

**MYANMAR PATIENTS' SATISFACTION WITH
TELEMEDICINE IN PRIVATE HOSPITAL FROM THAILAND
DURING THE POST COVID-19 PANDEMIC**



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DURING THE POST COVID-19 PANDEMIC**

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ABSTRACT

At present times, the development and usage of telemedicine has increased and adopted according to the needs of the patients to provide an easier and timesaving accessible platform to deliver healthcare services. The aim of this study is to identify the factors influencing the satisfaction and to identify the extent of satisfaction of Myanmar patients using telemedicine from private hospital in Bangkok. In this study, we collected the data from 110 Myanmar patients who have received medical treatment from private hospital in Bangkok and have used telemedicine service. Multiple regression analysis was used to analyze six factors influencing the satisfaction of patients using telemedicine which include convenient accessibility, saving times, saving expenses, broader communication system, prompt and accurate diagnosis, and improved care delivery. The result indicated that all six factors showed a positive relationship with patients' satisfaction. Among them, saving time was the significant factor which influenced patients' satisfaction in using telemedicine. This study will play an important role in identifying factors influencing and the extent of patients' satisfaction in using telemedicine. It will contribute towards the hospital administration, executives, healthcare personnels and information technology to improve the service quality of telemedicine of the hospital.

KEY WORDS: Telemedicine/ Myanmar Patients' satisfaction with telemedicine

57 pages

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CHAPTER I

INTRODUCTION

1.1 Background

The Fourth Industrial Revolution (Industry 4.0) has driven the global people towards a better quality of life by modernizing digital technologies. In the Medical Industry, the digital transformation has created more innovative and efficient healthcare services for all. In consolidation with IT technology, it can deliver the resolution of poor healthcare quality and inequity which are the long-term issues in the global community. Tortorella, Fogliatto, Mac Cawley Vergara, Vassolo, and Sawhney (2019) discovered that the Internet of Things (IoT) is the most effective application in modernized healthcare industry in which the healthcare devices are enabled to access the internet connection for distant healthcare service delivery. IoT devices include software applications for the guidance of patient's health progress and risk prevention intentions different from former traditional healthcare approaches. Among those technologies, Telemedicine is being broadly accepted as a resolution to healthcare issues. In Thailand, the endeavor to implement the Nationwide Telemedicine Service has been set up by the National Broadcasting and Telecommunication Commission (NBTC) of Thailand and the Thai Ministry of Public Health (MOPH) as a part of the Telehealth project. The objective is to develop the availability and standard of medical care in distant locations where there is a limited resources healthcare providers and medical facilities. (Thanakijombat, T., Bhatiasevi, V., & Suwanposri, C. (2022). PUBLIC ADOPTION OF TELEHEALTH TECHNOLOGY IN THAILAND. *JOURNAL OF GLOBAL BUSINESS REVIEW*, 24(1).

According to global health security 2021, Myanmar is ranked 85th with a health security index of 56.4, and Thailand is ranked 5th with a health security index of 68.2. Among Ten ASEAN countries, Myanmar is ranked 8th and Thailand is ranked 5th. Thailand possesses over 60 JCI accredited hospitals which the number precedes than other ASEAN countries (Jadhav, Yeravdekar, & Kulkarni, 2014). Myanmar people

seek better medical care from Thailand due to the factors of the unfulfillment of patients' medical needs, prolonged waiting time, few options of treatment plans, low standard service quality, and poor management at both private and public hospitals in Myanmar. Myanmar people explore for their healthcare mostly from neighboring countries such as Thailand, India, and Singapore (Runnels & Carrera, 2012). Annually, Myanmar people's expenses an average of USD 6 million on getting the medical treatment in foreign countries specifically in advanced medical treatment such as cancers, cardiology, neurology, urology, and organ transplantations. Over 7,568 patients from Myanmar traveled to get Medical Treatment in Thai Hospitals according to the data done by World Health Organization (Noree Hanefeld & Smith, 2016). As a result, Myanmar people of both middle and upper classes, have been receiving healthcare services from Thailand for a few decades. By the year 2020, with the beginning of the catastrophic impacts of the COVID-19 pandemic all over the world, it was impracticable for Myanmar people to travel abroad and get medical care in Thailand. As Non-communicable diseases (NCDs) are the major factor of death worldwide (Redfern, 2017), Medical Technology has to emphasize prolonged diseases such as Diabetes which requires several visits and frequent follow-ups (G o g I a, 2 0 2 0). In the present day, to lessen the potential meeting points of patients and healthcare providers, Telemedicine is adopted to control communicable diseases. (Thanakijsoombat, T., Bhatiasevi, V., & Suwanposri, C. (2022). PUBLIC ADOPTION OF TELEHEALTH TECHNOLOGY IN THAILAND. *JOURNAL OF GLOBAL BUSINESS REVIEW*, 24(1). COVID-19 has transformed people's lives into new normal forms to adapt to living safely with the virus. To continue their medical treatment journey, Myanmar patients have to rely on the advancement of IT technology in healthcare called 'Telemedicine'.

Figure 1 The ASEAN Health Security Index from Global Health Security Index 2021 was used to evaluate the health security of 195 countries. Thailand ranked 5th in world rank and 1st in Asia.

ASEAN Health Security Score 2021

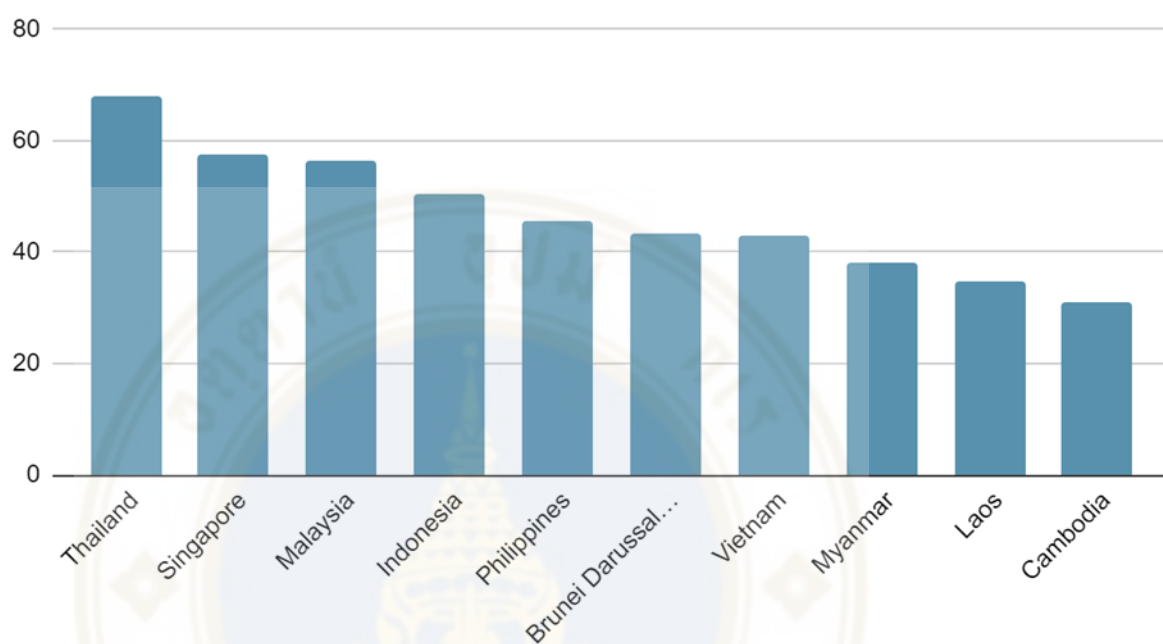


Table 1.1 The ASEAN Health Security Index ranked according to the health security score. Thailand ranked 1st and Cambodia ranked 10th out of 10 ASEAN countries.

Rank	Index	Country
1	68.2	Thailand
2	57.4	Singapore
3	56.4	Malaysia
4	50.4	Indonesia
5	45.7	Philippines
6	43.5	Brunei Darussalam

Table 1.1 The ASEAN Health Security Index ranked according to the health security score. Thailand ranked 1st and Cambodia ranked 10th out of 10 ASEAN countries. (cont.)

Rank	Index	Country
7	42.9	Vietnam
8	38.3	Myanmar
9	34.8	Laos
10	31.1	Cambodia

According to the Office of the National Coordinator for Health Information Technology, telemedicine (TM) can be defined as “the use of electronic information and telecommunications technologies to support and promote long-distance clinical health care, patient and professional health-related education, public health, and health administration.” Before the COVID-19 pandemic, Telemedicine has been increasingly adopted to provide palliative care for terminally ill patients and their families. It is a great satisfaction for them with the convenience and time-saving of online video care. Telemedicine can bring accessibility to care for patients in remote areas of rural and urban communities with the help of IT technology. Telemedicine also saves valuable time and resources for healthcare providers for home-visiting palliative care. After the emergence of COVID-19, Telemedicine has been forced into the essential role of providing healthcare for patients following the containment rules of COVID-19 widespread.

1.2 Research Question

1. What are the factors influencing the satisfaction of patients using telemedicine from private hospital in Thailand?
2. To what extent do Myanmar patients satisfy with using telemedicine from private hospital in Thailand?

1.3 Research Objectives

1. To identify the factors influencing the satisfaction of Myanmar patients using telemedicine from private hospital in Thailand.

2. To identify the extent of satisfaction of Myanmar patients with telemedicine from private hospital in Thailand.

1.4 Scope of Study

The research is focused on the usage of telemedicine from private hospital in Thailand among Myanmar patients who live in Myanmar during the global pandemic, and their satisfaction. The questionnaires were available for Myanmar patients of any age, sex, race, religion, education, occupation, and social status.

1.5 Benefits of Study

The research will be beneficial to the healthcare providers for their telemedical services to satisfaction of their patients.

The research will be beneficial to vulnerable patients to represent their satisfaction.

The research will be beneficial to healthcare providers by recognizing patients' satisfaction and effectiveness of their medical treatment through telemedicine.

1.6 Definitions

Telemedicine (TM)- can be defined as “the use of electronic information and telecommunications technologies to support and promote long-distance clinical health care, patient and professional health-related education, public health, and health administration.”

CHAPTER-II

LITERATURE REVIEW

According to the Centers for Medicare and Medicaid Services (CMS), Telemedicine is “a service that seeks to improve a patient’s health by permitting two-way, real-time interactive communication between the patient and the physician at a distant site.” It is also defined as "the use of telecommunications technology as a medium for providing health care services for persons that are at some distance from the provider" (Grigsby et al., 1993). Another definition is “an integrated system of healthcare delivery and education that employs telecommunications and computer technology as a substitute for face-to-face contact between provider and client" (Bashshur, 1995). The first “Telemedicine” was officially remarked in 1959 at Nebraska University where neurological patients were demonstrated and case information was distributed to the students across the campus via Telemedicine (Lockamy, A., & Smith, D. L. (2009). Telemedicine: a process enabler for enhanced healthcare delivery systems. *Business Process Management Journal*).

2.1 Before COVID-19

There were two types of Telemedicine applications. The first one is called ‘Store and Forward.’ it can transmit medical photographs from one place to another. The photographs are captured by a digital camera (stored) and re-laid (‘forward;’) to another place. This can be helpful for non-urgent circumstances when the treatment plan can be decided within 24-48 hours and relayed back. The dispatching of photographs of CT scans, X-rays, or MRIs which is called ‘Teleradiology’ is the commonest applicable form of telemedicine. The radiologists can install suitable IT technology in their households and they can access to check those photographs without requiring to go to the hospital or clinic on their off-days. Another use of this kind of telemedicine is called ‘Telepathology’ whereas the pathological results can be transferred from one place to

distant locations (Study of Telemedicine overview and Telemedicine in Thailand By Mr. Tanakorn Kongsiriwong Assumption University November 2003). The first telemedicine for stroke patients' care was reported in the early 1990s. Levine and Gorman firstly named the term "Telestroke" for the establishment of telemedicine in the treatment of acute stroke (Schwamm, L. H., Holloway, R. G., Amarenco, P., Audebert, H. J., Bakas, T., Chumbler, N. R., ... & Wechsler, L. R. (2009). A review of the evidence for the use of telemedicine within stroke systems of care: a scientific statement from the American Heart Association/American Stroke Association. *Stroke*, 40(7), 2616-2634.). Outpatients were favorable to receive treatment through telemedicine delivery. The referral through telemedicine raised the opportunity for the doctors to be responsible for treatment delivery (Jaatinen, P. T., Aarnio, P., Remes, J., Hannukainen, J., & Köymäri-Seilonen, T. (2002). Teleconsultation as a replacement for referral to an outpatient clinic. *Journal of telemedicine and telecare*, 8(2), 102–106. <https://doi.org/10.1258/1357633021937550>). Telemedicine in Long Term Care provided high patient satisfaction by offering benefits including avoidable in-person meetings of patients and doctors and higher support for the care continuum (Wakefield, B. J., Buresh, K. A., Flanagan, J. R., & Kienzle, M. G. (2004). Interactive video specialty consultations in long-term care. *Journal of the American Geriatrics Society*, 52(5), 789-793.). The second one is 'Two-way interactive face-to-face teleconsultation.' (Study of Telemedicine overview and Telemedicine in Thailand By Mr. Tanakorn Kongsiriwong Assumption University November 2003). The initial implementation of the Bi-directional intranet television system in the 1960s supported the reversible conveyance of medical investigations such as radiographs. The system used medical equipment to simulate similarly to the formal clinical setting. The doctor from the hospital views the patient on the television receiver. The patient from the remote place meets his doctor on the television screen whereas a nurse on the patient site facilitates between the doctor and the patient. Regarding the patient's medical documents such as pulse rate, respiratory rate, blood pressure, and electrocardiogram can be sent promptly. (Murphy Jr, R. L., & Bird, K. T. (1974). Telediagnosis: a new community health resource. Observations on the feasibility of telediagnosis based on 1000 patient transactions. *American Journal of Public Health*, 64(2), 113-119.)

As technology has become advanced, Telemedicine has been used before the time of the COVID-19 pandemic. With the advancements in mobile and internet technologies, the accessibility of Telemedicine has been dramatically increased. According to the World Bank, during the year 2010, there were only 0.59 million mobile cellular subscriptions in Myanmar. Starting from the year 2012, mobile cellular subscriptions have enormously improved from 3.73 million to 61.14 million in 2018. In Myanmar, Telemedicine has been launched in 2017 to facilitate virtual consultation between remote patients and doctors.

Myanmar people seek medical treatments mostly from Thailand, Singapore and India (Runnels & Carrera, 2012). Among 14,730 medical tourists from ASEAN countries, 7,568 patients are from Myanmar who receives Medical treatments from hospitals in Thailand (according to a research done by WHO, Noree Hanefeld & Smith, 2016). Myanmar patients include one of top 10 lists of foreign patients travelling to Thailand. With 14 days free visa agreement between Myanmar and Thailand, the numbers of Myanmar patients is predicted to be increased in the future. Moreover, Thailand is more accessible and reasonable prices for Myanmar. This topic was highly discussed in a study paper (Yin, 2014). Besides, due to the presence of local agents or representative offices in Myanmar, the patients feel more confident and easier for any inquires to the respective hospitals. Other reason why Myanmar patients choose Thailand is about the culture as both countries have similar cultures.

2.2 During COVID-19

Due to the dramatic changes in the economic, technical, and social environments, healthcare organizations are suggested that healthcare providers may require to evolve their healthcare-delivery approaches for future success and survival. Telemedicine is rapidly evolving to bring higher access to better quality healthcare which is efficient and cost-effective, especially during the peak of the COVID-19 pandemic. During the period of the pandemic, Telemedicine provides a great opportunity to catch up the qualified and affordable care for the patients while keeping physical distance in accordance with the safety measures for both patients and the healthcare providers (Kichloo, A., Albosta, M., Dettloff, K., Wani, F., El-Amir, Z.,

Singh, J., Aljadah, M., Chakinala, R. C., Kanugula, A. K., Solanki, S., & Chugh, S. (2020). Telemedicine, the current COVID-19 pandemic, and the future: a narrative review and perspectives moving forward in the USA. *Family medicine and community health*, 8(3), e000530. <https://doi.org/10.1136/fmch-2020-000530>. The more convenient for the patients, the better the capabilities to receive healthcare during the pandemic(The empowering role of hospitable telemedicine experience in reducing isolation and anxiety: Evidence from the COVID-19 pandemicCheng, Yusi, Wei, Wei, Zhong, Yunying, Zhang, Lu. *International Journal of Contemporary Hospitality Management*; 33(3):851-872, 2021.). Unhealthy people demand healthcare advice from medical professionals through telemedicine. Emotionally, this catastrophic impact of the COVID-19 pandemic created mental distress and threatened mental health (Cao,W., Fang, Z., Hou, F., Han, M., Xu, X., Dong, J. and Zheng, J.(2020), “The psychological impact of the COVID-19 epidemic on college students in China”, *Psychiatry Research*, Vol. 287, p.). Telemedicine has involved a ‘Forward Triage’, which prioritizes the patients before they go to the emergency department. Health screening can be done by keeping patient-centered care and protecting the healthcare providers even though they are self-quarantined. For the COVID patients, Telemedicine has helped to check the respiratory symptoms that is the initial role during the pandemic. (Kichloo, A., Albosta, M., Dettloff, K., Wani, F., El-Amir, Z., Singh, J., Aljadah, M., Chakinala, R. C., Kanugula, A. K., Solanki, S., & Chugh, S. (2020). Telemedicine, the current COVID-19 pandemic and the future: a narrative review and perspectives moving forward in the USA. *Family medicine and community health*, 8(3), e000530. <https://doi.org/10.1136/fmch-2020-000530>)

Myanmar patients play a large market share in Thailand medical tourism industry. They all had to use telemedicine services during the COVID-19 for continuation of receiving medical treatments and advises from Thailand private hospitals. However, there hasn’t been any studies to measure their satisfactions levels on Telemedicine from private hospital in Thailand.

2.3 Patient Satisfaction

Patient Satisfaction is the value of medical care quality outcomes to maintain the patient-provider relationships. Some authors have tried to relate satisfaction to their perception of the care outcome and the extent to which it meets their expectations. Pascoe defined patient satisfaction as ‘the healthcare recipients’ reaction to salient aspects of the context, process, and result of their experience.’ The theory points out that dissatisfaction occurs when there is a gross discrepancy between experience and expectations (Patient satisfaction in telemedicine K. Collins, P. Nicolson, and I. Bowns). The Linder-Pelz Theory of patient satisfaction describes satisfaction as “the individual’s positive evaluations of distinct dimensions of healthcare. (Patient satisfaction in telemedicine K. Collins, P. Nicolson, and I. Bowns).

Moreover, Fitzpatrick mentions three models of satisfaction. The first model is ‘the need for the familiar.’ This indicates that socially created expectations are the primary determinant of the degree of satisfaction. The second model is ‘the goals of help-seeking.’ It proposes the concern of the patients for the interventions of their health problems and its result. The Third model is ‘the role of emotional needs.’ It stresses the involvement of emotional experience and patients can judge their level of satisfaction through their behavior and communication skills (Patient satisfaction in telemedicine K. Collins, P. Nicolson, and I. Bowns). Hicks et al. mentioned in the study that 88% of its 258 respondents got satisfaction from telemedicine for their skin problems. (Hicks L. Patient satisfaction with teledermatology services. J Telemed Telecare 2003;9:42-5.)

2.4 Factors Influencing Patients Satisfaction

There are several factors influencing patients’ satisfaction. They are Convenient accessibility to healthcare providers, shortened travel, Saving waiting times for appointments, Expenses savings, A broader communication system, Prompt and accurate diagnoses, and Improved care delivery. (Whitten P, Love B. Patient and provider satisfaction with the use of telemedicine: Overview and rationale for cautious enthusiasm. J Postgrad Med 2005;51:294-300). They can be summarized as

2.4.1 Convenient Accessibility: Telemedicine can bring wider accessibility to Healthcare in remote areas where healthcare services are under-developing. According to the research done among spine patients, the patients admitted that telemedicine raises the accessibility to healthcare for those in the countryside and enhances their convenience. (Riew, G. J., Lovecchio, F., Samartzis, D., Bernstein, D. N., Underwood, E. Y., Louie, P. K., ... & Makhni, M. C. (2021). Spine surgeon perceptions of the challenges and benefits of telemedicine: an international study. *European Spine Journal*, 30(8), 2124-2132).

2.4.2 Saving waiting times for appointments: Telemedicine can decrease the waiting times for getting medical treatment by bringing direct consultations to the patient at a remote place (e.g dermatology). A study done in pediatric sports medicine practice revealed that telemedicine reduced waiting time and overall visit time. Total spending time on telemedicine was only 17 minutes while the total in-person visiting time was 68 minutes. (Atanda Jr, A., Pelton, M., Fabricant, P.D., Tucker, A., Shah, S. A., & Slamon, N. (2018). Telemedicine utilisation in a pediatric sports medicine practice: decreased cost and wait times with increased satisfaction. *Journal of ISAKOS*, 3(2), 94-97).

2.4.3 Save the expenses: The travel costs of both the patients and the healthcare providers can be reduced with the help of Telemedicine. Moreover, Telemedicine can lessen the cost of both other medical types of equipment and healthcare facilities for clinical settings. From the survey done among the spinal patients, the patients accepted that telemedicine saved their welfare expenses. (Riew, G. J., Lovecchio, F., Samartzis, D., Bernstein, D. N., Underwood, E. Y., Louie, P. K., ... & Makhni, M. C. (2021). Spine surgeon perceptions of the challenges and benefits of telemedicine: an international study. *European Spine Journal*, 30(8), 2124-2132).

2.4.4 Broader Communication System: Telemedicine can diminish isolation. It can provide companion and specialized connections for patient consultations and sustainable health education. Furthermore, Telemedicine can encourage the multi-disciplinary healthcare approach of different healthcare providers to the patient and the patient's family by utilizing bi-directional online video conferencing. In the meanwhile, during the COVID-19 pandemic, by using telemedicine, the operators of Avera Health, based in South Dakota, were conducting

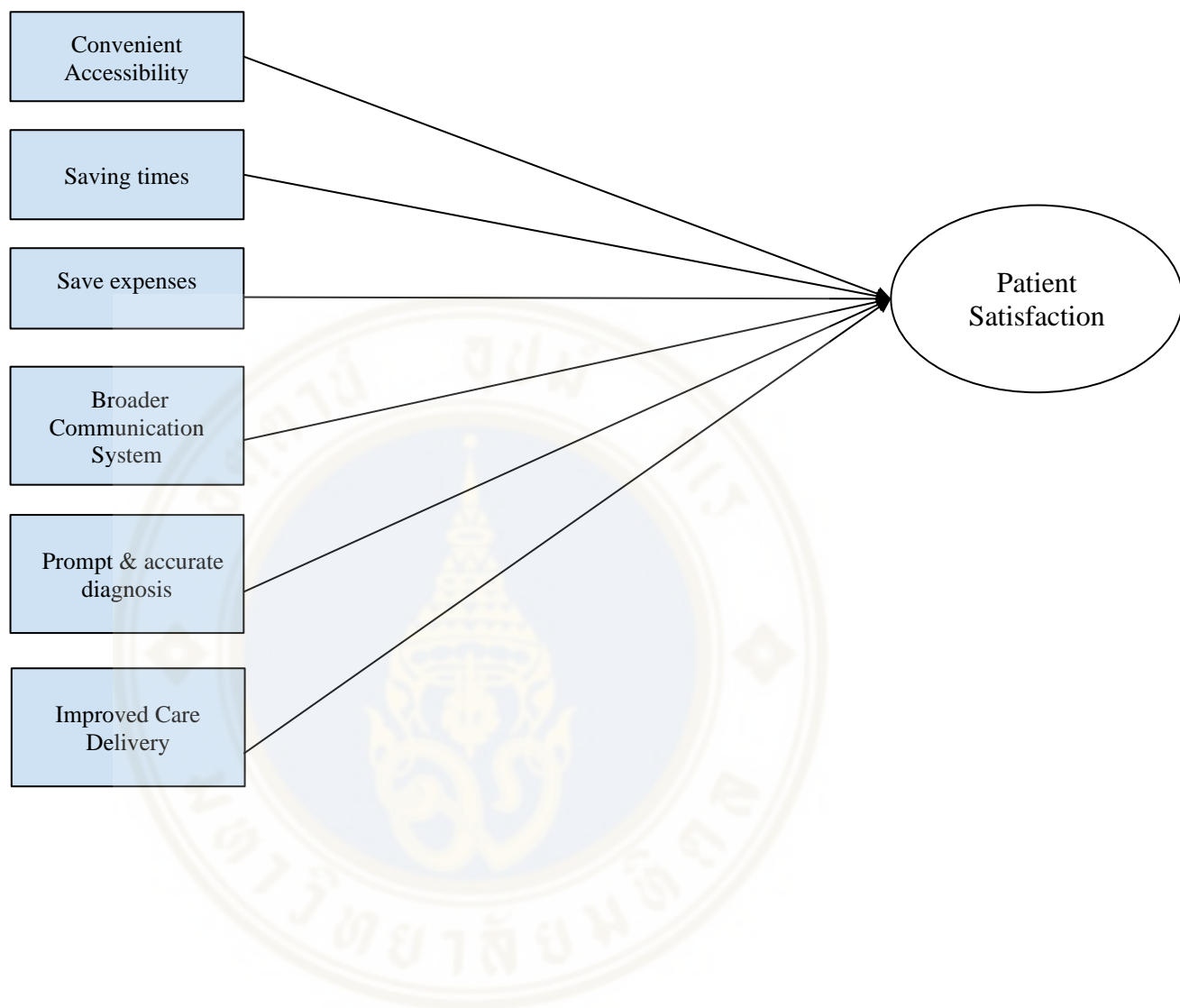
the evaluation of patients at home and facilitated rapid testing at their homes. The magnificent innovations in telemedicine are being invented to assist the control of pandemic and prove how the development of telemedicine can modify the communication system of healthcare. (Hyder, M. A., & Razzak, J. (2020).

Telemedicine in the United States: an introduction for students and residents. *Journal of medical Internet research*, 22(11), e20839).

2.4.5 Prompt and accurate diagnosis: Telemedicine can serve as an essential way for the initial finding and medication of diseases. Finding out the medical problem timely can bring up the life-savings and decrease the morbidity rate. (Morbidity refers to having a disease or a symptom of disease, or to the amount of disease within a population according to National Cancer Institute). During the COVID-19 pandemic, at Aurora Health, based in Wisconsin, telemedicine facilitated the patient's entry, rapid testing, and prompt diagnosis. Therefore, the patients could be securely self-quarantined. (Hyder, M. A., & Razzak, J. (2020). Telemedicine in the United States: an introduction for students and residents. *Journal of medical Internet research*, 22(11), e20839).

2.4.6 Improved care delivery: Telemedicine can speed up medical services for home care and promote the availability of medical knowledge directly to the patients and their families. (Kongsiriwong, M. T., & Patumtaewapibal, S. (2003). Study of Telemedicine overview and Telemedicine in Thailand.). Telemedicine promotes the quality of care and lessens patients' morbidity. It has granted real-time consultation with tertiary healthcare centers, promoted life care support prior to critical conditions, and encouraged the delivery of secondary care. (de Souza, C. H. A., Morbeck, R. A., Steinman, M., Hors, C. P., Bracco, M. M., Kozasa, E. H., & Leão, E. R. (2017). Barriers and benefits in telemedicine arising between a high-technology hospital service provider and remote public healthcare units: a qualitative study in Brazil. *Telemedicine and e-Health*, 23(6), 527-532).

Figure 2. Factors influencing the Patients' satisfaction with Telemedicine.



CHAPTER-III

RESEARCH METHODOLOGY

3.1 Research design

This research is designed to identify the factors influencing and accessing the extent of satisfaction of Myanmar patients using Telemedicine from private hospitals in Thailand. This research will be conducted in a quantitative research design. This study will focus on the usage of telemedicine from private hospitals in Thailand among Myanmar patients who live in Myanmar during the COVID-19 pandemic and will measure their satisfaction. The questionnaires are obtained from preceding research papers (Gustke, S. S., Balch, D. C., West, V. L., & Rogers, L. O. (2000), Lin, C. H., Tseng, W. P., Wu, J. L., Tay, J., Cheng, M. T., Ong, H. N., ... & Chen, S. C. (2020). A double triage and telemedicine protocol to optimize infection control in an emergency department in Taiwan during the COVID-19 pandemic: a retrospective feasibility study. *Journal of Medical Internet Research*, 22(6), e20586. Patient satisfaction with telemedicine. *Telemedicine Journal*, 6(1), 5-13.), Haxhihamza, K., Arsova, S., Bajraktarov, S., Kalpak, G., Stefanovski, B., Novotni, A., & Milutinovic, M. (2021). Patient satisfaction with use of telemedicine in university clinic of psychiatry: Skopje, North Macedonia during COVID-19 pandemic. *Telemedicine and e-Health*, 27(4), 464-467. Vidal-Alaball, J., Flores Mateo, G., Garcia Domingo, J. L., Marin Gomez, X., Sauch Valmana, G., Ruiz-Comellas, A., ... & Garcia Cuyas, F. (2020). Validation of a short questionnaire to assess healthcare professionals' perceptions of asynchronous telemedicine services: the Catalan version of the health optimum telemedicine acceptance questionnaire. *International Journal of Environmental Research and Public Health*, 17(7), 2202. Kamdar, N. V., Huverserian, A., Jalilian, L., Thi, W., Duval, V., Beck, L., Brooker, L., Grogan, T., Lin, A., & Cannesson, M. (2020). Development, Implementation, and Evaluation of a Telemedicine Preoperative Evaluation Initiative at a Major Academic Medical Center. *Anesthesia and analgesia*, 131(6), 1647–1656.

<https://doi.org/10.1213/ANE.0000000000005208>) and some are modified to the current COVID-19 pandemic in Thailand.

The questionnaires are conveyed to Myanmar patients who live in Myanmar during the COVID-19 pandemic and who had experiences using Telemedicine from private hospitals in Thailand.

3.2. Sample size

The study population was Myanmar patients who live in Myanmar during the COVID-19 pandemic. The participants who had an experience in using Telemedicine from private hospital in Thailand during the pandemic are screened, using the questionnaires.

Sample size calculation

According to Taro Yamane' formula (Israel,1992; Yamane,1967), the sample size will be calculated as follows:

n = sample size

N = population size

e = level of precision

360 patients from Myanmar did telemedicine consultation in a private hospital from Bangkok during 2020-2022. Therefore, population size will be $N = 360$.

The level of precision

' e ' is determined as 10%. $e = 0.1$

The sample size is calculated as follows:

$= 99.72 = 100$

According to the calculation, the minimum sample size should be 99 patients. To cover 10% of the respondents who could be either incomplete or having error, 10% of the sample size n is added ($100+9.9= 109.9$). Therefore, the final sample size is 110 participants.

As the participants of the surveys are from Myanmar, the questionnaires will be translated into Myanmar language by a professional translator and checked by another one Myanmar Doctor with coordination service experience in Thailand.

3.3. Screening Questions

1. Are you a Myanmar Citizen?
2. Have you received Medical Treatment from private hospitals in Thailand?
3. Have you used Telemedicine before?

Part I: Sociodemographic information of respondents, which consists of twelve facts as follows:

1. Age (between 20-40, between 40-60, Above 60)
2. Gender (Male, Female)
3. Marital status (Single, Married, Divorced)
4. Education (Higher Education, Bachelor Degree, Master Degree, other)
5. Occupation (Doctor, Engineer, Merchant, Other)
6. Average Household Monthly income (between 1,000,000- 50,000,000 MMKs, above 60,000,000 MMKs)
7. The number of times you have visited respective hospitals before the COVID-19 pandemic (between 1-3 times, more than 5 times, more than 10 times)
8. Purpose of Telemedicine (Follow up, Second opinion, COVID consultation, New consultation)
9. Date & Time of Telemedicine (DD/MM/YYYY)
10. How did you know to consult with Telemedicine? (Local agent, Facebook, Line, Hospital website, Others)
11. How many times have you used Telemedicine? (Between 1-3 times, more than 5 times, more than 10 times)
12. For which medical specialty did you consult? (Medicine, Surgery, Obstetrics & Gynecology, Pediatric, Others)

Part II: Factors influencing the satisfaction of patients using telemedicine from private hospitals in Thailand. The following questions are surveyed by using a 5-point Likert Scale (Nemoto & Beglar, 2014) consisting of “Strongly agree”, “Agree”,

“Somewhat agree”, “Disagree”, and “Strongly disagree”. There are two main sections with a total of 25 questions

Table: 3.1 Instrument of Level of agreement

Range	Level of agreement
4.211-5.00	Strongly agree
3.41-4.20	Agree
2.61-3.40	Moderate
1.81-2.60	Disagree
1.00-1.80	Strongly disagree

Table 3.2 Questions regarding the ‘Convenient Accessibility’

No	Please choose how you think we are doing in the following areas:	Reference
1.	Telemedicine improves my access to Healthcare Services	Parmanto, B., Lewis, A. N., Jr, Graham, K. M., & Bertolet, M. H. (2016). Development of the Telehealth Usability Questionnaire (TUQ). <i>International journal of telerehabilitation</i> , 8(1), 3–10. https://doi.org/10.5195/ijt.2016.6196

Table 3.2 Questions regarding the ‘Convenient Accessibility’ (cont.)

No	Please choose how you think we are doing in the following areas:	Reference
2.	How do you rate the accessibility of care delivered by the telemedicine service compared to the quality of traditional care?	<p>Vidal-Alaball, J., Flores Mateo, G., Garcia Domingo, J. L., Marin Gomez, X., Sauch Valmana, G., Ruiz-Comellas, A., ... & Garcia Cuyas, F. (2020). Validation of a short questionnaire to assess healthcare professionals' perceptions of asynchronous telemedicine services: the Catalan version of the health optimum telemedicine acceptance questionnaire. <i>International Journal of Environmental Research and Public Health</i>, 17(7), 2202.</p>
3	Telemedicine made it easier to get medical care today.	<p>Gustke, S. S., Balch, D. C., West, V. L., & Rogers, L. O. (2000). Patient satisfaction with telemedicine. <i>Telemedicine Journal</i>, 6(1), 5-13.</p>

Table 3.2 Questions regarding the ‘Convenient Accessibility’ (cont.)

No	Please choose how you think we are doing in the following areas:	Reference
4	Telemedicine is a convenient of health care delivery for me	Chung, C. D., & Wong, D. (2022). Telemedicine in urogynaecology during COVID-19 in Hong Kong: An assessment of Chinese patients’ acceptability using a validated questionnaire. <i>Australian and New Zealand Journal of Obstetrics and Gynaecology</i>

Table 3.3 Questions regarding the ‘Saving Time’

No	Please choose how you think we are doing in the following areas:	Reference
1.	Telemedicine saves me time traveling to the hospital	Parmanto, B., Lewis, A. N., Jr, Graham, K. M., & Bertolet, M. H. (2016). Development of the Telehealth Usability Questionnaire (TUQ). <i>International journal of telerehabilitation</i> , 8(1), 3–10. https://doi.org/10.5195/ijt.2016.6196

Table 3.3 Questions regarding the ‘Saving Time’ (cont.)

No	Please choose how you think we are doing in the following areas:	Reference
2.	The waiting time for telemedicine is tolerable.	Zhou, M., Zhao, L., Kong, N., Campy, K. S., Qu, S., & Wang, S. (2019). Factors influencing behavior intentions to telehealth by Chinese elderly: An extended TAM model. <i>International journal of medical informatics</i> , 126, 118-127.
3	I am satisfied with the waiting time from application to successful telemedicine appointment.	Lu, W., Hou, H., Ma, R., Chen, H., Zhang, R., Cui, F., ... & Zhai, Y. (2021). Influencing factors of patient satisfaction in teleconsultation: A cross-sectional study. <i>Technological Forecasting and Social Change</i> , 168, 120775.
4	I am satisfied with the duration of the telemedicine.	Lu, W., Hou, H., Ma, R., Chen, H., Zhang, R., Cui, F., ... & Zhai, Y. (2021). Influencing factors of patient satisfaction in teleconsultation: A cross-sectional study. <i>Technological Forecasting and Social Change</i> , 168, 120775.

Table 3.4 Questions regarding the ‘Save the expenses’

No	Please choose how you think we are doing in the following areas:	Reference
1.	Telemedicine can reduce costs for health care	Chung, C. D., & Wong, D. (2022). Telemedicine in urogynaecology during COVID-19 in Hong Kong: An assessment of Chinese patients’ acceptability using a validated questionnaire. <i>Australian and New Zealand Journal of Obstetrics and Gynaecology</i> .
2	I was satisfied with the reasonableness of the charges for telemedicine.	Lu, W., Hou, H., Ma, R., Chen, H., Zhang, R., Cui, F., ... & Zhai, Y. (2021). Influencing factors of patient satisfaction in teleconsultation: A cross-sectional study. <i>Technological Forecasting and Social Change</i> , 168, 120775.

Table 3.4 Questions regarding the ‘Save the expenses’ (cont.)

No	Please choose how you think we are doing in the following areas:	Reference
3	Telemedicine enables me to save money	Lu, W., Hou, H., Ma, R., Chen, H., Zhang, R., Cui, F., ... & Zhai, Y. (2021). Influencing factors of patient satisfaction in teleconsultation: A cross-sectional study. <i>Technological Forecasting and Social Change</i> , 168, 120775.

Table 3.5 Questions regarding the ‘Broader Communication’

No.	Please choose how you think we are doing in the following areas:	Reference
1.	I feel comfortable communicating with my healthcare provider	Le, L. B., Rahal, H. K., Viramontes, M. R., Meneses, K. G., Dong, T. S., & Saab, S. (2019). Patient satisfaction and healthcare utilization using telemedicine in liver transplant recipients. <i>Digestive diseases and sciences</i> , 64(5), 1150-1157.

Table 3.5 Questions regarding the ‘Broader Communication’ (cont.)

No.	Please choose how you think we are doing in the following areas:	Reference
2	Telemedicine improves my access to specialist care	<p>Lu, W., Hou, H., Ma, R., Chen, H., Zhang, R., Cui, F., ... & Zhai, Y. (2021). Influencing factors of patient satisfaction in teleconsultation: A cross-sectional study. <i>Technological Forecasting and Social Change</i>, 168, 120775.</p>
3	I am satisfied with the telemedicine communication network	<p>Lu, W., Hou, H., Ma, R., Chen, H., Zhang, R., Cui, F., ... & Zhai, Y. (2021). Influencing factors of patient satisfaction in teleconsultation: A cross-sectional study. <i>Technological Forecasting and Social Change</i>, 168, 120775.</p>

Table 3.6 Questions regarding the ‘Prompt and accurate diagnosis’

No	Please choose how you think we are doing in the following areas:	Reference
1.	Using telemedicine, the doctor would be able to monitor my condition well[NB6]	Chung, C. D., & Wong, D. (2022). Telemedicine in urogynaecology during COVID-19 in Hong Kong: An assessment of Chinese patients’ acceptability using a validated questionnaire. <i>Australian and New Zealand Journal of Obstetrics and Gynaecology</i> .
2.	During telemedicine, the doctor could understand my medical problem over the screen	Chung, C. D., & Wong, D. (2022). Telemedicine in urogynaecology during COVID-19 in Hong Kong: An assessment of Chinese patients’ acceptability using a validated questionnaire. <i>Australian and New Zealand Journal of Obstetrics and Gynaecology</i> .

Table 3.6 Questions regarding the ‘Prompt and accurate diagnosis’ (cont.)

No	Please choose how you think we are doing in the following areas:	Reference
3	During telemedicine, the specialists could provide me with effective medical guidance.	Lu, W., Hou, H., Ma, R., Chen, H., Zhang, R., Cui, F., ... & Zhai, Y. (2021). Influencing factors of patient satisfaction in teleconsultation: A cross-sectional study. <i>Technological Forecasting and Social Change</i> , 168, 120775.

Table 3.7 Questions regarding the ‘Improved care delivery’

No	Please choose how you think we are doing in the following areas:	Reference
1	I think using telemedicine can improve the quality of medical care delivery	Zhou, M., Zhao, L., Kong, N., Campy, K. S., Qu, S., & Wang, S. (2019). Factors influencing behavior intentions to telehealth by Chinese elderly: An extended TAM model. <i>International journal of medical informatics</i> , 126, 118-127.

Table 3.7 Questions regarding the ‘Improved care delivery’ (cont.)

No	Please choose how you think we are doing in the following areas:	Reference
2	Compared to the level of care received during the telemedicine and those received during the in-person visit was: Better/equal/worse/not sure/no in-person visit before	Lin, E. J. D., Guntu, M., Sezgin, E., McLaughlin, L., Ganta, R., Lee, J., ... & Linwood, S. L. (2022). Rapid development of a telehealth patient satisfaction survey using a multi-stakeholder approach. <i>Telemedicine and e-Health</i> .

Part III Table 3.8 Questions regarding the “patient satisfaction and response”

The following questions are surveyed by using a 5-point Likert Scale consisting of “Strongly agree”, “Agree”, “Somewhat agree”, “Disagree”, and “Strongly disagree”.

No.	Please choose how you think we are doing in the following areas:	Reference
1	I am satisfied with the visit with telemedicine.	Lin, C. H., Tseng, W. P., Wu, J. L., Tay, J., Cheng, M. T., Ong, H. N., ... & Chen, S. C. (2020). A double triage and telemedicine protocol to optimize infection control in an emergency department in Taiwan during the COVID-19 pandemic: retrospective feasibility study. <i>Journal of Medical Internet Research</i> , 22(6), e20586.
2	During telemedicine, I had enough time to tell the doctor about what happened to me	Lin, C. H., Tseng, W. P., Wu, J. L., Tay, J., Cheng, M. T., Ong, H. N., ... & Chen, S. C. (2020). A double triage and telemedicine protocol to optimize infection control in an emergency department in Taiwan during the COVID-19 pandemic: a retrospective feasibility study. <i>Journal of Medical Internet Research</i> , 22(6), e20586.

**Part III Table 3.8 Questions regarding the “patient satisfaction and response”
(cont.)**

No.	Please choose how you think we are doing in the following areas:	Reference
3	During telemedicine, doctors sometimes ignore what I tell them	Haxhihamza, K., Arsova, S., Bajraktarov, S., Kalpak, G., Stefanovski, B., Novotni, A., & Milutinovic, M. (2021). Patient satisfaction with use of telemedicine in university clinic of psychiatry: Skopje, North Macedonia during COVID-19 pandemic. <i>Telemedicine and e-Health</i> , 27(4), 464-467.
4	I was comfortable that the specialist was able to understand what was bothering me during on telemedicine	Gustke, S. S., Balch, D. C., West, V. L., & Rogers, L. O. (2000). Patient satisfaction with telemedicine. <i>Telemedicine Journal</i> , 6(1), 5-13.
5	During telemedicine, the physical exam was embarrassing to me because it was done on screen and not in person.	Gustke, S. S., Balch, D. C., West, V. L., & Rogers, L. O. (2000). Patient satisfaction with telemedicine. <i>Telemedicine Journal</i> , 6(1), 5-13.

**Part III Table 3.8 Questions regarding the “patient satisfaction and response”
(cont.)**

No.	Please choose how you think we are doing in the following areas:	Reference
6	During telemedicine, I felt relaxed when I talked to the doctor.	Lin, C. H., Tseng, W. P., Wu, J. L., Tay, J., Cheng, M. T., Ong, H. N., ... & Chen, S. C. (2020). A double triage and telemedicine protocol to optimize infection control in an emergency department in Taiwan during the COVID-19 pandemic: retrospective feasibility study. <i>Journal of Medical Internet Research</i> , 22(6), e20586.
7	During telemedicine, I was not scared or stressed	Lin, C. H., Tseng, W. P., Wu, J. L., Tay, J., Cheng, M. T., Ong, H. N., ... & Chen, S. C. (2020). A double triage and telemedicine protocol to optimize infection control in an emergency department in Taiwan during the COVID-19 pandemic: retrospective feasibility study. <i>Journal of Medical Internet Research</i> , 22(6), e20586.

**Part III Table 3.8 Questions regarding the “patient satisfaction and response”
(cont.)**

No.	Please choose how you think we are doing in the following areas:	Reference
8	I did not feel discriminated against during on telemedicine	Lin, C. H., Tseng, W. P., Wu, J. L., Tay, J., Cheng, M. T., Ong, H. N., ... & Chen, S. C. (2020). A double triage and telemedicine protocol to optimize infection control in an emergency department in Taiwan during the COVID-19 pandemic: a retrospective feasibility study. <i>Journal of Medical Internet Research</i> , 22(6), e20586.
9	Overall, I am entirely satisfied with the teleconsultation service.	Lu, W., Hou, H., Ma, R., Chen, H., Zhang, R., Cui, F., ... & Zhai, Y. (2021). Influencing factors of patient satisfaction in teleconsultation: A cross-sectional study. <i>Technological Forecasting and Social Change</i> , 168, 120775.

After completion of data collection, all data are entered into an Excel file, and cleaning of data and proper data coding was done. Data analysis is done by using Statistical Package for Social Sciences (SPSS) for analysis of statistics (percentage, means, SD) and cross tabulations to study relationships between dependent and independent variables.

For calculation and analysis of Part 1 (demographic data), frequency and percentage are applied. In Part 2, Table 5.3, 5.4 & 5.5, for analysis of the level of service quality in five dimensions, the mean score is used. The five-point Likert Scale consisting of “Strongly agree”, “Agree”, “Somewhat agree”, “Disagree”, and “Strongly disagree”, is applied. Five is the highest score and one is the lowest score.

This research will identify the relationship between dependent variables and independent variables for hypothesis testing.



CHAPTER IV

FINDING AND RESULTS

This chapter presents the results from data analysis and interpretation of all collected data analyzed using the SPSS program. This chapter is subdivided into three main parts;

1. Descriptive analysis of the personal data of the respondents (age, gender, marital status, education status, occupation, average household income per month etc.) and
2. The Inferential analysis: This is three analyses of the relationship between patient expectations and satisfaction.
3. This study is founded on the survey results of 110 Myanmar patients who visited a private hospital in Thailand. The respondents are interviewed using the structured questionnaires discussed in detail in Chapter 3.

4.1 Descriptive Analysis

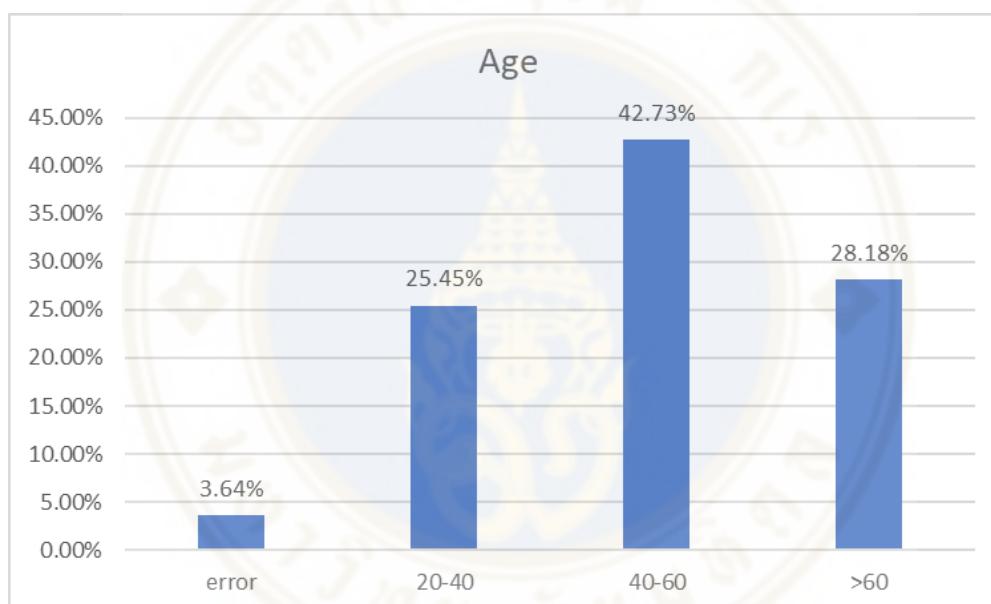
This section emphasizes simple descriptive analysis described in the form of frequency and percentages.

4.1.1 Age

The highest group of patients who did the telemedicine consultations in a private hospital are between 40-60 years old as shown in Table 4.1 and Figure 4.1. The second-highest group is >60 years old and the third-highest is between 20-40 years old. 3.64% of error is due to the unwillingness of the patient to answer.

Table 4.1 Analysis of age levels using frequency and percentage

Age	Frequency	Percentage
error	4	3.64%
20-40	28	25.45%
40-60	47	42.73%
>60	31	28.18%

Figure 4.1 Analysis of age levels described by the percentage

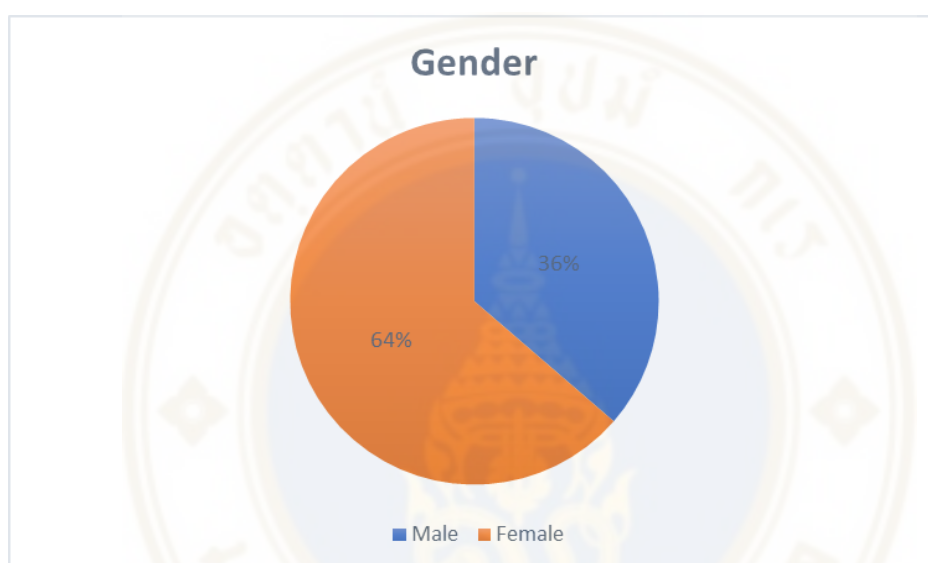
4.1.2 Gender and Marital Status

Table 4.2 and Figure 4.2 describe the numbers of male and female respondents by frequency and percentage. Among the total 110 respondents, 40 (36.36%) are male and 70 (63.64%) are female patients who participated in the research.

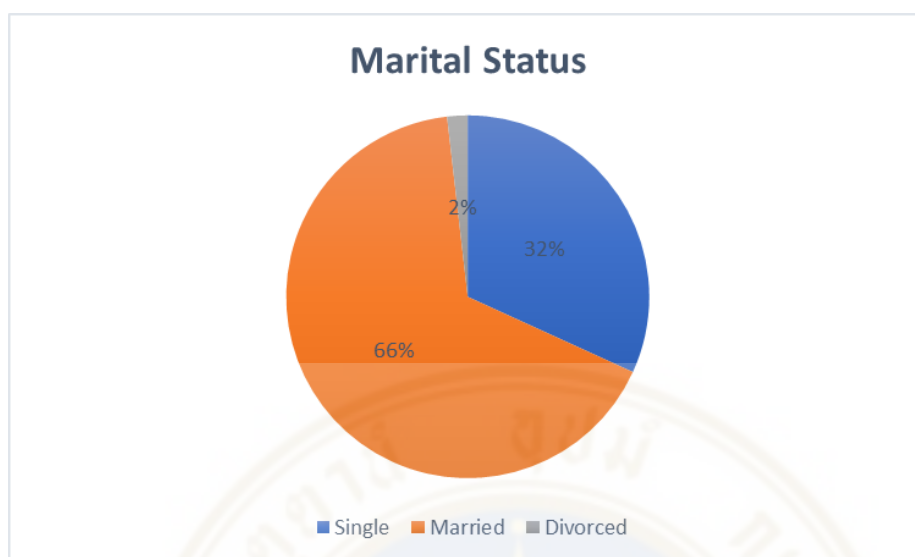
Regarding Marital status, as shown in Table 4.3, 35 patients are single, 73 are Married and 2 are divorced. Figure 4.3 reveals percentages as follows: 32% of Single, 66% are married, and 2% of divorced.

Table 4.2 Analysis of gender using frequency and percentage

Gender	Frequency	Percentage
Male	40	36.36%
Female	70	63.64%

Figure 4.2 Analysis of gender described by the percentage**Table 4.3 Analysis of Marital Status using Frequency and Percentage**

Marital Status	Frequency	Percentage
Single	35	31.81%
Married	73	66.36%
Divorced	2	1.82%

Figure 4.3 Analysis of Marital Status described by the percentage

4.1.3 Education

It is found that 55.45% of the respondents have bachelor's degrees and 16.36% graduated with a Master's and above. Meanwhile, 15.45% learned a high school education, and only 12.73% have less than a high school education. (see in Figure 4.4)

Table 4.4 Analysis of educational status by frequency & percentage

Educational Status	Percentage	Frequency
Master and above	16.36%	18
Bachelor	55.45%	61
High school	15.45%	17
Others = less than high school	12.73%	14

4.1.4 Occupation and Average household income per month

The analysis of occupations are described in the following Table 4.5. Firstly, Other careers are the most majority group calculated as 48.18 % (53 people). The second

most respondents are Merchants and 9.09 % (10 respondents) are engineers. Only 4.55% (5 respondents) are doctors.

Table 4.5 Analysis of occupations using Frequency & Percentage

Occupation	Frquency	Percentage
Doctor	5	4.55%
Engineer	10	9.09%
Merchant	42	38.18%
Other	53	48.18%

4.1.5 Average household income per month

The average income level plays an important role for Myanmar patients to receive healthcare from foreign countries. Therefore, income status was analyzed using frequency and percentage. Average household income per month data is collected in Myanmar Kyats (MMK) and is divided into three types. It is investigated that (1) Both groups of 1,000,000 - 5,000,000 MMK {12,500 - 62500 THB} and Above 6,000,000 MMKs {75,000 THB} contain 45.45% (50 respondents). Below 1,000,000 MMK {12,500 THB} is 9.09% (10 in frequency). The exchange rate at the time of survey collection is 1 baht=80 kyats.

According to World Bank research on Myanmar Living Conditions (Bank, 2020), per capita monthly household income was 50 USD (105,100 Kyats) at the union level. Besides, 2017 data demonstrate that income is unequally distributed with high inequality. The data shows that patients who received telemedicine in this study are from middle- and high-income classes.

Table 4.6 Analysis of Average household income per Month described in frequency and percentage

Average income per household	Frequency	Percentage
Below 1,000,000MMK	10	9.09%
1,000,000- 5,000,000 MMK	50	45.45%
Above 6,000,000 MMK	50	45.45%

4.1.6 Number of visits to the respective hospital before the COVID-19 pandemic

The researcher recognized that most of the respondents have visited the respective hospital and also received healthcare before COVID-19 pandemic. Table 4.7 shows the analysis of the number of visits before COVID-19 pandemic. 53 respondents (48.2%) have visited the respective hospital 1-3 times. 39 respondents (39%) have also visited the respective hospital more than 5 times. Whereas, 18 (16.36%) respondents answered more than 10 times.

Table 4.7 Analysis of number of visits in the respective hospital before COVID-19 pandemic

Number of visit	Frequency	Percentage
1-3 times	53	48.20%
More than 5 times	39	35.45%

Table 4.7 Analysis of number of visits in the respective hospital before COVID-19 pandemic (cont.)

Number of visit	Frequency	Percentage
More than 10 times	18	16.36%

4.1.7 Purpose of telemedicine

It is analyzed that the purpose of telemedicine of 56 (50.90%), highest group of respondents are for follow up during COVID-19 pandemic. It is followed by new telemedicine consultation of 29 (26.36%) respondents. Second opinion consultation consists of 15 (13.63%) and COVID-19 consultation comprises 10 (9%) respondents.

Table 4.8 Analysis of Purpose of telemedicine using frequency and percentage

Purpose of telemedicine	Frequency	Percentage
New consultations	29	26.36%
Follow up	56	50.90%
Second opinion	15	13.63%
COVID consultation	10	9%

4.1.8 Date of Telemedicine

As suggestive of the title of the research, this study starts from the year 2020 to 2023. The researcher finds that most of the respondents (Frequency: 41, 37.27%) applied telemedicine to receive treatments in 2022. In 2020, 35 people (31.81%) did

telemedicine consultations and 32 patients (29%) used telemedicine services in 2021. From 2023 until the time of the survey, only 2 respondents were found of using telemedicine.

Table 4.9 Analysis of Date of Telemedicine showing frequency and percentage

Year of Telemedicine	Frequency	Percentage
2020	35	31.81%
2021	32	29%
2022	41	37.27%
2023	2	1.82%

4.1.9 How telemedicine is known

Telemedicine became well-known and widely used starting from the beginning of COVID-19 pandemic in 2020. In this study, the highest number of 88 people (80%) was introduced by the local agent/referral office. 19 people (17.27%) knew the telemedicine from the hospital website while 2 people knew from social media. Only one person knew telemedicine others.

Table 4.10 Analysis of How telemedicine is known using Frequency and Percentage

How telemedicine is known	Frequency	Percentage
Hospital website	19	17.27%

Table 4.10 Analysis of How telemedicine is known using Frequency and Percentage (cont.)

How telemedicine is known	Frequency	Percentage
Local agent/ Referral office	88	80%
Social media	2	1.82%
Others	1	0.90%

4.1.10 Number of times of telemedicine usage

As shown in Table 4.11, the majority of respondents (98 people, 89%) used telemedicine 1-3 times. 10 respondents answered more than 5 times the usage of telemedicine and the least two people used it more than 10 times.

Table 4.11 Analysis of the number of times of telemedicine usage in frequency and percentage

Number of times of telemedicine usage	Frequency	Percentage
1-3 times	98	89%
More than 5 times	10	9%
More than 10 times	2	1.82%

4.1.11 Specialty consulted

Table 4.12 showed that the highest number of 94 people (85.45%) consulted about their medical conditions during using telemedicine. 8 people (7.27%) used telemedicine for surgical consultations while 6 people used it for Obstetrics and

Gynecology consultations. 2 people consulted other specialties and no one did a pediatric consultation.

Table 4.12 Analysis of specialty consulted in Frequency and Percentage

Specialty consulted	Frequency	Percentage
Medical	94	85.45%
Surgery	8	7.27%
Obstetrics and Gynecology	6	5.45%
Pediatrics	0	0%
Others	2	1.82%

4.2 Inferential Analysis:

According to Zikmund, Carr, and Griffin (2013), inferential statistics is implemented to foresee the relationship between the sample and study population, It consists of the analysis of hypothesis statements. The purpose is to compose the conclusions based on the sample gathered and use them to generalize the population applying probability theory. Table 4.13 shows the strength of relations for hypothesis testing. These will be used to interpret the analysis done from the data collected.

Table 4.13 r-value and measure the strength of association (Collis & Hussey, 2013)

r- value	The strength of relations
0.81 to 0.99	Very strong positive relationship

Table 4.13 r-value and measure the strength of association (Collis & Hussey, 2013) (cont.)

r- value	The strength of relations
0.61 to 0.80	Strong positive relationship
0.41 to 0.60	Moderate positive relationship
0.21 to 0.40	Weak positive relationship
0.01 to 0.20	Very weak positive relationship
0	No relationship
-0.01 to -0.20	Very weak negative relationship
-0.21 to -0.40	Weak negative relationship
-0.41 to -0.60	Moderate negative relationship
-0.61 to -0.80	Strong negative relationship
-0.81 to -0.99	Very strong negative relationship

Multiple regression analysis is applied in this research by using SPSS software to reveal the relationships between the dependent variables: patient satisfaction and 6 independent variables: convenient accessibility, save time, save expense, boarder communication, prompt & accurate diagnosis, and improved care delivery. It is applied to forecast the unknown variable value from two or more known variables. In many research types, multiple regression analysis is used to prove or test the linear relationship or associations, which is an impressive and statistical method. While comparing one independent variable & Dependent variable, the rest of the independent variables are put constantly.

When convenient accessibility is compared with patient satisfaction, positive coefficients is resulted. Meaning that when convenient accessibility mean value changes, one unit of patient satisfaction will be increased. Then, a positive relationship is noted but P-value is more than 0.05. Therefore, convenient accessibility is statistically non-significant.

When saving time is correlated with patient satisfaction, the positive coefficient is obtained and besides, one unit of patient satisfaction will be increased while the mean value of save time changes. Moreover, there is a positive relationship and P-value is less than 0.05, therefore save time is statistically significant. Moreover, there is a positive relationship between save time and patient satisfaction and it is statistically proven.

When save expense is compared with patient satisfaction, a positive coefficient is calculated, and then, whenever the mean value of save expense changes, one unit of patient satisfaction will rise. A positive association was noted but P-value is more than 0.05. Therefore, save expense is statistically non-significant.

When broader communication is correlated with patient satisfaction, a positive coefficient is resulted and then if the mean value of broader communication varies, one unit of patient satisfaction will also be developed. A positive association is noted however, the P-value is more than 0.05 and broader communication is also statistically not significant.

Upon correlation of prompt & accurate diagnosis and patient satisfaction, a positive coefficient is obtained and when the mean value of prompt & accurate diagnosis swifts, there will be one unit increase in patient satisfaction. A positive relationship is noticed but Prompt & accurate diagnosis is not statistically proven as its P-value (0.72175) is more than 0.05.

The correlation between improved care delivery and patient satisfaction results in a positive coefficient. It means when the mean value of improved care delivery changes, one unit rise in patient satisfaction will be noted. Although there is a positive relationship, the improved care delivery is statistically non-significant due to the 0.495072 of P-value which is more than 0.05.

Table 4.14: Regression statistics

<i>Regression Statistics</i>	
Multiple R	0.5133612

Table 4.14: Regression statistics (cont.)

<i>Regression Statistics</i>	
R Square	0.2635397
Adjusted R Square	0.2206391
Standard Error	0.355474
Observations	110

Table 4.15: Summary of Coefficients & P-value of each independent variable

	<i>Unstandardized coefficient</i>		<i>Standardized coefficient</i>	<i>t Stat</i>	<i>P-value</i>
	<i>Coefficients</i>	<i>Standard Error</i>			
Intercept	2.115695584	0.339352715	0.000000	6.2345032	1.01E-08
convenient accessibility	0.067188261	0.104971544	0.086203	0.6400617	0.523554
save time	0.226736559	0.111854245	0.327995	2.0270716	0.045238
Save expense	0.037720095	0.081049882	0.057791	0.4653936	0.642632

Table 4.15: Summary of Coefficients & P-value of each independent variable (cont.)

	<i>Unstandardized coefficient</i>		<i>Standardized coefficient</i>	<i>t Stat</i>	<i>P-value</i>
	<i>Coefficients</i>	<i>Standard Error</i>			
Broader communication	0.012471268	0.091292675	0.017644	0.1366075	0.891608
Prompt and Accurate Diagnosis	0.030232067	0.084660772	0.044942	0.3570965	0.72175
Improved care delivery	0.028115379	0.04106244	0.068126	0.6846982	0.495072

To sum up, when testing the relationships between independent variables and 5 dependent variables, it is found that only one factor is statistically significant that is 'save time.' As one of the objectives of this research is to identify the extent of satisfaction with telemedicine, people felt significantly satisfied when their time is saved by using telemedicine rather than by traditional consultations.

CHAPTER V

CONCLUSION AND RECOMMENDATION

This research study aims to identify the factors influencing and extent of satisfaction of Myanmar patients using telemedicine from private hospital in Thailand. This chapter provides a discussion based on the results from Chapter 4. This chapter is composed of four main sections. The first section is on discussion based on the summary of the results/findings from the data analysis. The second section focuses on suggestions and recommendations. The third section discusses the limitations of the study and the fourth section highlights the requirements for further research to be done.

5.1 Conclusion

(i) The factors influencing the satisfaction of Myanmar patients using telemedicine from private hospital in Thailand are as follows:

Table: 5.1 Results of correlation between each independent factor and patient satisfaction

Independent factors	Results
Convenient accessibility	Positive relationship, statistically non-significant
Saving time	Positive relationship, statistically significant
Save the expense	Positive relationship, statistically non-significant
Broader communication	Positive relationship, statistically non-significant
Prompt and accurate diagnosis	Positive relationship, statistically non-significant
Improved care delivery	Positive relationship, statistically non-significant

Here, the positive relationship means if there is more saving time, patient satisfaction will be raised.

(ii) The extent of satisfaction of Myanmar patients with telemedicine from private hospital in Thailand is described below:

Table: 5.2 Level of agreement on each independent factor by showing mean values

Independent factors	N	Mean	Range	Level of agreement
Convenient accessibility	110	4.66	4.21-5.00	Strongly agree
Saving time	110	4.54	4.21-5.00	Strongly agree
Save expense	110	4.42	4.21-5.00	Strongly agree
Broader communication	110	4.58	4.21-5.00	Strongly agree
Prompt and Accurate Diagnosis	110	4.88	4.21-5.00	Strongly agree
Improved Care Delivery	110	3.78	3.41-4.20	Agree

Table: 5.3 Scale of level of Agreement

Range	Level of agreement
4.21-5.00	Strongly agree
3.41-4.20	Agree
2.61-3.40	Moderate
1.81-2.60	Disagree
1.00-1.80	Strongly disagree

From the table 5.2, 6 factors were measured by using the scale of level of agreement based on five Likert-Scale. The factors: Convenient accessibility, Saving time, Save expense, Broader communication and Prompt & accurate diagnosis occupy strongly agreement while there is a value of agreement level (3.78) for Improved care

delivery. However, the average mean value of Patient Satisfaction and Response is 3.92 which falls within the range of 3.41-4.20 of agreement level.

5.2 Discussion

In this research, among the 110 participants, it was found that the majority of the participants 64% are female. The majority of respondents (55.45%) graduated with a Bachelor's degree. It was also discovered that between the age of 40-60 years group is the highest number of people using telemedicine (42.73%). Telemedicine usage is rare among the above 60 years of age group. The majority of participants are married and merchants which corresponds with the income level which is from upper and high-income families based on 50 USD (67,798 Kyats) union level per capita monthly income of World Bank data 2017, (Both groups of 1,000,000 - 5,000,000 MMK { 12500 - 62500 THB } and Above 6,000,000 MMKs { above 75,000 THB } contains 45.45%). Moreover, most of the participants have visited the respective hospital at least 1-3 times. Prior visits seemed to be important to use telemedicine. It's also possible that patients have no choice but to use telemedicine services to continue their medical journey during the COVID-19 pandemic. Therefore, the follow-up purpose of telemedicine has the highest frequency number. In this research, most telemedicine consultations were held during the year 2022 and telemedicine was introduced to them mostly by local agents/referral offices. The period is during the COVID pandemic and thus the second reason, using telemedicine due to COVID because lack of alternative choices seems to have a higher probability.

As the objective of this research is to identify the factors influencing and extent of satisfaction of Myanmar patients using telemedicine from a private hospital in Thailand, from the literature review, the following independent factors are correlated with the dependent variable (patient satisfaction): Convenient accessibility, save time, save expense, Broader communication, Prompt and Accurate Diagnosis, and Improved care delivery.

Firstly, from the comparison of saving times, the positive coefficient is obtained while correlating it with patient satisfaction. In addition, the P-value is less than 0.05, therefore saving time is statistically significant. This indicates that

telemedicine can significantly save the time of the patient and thus, the patient gets high satisfaction on telemedicine. As mentioned in the literature review (2.4.2), a research surveyed in a pediatric sport medicine practice, overall Telemedicine spending time was only 17 minutes while there were 68 minutes of total in-person visiting time. Foreign patients (Patients from Myanmar), will have to spend more time traveling to Thailand and make the physical consultation.

Regarding convenient accessibility, a positive coefficient has resulted. However, it is not significantly proven. As mentioned in literature review (2.4.1), telemedicine can provide wider access to healthcare in remote areas. Telemedicine has developed with the growth and expansion of internet coverage. There is a positive relation but not statically significant as the quality of the internet and telecommunication network are not as advance as other developed countries. Regardless the living standard, instability of internet connection is being encountered in both urban and rural areas. Moreover, most of the participants have known about the telemedicine from the agent/referral office in Myanmar. In order to make a telemedicine consultation, they have to go to the respective referral office and make teleconsultation due to their inability to utilize the technology or telemedicine platform by themselves. So that, this may be the reason of this independent variable is not significant as they may think that it is not quite convenient for them. Here, future researchers can qualitatively survey to dig more reasons for this factor.

The third factor is; save the expense which is positively related but not statistically significant with patient satisfaction. One of the possible reasons is the income of the patient. As previously explained, the majority of participants are merchants from upper and high-income families. So, they might not consider expense is an issue. Besides, the hospital charges the teleconsultation fees of the doctor the same as those of physical consultation. So, when the participants are surveyed about save the expense questions, they may only think the difference between teleconsultation fees and physical consultation fees. They may not think about other travel expenses. As most people assumes that travel expenses include in their leisure and shopping activities in Bangkok. More detailed studies should be done on this area because it could also be other additional factors such as being able to come for shopping while getting the medical attention, etc.

Broader communication can also raise the patient satisfaction on telemedicine. During the COVID-19 Pandemic, the innovative use of telemedicine supported the control of the pandemic and proved the evolution of the healthcare communication system brought by telemedicine, according to literature review (2.4.4). In relevant to this research, a positive coefficient was obtained. However, it could not be proven. This can also be the attitude towards telemedicine from Myanmar patients as this was conditional due to COVID-19. Patients might still prefer in person as many are not used to being consulted online and the majority of patients are above 60 who are not technology friendly. Besides, during conducting the survey, most of the participants stated that they had to go to the local agent/referral office to make the telemedicine consultations. So that, they might not feel that telemedicine cannot create broader communication as they had to travel from their homes. In the questionnaire, the participants were asked about their access to different specialized care. The reason that it was non-significant may be due to the patients' expectation of consultation with variety of specialist care in a short amount of time or in a day, when it is also dependable on availability of specialists' schedule in that specific day. The participants then might rationale with the fact that if they were able to consult with all the specialists that they wanted to in a day or if they had to consult with different specialists on different days following the appointment.

In the healthcare industry, early diagnosis and timely management can bring up the life-savings and reduce both morbidity and mortality rate. {Morbidity refers to having a disease or a symptom of a disease, or to the amount of disease within a population; Mortality means the state of being mortal (destined to die) according to National Cancer Institute}. As described in literature review 2.4.5, a research proved that for the COVID-19 patients, telemedicine facilitated their entry, rapid testing, and prompt diagnosis. So that, early detection could be accomplished and the patients could receive proper treatments on time. During COVID-19 pandemic, telemedicine was the most efficient and fastest way to receive consultation and prescription. At the peak of pandemic, when patients started to have flu-like symptoms or self-diagnosed with COVID-19 using rapid test kits, instead of going to hospitals where the contagious risks were high, consultation via telemedicine to receive early treatment was found to be essential to prevent reaching to the critical conditions. In this research, thus, resulted as

positive coefficient from correlation of prompt and accurate diagnosis, telemedicine can create higher patients' satisfaction. However, this study cannot prove that it is statistically significant. In this study, more than half of the population (50.9%) did telemedicine consultation for the purpose of follow-up their existing medical conditions. Thus, those patients were already diagnosed with their existing primary conditions and they may not feel the importance of early diagnosis anymore. For new patients, or patients who needs to follow-up with laboratory and imaging such as CT scan, MRI, etc. also may not feel significant in this factor, because even after the telemedicine consultation, they still need to undergo the laboratory tests and imaging tests in their local hospitals or go to Thailand hospitals. Even though some diagnosis can be made via telemedicine consultation, patients may still need time to prepare to fly to Thailand for further management or for in-patient admission as needed, thus participants may not feel significant with timely management.

The last variable is about improved care delivery. Telemedicine promotes the quality of care and lessens patients' morbidity. It has granted real-time consultation with tertiary healthcare centers, promoted life care support prior to critical conditions, and encouraged the delivery of secondary care. (de Souza, C. H. A., Morbeck, R. A., Steinman, M., Hors, C. P., Bracco, M. M., Kozasa, E. H., & Leão, E. R. (2017). Barriers and benefits in telemedicine arising between a high-technology hospital service provider and remote public healthcare units: a qualitative study in Brazil. *Telemedicine and e-Health*, 23(6), 527-532). Therefore, in this research, positive relationship is resulted, and patient satisfaction will be raised with higher improved care delivery via telemedicine. However, this study cannot prove that it is statistically significant. This can be due to several reasons; the preference of traditional consultation, unable to acquire laboratory tests in real time diagnosis and, limitation in getting controlled medicines and prescription-only medicines.

5.3 Recommendations:

According to the study date analysis and conclusions, the researcher recommends short-term and long-term recommendations as follows;

Short-term recommendations

In this study, it is statistically proven that saving time can raise the patients' satisfaction significantly. Therefore, the frontline service providers (The Medical Coordination team) should facilitate for the seamless telemedicine journey. The steps to be improved may include faster telemedicine appointments, punctual consultation and prescription, and systematic billing process. The Medical Coordination Team should inform and promote the benefits and usage of telemedicine during encounters with the patients. The medical coordination team will be responsible for making appointments via online channels, creating payment links for consultation and following-up with future appointments. Besides, the medical coordinator should facilitate the medications prescriptions from teleconsultation.

The Marketing team of the hospital should promote telemedicine via social media to raise the public awareness in a short period. The treating physician should be encouraged about the telemedicine service by medical executives.

Long-term recommendations

The medical executives of the hospital should consider the great benefits of telemedicine and organize the telemedicine team. Both executives and the telemedicine team can discuss with IT team to develop an exclusive telemedicine platform for the hospital and patients where the healthcare personnels can access each patient individual's healthcare data in real time with optimized data protection and safety. It would also be a platform where patients can review their own data and access doctor's schedule and make appointments. By having access to their own profile and clinical data including past history, doctors' orders, laboratory results and imaging results at anytime, anywhere will improve the attitude and perception of the patients towards telemedicine being an improved care delivery factor. Not only it can benefit their current telemedicine consultation in Thailand but also it will be significantly beneficial for their future consultations anywhere around the world. In the telemedicine platform, the health-related articles, health education, up to date guidelines, healthcare marketing and promotions will be featured which will in turn develop perception of the people. Besides, to raise awareness of telemedicine, the marketing team will have to promote its benefits and features.

Moreover, the medical executives should launch the telemedicine policy for both patients' data protection and hospital security. The designated telemedicine team and IT can give the training in the usage of the platform to the staffs and to doctors as their continuous quality improvement.

5.4 Limitations:

This study was conducted during the COVID-19 pandemic; thus, the majority of the participants were surveyed online. Since this study is quantitative, the researcher could identify factors influencing and extent of satisfaction with telemedicine. However, the justifications for each factor are not able to be analyzed in detail, thus the perspective of patients on each question and other service factors are not included.

5.5 Further Study:

The researcher conducted a study on patients' satisfaction with telemedicine in a private hospital in Bangkok during the Post Covid-19 pandemic which focused on 5 factors. However, according to the limitations of this study, in order to analyze and fully understand the perspective and knowledge of patients on telemedicine, qualitative studies should be conducted. Patient's perception of telemedicine post COVID-19 can also be studied. As this study was conducted in one private hospital and there can be differences in the quality of service and management of telemedicine in each private hospital, both quantitative and qualitative research can be further conducted. Furthermore, in future quantitative research, larger sample size or specific target group such as disease specific or specialty specific should be conducted to support more to the correlation between independent variables and patient satisfaction. By conducting the study on a more specified target group, there will be more significance and positive correlation to the research objectives which are reflected to the perception of the target group.

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APPENDIX: THE RESEARCH QUESTIONNAIRE

Introduction: The Objectives of this research questionnaire are as follows:

- To identify the factors influencing the satisfaction of Myanmar patients using telemedicine from private hospital in Thailand.

- To identify the extent of satisfaction of Myanmar patients with telemedicine from private hospital in Thailand.

Part I: Sociodemographic information of patient

Please check (✓) in the box according to your answer.

1. Age

20 - 40 40 - 60 Above 60

2. Gender Male Female

3. Marital Status Single Married Divorced

4. Education status

Higher Education Bachelor's degree Master's degree Other _____

5. Occupation

Doctor Engineer Merchant Other

6. Average household income per month

Below 1,000,000 MMK 1,000,000 - 5,000,000 MMK Above

6,000,000 MMK

7. Number of visits in respective hospital in before COVID-19 pandemic

1-3 times More than 5 times More than 10 times

8. Purpose of telemedicine

New consultation Follow-up Second opinion COVID consultation

9. Date of telemedicine (DD/MM/YYYY) _____

10. How did you know about telemedicine?

Hospital website Local Agent / Referral Office Social Media

Others _____

11. How many times have you used telemedicine?

1 - 3 times More than 5 times More than 10 times

12. Which specialty did you consult?

Medical Surgery Obstetrics and Gynecology Pediatrics

Others _____

Part II Factors influencing the satisfaction of patients using telemedicine from private hospital in Thailand.

To what extent do you agree with each statement. Please check (✓) in the box according to your degree of agreement on each statement by using following scale
5 = Strongly agree, 4 = Agree, 3 = Moderate, 2 = Disagree, 1 = Strongly disagree

There is no right or wrong answers. All we need to know is a number that truly reflects your satisfaction regarding the telemedicine from private hospital in Thailand.

Note: The headings (Convenient accessibility, saving time, etc.), shown here are to indicate which statement are under each dimension, and they were not included in the actual questionnaire.

No.	Please choose how you think we are doing in the following areas:	Strongly Agree	Agree	Moderate	Disagree	Strongly Disagree
	Convenient Accessibility					
1.	Telemedicine improves my access to Healthcare Services.					

2.	How do you rate the accessibility of care delivered by the telemedicine service compared to the quality of traditional care?					
3.	Telemedicine made it easier to get medical care today.					
4.	Telemedicine is a convenient of health care delivery for me.					
	Saving Time					
5.	Telemedicine saves me time traveling to the hospital.					
6.	The waiting time for telemedicine is tolerable.					
7.	I am satisfied with the waiting time from application to successful telemedicine appointment.					
8.	I am satisfied with the duration of the telemedicine.					
	Save the Expenses					

9.	Telemedicine can reduce costs for health care.					
10.	I was satisfied with the reasonableness of the charges for telemedicine.					
11.	Telemedicine enables me to save money.					
Broader Communication						
12.	I feel comfortable communicating with my healthcare provider.					
13.	Telemedicine improves my access to specialist care.					
14.	I am satisfied with the telemedicine communication network.					
Prompt and Accurate Diagnosis						
15.	Using telemedicine, the doctor would be able to monitor my condition well.					
16.	During telemedicine, the doctor could understand my					

	medical problem over the screen.					
17.	During telemedicine, the specialists could provide me with effective medical guidance.					
Improved Care Delivery						
18.	I think using telemedicine can improve the quality of medical care delivery.					
19.	Compared to the level of care received during the telemedicine and those received during the in-person visit was better.					
Patient Satisfaction and Response						
20.	I am satisfied with the visit with telemedicine.					
21.	During telemedicine, I had enough time to tell the doctor about what happened to me.					
22.	During telemedicine, doctors sometimes ignore what I tell them.					

23.	I was comfortable that the specialist was able to understand what was bothering me during on telemedicine.					
24.	During telemedicine, the physical exam was embarrassing to me because it was done on screen and not in person.					
25.	During telemedicine, I felt relaxed when I talked to the doctor.					
26.	During telemedicine, I was not scared or stressed.					
27.	I did not feel discriminated against during on telemedicine.					
28.	Overall, I am entirely satisfied with the teleconsultation service.					
29.	The next time I would prefer to see the specialist in person despite the possible inconvenience.					