

**EXPLORING DRIVERS AND BARRIERS TOWARDS UTILIZING
TELEPHARMACY AMONG PHARMACISTS IN BANGKOK**



**A THEMATIC PAPER SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF MANAGEMENT
COLLEGE OF MANAGEMENT
MAHIDOL UNIVERSITY
2020**

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Thematic paper
entitled
**EXPLORING DRIVERS AND BARRIERS TOWARDS UTILIZING
TELEPHARMACY AMONG PHARMACISTS IN BANGKOK**

was submitted to the College of Management, Mahidol University
for the degree of Master of Management
on
August 29, 2020



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ACKNOWLEDGEMENTS

I am using this opportunity to express my gratitude to everyone who supported and assisted me to accomplish this research. First and foremost, I would like to thank my advisor, Dr. Randall Shannon, for providing his valuable guidance, insightful comments, encouragement and knowledge throughout the whole process of this study. He consistently allowed this paper to be my own work, but steered me in the right direction whenever he thought I needed it.

Besides my advisor, I would like to thank the rest of my thematic paper committee Dr. Prattana Punnakitikashem and Dr. Sarinya Laisawat Suttharattanagul for their encouragement, insightful comments and meaningful questions.

My sincere thanks goes to the lecturers of The College of Management, Mahidol University for providing me the useful information, thoughtful advice and meaningful support during my study at CMMU. Also, thank you to all facilitators and CMMU staffs for arranging the courses and helping me whenever I was in need. Your supports are greatly appreciated.

I would also like to thank you to all my classmates and, especially, my friends who run through thick and thin together during our meaningful 5 semesters. Your supports, your love and our friendship greatly help me throughout the entire master's degree course. I truly have the excellent and unforgettable experiences from studying here, at CMMU.

Last but not least, I would like to convey my gratefulness to my family for supporting me during my study at CMMU. Without your love, I would not be able to successfully make it.

Chanida Jindasook

EXPLORING DRIVERS AND BARRIERS TOWARDS UTILIZING TELEPHARMACY AMONG PHARMACISTS IN BANGKOK

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ABSTRACT

The purpose of this thematic paper is to explore the perceptions of Thai pharmacists who are working in retail pharmacies towards the barriers and drivers in providing pharmaceutical services via telepharmacy and the supports they would like the organizations to offer so that they can perform the telepharmacy confidently. The qualitative method was adopted in the research by conducting the in-depth interview with 10 retail pharmacists by face-to-face interview and phone call interview.

The research results show that there are various barriers and drivers that the organizations must take into consideration. They must provide the supports in eliminating barriers and enhancing the benefits to motivate retail pharmacists in conducting telepharmacy confidently.

KEY WORDS: telepharmacy/ telemedicine/ retail pharmacy/ benefits/ barriers

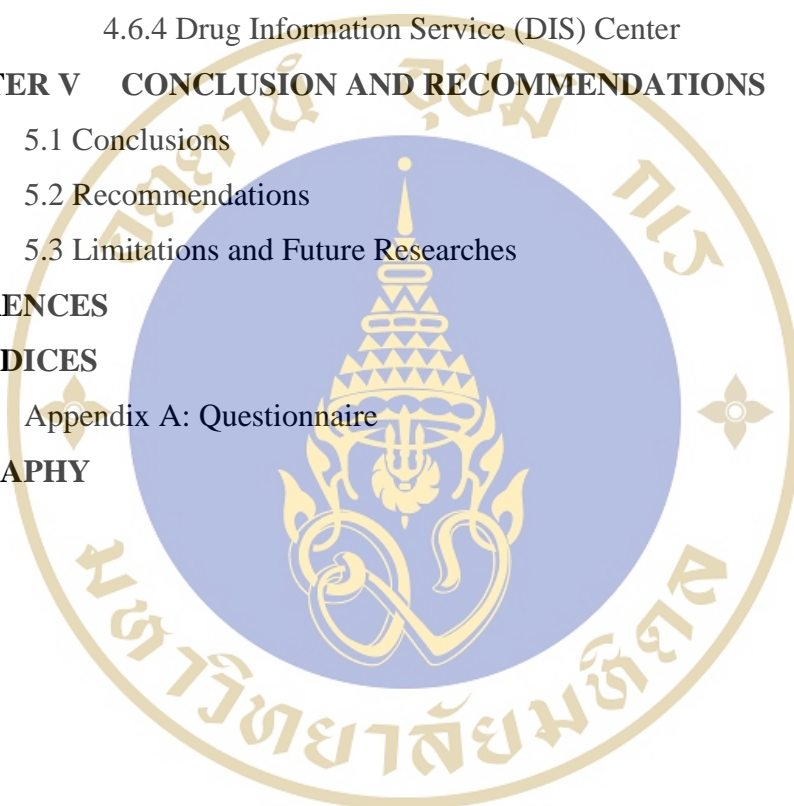
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CHAPTER I

INTRODUCTION

1.1 Background and problem statements

Nowadays, digitalization plays a vital role in all business sectors as well as the retail pharmacy. Most of the working processes rely on the technology, starting from contacting the suppliers up until distributing products to customers. Apart from that, the “New Normal” practice is widely applied to the daily activities since the COVID-19 pandemic has started, consequently, the new format of medicine dispensing, telepharmacy, is being applied to the healthcare settings including retail pharmacy worldwide.

Telemedicine is the new practice for Thai healthcare professionals to provide healthcare services to the public. It includes telecounseling to remote online clinical services by the physicians, telenursing to provide nursing services, the nurses and telepharmacy to deliver pharmaceutical products and services by the pharmacists.

Telepharmacy service has been applied in many countries especially in the rural hospital. There are plenty of research papers showing the benefit of telepharmacy to the healthcare system. However, the telepharmacy service in Thailand has not yet been approved by the Thai FDA and the Pharmacy Council of Thailand. Nonetheless, in the near future, this service will be legally available for the patient, hence, it will be beneficial to people who are not able to visit the pharmacy department in the hospital and drugstore, especially ones who live in remote areas.

Since telepharmacy is the novel practice in Thailand to the Thai pharmacists, thus, it is foreseen that when it is fully applied to the pharmacy setting, it will create confusion, nervousness and doubt to the pharmacist who is the main healthcare service provider in this platform. Currently, there is no research recommending the way to reduce those factors that might occur during the practice. Moreover, the research conducted in the retail pharmacy setting is not widely available.

This research is designed to explore what are the main concerns of retail pharmacists if they have to provide services via online channels. Which factors can

reduce those concerns and encourage the confidence in providing excellent professional telepharmacy service to the patient, and which factors can motivate them to have outstanding performance when the telepharmacy is applied.



CHAPTER II

LITERATURE REVIEW

2.1 Telemedicine

Telemedicine derives from the words “Tele” which originated from the Greek term means “at a distance” and “Medicine”. The meaning of telemedicine is the process in providing healthcare services from the long-distance medical centers by the healthcare professionals. Angaran (1999) defined the word “telemedicine” as “the use of electronic information and communications technologies to provide and support healthcare when distance separates the participants” The ATA considered the world “telemedicine” has similar meaning as “telehealth” and they can be used interchangeably. According to the WHO, *Telehealth is the "delivery of health care services, where patients and providers are separated by distance. Telehealth uses ICT for the exchange of information for the diagnosis and treatment of diseases and injuries, research and evaluation, and for the continuing education of health professionals. Telehealth can contribute to achieving universal health coverage by improving access for patients to quality, cost-effective, and health services wherever they may be. It is particularly valuable for those in remote areas, vulnerable groups and ageing populations. "*

Telemedicine includes telecounseling to remote online clinical services by the physicians, telenursing to provide nursing services, the nurses and telepharmacy to deliver pharmaceutical products and services by the pharmacists.

The benefits of telemedicine are listed below

- It increases accessibility to the healthcare services especially for patients who live in the remote areas which have difficulty in accessing the physical medical centers.
- It reduces the operating costs by it helps in reductions in the travelling time, shorten the hospital waiting time and stay and improving the chronic diseases management

- It improves the quality of healthcare services by allowing the healthcare professionals having more time to serve customers face-to-face. Also, with the increasing accessibility to the patients, they can receive healthcare service when the symptoms are not getting worse. As a result, the mortality rate is reduced whereas the successfully treated rate is increased.

2.2 Telepharmacy

Angaran (1999) mentioned that “telepharmacy” refers to the pharmaceutical services provided through the use of telecommunications and information technologies to patients at a distance. The pharmaceutical services involve dispensing of the medicines without the presence of the pharmacists, medication reviews, drug information, patient counselling and therapeutic drug monitoring. Telepharmacy services can be performed by licensed pharmacists, a pharmacy assistant or a pharmacy technician while being monitored by the qualified and certified pharmacist to ensure that the high quality and standardized pharmaceutical services are delivered to the patient.

Schneider (2013) has found that telepharmacy can decrease the number of adverse drug events reported. Also, Cole (2012) reported that the prolonged hospitalization and potential death may be prevented with the application of telepharmacy for the after-hours medication review in the inpatient department.

Telepharmacy is beneficial in helping pharmacists to monitor drug-related problems especially in patients suffering from chronic diseases. It helps in improving the medication compliance which eventually can reduce the number of medication errors, adverse drug reactions, costs and ultimately, the treatment failure.

Telepharmacy also increases the accessibility in acquiring the drug counselling from pharmacists by the patients who are not easily reachable. Baldoni (2019) indicated that telepharmacy can help in coping with the shortage of clinical pharmacists especially in the remote areas. Home drug delivery is another essential activity that telepharmacy allows patients to receive the pharmaceutical counselling (Baldoni, 2019). The process of home drug delivery is medications will be dispatched

to the patient's place of residences, after that, community pharmacists will provide the counselling via telephone or video calls. This process is to reassure that patients will receive essential information regarding their medicines to reduce the medication errors.

2.3 Barriers

Barriers to the implementation and utilization of telepharmacy can be defined in technological barriers and non-technological barriers (Stumpf, 2002). Stumpf (2002) also mentioned that non-technological barriers play vital roles that affect the implementation of telepharmacy. The technological barriers include hardware, compatible software, the accessible platform and the speed of the internet. Whereas the non-technological barriers are privacy and confidential issues, unclear legislation, and security (Ameri et al 2020). Furthermore, lack of competence, confidence and support from the organization are also considered the barriers especially for pharmacists and pharmacy technicians to perform the counseling service via telepharmacy.

Nowadays, the official telepharmacy laws and regulations have not yet launched in Thailand. The current pharmacy regulation laws are not up-to-date and not applicable to provide the telepharmacy service. Since the laws will be applied to the novel service, the uniformity in implementation and application of the laws will be challenging, especially when the laws are newly applied (Poudel, Nissen, 2016).

The difficulty in turning telepharmacy into actions is another challenge. It requires great investment in the company's resources (Peterson, Anderson, 2004). The acceptable good quality of the equipment is greatly needed for both patients and the healthcare practitioners' sides. The good internet network is required during the services as well as after the services while pharmacists are taking care of the information received.

The cooperation from the pharmacists is another challenge that needs to take it into consideration. The healthcare practitioners are required to update their currently professional skills and knowledge as well as the new ones to be able to provide the telepharmacy services effectively.

The ability in using the technology is greatly needed from pharmacists and patients. If one side of the party cannot perform the task effectively, telepharmacy service cannot be run smoothly (Poudel, Nissel 2016)

2.4 Benefits

There are various types of benefits in conducting telepharmacy that can be defined in 3 categories which are 1) the benefits to patients 2) the benefits to pharmacists and other healthcare professionals and 3) the benefits to the organizations.

The benefits of telepharmacy to the patients

Conveniences are the key benefits of telepharmacy to the patients. It is greatly accepted that it can sharply reduce the geographical obstacles. Patients are able to receive the healthcare services from the pharmacists from anywhere in the world. The research has found that the primary advantage of telepharmacy is the accessibility of healthcare services especially in the remote areas (Poudel et al, 2016). Telepharmacy allows many activities to be conducted without the present of patients at the health centers such as hospitals or drugstores. It is not only beneficial to ones who live in the remote areas, people with disabilities and ones who cannot leave the premises with particular reasons can also access the healthcare services such as counseling with pharmacists and medication reviews much easily which results in a decrease of the medication errors and improves overall quality of healthcare services .

Telepharmacy can also reduce the cost of traveling to the health centers. Many times, patients who have the medication related problems can get the advice from pharmacists via telepharmacy, as a consequence, they can take the prompt actions to those problems according to the information being given to eliminate those adverse reactions. The drug delivery to the patients with stable conditions of chronic diseases can remove all unnecessary trips to the hospitals, clinics or pharmacies which also, can reduce the cost of traveling.

Reduction of time obstacles is another benefit of telepharmacy. Patients can get the advice from pharmacists anytime and also, from anywhere. The time obstacles include traveling time to the health centers and the waiting time.

Benefits to pharmacists and other healthcare professionals

Pharmacists and other healthcare professionals also gain benefits from telepharmacy. The research has found that with the growing population nowadays, the number of pharmacists is not enough to provide pharmaceutical services to all patients, especially ones who live in remote areas. As a consequence, some medical related activities, for example, to educate patients to use special technique medicines are done by the nurses, pharmacy technicians or other healthcare professionals. Telepharmacy can greatly minimize these kinds of issues by allowing pharmacists to take care of a larger amount of patients (Poudel et al, 2016). Also, pharmacists can improve monitoring and encourage medical compliance by using telepharmacy which can enormously reduce medical errors, adverse drug events, medication costs and prevent the treatment failure.

Some studies showed that pharmacists provided better counseling of special technique medicines such as metered-dose inhalers by using telepharmacy because of the higher privacy and longer counseling time. However, although the pharmacy students could perform counseling on special technique medicines via telepharmacy, they performed better via face-to-face consultation (Skoy et al, 2015).

Telepharmacy allows pharmacists to follow-up with the patients which helps in improving the treatment efficacy and reducing the medication errors. It is another effective channel for pharmacists to contact healthcare professionals. Pharmacists perceived that telepharmacy helps in improving the overall quality of healthcare services (Ameri, 2020).

Benefits of telepharmacy to the organizations

The research found that telepharmacy increased satisfactions of patients (Poudel et al, 2016). It also increased the satisfactions of healthcare providers which are pharmacists, nurses, physicians and pharmacy technicians (Ameri, 2020).

The benefit that the organizations will get from the increase of patient's satisfaction is the number of revisits will be higher which eventually, can turn to higher revenues and profits for the organization. Furthermore, the satisfactions of healthcare providers may result in the lower turnover rate in the organizations.

Telepharmacy excellently helps with the scarcity of pharmacists especially in rural areas. The organizations can utilize the benefits of telepharmacy in relieving the

tight schedules and unavailability of pharmacists at certain places, during weekends or after hours by assigning pharmacy staff to the pharmacy instead of pharmacists. The pharmacists can provide counseling and advice remotely when they are needed.

Also, at some remote places, opening the pharmacy will not be economically valuable since it needs large amounts of investment for the equipment and manpower. A competent pharmacist can provide service remotely for multi-sites pharmacies which greatly help the organization in reduction of the cost of operation.



CHAPTER III

RESEARCH METHODOLOGY

Research methodology is the steps being used to collect and analyze data which involve deciding when and how often to collect data, identifying a sample or test population, developing measures, planning the data analysis as well as presenting the findings. This chapter describes research objectives, sample selection, research tools and data collection methods.

3.1 Research Objectives

This research is conducted to find out what are the main concerns and barriers that are affecting retail pharmacists in providing service via telepharmacy. Also, the research would like to know the opinions of retail pharmacists regarding the benefits of telepharmacy toward patients, pharmacists and organizations. To understand both barriers and benefits of conducting telepharmacy can help in exploring the important factors that the company can utilize to motivate retail pharmacists in performing counseling via telepharmacy.

To get the knowledge regarding the barriers and benefits of telepharmacy, in-depth interviews are adopted as data collection by approaching 10 pharmacists who have experience in working at retail pharmacy.

3.2 Sample Selection

This research aims to understand the opinions of retail pharmacists in barriers and benefits in conducting telepharmacy. However, the perception of pharmacists who own retail pharmacies and ones who work at chained-drug stores might be different. As a result, only pharmacists who work in retail pharmacies are chosen in the interview.

Since the objectives of this research is mainly to explore the barriers and benefits of telepharmacy in retail pharmacies which may be different from the hospital settings. Consequently, only the pharmacists practice in retail settings are chosen to be involved in this research.

Ten pharmacists are chosen for the interview. All of them do not own the retail pharmacies, 7 of them are currently working at eXta Plus Pharmacy, 2 of them are working at Boots pharmacy and one of them is working at local pharmacy as a part time pharmacist. Since the age of pharmacists in retail pharmacies who are not the owner of a drugstore are not as high compared to ones working at hospitals, this research will focus on the working experience instead of the age. In terms of the working experience, 5 of them have been working in the retail sector for more than 5 years whereas another 5 pharmacists have working experience in retail for less than 5 years.

3.3 Research Instruments

Qualitative method is chosen for this research because it is suitable when the researcher either investigates a new field of study or intends to ascertain and theorize prominent issues. Interviews help in seeking the opinions of interviewees related to the topics. The interviewers are allowed to ask the open-ended questions to explore the interviewees' opinion in both what they think about certain issues and why they have that attitude towards those particular issues. The in-depth data can be collected from the interviews.

3.4 Data Collection Methods

Primary data is collected through the in-depth interviews which were conducted both via 1 face-to-face interview and 9 phone calls during 18-26 July 2020. The questions being used during the interviews comprise 2 main sections.

1. Questions in section 1 are used to understand the demographic profiles of the interviewees.
2. Questions in section 2 are used to explore the opinions of interviewees. It combines 3 groups of questions which are

- a. The meaning of telepharmacy and importance of telepharmacy in drugstore
- b. The barriers in performing services via telepharmacy
- c. The benefits of telepharmacy in drugstore



CHAPTER IV

DATA ANALYSIS

The data is collected and analyzed based on interview questions with retail pharmacists who are not the owners of drugstores. The findings show what are the barriers and benefits affecting the motivation of retail pharmacists in providing service via telepharmacy.

4.1 Demographic Profiles of Respondents

The chosen interviewees are pharmacists who have experience in working at and do not own a retail pharmacy. 60 percent of interviewees are female whereas another 40% are male. Focusing on the working experience in retail pharmacy, half of them have more than 5 years of experience whereas another half have less than 5 years working experience. Apart from retail pharmacy, hospital is the most frequent working place that this group of pharmacists have worked at.

Table 4.1 Demographic Data

Demographic	Frequency	Percentage (%)
Gender		
Male	4	40%
Female	6	60%
Age		
20-29	5	50%
30-39	4	40%
40-49	1	10%
50-59	0	0%
60 and above	0	0%

Table 4.1 Demographic Data (cont.)

Demographic	Frequency	Percentage (%)
Years of working experience as a pharmacist		
Less than 1	1	10%
1-3	2	20%
3-5	2	20%
5-10	1	10%
10 and above	4	40%
Years of working experience as a retail pharmacist		
Less than 1	1	10%
1-3	3	30%
3-5	1	10%
5-10	2	20%
10 and above	3	30%
Place of practicing apart from retail pharmacy		
Hospital		
Pharmaceutical company	5	50%
Pharmaceutical factory	1	10%
Food and Drug Administration	0	0%
Never practice at other places	1	10%
Others	3	30%
	0	0%

4.2 The Meaning of “Telepharmacy”

This question aims to explore the understanding of interviewees towards the meaning of telepharmacy. All interviewees answered that telepharmacy is the action of pharmacists to provide counseling via phone call, message, application or any platforms

that customers do not have to present themselves at the retail pharmacies. Furthermore, 5 of the interviewees included drug delivery in telepharmacy service.

Pharmacist A explained that counseling can be in any topic including medicines, food supplements, health management as well as how to use medicine efficiently.

Pharmacist B added that this service must be performed at the working place to assure that pharmacists are ready while providing the service.

4.3 The Importance of Telepharmacy in Retail Pharmacy

All interviewees agree that telepharmacy is important for retail pharmacy in making the business more sustainable by maintaining the current customers and attracting the new customers who are not staying nearby. The convenience to patients is the key reason for this question.

Table 4.2 The Importance of Telepharmacy in Retail Pharmacy

Importance of Telepharmacy in Retail Pharmacy
<ul style="list-style-type: none"> ● Telepharmacy helps in maintaining the number of customers especially in the situation that they do not want to leave the house such as during the COVID-19 pandemic by providing the online counseling ● Telepharmacy can create trust, raise awareness and improve the brand image ● Some functions from telepharmacy application can draw customers to drugstores

Pharmacist C, a fresh graduate pharmacist who recently joined eXta Plus Pharmacy mentioned that “Telepharmacy was important for the retail pharmacy in Thailand. It is obviously seen from the current situation “COVID-19” that greatly affected customer behaviour. All retail stores including drugstores had dramatically less number of customers because they were afraid of going outside for shopping. Telepharmacy could minimize this issue by allowing customers to contact pharmacists via telepharmacy. He insisted that, in his opinion, patients still need to visit retail

pharmacies and hospitals but for certain activities that can be done online, it can be done via telepharmacy.

Pharmacist D, another retail pharmacist at eXta plus drugstore added that telepharmacy can create the “trust” because customers can assure that the counseling service is provided by the licensed pharmacists who are qualified to conduct this service. It can improve the image of pharmacy and raise brand awareness which eventually results in increment of the store’s and company’s revenue.

Pharmacist F added that “Telepharmacy platforms could have the function to show the store location so that if customers needed deeper counseling than online counseling, they were able to make use of the store location shown in the platform to visit the pharmacy. Also, telepharmacy was another channel for pharmacists to perform the follow-up with their current patients when they dispensed medicines to patients for treatment of minor ailments. It allowed pharmacists to take prompt actions if the treatment did not perform effectively.

4.4 The Barriers in Providing Service via Telepharmacy

The barriers that will be explored in this research are ones that retail pharmacists concern and think that they will interfere with the service and create the demotivation in providing the service to customers.

From the interviews, barriers are categorized into 2 groups which are technological barriers and non-technological barriers which are shown below.

Table 4.3 The Barriers in Providing Service via Telepharmacy

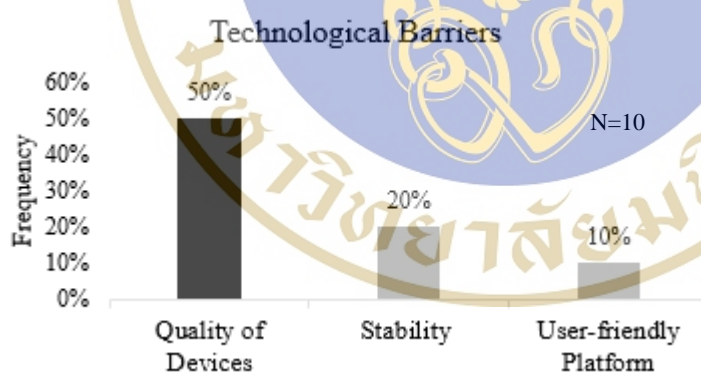
The Barriers in Providing Service via Telepharmacy	
Technological barriers	Non-technological barriers
<ul style="list-style-type: none"> ● The quality of devices ● The stable program and internet systems 	<ul style="list-style-type: none"> ● The unclear laws and regulations and scope of services ● The communication barriers

Table 4.3 The Barriers in Providing Service via Telepharmacy (cont.)

The Barriers in Providing Service via Telepharmacy	
Technological barriers	Non-technological barriers
<ul style="list-style-type: none"> • The user friendly telepharmacy platform 	<ul style="list-style-type: none"> • The deteriorated services being provided to the customers while performing online and offline counseling concurrently • The security issue • The privacy issue

4.4.1 Technological Barriers

Half of the interviewees did not mention the technological barriers during the interview. When the interviewer asked if it is counted as one of their concerns, the answer was no, they feel comfortable with technology and do not find that technology is considered the barrier in conducting telepharmacy

**Figure 4.1 Technological Barriers**

Pharmacist C, the fresh graduate pharmacist stated that “I grew up with many changes in my life, and I was still young to learn any new thing that came into my life including telepharmacy”.

Another interviewee, **Pharmacist F** added that “It was still easy for me to learn new things and technology was involved in many parts of my life, for example, nowadays, we could have meetings via Zoom Meeting and everyone currently felt

comfortable with this program”. However, in the perspective of **Pharmacist B**, a retail pharmacist who has more than 10 years of experience mentioned that he still felt insecure while using technology. However, it could not be avoided, just had to accept it.

4.4.1.1 The quality of devices

The quality of devices is the main technological barrier, 5 pharmacists expressed their concern about the quality of diagnosis and counseling during performing telepharmacy. If the quality of devices from both sides: pharmacists and customers.

Pharmacist E, a retail pharmacist with more than 10 years of experience stated that “For certain minor ailments such as skin diseases, with the low quality device, I did not feel comfortable in providing counseling via telepharmacy because I was not able to see the symptoms such as rashes clearly which somehow leads to the mis-diagnosis. I was not sure if the photo-snapshot could be sent via messenger, however, it must be greatly relied on the high quality camera.”

4.4.1.2 The Stability of Program and Internet Systems

The stability of program and internet systems are another concern from the interviews that 2 interviewees raised these factors during the interviews. The unstable program may lead to the bad service provided to customers such as if the notification function does not work properly, the pharmacist will not be notified which may result in late response to the customer. Also, if telepharmacy solely relies on the internet and, if one day, the internet system is down, without the good backup system, this service will not be able to be utilized at that time which definitely affects the performance of pharmacists and organizations.

4.4.1.3 The User-Friendly Telepharmacy Platform

The stability of program and internet systems is required especially for the older generation. The meaningful and easy to interpret icon as well as minimal letters should be applied in the platform especially in the application so that the elderly, both healthcare providers and customers, who have difficulty in reading and understanding will be able to use it efficiently.

Pharmacist G, the only interviewee who is in 40+ years old who is currently a part-time pharmacist at hospital and retail pharmacy stated that “For

me, the user-friendly program was needed, because another target group of pharmacies was the elderly who needed close attention by the healthcare providers including pharmacists. Apart from that, there are many pharmacists who were not familiar with the changes, especially change in technology, so the user-friendly platform was greatly required to serve the needs of this group of pharmacists.”

4.4.2 Non-Technological Barriers

There are quite a number of non-technological barriers being referred to during the interview. The unclear laws and regulations as well as the scope of service that can be performed via telepharmacy are the main barriers from 6 interviewees. Communication barriers, poor service being provided, security and privacy, knowledge of pharmacists as well as uncontrollable situations are among barriers that may inhibit retail pharmacists in performing service via telepharmacy.

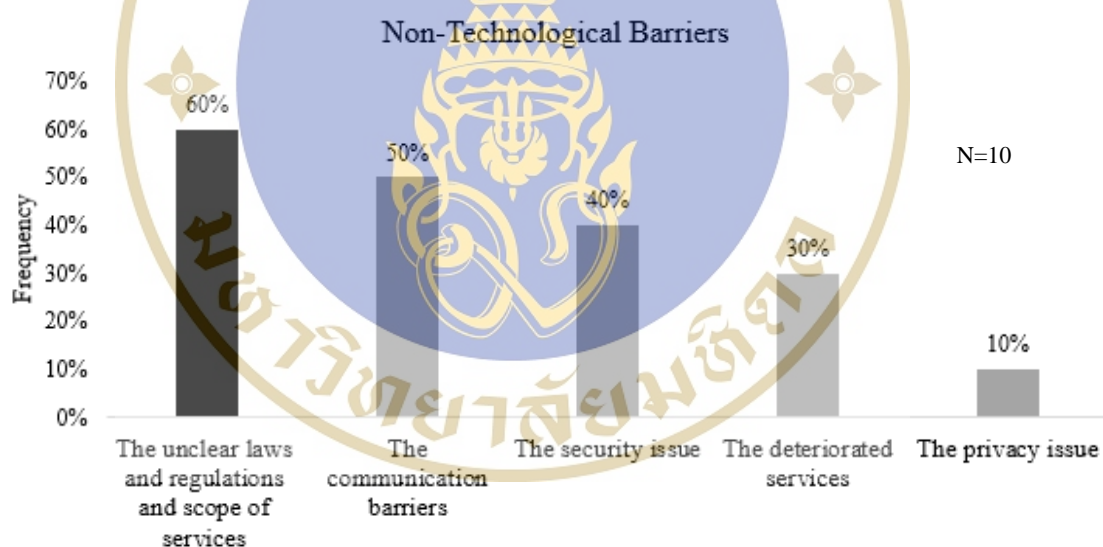


Figure 4.2 Non-Technological Barriers

4.4.2.1 The unclear laws and regulations and scope of services

The unclear laws and regulations and scope of services that can be provided via telepharmacy are the big barriers for most interviewees.

Table 4.4 The Unclear Laws and Regulations and Scope of Services Barriers

The Unclear Laws and Regulations and Scope of Services Barriers
<ul style="list-style-type: none"> ● It is still in doubt on how much information I can provide to customers. Am I allowed to tell them the brand of medicines? ● How to process the documentations for certain groups of medicines? ● If the doctors can do telemedicine legally, pharmacists also should be able to do telepharmacy legally.

Pharmacist A, a regulatory manager who works as a part-time pharmacist at retail pharmacy said that “The big concern of mine in performing telepharmacy was the unclear laws and regulations from Thai FDA and The Pharmacy Council. I was truly willing to do telepharmacy when I was on duty but I really had no idea how much information I could provide to customers, could I tell them the brand name when they needed recommendations? Would it count as the drug advertisement which required permission from Thai FDA? Would my pharmacy license be safe while I was providing the service? Currently, what I could foresee was I would only provide the general information to the patient without explaining further details unless I would like to do so because the scope of duty was really unclear.

Also, the drug delivery regulations were really unclear. As you know that nowadays, pharmacists were only allowed to dispense medicines at the premises, not even to use grab service to deliver medicines to patients legally. It would be great if drug delivery by pharmacists were allowed so I would be able to know the direction in counseling and provide the “in details” counseling to patients. As you know, providing counseling without direction was not easy at all.”

Another concern about pharmacy regulations was raised by **Pharmacist H**, a pharmacist who has worked in retail pharmacy for 2 years but recently changed the working field to regulatory said that “If the drug delivery was allowed, how about the documentations? It would be a bit troublesome for retail pharmacists. Thai FDA and Pharmacy Council had to clarify the documentation processes clearly to avoid confusion.”

However, some pharmacists do not see the laws and regulations as barriers for telepharmacy. **Pharmacist I**, a retail pharmacist from eXta Plus mentioned that “I did not feel worried or think that the laws and regulations are the barriers. I believe that the laws that were launched soon would be beneficial and allowed pharmacists to provide services conveniently. Currently, there were plenty of telemedicine platforms which were mostly conducted by the physicians and there was bad news about it so far, so I was quite confident that Thai FDA and Pharmacy Council would definitely not launch any laws that would be disadvantageous for the pharmacists. What we should concern was how to differentiate services from physicians and pharmacists since on the online platform, our duties were overlapping. If I were a customer, of course, I would choose physician over pharmacist. It was about the credibility”

4.4.2.2 Communications

Communications are another barrier that is mentioned during the interviews. During telepharmacy, only verbal can be expressed and observed during the conversation. Other non-verbal communications are not seen so the interviewees were worried that they might interpret the communication wrongly which result in providing the wrong recommendations or the bad side is recommending wrong treatment.

Table 4.5 Communication Barriers

Communication Barriers
<p><i>The unclear communication caused by conveying only via verbal conversation</i></p> <ul style="list-style-type: none"> ● I am not sure if patients will interpret my information correctly <p><i>The unclear communication caused by customers do not pay attention to the conversation</i></p> <ul style="list-style-type: none"> ● Customers may not pay attention to the conversation because I have no other tools despite verbal conversation to hold them to stay with me.

Pharmacist C said that “I would not be confident in performing telepharmacy because the only verbal communication was performed. Sometimes, if I

told a customer one thing verbally, he might interpret it wrongly and I had no idea how I could fix that situation if it happened.

Not only the wrong interpretation is foreseen, but some interviewees are also concerned that customers may not pay attention to the conversation well enough since they do not have to present themselves at the drugstore which may result in misunderstanding of the recommendation being provided.

Pharmacist I mentioned that “Another concern of mine was that the customer might not pay attention to the conversation because during the counseling, there was no eye-contact or other non-verbal language that I could use to hold the customer to stay with me. They might play games or do something while I was giving them the information, so they did not concentrate on what I was talking about. Also, some customers might rush for the information until they did not listen to the message pharmacists tried to convey carefully. It would result in the treatment failure.

Pharmacist A added that “Another concern was if customers did not behave properly because of some diseases, I would not be able to screen them before starting the conversation. It would give me the feeling that I could not control the situation and this case might ruin my day for the whole day.”

The communication barriers can lead to the uncontrolled situation while performing telepharmacy. With non-verbal language, the interviewees think that they are more capable in controlling the situation but they could not do so with only verbal communication.

4.4.2.3 Deteriorated services provided to the customer while performing both online and offline counseling

Deteriorated services provided to the customer while performing both online and offline counseling is another concern from 3 interviewees. They are worried about what they should do if a customer walks into the pharmacy while they are conducting the online counseling.

Pharmacist B mentioned that “One of the great barriers for me was there was no clear cut between offline and online counseling. What should I do if a customer walked into a pharmacy while I was providing online counseling via telepharmacy. Should I hang up or end the conversation online straight away and serve the walk-in customer or let them wait while I proceed with telepharmacy. How would

they feel? Would they know that I was doing another job as well? I was confused if we should keep our loyal customers in the nearby community or please the strangers who call from nowhere. Companies should have clear procedures for practicing pharmacists so that they would have a correct idea on how they should do.”

Pharmacist J added that “The convenience wise might affect the store’s revenue. Yes, it was completely convenient for customers that they could talk to pharmacists from everywhere, however, they might not come to my pharmacy for purchasing products that I recommended. If they went to other eXta Plus pharmacy to buy medicines, but I lost the opportunity to do the “plus-selling”. Eventually, the overall revenue might decrease.

4.4.2.4 Security

Security is considered another barrier for interviewees. Not only is the security of customer’s information that might be of concern if the information being provided well-kept in reliable storage. The information might not be leaked and used for other purposes from treatment. But the security of pharmacists who provide counseling is taken into account.

Table 4.6 Security Issue

Security Issue
<p><i>Security of customer’s identity and information</i></p> <ul style="list-style-type: none"> ● I personally do not trust all online transactions and activities ● Is our data storage safe enough to keep patient’s information?
<p><i>Security of pharmacists</i></p> <ul style="list-style-type: none"> ● Who can guarantee that the counseling I provide to patients will not be leaked out to the public? They can film, snapshot or copy it anytime ● The pharmacists can be molested verbally and, on the worst side, customers may travel along the way to pharmacy

In terms of security of customer’s information, **Pharmacist B** said that “For me personally, I did not trust all online activities. I did not pair my credit

card to any e-wallets because there was too much news nowadays about the fraud. I had no knowledge about the technology much since it was not my main interest that was why I tried to avoid it as much as possible, despite my concerns that technology was involved in most of the daily activities. It made me feel worried about the patient's information. What would happen if one day, the system was down and all the information we kept was not there.”

Pharmacist I added that “The patient’s rights were another issue that we had to take into consideration. Without the reliable storage platform, if the patient’s information was leaked to the public, how could we control it?”

The pharmacist’s security was mentioned during the interviews. Some pharmacists were afraid that telepharmacy might be misused by the customers. **Pharmacist B** said “When a customer walked into the pharmacy, I could clearly see what they were doing whereas I definitely could not do it on telepharmacy. They might film the video or snapshot the chat then post it in social media with some alterations. Who could guarantee that it would not happen? Most of the time, people would judge before investigating what happened first. This was why I thought it was insecure for pharmacists to provide the counseling online also.

Pharmacist H stated that “There was no one to screen the service takers. If they verbally molested pharmacists, it would be scary. Also, the names, place of practice are shown online so they might take a long trip to visit the pharmacy anytime.”

4.4.2.5 Privacy

Privacy is considered as another barrier in performing telepharmacy. **Pharmacist B**, the only one pharmacist who mentioned privacy as barriers stated that “It would be quite awkward if there was a customer in a pharmacy standing nearby, listening to my recommendation to another customer online. Obviously, I could not tell the offline customer to stay away because I was giving consultation to another customer. He must do it himself but what if he did not?”

However, other 9 interviewees did not mention about privacy during the interviews at all. Even though the interviewer asked what they think about privacy as another barrier, they did not think it is what to be concerned about.

4.5 The Benefits in Providing Service via Telepharmacy

The benefits in providing telepharmacy service are explored during the interviews to find out what could be the motivations for pharmacists to provide the service via telepharmacy. The benefits are grouped into 3 categories which are

- Benefits to customers
- Benefits to pharmacists
- Benefits to the organization

4.5.1 Benefits of Telepharmacy to Customers

Convenience and accessibility are 2 main keywords that all interviewees mentioned during the interviews. It is undeniable that telepharmacy is greatly convenient for customers since they can consult pharmacists anywhere, anytime. Accessibility is another huge benefit for customers especially ones who cannot leave the accommodations such as elderly, maternity mothers.

Table 4.7 Benefits to Customers

Benefits to Customers
<ul style="list-style-type: none"> ● Telepharmacy helps patients to make the right decision when they need to go to drugstores or hospitals. ● Accessibility to healthcare services especially at the faraway lands was the great benefit of telepharmacy ● Telepharmacy allowed them to approach retail pharmacists shylessly, privately and have longer time to talk to pharmacists

Pharmacist A mentioned that “Telepharmacy increased the accessibility for patients and it helped them to be able to assess the severity of their symptoms correctly. As a consequence, they could make the right decision when they need to come to the drugstores or go to hospitals.”

Pharmacist J added that “Telepharmacy helped patients in reduction of treatment cost. By being able to get the reliable information from pharmacists, if they only had minor ailments, they could just drop by at the retail pharmacy without going

to hospital where they had to pay more expensive bills which included doctor fees and hospital fees. Customers could save transportation fees if they could use the OTC drugs at home to relieve their symptoms with the guide from pharmacists.

In terms of accessibility, customers can access reliable information from pharmacists anytime from anywhere. They can go to convenient stores to purchase common drugs to relieve certain symptoms with the advice of pharmacists.

Pharmacist B stated that “Accessibility to healthcare services especially at the faraway lands was the great benefit of telepharmacy. Pharmacists could express our roles clearly to the public when telepharmacy was fully adopted. Patients who were not able to travel freely could consult pharmacists if they had questions about medicines.

Pharmacist D mentioned that “I experienced this situation once when a patient who lived alone in his condominium got a very bad stomach-ache. He asked a motorbike taxi driver to come to my store and buy medicines to relieve his symptoms. At that time, I knew that it was unlawful to dispense medicines when the patient was not at my store but I had no choice. What I did was ask his symptoms via phone call and tried to give him as much information as possible but there was nothing to assure me that he understood all I told him. Systemic telepharmacy would be a good tool for me to deal with this type of case. At least, I would have some evidence recording what I did and the patient could review my messages again.

Pharmacist C added another perspective of benefits to patients that “Some patients did not dare to have a face-to-face consultation with pharmacists when they had certain diseases for example sexual transmitted diseases. Telepharmacy allowed them to approach retail pharmacists shyly, privately and have longer time to talk to pharmacists. I counted it as accessibility also.”

4.5.2 Benefits to Pharmacists

All 10 interviewees agreed that telepharmacy promotes and strengthens the role of pharmacists to the public. It allows pharmacists to expose more to patients, makes pharmacists be the very first choice when customers need information about medicines or their health.

Table 4.8 Benefits to Pharmacists

Benefits to Pharmacists
<ul style="list-style-type: none"> ● Telepharmacy would definitely give customers a clearer picture of what are the roles of pharmacists ● Telepharmacy would give me more consulting cases which encouraged me to study more. I believed telepharmacy was an excellent channel to motivate me to improve myself ● More variety of cases would be found when telepharmacy was fully applied. It was a great opportunity for me to develop myself.

Pharmacist F stated that “I thought telepharmacy would definitely give customers a clearer picture of what are the roles of pharmacists apart from just giving them medicines at drugstores. The easily accessible image of retail pharmacists encouraged customers to trust pharmacists and would think of pharmacists when they needed health-related information. The trust would eventually lead customers to visit pharmacists at their pharmacies.

Furthermore, telepharmacy encourages pharmacists to gain more knowledge because they have more chances to provide counseling to more patients from anywhere, it makes them learn more and encourages them to study more if they are asked some problems they are not able to answer.

Pharmacist J mentioned that “Telepharmacy would give me more consulting cases which encouraged me to study more especially when customers asked me something I was not sure about its answer, I did not have to rushly give them the answer but I would have more time to do the research then get back to customers. Also, the more cases I had, the more experiences I would have too. So I believed telepharmacy was an excellent channel to motivate me to improve myself.”

Pharmacist A added that “I thought I could develop myself if telepharmacy was fully adopted. Certainly, it was better to talk to customers rather than sitting quietly at the store.

“More variety of cases would be found when telepharmacy was fully applied for example, abortion or sexual transmitted diseases. It was a great opportunity for me to develop myself.”

4.5.3 Benefits to the Organizations

There are two main benefits to the organization being found from the interviews which are revenue and good brand image. Although, with telepharmacy, customers do not have to present themselves at the pharmacy so the drugstores may lose the opportunity to sell medicines and do the “plus-selling”. Telepharmacy will strengthen the role of pharmacists and create a good relationship between pharmacists and customers. Consequently, they believe that customers still head to retail pharmacies to purchase medicines from the pharmacists they like and trust to talk to. In the future, if the laws allow pharmacists to deliver medicines to patients legally, it can expand the connections to customers who do not stay nearby drug stores which helps in increasing the revenue.

Currently when drug delivery is not allowed, telepharmacy can give a good image to companies.

Table 4.9 Benefits to Organizations

Benefits to Organizations
<ul style="list-style-type: none"> ● The public surely felt impressed and had the idea that our company was adaptive and innovative, willing to change and develop all the time, be the trend leader not the trend follower if telepharmacy is fully applied ● If we were the first group launching telepharmacy service in the market, people would recognize us more

Pharmacist J said that “The public surely felt impressed and had the idea that our company was adaptive and innovative, willing to change and develop all the time, be the trend leader not the trend follower. What we were doing was like CSR to promote the company. Yes, we did not sell medicines via telepharmacy platform, customers were able to get the reliable information from certified pharmacists without

paying anything. If I were a customer, I would be truly impressed and if I had to buy medicines from anywhere, our company would be the first option popped up in my head.”

Pharmacist I added that “The early bird led the market trend, if we were the first group launching telepharmacy service in the market, people would recognize us more than the later groups. It meant that we could take better advantage from telepharmacy.”

4.6 Supports Required from the Company that Can Increase the Confidence in Providing Service via Telepharmacy

The interviews provide useful knowledge regarding the support that the company can provide to motivate retail pharmacists in providing service via telepharmacy confidently which can be categorized into monetary support, technological support training support and drug information service center.

Table 4.10 Supports Required from the Company

Supports Required from the Company
<p><i>Monetary Support</i></p> <ul style="list-style-type: none"> ● I earned similarly with or without telepharmacy which eventually could demotivate me especially on the exhausting day. It would be great if an incentive system was applied to retail pharmacy ● I thought telepharmacy was an additional job to do. On the busy day, incentive can motivate me to perform telepharmacy instead of just offline the program
<p><i>Technological Support</i></p> <ul style="list-style-type: none"> ● I want the program that can record a patient's profile and I could retrieve the information to use during counseling. And also the registration function to get rid of the annoying customers

Table 4.10 Supports Required from the Company (cont.)

Supports Required from the Company
<p><i>Training Support</i></p> <ul style="list-style-type: none"> ● I expected to have the training session that allowed me to understand the scope that I could do ● It was important to clarify the scope of duty and also, if we offended the laws because of the unclear direction, we would be protected
<p><i>Drug Information Center</i></p> <ul style="list-style-type: none"> ● I would be more confident in counseling via telepharmacy if there was a DIS center that could provide me some information

4.6.1 Monetary Support

Monetary support was mentioned by 2 interviewees who have more than 5 years working experience in retail pharmacy.

Pharmacist A was one of them. She said “I was not the owner of this drugstore, yes, I saw many benefits if telepharmacy was fully adopted including benefits to myself as a pharmacist, however, to provide counseling both online and offline increased my workload. Honestly, I earned similarly with or without telepharmacy which eventually could demotivate me especially on the exhausting day. It would be great if an incentive system was applied to retail pharmacy. For example, pharmacists earned the pharmacist’s fee for every counseling case or at least, additional incentive if pharmacist the number of telepharmacy cases reached the target. Of course, I would conduct telepharmacy but I might be naughty on some day but with incentive, I felt like I had a motivation to perform telepharmacy.”

Pharmacist F added that “I thought telepharmacy was an additional job to do. If I were too busy or had something to do at the drugstore on that day, I did not think I had to get myself available for telepharmacy. However, with the incentive, I would reconsider.”

4.6.2 Technological Support

Technological Support was mentioned by 3 interviewees who expected that the platform from the company should be able to keep patient's records and can be retrieved when needed.

Pharmacist I, one interviewee who mentioned technological support stated that “What I wanted from the company was the program supporting telepharmacy which was able to record a patient's profile and I could retrieve the information to use during counseling. The registration function might be provided to screen customers by they had to key in their particulars, symptoms or topics that they would like to consult. By doing this, it might be able to screen out the annoying person who did not really want to get the information from pharmacists. Also, this information must not be too easy to access to still keep privacy of the customers.

4.6.3 Training support

Training Support was the last thing interviewees mentioned during the interviews. The contents to be trained would be in 1) laws and regulations and 2) standard procedure aspects.

In terms of laws and regulations aspect, it is pretty unclear nowadays on the role and duty as well as the scope of duty for pharmacists, so they would like the training to allow them to understand more in what they can do which would not defend the laws and regulations.

Pharmacist J stated that “Focusing on the support from the company, I expected to have the training session that allowed me to understand the scope that I could do, for example, could I tell the customer the brand of medicines? Would it offend the laws or count as advertisement which required approval from Thai FDA? The company did not have to support the counseling technique training for pharmacists because we used it every day at the store. The standard procedures training might be provided so that I would be capable of utilizing the telepharmacy platform and know the working processes. It would be great if the manual was provided.”

Pharmacist B further said that “It was important to clarify the scope of duty and also, if we offended the laws because of the unclear direction, we would be protected. I believed that the company would do something if it happened, however, I

did not want it to happen. Social media could spread the news quickly, especially the bad news. Netizens definitely blamed me without checking the truth. Frankly, I did not want to be the case study for the company.”

4.6.4 Drug Information Service (DIS) Center

Drug Information Service (DIS) Center was required by 3 interviewees. They will be more confident if the company has the call center to provide pharmacists information for some questions that take time to find the answers. Also, if they face the cases that are out of their control, they can refer these customers to the call center.

Pharmacist D mentioned during the interview that “I would be more confident in counseling via telepharmacy if there was a DIS center that could provide me some information because it took some time to find the relevant and credible information to answer customers. Another point I was concerned about was the difficult customers who might call for other reasons than consulting the pharmacists or ones who were not satisfied with the service that we provided. If there was a call center that I could refer this group of customers to, it would be awesome.”

All of the interviewees insisted that they were willing to adapt themselves to telepharmacy, although they had some concerns but they could see the benefits in performing telepharmacy and they could not avoid it. With the support from the company, they would confidently provide services to patients via telepharmacy.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

This research acquires interesting findings of the barriers and benefits of telepharmacy from the opinions of retail pharmacists that can motivate them to perform telepharmacy service confidently. Also, it helps in understanding the needs of retail pharmacists so that the company can support them.

The interviewees are categorized into 2 groups according to their working experience in retail pharmacies. The findings are different among these 2 groups of pharmacists which are illustrated below.

The concerns and barriers in conducting telepharmacy in the opinions of Thai pharmacists who work in retail sectors are not much different from other countries. Those barriers are grouped in technological and non-technological barriers.

Technological barriers that are concerned by Thai retail pharmacists are

1. The quality of devices
2. The stability of programs and internet systems
3. The user-friendly telepharmacy platform

Pharmacists who have been working in the retail settings for more than 5 years consider technology as a barrier. They had concerns about the quality of devices from both sides that might affect the diagnosis, leading to recommending incorrect medicines or providing wrong information to customers. Apart from that, the oldest pharmacist in the research, who is 42 years old, mentioned the ease of using the program which reflects that the older generation feels reluctant to change especially the technological change.

Surprisingly, another group of pharmacists who have less than 5 years of experience did not see technology is a barrier. They even mentioned that they are really familiar with the changes and they are confident in trying the new technology.

It can be implied that the group of experienced pharmacists have higher resistance to change in technology than the younger pharmacists who are more willing to change.

Another group of barriers is the non-technological barriers which include

1. The unclear laws and regulations and scope of services
2. The communication barriers
3. The deteriorated services being provided to the customers while performing online and offline counseling concurrently
4. The security issue
5. The privacy issue

Similarly to technological barriers, all interviewees from the experienced group had great concerns of laws and regulations and scope of duty that can be performed. With the unclear direction, they were worried if they would do something that might offend the laws and regulations. However, some of the pharmacists from the younger group shared similar concerns regarding this issue which were those who have a few years of experience.

Focusing on the fresh graduate or ones who have been working in retail for less than 3 years, they thought differently, by not seeing laws and regulations as a barrier. Some of them even referred to telemedicine practice which was newly adopted by the physicians that if they can do it, we also should be able to apply telepharmacy in our current practices.

In terms of the communications and services which require soft skills and experiences in dealing with these 2 issues, the findings are that the younger group of pharmacists had more concerns about communication and service issues.

It can be implied that the older group sees barriers that are not be able to control by themselves such as laws and regulations as their concerns whereas the younger group of pharmacists who have less experience in dealing with customers are more worried especially if they cannot communicate by using other languages apart from verbal language. They are worried if they provide the service via telepharmacy and if something happens, they may not be able to control the situation. However, when focusing on the deteriorated service which might occur while performing both online and offline counseling, the very experienced pharmacists do not see it as a barrier as

well as the less experienced ones. Whereas pharmacists who have 3-6 years of experience in retail mentioned that it is a barrier. The interpretation might be, the very experienced pharmacists know how to handle customers very well and the less experienced ones have never encountered this situation, so they cannot see it as a barrier. However, pharmacists who have been working at retail pharmacies for some time might have faced this kind of situation before, as a consequence, they feel worried and would like to find some procedures to prevent it.

Security was mentioned during the interviews. Not only the customer's security about the leak of patient's profiles and information are considered but also the security of pharmacists who provide service via telepharmacy have to be taken into account.

The last barrier is privacy which was mentioned by only one interviewee. Unlike in other countries that privacy is a big issue among pharmacists and the public, it is not a main concern in Thailand.

To know what are the barriers for pharmacists in conduction telepharmacy, it helps the company to give them support on what they are concerning which eventually, can encourage pharmacists to conduct telepharmacy confidently.

The benefits in providing service via telepharmacy are explored in this research and the findings is that all pharmacists saw that telepharmacy is beneficial to the patients. They agreed that convenience is the most prominent benefit that the customers will get when telepharmacy is fully adopted, also telepharmacy will increase accessibility of the healthcare service. Customers can receive reliable health information from the credible and certified pharmacists anywhere, anytime. Accessibility can be transportation accessibility, financial accessibility which can reduce the cost of treatment and time accessibility.

The benefits to the organization is improving brand image and increment of revenue. Although, telepharmacy provides convenience that customers can consult pharmacists every time, anywhere but with the impressive service being provided, it will encourage the customers to think of the pharmacies when they need any health products and may make a trip to purchase or consult pharmacists at the retail pharmacies which eventually, can increase the revenue in the long run.

The benefits to pharmacists themselves are also referred to. All of them shared the same opinion that telepharmacy can promote and strengthen the role and value of pharmacists to customers. Pharmacists will be proud of themselves and can see their role more clearly.

The perspective to benefits of telepharmacy among different groups of pharmacists are the same. The ages, working experiences do not affect the opinion on this topic.

To understand what are the benefits of telepharmacy could help the organization to find the attractive motivating factors to encourage pharmacists to provide service via telepharmacy more confidently.

Another findings being found from the interview are supports that pharmacists require. The supports include monetary, technological, training support and drug information call center.

Monetary support was requested by the older group of pharmacists because they have the perception that telepharmacy is the additional job they have to do apart from the daily routine jobs at drugstores and it might affect the quality of their usual routine jobs.

Whereas the younger group of pharmacists who are more technological acceptable and adaptive shared another view that they may get advantage from the technology in applying it to their daily routine jobs, so the additional functions such as patient's profile storage functions were requested by this group of pharmacists.

In terms of the training support, both groups of pharmacists required procedure and laws and regulations training to enable them to see the clear picture and the scope of duty so that they will conduct anything that might offend the laws.

It is surprising that both groups of pharmacists do not require the counseling technique training. What they want is the center operated by the organization that they can rely on for information research, or they can refer the difficult customers to this center. Which can be said that they would like to see that the company is supporting them whenever they have the problem and the call center is one thing that they can rely on if they happen to find any problems from conducting telepharmacy.

5.2 Recommendations

This research provides the essential knowledge regarding the implementation of telepharmacy in retail drugstores in Thailand. The interesting findings from this research shows the barriers, benefits and supports that community pharmacists perceived that they are affecting the motivation and performance in conducting telepharmacy in drugstores.

The barriers are perceived by the pharmacists as the demotivating factors that inhibit the willingness in performing online services via telepharmacy. The organization can provide relevant support to eliminate the concerns of the pharmacists so that the pharmacists will be encouraged to conduct telepharmacy confidently.

From the findings, the experienced pharmacists who have more than 5 years experiences are more concerned about the uncontrollable barriers such as technologies, laws and regulations whereas the younger group of pharmacists are concerned about the soft skills for example, counseling techniques, how to handle with the difficult situations. It allows the organization to provide specific support to different groups of pharmacists since they have different needs and concerns.

In terms of the benefits of telepharmacy, the pharmacists would be highly motivated if they find the significance of their jobs. Majority of pharmacists perceive that telepharmacy can enhance the role of pharmacists. They agree that telepharmacy allows accessibility to healthcare services for patients and they can help those who are really in need. This is the “job significance” that would encourage them to perform counseling services both offline and online willingly.

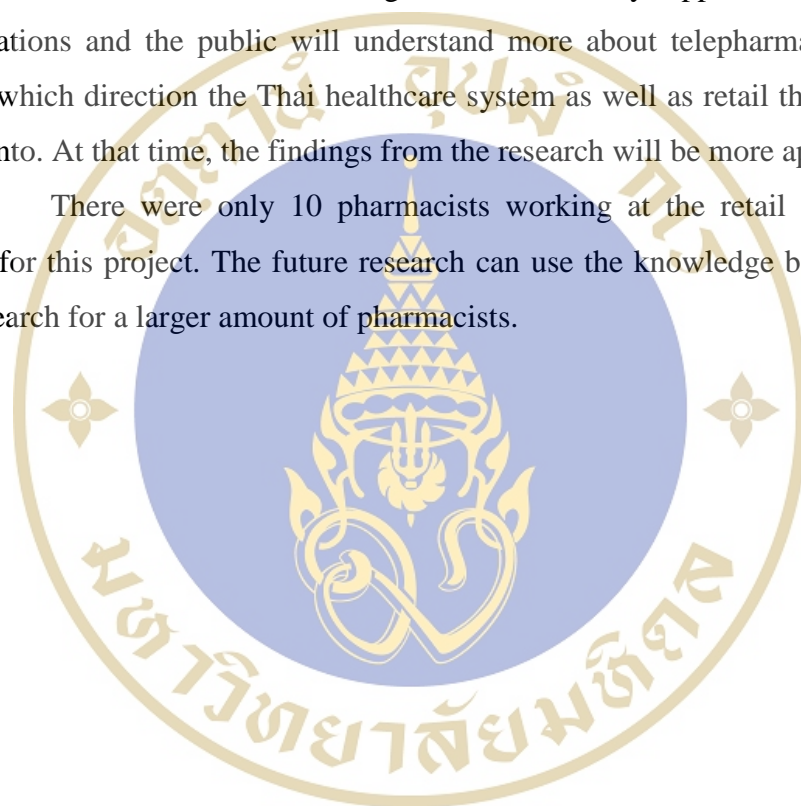
The benefits to pharmacists themselves can greatly motivate pharmacists to conduct the services via telepharmacy. The interesting finding is they see telepharmacy as another channel to develop themselves. This can link to the Maslow’s hierarchy of needs that telepharmacy provides self-actualization to pharmacists and the organization can use this finding to motivate them to work confidently.

5.3 Limitations and Future Researches

This research was conducted while the telepharmacy laws and regulations from Thai FDA and The Thai Pharmacy Council are not completely launched and applied to the retail pharmacy. So, it still gives the unclear picture of what are the duty and scope of duty of retail pharmacists according to the telepharmacy laws. As a consequence, the findings from this research on barriers and benefits of telepharmacy are based on this current situation.

When the laws and regulations are fully applied, the pharmacists, organizations and the public will understand more about telepharmacy and can see clearer which direction the Thai healthcare system as well as retail the pharmacy will move onto. At that time, the findings from the research will be more applicable.

There were only 10 pharmacists working at the retail pharmacy being chosen for this project. The future research can use the knowledge being found from this research for a larger amount of pharmacists.



REFERENCES

- Ali Elbeddini, Aniko Yeats. (2020). Pharmacist Intervention amid the Coronavirus Disease 2019 (COVID-19) Pandemic: From Direct Patient Care to Telemedicine. *Journal of Pharmaceutical Policy and Practice*. 2020; 13: 23
- Arefeh Ameri, Farzad Salmanizadeh, Sareh Keshvaridoost, Bahaadinbeigy. (2020). Investigating Pharmacist's Views on Telepharmacy: Prioritizing Key Relationships, Barriers, and Benefits. *Journal of Pharmacy Technology* 00(0)
- Arjun Poudel, Lisa M Nissen. (2016). Telepharmacy: a pharmacist's perspective on the clinical benefits and challenges. *Integrated Pharmacy Research and Practice* 2016;5 :75-82
- Aung Zaw Win. (2017). *Telepharmacy: Time to Pick Up the Line*. *Research in Social & Administrative Pharmacy*. 2017; 13: 882-883
- Brandy McGinnis, Eimeria Padilla, Pat Garret, Shewan Aziz (2019). Using pharmacy technicians and telepharmacy to obtain medication histories in the emergency department. *Journal of the American Pharmacists Association*. 2019;59: 390-397
- Charrell Porter Lipscomb, Jason Zupec. Use of Telehealth Experiences to Facilitate Interpersonal Education. *American Journal of Health Systematic Pharmacy*. 2020 May 7; 77(10): 734-738
- Clemens Scott Kruse, Priyanka Karem, Kelli Shifflett, Lokesh Vegi, Karuna Ravi, Matthew Brooks. (2018). Evaluating Barriers to Adopting Telemedicine Worldwide: A Systematic Review. *Journal of Telemedicine and Telecare*. 2018; 24(1): 4-12
- David M. Angaran. (1999). Telemedicine and telepharmacy: current status and future implications. *American Journal of Health System Pharmacy*. 1999 Jul 15;56(14): 1405-26

REFERENCES (cont.)

- David M. Scott, Daniel L. Friesner, Teri Udem, Gabrielle Anderson, Kelli Sem, Charles D. Peterson. (2017). Perceived Sustainability of Community Telepharmacy in North Dakota. *Journal of the American Pharmacists Association*. 2017; 57: 362-368
- Keiichi Nakagomi, Yukikazu Hayashi, Takako Komiyama. (2016). Cluster Analysis of Pharmacists' Work Attitudes. *Journal of General and Family Medicine*. 2017;18: 341-353
- Muna S Murad, Judith A Spiers, Lisa M Guirguis. (2017). Expressing and Negotiating Face in Community Pharmacist-Patient Interactions. *Research in Social and Administrative Pharmacy*. 2017 Nov; 13(6): 1110-1126
- Philip J Schneider. (2013). Evaluating the impact of telepharmacy. *American Journal of Health System Pharmacy*. 2013 Dec 1;70(23): 2130-5
- Reanna McFarland. (2017). Telepharmacy for Remote Hospital Inpatients in North-West Queensland. *Journal of Telemed and Telecare*. 2017 Dec; 23(10): 861-865
- Sawsan Abu Tabenjeh, Raed Jaradat. (2018). Clarification of research design, research methods, and research methodology: A guide for public administration researchers and practitioners. *Sage Journals. Teaching Public Administration*. 36(8)
- Shazia Jamshed. (2014). Qualitative research method-interviewing and observation. *Journal of Basic and Clinical Pharmacy*. September 2014-November 2014; 5(4): 87-88
- Simone Baldoni, Francesco Amenta, Giovanna Ricci. (2019). Telepharmacy Services: Present Status and Future Perspectives: A Review. *Medicina (Kaunas)*. 2019 Jul; 55(7): 327
- Skoy ET, Eukel HN, Frenzel JE, Schmitz TM. (2015). Performance and perceptions evaluation of pharmacy students' consultation via telepharmacy. *J Pharm Technol*. 2015; 31(4):155–160.

REFERENCES (cont.)

Stacey L. Cole, John H. Grubbs, Cathay Din, Thomas S. Nesbitt. (2012). Telepharmacy consultation demonstration for after-hours medication review. *Telemedicine and e-Health*. 2012; 18(7)

Tin Le, Michael Toscani, John Colaizzi. (2018). Telepharmacy: A New Paradigm for Our Profession. *Journal of Pharmacy Practice*. 2020; 33(2): 176-182

World Health Organization. (2016). *Global Strategy on Human Resources for Health: Workforce 2030*





Appendix A: Interview Questions

The Future Retail Pharmacy

The objectives of this face-to-face interview

1. To find out the barriers in providing counseling via telepharmacy of retail pharmacists.
2. To find out the benefits in providing counseling via telepharmacy of retail pharmacists.
3. To find out the key factors influencing retail pharmacists in providing counseling via telepharmacy

Section 1: Interviewee's personal information

Section 2: The perceptions toward telepharmacy in Thailand.

Section 3: The opinions regarding the barriers in providing counseling via telepharmacy of retail pharmacists.

Section 4: The opinions regarding the benefits in providing counseling via telepharmacy of retail pharmacists.

Section 5: The opinion regarding the factors influencing performance of retail pharmacist in providing telepharmacy service?

Section 1: Interviewee's personal information

1. What is your gender?

Male

Female

2. How old are you?

Less than 20 years

20-29 years

30-39 years

40-49 years

50-59 years

More than 60 years

3. What is your highest level of education?

Undergraduate

Postgraduate

4. How long have you been working in this company?
- Less than a year 1-3 years 3-5 years
- 5-10 years More than 10 years
5. How long have you been working as a retail pharmacist?
- Less than a year 1-3 years 3-5 years
- 5-10 years More than 10 years
6. What is your current position?
- Pharmacist Store Manager
- Healthcare Supervisor Pharmacy Area Manager
- Others _____
7. How long have you been working as a pharmacist?
- Less than a year 1-3 years 3-5 years
- 5-10 years More than 10 years
8. Apart from retail pharmacy, where else have you been working at?
- Hospital Pharmaceutical Company
- Pharmaceutical Factory Food and Drug Administration
- Others _____

Section 2: The perceptions toward telepharmacy in Thailand.

1. In your opinion, what is the telepharmacy in Thailand?
2. What is your opinion towards telepharmacy in Thailand?
3. What do you think about the importance of telepharmacy in retail pharmacy in the future?

Section 3: The opinions regarding the barriers in providing counseling via telepharmacy of retail pharmacists.

1. What will be your concerns if you have to perform the counseling via telepharmacy?
2. What are the technological barriers in providing counseling via telepharmacy while you are in the retail pharmacy?
3. What are the non-technological barriers in providing counseling via telepharmacy while you are in the retail pharmacy?

Section 4: The opinions regarding the benefits in providing counseling via telepharmacy of retail pharmacists.

1. Who do you think will gain benefits if telepharmacy is fully applied in the retail pharmacy?
2. What are the benefits telepharmacy to patients?
3. What are the benefits of telepharmacy to organization?
4. What are the benefits of telepharmacy to you as a pharmacist?

Section 5: The opinion regarding the factors influencing performance of retail pharmacist in providing telepharmacy service?

1. To perform counseling via telepharmacy confidently, what do you require?
2. What do you expect from providing counseling via telepharmacy?