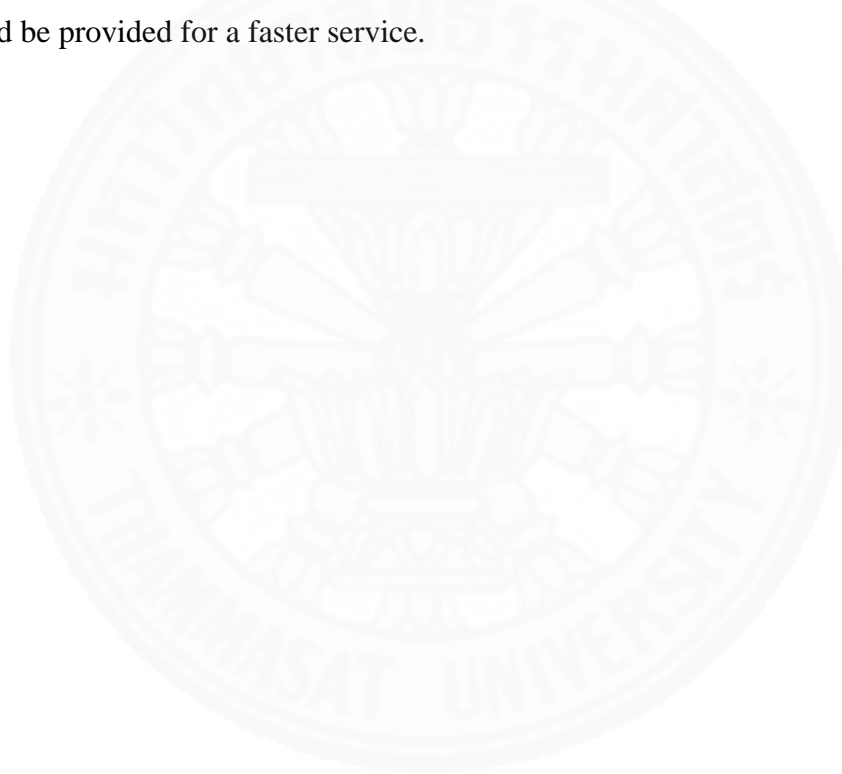
**4.3.5** The staffs are attentive and helpful when request for a service at a very high mean score 4.29 (95% CI 4.22 - 4.36), (S.D.= 0.61). Also, staffs are full of enthusiasm in helping facilitate the service receivers at a very high mean score 4.26 (95% CI 4.19 - 4.33), (S.D.= 0.63). Next, staffs listen to the opinions of the service receivers at a very high mean score 4.23 (95% CI 4.16 - 4.30), (S.D.= 0.65). It is not only just a service training program, but it is also a service learning community. Accordingly, service providers can connect to a service trend all the time.

According to service mind, it is to be said that the job characteristics of OPD ANC unit with a large number of service receiver per day with attentive and helpful when requesting for a service, enthusiasm in helping facilitate the service receivers, and listen to the opinions of the service receivers is almost at the last rank. Accordingly, providing services mind training in the situation where there are many service receivers must be focused as well.



**4.3.6** However, the lowest mean score is the service time. The service time flows fast because there are enough staffs who are ready to serve the service receivers at a high mean score 3.94 (95% CI 3.85-4.03) (S.D.= 0.80). Good time management will make a huge benefit for the organization by enhancing the productivity. Moreover, less time in service process makes the smart quality.

Fast and on-time service will lead to an effective work (Millett, 1954). According to human resource management, there are not enough staffs for the pregnant women. Additionally, pregnant women have to wait for a very long time at some service points resulting in a slow service flow. Therefore, more personnel should be provided for a faster service.



#### 4.4 The service quality of P3process

This section shows the service quality of P3process as screening point, blood pressure and weight measurement point, queue for doctor meeting point, and advice and guidance point at ANC unit which should be improved following the “Supreme Service Model”.

**Table 4.6** Mean, standard deviation, and meaning of pregnant woman on service quality in aspect concerning P3process

P3process	$\bar{X}$ (95% CI)	S.D.	Interpretation
1. There is a clear explanation of the steps of service procedures. You understand and can practice correctly.	4.20 (4.13 - 4.27)	0.64	High
2. The service screening, pressure / weight measurement, queue for doctor meeting point, and advice and guidance point is compact. The process to other service points is quick.	4.16 (4.09 - 4.23)	0.63	High
3. You are satisfied with the service screening point.	4.10 (4.03 - 4.17)	0.69	High*
4. You are satisfied with the service blood pressure / weight measurement point.	4.25 (4.18 - 4.32)	0.65	Very high
5. You are satisfied with the service queue for doctor meeting point.	4.19 (4.12 - 4.26)	0.68	High
6. You are satisfied with the service advice and guidance point.	4.06 (3.98 - 4.14)	0.77	High*
<b>P3process Total</b>	<b>4.16 (4.10 - 4.22)</b>	<b>0.55</b>	<b>High</b>

Mean score interpretation, 4.21 - 5.00 = Very High, 3.21 - 4.20 = High

\* Statistically significant

**Table 4.7** The aspect concerning P3process in a clear step of service and process management (Continued on next page)

The aspect concerning P3process	
1. A clear step of service	
Step of service	Opinions
<p><b>-Sequence of receiving service</b></p> <p><b>-Public relations point</b></p> <p>The service is provided in a good order. However, for a faster service, staffs should introduce pregnant women about the sequence of receiving service and tell them how long they have to wait. This is because the current service points, each pregnant woman to learn and observe how to receive the service by themselves. As a result, pregnant women do not know which service station they should go to at the first place. Hence, there should be a public relations point at ANC unit to recommend the steps for receiving the services.</p>	<p>“The service is provided in a good order. Still, for enhance convenience and speed in using the service, public relations points should be increased. So, pregnant women can easily understand what to do first.” P-054</p> <p>“Have to learn and observe at each service point how each staff member works.” P-131</p> <p>“I would like to get a recommendation about the examination process and would like to know how long I have to wait” P-248</p>
2. Process management	
Process	Opinions
<p><b>-Use microphone to call names clearly</b></p> <p>Each service point’s process is clear. However, there are many pregnant women, so they are not able to hear their names when they are called. Furthermore, they are confused because there are many pregnant women who are called to</p>	<p>“I sometimes cannot clearly hear my name, thus, I would like to recommend that each service point should use microphone. In addition, calling many pregnant women’ names at many service points at the same time also confuses.” P-019</p>

The aspect concerning P3process	
<p>receive service at other points at the same time. Thus, it is suggested that all service points should have microphone to call service receivers' names clearly.</p>	<p>“Should be called names loudly and clearly because sometimes I do not hear since there are many service receivers.” P-189</p> <p>“The names should be called loudly using microphone.” P-286</p>
<p><b>-Effective and fast referring system</b></p> <p>Each service point in ANC unit, there should be an effective and fast referring system to send pregnant women to other departments.</p>	<p>“The process of referring pregnant women to check at other departments should be easy and fast.” S-020</p> <p>“I used to send a pregnant woman to checkup U/S, but the process requires passing the counter first, which consumes a long waiting time. Therefore, the urgent of the pregnant women who need to receive a continuous service must be managed effectively.” S-028</p>
<p><b>-Queue calling system</b></p> <p>There are many pregnant women receiving service at each service point; therefore, in order to effectively allocate time for pregnant women without worrying, the queue calling system should be done clearly. For example, the queuing order should be written on the board, or the sequence of digital queues, or the waiting time in minutes or hours should be shown.</p>	<p>“There should be a digital sequence queue card to prevent mistaken in names calling. This is better than having staffs calling pregnant women's names which sometimes they are not in that area, for example, they might go to the toilet at that time.” P-058</p> <p>“I wait a doctor for a long time; hence, if there is a notifying service that tells me how long I have to wait would be very good. For example, there are many pregnant women who have to fasting for blood testing very early in the morning. If there is a notifying service, they will have</p>

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The aspect concerning P3process

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time to eat breakfast during the waiting period without worrying.” P-075

“A pregnant woman's name is called and then passing to the next queue because she may not be there at the moment. When she returns, she does not know that her name has called. Therefore, there should be a board for letting them know that they have reached the queue, so they do not have to sit and wait for nothing.” P-154

“The pregnant women’s queue should be called continuously.” P-227

“The doctor is sitting inside the examination room, so it is difficult to call pregnant women to come in. Additionally, the doctor sometimes has to walk to call them or have to shout. Hence, there should have the technology to call pregnant women to walk into the examination room.” S-021

“Because OPD have a queue system which is now can be seen that it is developed and become clearer. This makes service receivers feel that we are willing to give them a good service. We set up the queue system for facilitating since the morning before ANC unit is opened. Then, there is a continuous process after the service hour. Because of

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The aspect concerning P3process

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this, the service receivers will see our good intention, so there will not have a problem. In order to get a constant progress, the Plan Do Check Act should be adopted.” A-006

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**-One stop service system**

**-Lean**

Developing “one stop service system” or “Lean” that can clearly help shorten the steps, reduce the processes, and reduce the waiting time.

“Suppose that there is now a service system that is considered urgent. The service receivers have to wait for a long time and this is a problem. We should focus on this issue and think about each step we should take. Additionally, we should put everything into a flow chart that can be compiled into one stop service and decide what the process is. What can be done to shorten the process?” A-001

“Some pregnant women are upset if they have to wait too long to be checkup.” A-002

“Try to look at the steps that are not yet “Lean”. Moreover, we should do the benchmark with the nearby hospital in order to explore how long each service point should take in order to make the service receivers be satisfied, shorten the waiting time, and allow them to go back home faster.” A-009

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The aspect concerning P3process	
<p><b>-Surgery scheduling system</b></p> <p>There should be a system which adopts the modern technology in a surgery scheduling system which has to be simple and easy instead of listing the pregnant women' names in the book.</p>	<p>“The current appointment system of surgery schedule is to write down in the book. Sometimes, I do not know where the book is located. I think it must be good if there is a technology that helps set an appropriate date for surgery by one click.” S-019</p>
Screening point	Opinions
<p><b>-Know main problems clearly</b></p> <p>It is important to know the main problems of pregnant women clearly since the first visiting.</p>	<p>“Some screening such as preterm history or chronic disease history should be screening since the first visiting.” S-013</p> <p>“Some problems pregnant women do not inform the information because they do not think it is the problems.” S-022</p>
<p><b>-Provide additional information</b></p> <p>Should be provided the additional information about the risks that may occur during pregnancy.</p>	<p>“Screening points should have a staff to recommend pregnant women such as the risk of preterm labor. Furthermore, it is essential to recommend the use of scheme, refer to forward treatment, or the use of baby incubators.” S-023</p>
<p><b>-Completely screening warning sign and urgent</b></p> <p>Staffs at screening point have to completely screening. The benefit is pregnant women do not return for checking up again and wait longer. Moreover, staffs can screen early warning sign and the urgent of pregnant women effectively. Accordingly, they can checkup faster.</p>	<p>“Pregnant women, someone have to take a certain checkup before meeting doctors. However, sometimes the screening point misses their checkups causing them return for checking up and waste a long time waiting.” S-003</p> <p>“Personnel must be able to screen pregnant women with emergency conditions like having true labor pain. It is suggested that pregnant women should</p>

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The aspect concerning P3process

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come to labor room immediately. No need to wait for checking up.” S-013

“I hope they can put the right man on the right job. To clarify, the staffs who are responsible for this duty should be a really effective worker because there are many pregnant women who are at high risk conditions. Thus, if we do not effectively screen the pregnant women with an early warning sign, there will be no way to screen high risk group. In addition, there might have a hidden problem which we cannot recognize.” S-028

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**-Auto Lab system**

There should be an Auto Lab system which can be used. For example, the lab screening for checking should be done according to the gestational age. Moreover, when reporting abnormal lab results, there will be additional checked immediately to precisely confirm the results.

“For screening, if it is already an unusual lab, such as the VDRL positive, the TPHA test should be done immediately since the doctor has to get the test anyway. Moreover, for a pregnant woman with Rh negative, the Indirect coomb test should be done and also the father’s profile should be screened to see if he is Rh negative or not. Plus, the doctor should screen again whether there is anything that should be done. Furthermore, if there is HBsAg positive, then a large set of lab testing should be done to reduce time especially for the case of pregnant women who late getting pregnancy care. Besides, if they still do

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The aspect concerning P3process	
	not take any lab testing, more time will be used as we have to wait for another lab testing.” S-004
<p><b>-Advanced blood reporting system</b></p> <p>There should have advanced blood reporting system in order to report the results quickly. Accordingly, the lab result which is released on the examination day, the doctor can give an appropriate treatment for pregnant women immediately.</p>	<p>“It is essential if the lab results are completed. The completed lab results should be followed immediately, such as “Anti HIV” which is tested for a long time and still does not get the result. This will waste time of both pregnant women and service providers.” S-009</p> <p>“Waiting for the lab results for a long time, causing the pregnant women who do the blood testing on that day wait for so long and cannot see a doctor immediately.” S-031</p>
Blood pressure and weight measurement point	Opinions
<p><b>-Staff advise closely</b></p> <p><b>-Observation room</b></p> <p>Some pregnant women have to measure the blood pressure by themselves. There should be a staff to advise closely. In addition, while waiting for repeating, there should be a room to observe pregnant women symptoms and for rest. Staffs should take note regarding time when measuring blood pressure because it has an effect on the treatment process.</p>	<p>“There should be a room to observe the pregnant women symptoms, rest, and wait for a while in order to measure blood pressure again at least fifteen minutes. Besides, writing down the actual time after measuring blood pressure.” S-011</p> <p>“Pregnant women who measure their own blood pressure should have a staff to recommend them. This is because if they have a high blood pressure condition, staffs can recommend them to sit back and measure again.” S-020</p> <p>“Blood pressure and weigh measurement</p>

The aspect concerning P3process	
	is very important, thus the staffs should realize that the scale must be measured effectively.” S-029
Queue for doctor meeting point	Opinions
<p><b>-Not allow relatives to wait around the examination room</b></p> <p>Do not allow pregnant women’s relatives to wait around the examination room. This is because the examination for medical history is a delicate matter, except they get permission from the doctor.</p>	<p>“We should not allow the husband or relatives to come in the examination room because it is the women’s examination which might have some delicate issues. Sometimes we have to ask about leucorrhoea, history of precarious behavior, or sex history. So if there is any problem, they may come in.” S-005</p>
Advice and guidance point	Opinions
<p><b>-Emphasizing and evaluating the understanding</b></p> <p>Emphasizing and evaluating the understanding of pregnant women on the matters that they should be aware of, such as giving the advices on how to get to the right place at the right time basing on the hospital's service system. Also, the suggestions about checking up on time, checking up late, having to postpone the appointment, self-care practices during pregnancy, and the introduction of the importance of ANC book should be done effectively.</p>	<p>“Staffs provide a clear advice on appointments every time. This includes the process to meet the doctor next time.” P-105</p> <p>“Pregnant women who do not come for an appointment on time might not know the steps that need to be done and where to go first.” P-293</p> <p>“There is some pregnant woman who comes for checking up on a wrong date and at a wrong place causing from the wrong suggestions. Thus, we should focus what the main problem is.” S-007</p> <p>“The things we recommend should be cleared if the pregnant women have problems after office hours. Where they should go to get the treatment between</p>

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 The aspect concerning P3process
 

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emergency room and labor room.” S-001

“I would like pregnant women to have an additional evaluation after receiving the advice to assess how much they understand.” S-010

“Should be stated about important content in the ANC book. In addition, staffs have to suggest fetal movement count, the vaccine, and other essential information to increase the knowledge of self-care during pregnancy.” S-030

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**-Health education through various media**

There should be a way to make pregnant women remember the advices apart from health education in the parents' school room. For example, the information through various media, such as creating a Compact Disc (CD) guide, poster, knowledge sheet to answer frequency questions. Moreover, using online media to provide information is recommended in order to comply with Thailand 4.0.; for example, providing information through the application about services, knowledge of self-care during pregnancy, and the preparation for delivery.

“Before the pregnant women go back home, we should make them aware of the important issues, such as, baby movement, blood pressure measurement, the importance of ANC book.” S-030

“What we should do to make pregnant women get knowledge to take care themselves at home. How we can be sure that they will remember and understand all things we teach. Normally, people who listen to the information only once cannot remember and understand all of them. How we can make pregnant women successfully learn and put it into practice. Therefore, apart from listening to the information, we should use a tool, a manual, or a CD guide. If they have their own devices at home or using a Hi-Tech application, we should think about the

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 The aspect concerning P3process
 

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method based on the concept of Thailand 4.0. This also includes the knowledge brochures that we can give more useful information to answer their frequently asked questions.” A-002

“Some pregnant women do not know what to do. Therefore, a good advice is the most important thing. If giving a right recommendation so they can behave and act correctly. Plus, a clear guidance might be used because some of them do not understand clearly at first. So, if there has a clearly manual, they can go back and read more thoroughly. Additionally, there should be a flow chart guide or a CD to give more information.” A-007

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**-Appointment system**

There should have an appointment system for pregnant women. The system will appoint the exact number of pregnant women to be examined per day. Thus, all staffs will be able to fully provide service and this also helps reduce waiting time of pregnant women who come to receive services.

“The appointment the number of pregnant women should be the exact number per day because it would be good for both doctors and service receivers. To clarify, the doctors will be able to give full treatment since there are a limited number of pregnant women. It is different from nowadays that the doctors have to speed up the examination process since they do not want the pregnant women waiting too long.” S-012

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 The aspect concerning P3process
 

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**-Automatic messaging program**

There should use an automatic messaging program to inform appointment times.

“Nowadays, it is easier to use social media to find information about the service of our hospital. For example, for accessing to everything currently can be done on mobile phone. How 4G can be most useful to everybody. The easiest way is to send the information via LINE application by inviting pregnant women to receive the service on a certain date. Moreover, we can also create an application which uses an autoresponder program to let pregnant women know the date they have to attend the checking. As a service provider, I think these medias can enhance a service and make it become more reliable.” A-002

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The level of pregnant women’s satisfaction about service quality has shown the aspect concerning P3process at a high level  $\bar{X} = 4.16$  (95% CI 4.10 - 4.22), (S.D.= 0.55). P3process focuses on a clear step of service and process management as the followings. According to a review of service excellence models, improving the quality of service also requires the effective managing of service delivery (Oliver & Rust, 1994, pp. 1-20; Umar, Kasim, & Martin, 2013, pp. 158-172).

According to process management, the results also show that the service receivers are more satisfied with the service at blood pressure and weight measurement point at a high mean score 4.25 (95% CI 4.18 - 4.32), (S.D.= 0.65). However, an advice and guidance point is shown to be the lowest level of service satisfaction at a high mean score 4.06 (95% CI 3.98 - 4.14), (S.D.= 0.77).

**4.4.1** The results also show that the service receivers are more satisfied with the service at blood pressure and weight measurement point at a high mean score 4.25 (95% CI 4.18 - 4.32), (S.D.= 0.65). Blood pressure and weight measurement management should be able to access quickly among service receivers who have high risk in pregnancy.

According to process management, this means that the service at blood pressure and weight measurement point; such as, queue system, or screening, or fast referring system is more effective than other service point, especially the service at advice and guidance point. Although, blood pressure and weight measurement point is shown at a very high level the first. According to process management, some pregnant women still have to measure the blood pressure by themselves. There should be a staff to advise closely. In addition, while waiting for repeating, there should be a room to observe pregnant women symptoms and for rest.

**4.4.2** The second highest mean score is a clear explanation of service procedures provided, in which service receivers are able to understand and practice correctly at a very high mean score 4.20 (95% CI 4.13 - 4.27), (S.D.= 0.64). The ease of access to the quality information can make a fast service. Consequently, fast service management should be simple and rapid.

According to a clear step of service, the service is provided in a good order. However, for a faster service, staffs should introduce pregnant women about the sequence of receiving service and tell them how long they have to wait. This is because the current service points, each pregnant woman to learn and observe how to receive the service by themselves. As a result, pregnant women do not know which service station they should go to at the first place. Hence, there should be a public relations point at ANC unit to recommend the steps for receiving the services.

**4.4.3** The service receivers' satisfaction toward the service queue for a doctor meeting point are ranked as the third at a high mean score 4.19 (95% CI 4.12 - 4.26), (S.D.= 0.68). Queue management can help support a large number of service receivers.

According to process management, do not allow pregnant women's relatives to wait around the examination room. This is because the examination for medical history is a delicate matter, except they get permission from the doctor.

**4.4.4** The service screening, pressure / weight measurement, queue for doctor meeting point, and advice and guidance point is compact. The process to other service points is fast at a high mean score 4.16 (95% CI 4.09 - 4.23), (S.D.= 0.63). When find the service points of failure, service process has to be redesigned to optimize the standard.

According to process management, each service point's process is clear. However, there are many pregnant women; so they sometimes are not able to hear their names when they are called. Furthermore, they are confused because there are many pregnant women who are called to receive service at other points at the same time. Thus, it is suggested that all service points should have microphone to call service receivers' names clearly. Moreover, there should be an effective and fast referring system to send pregnant women to other departments.

In addition, there are many pregnant women receiving service at each service point; therefore, in order to effectively allocate time for pregnant women without worrying, the queue calling system should be done clearly. For example, the queuing order should be written on the board, or the sequence of digital queues, or the waiting time in minutes or hours should be shown. Developing "one stop service system" or "Lean" that can clearly help shorten the steps, reduce the processes, and reduce the waiting time. Furthermore, there should be a system which adopts the modern technology in a surgery scheduling system which has to be simple and easy instead of listing the pregnant women' names in the book.

**4.4.5** You are satisfied with the service screening point at a high mean score 4.10 (95% CI 4.03 - 4.17), (S.D.= 0.69). Rapid screening point is the potential point of care.

According to process management, it is important to know the main problems of pregnant women clearly since their first visit. It should be provided the additional information about the risks that may occur during pregnancy. Staffs at screening point have to completely screening. The benefit is pregnant women do not return for checking up again and wait longer. Moreover, staffs can screen early warning sign and the urgent of pregnant women effectively. Accordingly, they can checkup faster.

Moreover, there should be an Auto Lab system which can be used. For example, the lab screening for checking should be done according to the gestational age. Moreover, when reporting abnormal lab results, there will be additional checked immediately to precisely confirm the results. There should have advanced blood reporting system in order to report the results quickly. Accordingly, the lab result which is released on the examination day, the doctor can give an appropriate treatment for pregnant women immediately.

**4.4.6** An advice and guidance point is shown to be the lowest level of service satisfaction at a high mean score 4.06 (95% CI 3.98 - 4.14), (S.D.= 0.77). Nowadays, the current advice needs technology to deliver the information from service providers to service receivers. It is easy to use and create the benefits to each other.

According to process management, staffs provide a clear advice on appointments every time. However, this service point should emphasize and evaluate the understanding of pregnant women on the matters that they should be aware of, such as giving the advices on how to get to the right place at the right time basing on the hospital's service system. Also, the suggestions about checking up on time, checking up late, having to postpone the appointment, self-care practices during pregnancy, and the introduction of the importance of ANC book, should be done effectively.

There should be a way to make pregnant women remember the advices apart from health education in the parents' school room. For example, the information through various media, such as creating a Compact Disc (CD) guide, poster, knowledge sheet to answer frequency questions. Moreover, using online media to provide information is recommended in order to comply with Thailand 4.0.; for example, providing information through the application about services, knowledge of self-care during pregnancy, and the preparation for delivery.

There should have an appointment system for pregnant women. The system will appoint the exact number of pregnant women to be examined per day. Thus, all staffs will be able to fully provide service and this also helps reduce waiting time of pregnant women who come to receive services. Moreover, there should use an automatic messaging program to inform appointment times.



## **CHAPTER 5**

### **CONCLUSIONS AND RECOMMENDATIONS**

This chapter represents the conclusion from the research and is separated into eight main sections. The first section describes the baseline characteristics of service receivers. The second demonstrates the service quality of P1place. The third describes the service quality of P2people. The fourth presents the service quality of P3place. Additionally, the usefulness is shown. Next, the conclusion is presented. Then, research limitation is described. Finally, recommendation for further research is provided.

#### **5.1 The baseline characteristics of service receivers**

#### **5.2 P1place**

##### **5.2.1 Recommendation for the service quality P1place**

#### **5.3 P2people**

##### **5.3.1 Recommendation for the service quality P2people**

#### **5.4 P3process**

##### **5.4.1 Recommendation for the service quality P3process**

## **5.5 The usefulness**

### **5.5.1 For service receivers**

### **5.5.2 For service providers**

## **5.6 The conclusion**

## **5.7 Research limitation**

## **5.8 Recommendation for further research**



## 5.1 The baseline characteristics of service receivers

**Table 5.1** The baseline characteristics of service receivers: pregnant women

The baseline characteristics	Frequency (Persons)	Percentage
Gestational age 29 to 42 weeks	170	51.50
Age between 20 to 34 years old	219	66.40
Highest level of education with bachelor degree	122	37.00
Occupation are private organization's employee	120	36.40
Scheme use cash (other hospital's social security)	147	44.50
Experience 1-5 times with pregnancy service	168	50.90
Monthly salary earn 10,000-20,000 baht	185	56.10

## 5.2 P1place

(Research question 1) How the service quality of place at ANC unit should be improved following the “Supreme Service Model”?

The level of pregnant women's satisfaction about service quality has shown the aspect concerning P1place at a high level  $\bar{X} = 4.06$  (95% CI 4.00 - 4.12), (S.D.= 0.54). P1place focuses on location management, and equipment and supplies.

Consequently, a clean work environment is very important for running the successful service at ANC unit. Additionally, the happy workplace and safe environment is essential in promoting a good health of pregnant women. Moreover, maintenance is needed to ensure that service providers enjoy their work. Then, they will increase the productivity to make first impression in service. Furthermore, the power of symbols and signs can express a creative language more than words. Besides, service providers should also communicate in English in order to provide a better service. Plus, technology equipment and supplies should be added in the process of service delivery since it will help avoid the wasting time and make process faster in every service point. Consequently, this will leave a good benefit to service receivers.

### 5.2.1 Recommendation for the service quality P1place

This section shows the recommendation for the service quality P1place from service receivers, service providers, and administrators' opinions at ANC unit which should be improved following the "Supreme Service Model".

**Table 5.2** The aspect concerning P1place

1. Location management	
Area	Maintain in a good condition Aware of Standard cleanliness Provide a special area to relax More Closed Circuit Television (CCTV) A shop selling foods and snacks Well organized area and documents Rearrange service areas
Examination room	Privacy More examination rooms Improve and renovate for convenience Keep place and environment quiet Attractive pictures feel relax Sign noticing
Toilets	Take better care of toilets Manage this area for urine test
2. Equipment and supplies	
Automatic blood pressure monitor and scale	More provide Monitor to ensure the standard of its usage
Seats	Adequate seats
Medical equipment	Medical equipment in the examination room

### 5.3 P2people

(Research question 2) How the service quality of people at ANC unit should be improved following the “Supreme Service Model”?

The level of pregnant women’s satisfaction about service quality has shown the aspect concerning P2people at a very high level  $\bar{X} = 4.26$  (95% CI 4.20 - 4.32), (S.D.= 0.55). P2people focuses on service mind, personnel competency, and human resource management.

Working with confident manners makes service providers being professional. Moreover, they can help service receivers feel exceed their expectations. Additionally, ANC unit have to build a culture of equality and respect in workplace. The lack of the appropriate manners is the problems. The service standard and etiquette guideline are essential in workplace. Therefore, all levels of staffs have to raise the awareness of routine monitoring and reviewing processes. In addition, a good and careful of advice makes a good relationship between service providers and service receivers. Especially, it is not only just a service training program, but it is also a service learning community. Besides, good time management will make a huge benefit for the organization by enhancing productivity because less time in service process makes the smart quality.

### 5.3.1 Recommendation for the service quality P2people

This section shows the recommendation for the service quality P2people from service receivers, service providers, and administrators' opinions at ANC unit which should be improved following the "Supreme Service Model".

**Table 5.3** The aspect concerning P2people

	<b>1. Service mind</b>
Staffs	Service mind training for all levels Service standard and etiquette Dress politely and neatly
	<b>2. Personnel competency</b>
Staffs	Effectively give a useful advice Willingly answer questions and suggestions Consultants be involved Train knowledge, skill, and work co-ordination Continuous personnel development
Staffs	More personnel be provided for a faster service Professional requirement Having a staff in every examination room

#### 5.4 P3process

(Research question 3) How the service quality of process as screening point, blood pressure and weight measurement point, queue for doctor meeting point, and advice and guidance point at ANC unit should be improved following the “Supreme Service Model”?

The level of pregnant women’s satisfaction about service quality has shown the aspect concerning P3process at a high level  $\bar{X} = 4.16$  (95% CI 4.10 – 4.22), (S.D.= 0.55). P3process focuses on a clear step of service and process management.

When service points of failure are found, service process has to be redesigned to optimize the standard. The access of the quality information should be easy and the service management should be simple and be able to rapidly access since it will help promote a faster service. For example, the blood pressure and weight measurement management in high risk in pregnancy, queue management, or rapid screening point are the potential points of care. In addition, the current advice needs technology to deliver the information. It is easy to use and create the benefits between service providers and service receivers.

### 5.4.1 Recommendation for the service quality P3process

This section shows the recommendation for the service quality P3process from service receivers, service providers, and administrators' opinions at ANC unit which should be improved following the "Supreme Service Model".

**Table 5.4** The aspect concerning P3process

1. A clear step of service	
Step of service	Sequence of receiving service Public relations point
2. Process management	
Process	Use microphone to call names clearly Effective and fast referring system Queue calling system One stop service system Lean Surgery scheduling system
Screening point	Know main problems clearly Provide additional information Completely screening warning sign and urgent Auto Lab system Advanced blood reporting system
Blood pressure and weight measurement point	Staff advise closely Observation room
Queue for doctor meeting point	Not allow relatives to wait around the examination room
Advice and guidance point	Emphasizing and evaluating the understanding Health education through various media Appointment system Automatic messaging program



## **5.5 The usefulness**

### **5.5.1 For service receivers**

**5.5.1.1** Good environment P1place at ANC unit will lead to pregnant women's happiness and stress reduction while coming to receive services.

**5.5.1.2** Knowledgeable from P2people: service providers are able to convey useful information, to answer questions from pregnant women, and make them trust.

**5.5.1.3** Service quality in P3process makes pregnant women easier to understand in the process at ANC unit smoothly and taking time to tighten.

### **5.5.2 For service providers**

**5.5.2.1** Better environment P1place of ANC unit will improve the working atmosphere and reduce stress during work. Then, it can be increased potential at work as well.

**5.5.2.2** P2people can develop various knowledge and skills leading to provide service excellence to pregnant women at a full capacity.

**5.5.2.3** Improved P3process helps reduce some workloads.

## 5.6 The conclusion

According to the healthcare challenges, the successful healthcare organization has to identify service quality by focusing on service receivers' needs to enhance the level of hospital management and to improve the quality of service in order to achieve service excellence. The PMK hospital is considered the tertiary care hospital as a center of healthcare service. The "Supreme Service Model" has been launched by RTA Medical Department which comprised of the three concepts as P1place, P2people, and P3process. This project is regarded as the excellent strategies for building a long-term relationship with service receivers. Accordingly, the recognizing of the "Supreme Service Model" is the key trends that will change management to investigate service quality basing on the level of pregnant women's satisfaction, to study the problems of service quality that should be improved, and to provide the suggestions of service quality by using the "Supreme Service Model" at ANC unit, PMK Hospital.

The level of pregnant women's satisfaction toward service quality shows the aspect concerning P2people at a very high level  $\bar{X} = 4.26$  (95% CI 4.20 - 4.32), (S.D.= 0.55). P2people focuses on service mind, personnel competency, and human resource management. It is reviewed that P2people in the aspect of service time should be improved. More personnel should be provided in order to enable faster service. Policy should be focused on service providers which are considered as the key effectiveness. Moreover, there is the same level at a high level in the aspect concerning P3process  $\bar{X} = 4.16$  (95% CI 4.10 – 4.22), (S.D.= 0.55) and P1place  $\bar{X} = 4.06$  (95% CI 4.00 - 4.12), (S.D.= 0.54) respectively. The study indicates that P3process focuses on a clear step of service and process management. P3process should be improved regarding an advice and guidance point. Health education advices should be given through various media or an appointment system, whereas, P1place focuses on location management, equipment and supplies. P1place should be improved by adding a sign noticing each service areas in English language that suggests the service points for foreigners. Consequently, policy should be more concerned in the aspect concerning P3process and P1place to improve service quality.

In conclusion, providing the “Supreme Service Model” will lead to the proposed service quality in pregnancy. When the three aspects of P1place, P2people, and P3process are assembled, service receivers will be satisfied. Finally, it is important to make them pay attention about their pregnancy checkups to promote their pregnancy outcomes. All of this is considered to improve the service quality for pregnancy care within the organization resulting in maximum efficiency for service excellence.

### **5.7 Research limitation**

For the limitation of the research, the study only focuses on ANC unit, OB-GYN department, PMK Hospital at one period of time. However, service quality development is not standstill. Therefore, service quality of ANC unit should be continuously evaluated. Next the development of service quality at ANC unit should consider the assessment of service receivers’ individual opinions by asking the order receiving good service quality.

### **5.8 Recommendation for further research**

The “Supreme Service Model” can be used effectively in medical treatment and various service fields to improve service excellence which is a positive indicator. Therefore, the administrators should constantly evolve service quality of 3P aspects for all departments in PMK hospital. The overall service quality of 3P aspects causes a long term relationship which is very important. In addition, the administrators should also use the strategy “Plan Do Check Act” to continuously achieve to be sustainable service quality development.

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**APPENDICES**



## **APPENDIX A**

### **QUESTIONNAIRES**

**Topic:** Service quality for Antenatal Care using the “Supreme Service Model” in Phramongkhutklao Hospital

#### **Questionnaires explanation**

This survey is designed to be part of data collection which will be used in analyzing and supporting the research of Master of Science Program in Innovative Healthcare Management, Chulabhorn International College of Medicine, Thammasat University.

In addition, the researcher would like to ask for your kind cooperation in answering the questionnaires which will be highly beneficial for improving Antenatal Care service system in the future. Therefore, please answer the following questions as honestly as possible. Your answers will be kept confidential and anonymous.

Thank you for taking the time to complete this important survey. Your time and efforts are greatly appreciated.

#### **The questionnaires consist of 2 parts**

**Part 1**      General information

**Part 2**      The service receivers’ opinions on service quality

**Part 1 General information**

Please fill the mark  $\surd$  in the boxes  that best match your answers to the following questions.

## 1. Pregnant women: Gestational age

1.  Less than 14 weeks      2.  14-28 weeks      3.  29-42 weeks

## 2. Age

1.  Less than 20 years old    2.  20-34 years old    3.  Up to 35 years old

## 3. Highest level of education

1.  Primary school                      2.  High school  
3.  Vocational Certificate              4.  High Vocational Certificate  
5.  Bachelor Degree                      6.  Master Degree  
7.  Ph.D. (Doctor of Philosophy)    8.  Others (Please specify).....

## 4. Occupation

1.  Student                                      2.  Government officer  
3.  Private organization's employee    4.  State enterprise employee  
5.  Freelance                                      6.  Housewife  
7.  Vendor / Self-employed              8.  Unemployed  
9.  Others (Please specify) .....

## 5. Medical right to receive medical care

1.  Eligible disbursements from the Comptroller General's Department
2.  Bangkok's disbursements
3.  State enterprise
4.  Social Security of Phramongkutklao Hospital
5.  30-baht health care of Phramongkutklao Hospital
6.  Cash (Other hospital's social security)
7.  Cash (30 baht from other hospitals / 30 baht from other provinces)
8.  Others (Please specify) .....

## 6. How many times you receive the pregnancy care service at Phramongkutklao Hospital

1.  1-5 times      2.  6-10 times      3.  more than 10 times

## 7. Salary / month

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Less than 10,000 Baht | 2. <input type="checkbox"/> 10,000 - 20,000 Baht  |
| 3. <input type="checkbox"/> 20,001 - 30,000 Baht  | 4. <input type="checkbox"/> 30,001 - 40,000 Baht  |
| 5. <input type="checkbox"/> 40,001 - 50,000 Baht  | 6. <input type="checkbox"/> More than 50,001 Baht |

**Part 2: The service receivers' opinions on service quality**

Service received	Pregnant women's opinions				
	Very high (5)	High (4)	Medium (3)	Low (2)	Very low (1)
<b>1. Place</b>	Please fill ✓ in the boxes that best match your answers				
1.1 Clean place, enough light, and no bad odor.					
1.2 The location of the service is convenient for the service receivers and no crowded.					
1.3 There are enough toilets for users. The toilet is clean without odor.					
1.4 Equipment and supplies provided are clean, adequate and ready-to-use, for example, the lobby chairs, drink dispenser, automatic sphygmomanometer.					
1.5 There are enough marks and arrow signs. Each service point is clear and easy to understand.					
1.6 There is an English language sign that suggests the service points for foreigners.					

## Recommendation

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Service received	Pregnant women's opinion				
	Very high (5)	High (4)	Medium (3)	Low (2)	Very low (1)
<b>2. People</b>	Please fill ✓ in the boxes that best match your answers				
2.1 Staffs provide the service with a polite manner.					
2.2 Staffs are attentive and helpful when requesting for a service.					
2.3 Staffs treat pregnant women and their relatives equally and respectfully.					
2.4 Staffs are full of enthusiasm in helping facilitate the service receivers.					
2.5 When the service receivers have any questions, staffs can answer them clearly, and ready to give a useful advice.					
2.6 Staffs can provide the information about the antenatal room and the clear steps of procedure that the service					

Service received	Pregnant women's opinion				
	Very high (5)	High (4)	Medium (3)	Low (2)	Very low (1)
receivers should do when they come to receive the services.					
2.7 Staffs listen to the opinions of the service receivers.					
2.8 The service time is fast because there are enough staffs who are ready to serve the service receivers.					

**Recommendation**

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Service received	Pregnant women's opinion				
	Very high (5)	High (4)	Medium (3)	Low (2)	Very low (1)
<b>3. Process</b>	Please fill ✓ in the boxes that best match your answers				
3.1 There is a clear explanation of the steps of service procedures. You understand and can practice correctly.					
3.2 The service <b>screening, pressure and weight measurement, queue for doctor meeting point, and advice and guidance point</b> is compact. The process to other service points is quick.					
3.3 You are satisfied with the service <b>screening point</b> .					
3.4 You are satisfied with the service <b>pressure and weight measurement point</b> .					
3.5 You are satisfied with the service <b>queue for doctor meeting point</b> .					
3.6 You are satisfied with the service <b>advice and guidance point</b> .					



**Please leave your suggestions to improve Antenatal Care service point**

**1<sup>st</sup> Point: Screening point**

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**2<sup>nd</sup> Point: Blood pressure and weight measurement point**

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**3<sup>rd</sup> Point: Queue for doctor meeting point**

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**4<sup>th</sup> Point: Advice and guidance point**

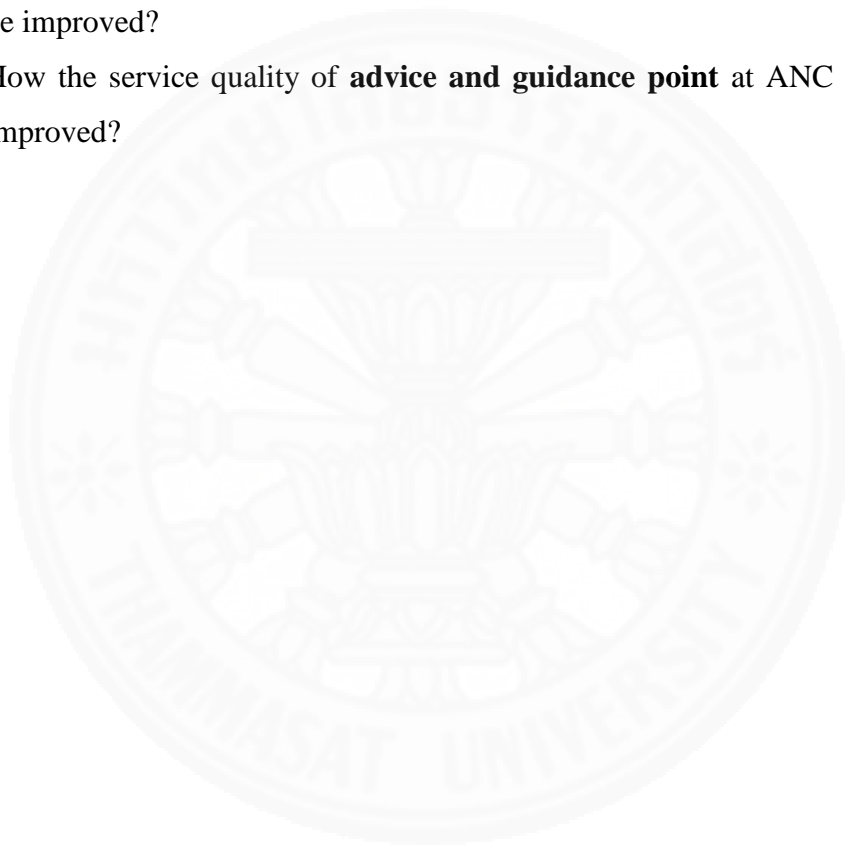
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**Thank you for your kind participation**

Captain Wattanee Waratchanont

**In-depth interview**

1. How the service quality of **place** at ANC unit should be improved?
2. How the service quality of **people** at ANC unit should be improved?
3. How the service quality of **screening point** at ANC unit should be improved?
4. How the service quality of **blood pressure and weight measurement point** at ANC unit should be improved?
5. How the service quality of **queue for doctor meeting point** at ANC unit should be improved?
6. How the service quality of **advice and guidance point** at ANC unit should be improved?



## แบบสอบถาม

เรื่อง คุณภาพการบริการในการดูแลหญิงตั้งครรภ์โดยใช้รูปแบบการบริการที่เป็นเลิศ  
โรงพยาบาลพระมงกุฎเกล้า

## คำชี้แจง

แบบสอบถามชุดนี้เป็นส่วนหนึ่งในการเก็บรวบรวมข้อมูล เพื่อนำไปประกอบการวิเคราะห์สนับสนุนงานวิจัยของการศึกษาระดับปริญญาโท หลักสูตรปริญญาวิทยาศาสตรมหาบัณฑิต สาขาวัตกรรมการจัดการบริการสุขภาพ วิทยาลัยแพทยศาสตร์นานาชาติจุฬาภรณ์ มหาวิทยาลัยธรรมศาสตร์

ผู้ทำการวิจัยขอความอนุเคราะห์จากท่านในการตอบแบบสอบถาม และขอขอบคุณมา ณ โอกาสนี้ ซึ่งผลการศึกษาจะเป็นประโยชน์อย่างยิ่งต่อการพัฒนาระบบบริการห้องฝากครรภ์ ทางผู้ศึกษาจึงใคร่ขอความกรุณาท่านตอบแบบสอบถามทุกข้อตามความเป็นจริง ขอรับรองว่าข้อมูลที่ท่านตอบทั้งหมดจะถือเป็นความลับ และจะนำเสนอผลการวิจัยในลักษณะภาพรวมเท่านั้น

## แบบสอบถามประกอบด้วย 2 ส่วน

ส่วนที่ 1 ข้อมูลทั่วไป

ส่วนที่ 2 ความคิดเห็นด้านคุณภาพการบริการของผู้รับบริการ

## ส่วนที่ 1 ข้อมูลทั่วไป

โปรดทำเครื่องหมาย  ลงในช่อง  ที่ตรงกับความคิดเห็นของท่าน

1. หญิงตั้งครรภ์ อายุครรภ์

1.  น้อยกว่า 14 สัปดาห์      2.  14-28 สัปดาห์      3.  29-42 สัปดาห์

2. อายุ

1.  น้อยกว่า 20 ปี      2.  20-34 ปี      3.  35 ปีขึ้นไป

3. ระดับการศึกษาสูงสุด

1.  ประถมศึกษา      2.  มัธยมศึกษา  
3.  ปวช.      4.  ปวส.  
5.  ปริญญาตรี      6.  ปริญญาโท  
7.  ปริญญาเอก      8.  อื่นๆ (โปรดระบุ).....

## 4. อาชีพ

- |  |  |
|--|--|
| 1. <input type="checkbox"/> นักเรียน / นักศึกษา    | 2. <input type="checkbox"/> รับราชการ          |
| 3. <input type="checkbox"/> พนักงานบริษัทเอกชน     | 4. <input type="checkbox"/> พนักงานรัฐวิสาหกิจ |
| 5. <input type="checkbox"/> รับจ้างทั่วไป          | 6. <input type="checkbox"/> แม่บ้าน            |
| 7. <input type="checkbox"/> ค้าขาย / ธุรกิจส่วนตัว | 8. <input type="checkbox"/> ว่างงาน            |
| 9. <input type="checkbox"/> อื่นๆ (โปรดระบุ).....  |  |

## 5. สิทธิการรักษาพยาบาล

- |  |  |
|--|--|
| 1. <input type="checkbox"/> เบิกจ่ายตรงกรมบัญชีกลาง                                  | 2. <input type="checkbox"/> เบิกจ่ายตรงกรุงเทพมหานคร     |
| 3. <input type="checkbox"/> รัฐวิสาหกิจ  | 4. <input type="checkbox"/> ประกันสังคม รพ.พระมงกุฎเกล้า |
| 5. <input type="checkbox"/> 30 บาท รพ.พระมงกุฎเกล้า / 30 บาท ส่งต่อ รพ.พระมงกุฎเกล้า |  |
| 6. <input type="checkbox"/> ชำระเงินสด (ประกันสังคม รพ.อื่น)                         |  |
| 7. <input type="checkbox"/> ชำระเงินสด (30บาท รพ.อื่น / 30 บาท ต่างจังหวัด)          |  |
| 8. <input type="checkbox"/> อื่นๆ (โปรดระบุ).....                                    |  |

## 6. ท่านมีประสบการณ์มารับบริการห้องฝากครรภ์ โรงพยาบาลพระมงกุฎเกล้า

- |                                       |  |  |
|---------------------------------------|--|--|
| 1. <input type="checkbox"/> 1-5 ครั้ง | 2. <input type="checkbox"/> 6-10 ครั้ง | 3. <input type="checkbox"/> มากกว่า 10 ครั้ง |
|---------------------------------------|--|--|

## 7. รายได้เฉลี่ย / เดือน

- |   |   |
|---|---|
| 1. <input type="checkbox"/> ต่ำกว่า 10,000 บาท  | 2. <input type="checkbox"/> 10,000 - 20,000 บาท       |
| 3. <input type="checkbox"/> 20,001 - 30,000 บาท | 4. <input type="checkbox"/> 30,001 - 40,000 บาท       |
| 5. <input type="checkbox"/> 40,001 - 50,000 บาท | 6. <input type="checkbox"/> มากกว่า 50,001 บาท ขึ้นไป |

ส่วนที่ 2 ความคิดเห็นด้านคุณภาพการบริการของผู้รับบริการ

การบริการที่ได้รับ	ระดับความเห็นของหญิงตั้งครรภ์				
	ดีเยี่ยม (5)	ดี (4)	พอใจ (3)	ปรับปรุง (2)	ปรับปรุงอย่างยิ่ง (1)
<b>1. สถานที่</b>	โปรดขีดเครื่องหมายถูก (✓) ที่ตรงกับความเห็นของมากที่สุด				
1.1 อาคารสถานที่สะอาด แสงสว่างเพียงพอ และไม่มีกลิ่นเหม็น					
1.2 สถานที่ให้บริการมีความสะอาดเพียงพอแก่ผู้รับบริการ ไม่แออัด					
1.3 ห้องน้ำสะอาด เพียงพอ และไม่มีกลิ่นเหม็นอับ					
1.4 อุปกรณ์ของใช้ที่ให้บริการสะอาด เพียงพอ และพร้อมใช้ เช่น แก้วน้ำ รอตตรวจ ตู้น้ำดื่ม เครื่องวัดความดันอัตโนมัติ เป็นต้น					
1.5 มีเครื่องหมาย ป้าย ลูกศร จุดบริการแต่ละจุดชัดเจน และเข้าใจง่าย					
1.6 มีป้ายแนะนำจุดบริการแต่ละจุดเป็นภาษาอังกฤษสำหรับชาวต่างชาติ					

ข้อเสนอแนะ

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การบริการที่ได้รับ	ระดับความเห็นของหญิงตั้งครรภ์				
	ดีเยี่ยม (5)	ดี (4)	พอใจ (3)	ปรับปรุง (2)	ปรับปรุงอย่างยิ่ง (1)
<b>2. บุคลากร</b>	<b>โปรดขีดเครื่องหมายถูก (✓) ที่ตรงกับความเห็นของมากที่สุด</b>				
2.1 เจ้าหน้าที่บริการด้วยท่าทาง สุภาพ ยิ้มแย้มแจ่มใส					
2.2 เมื่อร้องขอจากผู้รับบริการ เจ้าหน้าที่เอาใจใส่ และให้ความ ช่วยเหลือ					
2.3 เจ้าหน้าที่ปฏิบัติต่อหญิงตั้งครรภ์ และญาติอย่างเสมอภาค และให้ เกียรติ					
2.4 เจ้าหน้าที่มีความกระตือรือร้น อำนวยความสะดวกแก่ผู้รับบริการ อย่างเต็มที่					
2.5 เมื่อมีข้อซักถาม เจ้าหน้าที่ตอบ ข้อสงสัย และพร้อมให้คำแนะนำได้ อย่างชัดเจน					
2.6 เจ้าหน้าที่สามารถให้ข้อมูลห้อง ฝากครรภ์ และขั้นตอนเมื่อมารับ บริการได้อย่างชัดเจน					
2.7 เจ้าหน้าที่รับฟังความคิดเห็นของ ผู้รับบริการ					
2.8 การให้บริการมีความรวดเร็ว เนื่องจากมีจำนวนบุคลากรเพียงพอ และพร้อมให้บริการ					

**ข้อเสนอแนะ**

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การบริการที่ได้รับ	ระดับความเห็นของหญิงตั้งครรภ์				
	ดีเยี่ยม (5)	ดี (4)	พอใจ (3)	ปรับปรุง (2)	ปรับปรุงอย่างยิ่ง (1)
<b>3. ขั้นตอนการรับบริการ</b>	โปรดขีดเครื่องหมายถูก (✓) ที่ตรงกับความเห็นของมากที่สุด				
3.1 ลำดับขั้นตอนการบริการมีความชัดเจน ท่านมีความเข้าใจ สามารถปฏิบัติตามได้ถูกต้อง					
3.2 การบริการจุดคัดกรอง, จุดความดัน/น้ำหนัก, จุดเรียกพบแพทย์ และจุดแนะนำก่อนกลับบ้าน มีความกระชับ ท่านสามารถไปยังจุดบริการแต่ละจุดได้อย่างรวดเร็ว					
3.3 ท่านพอใจในการรับบริการจุดคัดกรอง					
3.4 ท่านพอใจในการรับบริการจุดความดัน / น้ำหนัก					
3.5 ท่านพอใจในการรับบริการจุดเรียกพบแพทย์					
3.6 ท่านพอใจในการรับบริการจุดแนะนำก่อนกลับบ้าน					

ข้อเสนอแนะเพื่อปรับปรุงจุดบริการห้องฝากครรภ์

จุดที่ 1 คัดกรอง

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จุดที่ 2 วัดความดัน / ชั่งน้ำหนัก

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จุดที่ 3 เรียกพบแพทย์

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จุดที่ 4 รับคำแนะนำก่อนกลับบ้าน

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ขอขอบคุณที่กรุณาให้ความร่วมมือ

ร.อ.หญิง วัฒนีย์ วาราชนนท์



### แบบสัมภาษณ์

1. ควรปรับปรุงสถานที่ห้องฝากครรภ์อย่างไร
2. ควรปรับปรุงการให้บริการของบุคลากรอย่างไร
3. ควรปรับปรุงขั้นตอนการบริการจุดคัดกรองอย่างไร
4. ควรปรับปรุงขั้นตอนการบริการจุดวัดความดัน / ชั่งน้ำหนักอย่างไร
5. ควรปรับปรุงขั้นตอนการบริการจุดเรียกพบแพทย์อย่างไร
6. ควรปรับปรุงขั้นตอนการบริการจุดรับคำแนะนำก่อนกลับบ้านอย่างไร



## APPENDIX B

### STATISTICAL OUTPUT

#### Reliability

**Case Processing Summary**

		N	%
Cases	Valid	30	100.0
	Excluded <sup>a</sup>	0	.0
	Total	30	100.0

**Reliability Statistics**

Cronbach's Alpha	N of Items
.936	20

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Clean place, enough light and no bad odor.	79.10	63.748	.590	.934
The location of the service is convenient for users, not crowded.	79.63	60.654	.560	.936
There are enough toilets for users. The toilet is clean without odor.	79.80	65.062	.257	.941
Equipment and supplies provided are clean, adequate and ready-to-use.	79.53	60.671	.577	.935
There are enough marks and arrow signs. Each service point is clear and easy to understand.	79.43	62.185	.671	.932

There is an English language sign that suggests the service points for foreigners.	79.70	63.321	.529	.935
The staffs provide the service with a polite manner.	79.33	62.230	.677	.932
The staffs are attentive and helpful when requesting for a service.	79.33	63.609	.695	.932
Staff treats pregnant women and their relatives equally and respectfully.	79.17	62.695	.733	.932
Staffs are full of enthusiasm in helping facilitate the patients.	79.37	64.447	.603	.934
When the patients have any questions, staffs can answer them clearly and ready to give a useful advice.	79.30	60.769	.749	.931
Staffs can provide the information about the antenatal room and the clear steps of procedure that the patients should do when they come to receive the services.	79.17	61.730	.756	.931
Staffs listen to the opinions of the service recipients.	79.40	61.076	.771	.930
The service time is fast because there are enough staffs who are ready to serve the service recipients.	79.70	61.114	.701	.931
There is a clear explanation of the steps of service procedures. You understand and can practice correctly.	79.43	62.944	.586	.934

The service screening, pressure / weight measurement, queue for doctor meeting point, and advice and guidance point is compact. The process to other service points is quick.	79.43	60.875	.743	.931
You are satisfied with the service screening point.	79.30	61.459	.748	.931
You are satisfied with the service Pressure / weight measurement point.	79.50	62.948	.639	.933
You are satisfied with the service Queue for doctor meeting point.	79.43	62.323	.655	.932
You are satisfied with the service Advice and Guidance point.	79.33	62.161	.685	.932



### Frequency table

#### Pregnancy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 14 weeks	39	11.8	11.8	11.8
	14-28 weeks	121	36.7	36.7	48.5
	> 29-42 weeks	170	51.5	51.5	100.0
	Total	330	100.0	100.0	

#### Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 20 years old	22	6.7	6.7	6.7
	20-34 years old	219	66.4	66.4	73.0
	Up to 35 years old	89	27.0	27.0	100.0
	Total	330	100.0	100.0	

#### Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary school	5	1.5	1.5	1.5
	High school	95	28.8	28.8	30.3
	Vocational Certificate	38	11.5	11.5	41.8
	High Vocational Certificate	35	10.6	10.6	52.4
	Bachelor Degree	122	37.0	37.0	89.4
	Master Degree	25	7.6	7.6	97.0
	Ph.D. (Doctor of Philosophy)	3	.9	.9	97.9
	Others	7	2.1	2.1	100.0
	Total	330	100.0	100.0	

## Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Student	11	3.3	3.3	3.3
	Government officer	56	17.0	17.0	20.3
	Private employee	120	36.4	36.4	56.7
	State Enterprise employee	14	4.2	4.2	60.9
	Freelance	30	9.1	9.1	70.0
	Housewife	26	7.9	7.9	77.9
	Vendor / Self-employed	40	12.1	12.1	90.0
	Unemployed	19	5.8	5.8	95.8
	Others	14	4.2	4.2	100.0
	Total	330	100.0	100.0	

## Scheme

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Eligible disbursements from the Comptroller General's Department	67	20.3	20.3	20.3
	Bangkok's disbursements	14	4.2	4.2	24.5
	State enterprise	10	3.0	3.0	27.6
	Social security (PMK hospital)	6	1.8	1.8	29.4
	30-baht health care of PMK hospital	16	4.8	4.8	34.2
	Cash (Other hospital's social security)	147	44.5	44.5	78.8
	Cash (30 baht from other hospitals / 30 baht from other provinces)	45	13.6	13.6	92.4
	Others	25	7.6	7.6	100.0
	Total	330	100.0	100.0	

**Experience**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5 times	168	50.9	50.9	50.9
	6-10 times	109	33.0	33.0	83.9
	More than 10 times	53	16.1	16.1	100.0
	Total	330	100.0	100.0	

**Income**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 10,000 baht	45	13.6	13.6	13.6
	10,000-20,000 baht	185	56.1	56.1	69.7
	20,000-30,000 baht	78	23.6	23.6	93.3
	30,000-40,000 baht	16	4.8	4.8	98.2
	40,000-50,000 baht	2	.6	.6	98.8
	More than 50,001 baht	4	1.2	1.2	100.0
	Total	330	100.0	100.0	

**Descriptive table****Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Clean place, enough light, and no bad odor.	330	1.0	5.0	4.479	.5947
The location of the service is convenient for the service receivers and no crowded.	330	2.0	5.0	4.033	.7652
There are enough toilets for users. The toilet is clean without odor.	330	2.0	5.0	3.821	.7998
Equipment and supplies provided are clean, adequate, and ready-to-use.	330	2.0	5.0	4.079	.7313
There are enough marks and arrow signs. Each service point is clear and easy to understand.	330	2.0	5.0	4.167	.7014
There is an English language sign that suggests the service points for foreigners.	330	2.0	5.0	3.782	.7763
Place Total	330	3	5	4.06	.539
Valid N (listwise)	330				



**Descriptive table****Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Staffs provide the service with a polite manner.	330	3.0	5.0	4.330	.6500
Staffs are attentive and helpful when requesting for a service.	330	3.0	5.0	4.294	.6151
Staffs treat pregnant women and their relatives equally and respectfully.	330	3.0	5.0	4.355	.5977
Staffs are full of enthusiasm in helping facilitate the service receivers.	330	2.0	5.0	4.255	.6301
When the service receivers have any questions, staffs can answer them clearly, and ready to give a useful advice.	330	3.0	5.0	4.321	.6522
Staffs can provide the information about the antenatal room and the clear steps of procedure that the service receivers should do when they come to receive the services.	330	1.0	5.0	4.370	.6590
Staffs listen to the opinions of the service receivers.	330	3.0	5.0	4.230	.6488
The service time is fast because there are enough staffs who are ready to serve the service receivers.	330	1.0	5.0	3.936	.8021
People Total	330	3	5	4.26	.554
Valid N (listwise)	330				

### Descriptive table

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
There is a clear explanation of the steps of service procedures. You understand and can practice correctly.	330	2	5	4.20	.640
The service screening, pressure and weight measurement, queue for doctor meeting point, and advice and guidance point is compact. The process to other service points is quick.	330	3	5	4.16	.630
You are satisfied with the service screening point.	330	2	5	4.10	.692
You are satisfied with the service pressure and weight measurement point.	330	2	5	4.25	.650
You are satisfied with the service queue for doctor meeting point.	330	1	5	4.19	.682
You are satisfied with the service advice and guidance point.	330	1	5	4.06	.773
Process Total	330	3	5	4.16	.552
Valid N (listwise)	330				

**BIOGRAPHY**

Name	Captain Wattanee Waratchanont
Date of Birth	September 28th, 1984
Educational Attainment	2007: Bachelor of Nursing Science
Work Position	Registered Nurse Phramongkutklao Hospital
Work Experiences	2018 until present, Registered Nurse at Antenatal Care Unit 2007-2017 Registered Nurse at Labor Room (2007-2019 work experiences in the Obstetrics and Gynecology Department, Phramongkutklao Hospital)

