

## The Perception And Intention Of Practice Telemedicine At Primary Care

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### Abstract

*The study is to focused on the perceptions and intentions to use telemedicine in primary care. During the pandemic, the demand for telemedicine has increased over the time with the increasing need over physical distancing. As a result, patients have grown comfortable consulting the doctors virtually. Telemedicine is found to be effective for providing remote healthcare monitoring services to the patients. The innovative technology used in telemedicine benefits the patients by providing an alternative to maintain communication with their healthcare providers and enabling greater information sharing within the healthcare establishment. The SPSS is used to test the primary data on findings and analysis. The findings is to reflect the true picture of perceptions and intentions to use telemedicine in primary care. Furthermore, the pilot study has been conducted to establish the relationship between the dependent and independent variable. From the regression and Pearson correlation analysis, it has been found that the independent variables i.e the perception and intention to use telemedicine and dependent variables i.e using telemedicine in primary care have a strong correlation and are positive. Hence, this study demonstrated that perceptions and intentions of using telemedicine are significantly important in primary care in Malaysia.*

**Key Words:** *Telemedicine, Primary Care, Patient Perception*

### 1. Introduction

Technological discoveries are effectively transforming the ways to deliver health care services to the public. Similarly, modern technology has altered service delivery in the medical field. It has improved Health Information Management, enhanced biomedical engineering and technology, which has dramatically shifted modern health care. According to Abushaar and Ismail (2017), Malaysia is one of the leading countries which has initiated to advance the health information implementation in the health care system. For example, the concept of paperless hospitals was started in the year 1996-2000 through the Seventh Malaysian Plan (Abushaar & Ismail 2017). It has introduced computerised concepts of storing medical records, telemedicine, and teleconferencing.

During the height of the Movement Control Order (MCO) during the Covid-19 pandemic in Malaysia, patients and doctors have suffered from the abrupt interruption of access to healthcare in Malaysia. While most of the effects are still not quantified and studied, it can be observed from some real-world experience. For instance, many consultations, surgeries were postponed irrespective of private or public hospitals. With telemedicine, it helped to reduce the waiting time as care could be rendered by healthcare professionals via the phone or video call. It also allows for the remote

monitoring of the patients, which is significant during the COVID-19 pandemic where physical distancing rules applies. (Welch et al., 2017).

According to Thong et al., (2021), during the pandemic, telemedicine has proved to be one of the most effective tool in primary care for resolving pandemic-related queries and ensuring care continuity in other disciplines of medicine that include mental health, urology, ophthalmology and others. Telemedicine has, undoubtedly, emerged as an effective solution to primary health care, as demonstrated in different other countries such as the UK, USA, China and others. Therefore, the increased reliance on telemedicine has also inspired professional organisations, including the European Association of Urology to examine user experience, process, and patient outcomes of using telemedicine for acute conditions during COVID-19 (Kato-Lin & Thelen, 2021). In this regard, the American Academy Family Physician (AAFP) has also designed a toolkit for building and growing a sustainable telehealth programme to assist primary care doctors develop their own telehealth services. The perception of doctors regarding telemedicine and the willingness to adopt it has increased to reduce any inconvenience for the patients at the time of a pandemic situation.

## 1.2 Research Objectives

- 1.To determine the socio-demographic factors that influences the perception of telemedicine in primary care.
- 2.To evaluate the perceived usefulness that influences the perception of Telemedicine in primary care.
- 3.To identify the ease of use regarding the perception of Telemedicine in primary care.
- 4.To analyze the relationship of perception and intention to use Telemedicine in Malaysia.

## 2.0 Literature Review

### Introduction

This chapter deals with the background of the research problem related to the perception and intention to use telemedicine in primary health care services. The perspectives of different authors are reviewed in this chapter regarding the concept of telemedicine and its significance in the modern health care system. Additionally, the overview of the telemedicine platforms in different countries, including Malaysia, is discussed. With the advent of technology, the perception related to health care services has changed, and both the healthcare practitioners and patients prefer using telemedicine to get quality services. Therefore, the intention to use telecommunication in primary health care is reviewed through existing literature. Furthermore, the conceptual framework is illustrated that helps to understand the findings of this chapter.

### 2.1 Concept of Telemedicine

According to the view of Abushaar and Ismail (2017), telemedicine is related to e-medicine or e-health; it provides scheduled and quality healthcare services to patients. Telemedicine helps the healthcare service providers and allows the patients to communicate with the healthcare professionals through advanced technology. It is noted that with the help of telemedicine, the patients can discuss the diseases or medical issues, symptoms with the healthcare professionals through online portals, emails and videos.

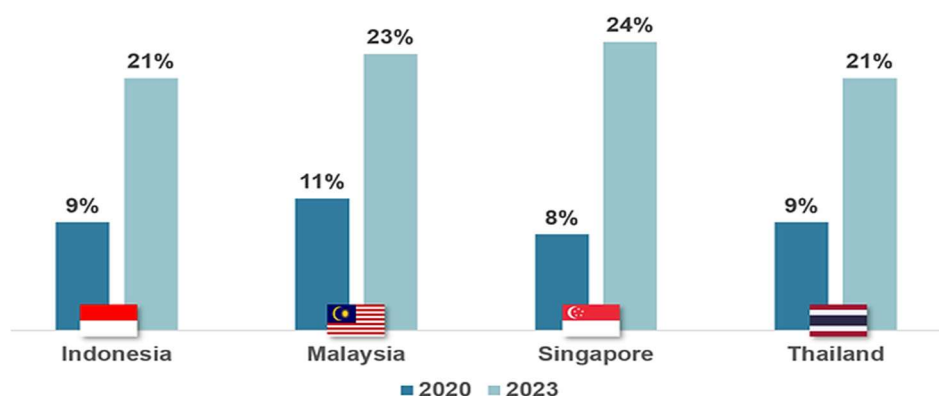
Lee, Wong and Lee (2020) have stated that the demand for telemedicine is increasing rapidly across the healthcare sector in the present era, as it enables phone or video appointments between healthcare professionals and their patients. Telemedicine provides benefits both convenience and health (Indria, Alajlani & Fraser, 2020). Therefore, telemedicine can be used as both diagnostic and screening tools (Abushaar & Ismail, 2017). Apart from this, telemedicine can enhance the quality of primary care and help healthcare professionals to manage chronic disease efficiently.

As opined by Sorensen et al., (2020), in the post-Covid era, the intention to use telemedicine has become significant. Additionally, the increased development of advanced technology and deployment has changed the entire process of providing healthcare services across the globe.

Malhotra et al., (2020) have argued that besides the multiple benefits of telemedicine in health care services, it also poses challenges for healthcare professionals to provide adequate healthcare care services. Telemedicine are used in a manner of chats, emails and video calls. Apart from it, telemedicine is telecommunication technology. Therefore, it needs an internet connection for services such as emails, chats, video conferencing, etc. The adverse weather or other simila issues can interrupt the internet connection, and the online consultation can also get interrupted (Abushaar & Ismail, 2017).

## 2.2 Overview of Telemedicine Platforms in Malaysia

It has been found that the private healthcare service providers in Malaysia have explored new opportunities with the advent of telemedicine however struggled to go mainstream before the pandemic. According to the report, the telemedicine blueprint was conceived in 1997 in Malaysia with a vision to provide quality and advanced services among patients. As the pandemic unfold across the world, this vision has gained a fresh impetus throughout Malaysia.



*Figure 2.1: Telemedicine user penetration rate among the South East Asian countries*

(Source: Pioneerconsultingapac.com, 2021)

Figure 2.1 shows that the adoption of telemedicine is increasing in the South East Asian markets, and it is expected to grow by 2023 in countries including Malaysia. It has been found that the steady growth in usage of telemedicine was mainly attributed to the pandemic in 2020 (Sorensen et al., 2020). One of the reasons behind the increasing demand for telemedicine is that the customers have become more comfortable with the digital platforms in other areas, for example , online shopping and prefer online consultation due to fears of cross infections at healthcare establishments.

## 2.3 Significance of using telemedicine in primary care

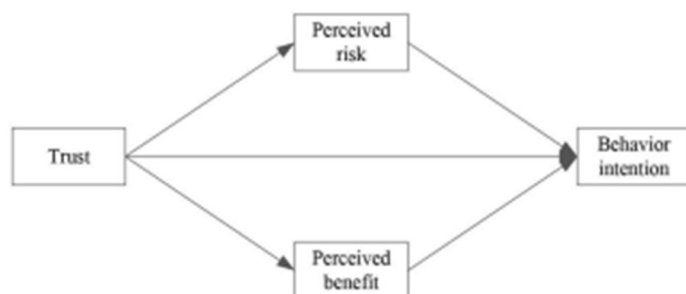
Gilmore and Ward-Ciesielski (2019) have stated that telemedicine is an easy way to communicate with healthcare practitioners, and some systems are set up for the patients to get an appointment with the available practitioners. The Organisation for Economic Cooperation and Development (OECD) countries have also been quick to incorporate telehealth into their health systems. (Oliveira, 2020). Australia provides a classic example of a robust healthcare system with telehealth services available since 2011. The significance of incorporating teleheath in health systems is to outreached between computerized data and virtual meeting session of healthcare services in order to provide high-quality healthcare over time.

Several healthcare practitioners prefer telemedicine over traditional healthcare services as it helps them to improve their monitoring, communications and timeliness within the healthcare system (Elsaie et al., 2020).

## 2.4 The Overall Perception of Telemedicine and Intention for use

According to the view of Lee et al., (2020), telemedicine is the tool that helps the entire healthcare system be cost-effective and more accessible. During the pandemic, both the healthcare service providers and patients prefer telemedicine to prevent the spread of diseases. It has been found that telemedicine is one of the significant areas in which communications and technology has a leading role. It offers a new way of providing services across the regions and is also used for facilitating and promoting the accessibility of healthcare services to the people (Thong et al., 2021). The perception of different healthcare practitioners regarding the adoption of telemedicine to provide primary care has changed over time. Prior to the pandemic, the patients preferred physical consultations with their healthcare service providers. However, after the pandemic, the perception has changed and now patients prefer online consultations (Mueller et al., 2020). It is noteworthy that the patient's perception of telemedicine is also the major factor influencing the establishment of telemedicine programs.

Ly et al., (2018) have argued that few factors help evaluate the perceptions to use telemedicine in primary care and the intentions behind it. In adopting new technologies, we need to consider the cost-benefit analysis. However, there are also some factors, including confidentiality, security, comfort, cost-effectiveness, risk of malpractice and others that influence the perceptions to use telemedicine (Gong et al., 2019). On the other hand, factors such as subjective norms, perceived behaviour control, and attitude influence the intention to adopt telemedicine for primary care.



*Figure 2.2: Factors influencing the intention to use telemedicine in primary care*

(Source: Gong et al., 2019)

It is undeniable that telemedicine has the ability to enhance and improve access in the healthcare system, particularly in rural areas on primary care settings. However, despite its many benefits, telemedicine has not been adopted widely worldwide due to some of its drawbacks. When considering the perceptions of patients for using telemedicine, it has been observed that there are some patients who have negative perspectives regarding telemedicine. According to the view of Nguyen et al., (2020), some patients believe that telemedicine can lead to multiple medical errors as there is no physical interaction with the physicians. Therefore, it can be said that adequate knowledge of telemedicine is significant to identify the negative issues and need to adapt and learn technology and communication to get better results (Mueller et al., 2020).

## 2.5 The factors affecting overall perception of Telemedicine

According to the view of Kissi et al., (2020), in the post Covid 19 era, the perception to use telemedicine has changed worldwide. There are several factors that are influencing the perceptio to use of telemedicine in primary health care. The factors include "socio-demographic factors", "perceived usefulness", "perceived ease of use", "the relationship between perception and intention to use telemedicine" have an impact on overall perception. It has been found that the identified factors form the general perception along with the relationship between the intention and perception to adopt telemedicine in the healthcare system.

### *Socio-demographic factors*

Woo and Dowding (2018) have stated that socio-demographic factors including age, education, religious belief, income, employment status, private insurance, and self-evaluation of one's health status have influenced the perception of using telemedicine.

### ***Perceived usefulness***

As opined by Reiners et al., (2019), perceived usefulness is another crucial factor that has influenced the perception of telemedicine. "Perceived usefulness" means that the patients consider the usage of technology to be beneficial for improving the performances of physicians and disease outcomes.

### ***Perceived ease of use***

Xyrichis et al., (2021) have analysed that "perceived ease of use" has a notable impact on the intention to use telemedicine for primary care. The term "ease of use" can be considered as the acceptability to technological operations and services.

### ***The relationship of perception and intention to use***

Lin (2017) has argued that with the rapid development of ICT in the healthcare industry, healthcare organisations are able to provide quality services to customers. It has been found that perception has a significant influence on intention, and in the case of adopting new technology in the healthcare sector, the perception of customers and the healthcare providers influence their intention to use.

The primary objective of the healthcare industry is to provide quality services to the patients for ensuring the patient's satisfaction. Considering the multiple benefits of telemedicine or telehealth, several healthcare organisations and practitioners prefer this technology to provide primary care (Woo & Dowding 2018). Thus, the perception of the healthcare practitioners can be quality and quick services without visiting the patients physically. On the other hand, there are still some barriers to telemedicine that have a negative impact on the perception of use and finally, it influences the intention to use. Thus, it can be said that there is a strong relationship between the perception and intention to use telemedicine for primary care.

### ***2.6 Use and Content of Primary Care vs. Telemedicine Care visits during the COVID-19 Pandemic***

According to Barney et al. (2020), the pandemic outbreak across the world in 2019 has been associated with an increasing number of patients and death rate. A pandemic has influenced the ultimate health care system of multiple countries, and it caused patients' satisfaction. Primary health care mainly addresses the health needs of an individual throughout life, and it includes social, physical and mental well-being. It can be said that primary health care is mainly "people-centred" instead of "disease-centred". However, after the pandemic outbreak, primary health care service includes the effective management of chronic diseases and educating and promoting wellness among the patients (Cortez et al., 2021).

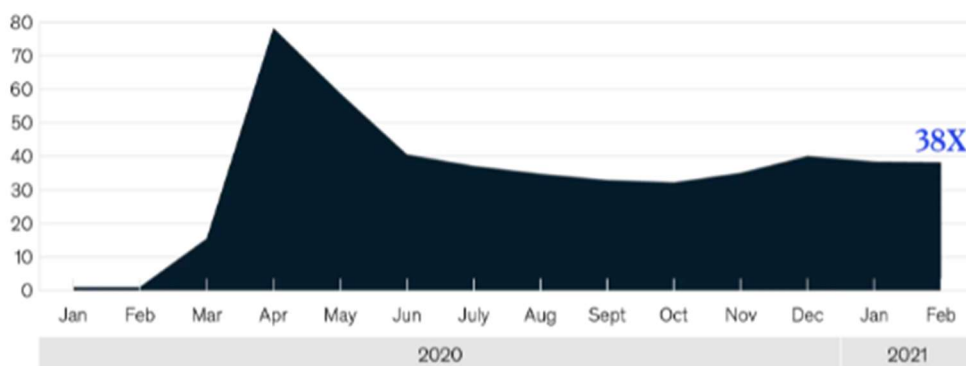
Alexander et al., (2020) have analysed that the pandemic in 2019 has presented an unprecedented challenge across the healthcare system, particularly in primary care. Governments of multiple countries have implemented several policies for prioritising primary care and preventing the spread of the disease. In primary care settings, the healthcare practitioners were encouraged to prioritise the medical appointments and thus increase their use of virtual services to avoid physical interaction.

The changes in the primary health care practices rapidly occurred due to the pandemic and have changed the entire procedure by increasing efficiency. It has been found that "favourable customer perception", "continued uptake" and "tangible investment" into the healthcare system are contributing to the steady growth of telemedicine in the post covid era (Barney et al., 2020). In the early stage of the pandemic, the usage of telemedicine has increased for primary care as both the healthcare providers and customers sought ways to safely deliver and access healthcare services. According to

the below image, in April 2020, the adoption of telemedicine for outpatient care and office visit was more than 78 times higher than in February 2020.

**Growth in telehealth usage peaked during April 2020 but has since stabilized.**

Telehealth claims volumes, compared to pre-Covid-19 levels (February 2020 = 1)<sup>1</sup>



*Figure 2.3: Growth in the usage of telehealth during the pandemic*

(Source: Mckinsey.com, 2021)

Cortez et al., (2021) have argued that the attitude towards the adoption of telehealth among patients and service providers have improved since the pre-pandemic era. However, the usage and perception regarding telemedicine have dropped due to some of its barriers, including technology scrutiny. The patients often face challenges to adopting technology to get healthcare services due to its security and other related issues. Despite telemedicine's challenges, it provides effective healthcare services to millions of people across the globe and saves lives of people by providing instant care. Thus, the adoption of telemedicine has severely impacted primary care not only during the time of pandemic but also in the post Covid era (Mckinsey.com, 2021).

### **2.7 Virtual primary care as a new model of healthcare delivery**

As opined by Heyworth et al., (2020), virtual primary care came into existence mainly after the outbreak of pandemics across the world. It is a form of care that emphasises technology to provide patients with effective healthcare services through advanced technology. During the outbreak of the pandemic, several healthcare organisations took the initiative to provide primary care to patients through telemedicine. It is undeniable that this virtual primary care was just an adjustment forced onto the patients due to the deadly COVID-19 virus. However, it has garnered sufficient popularity among physicians and patients.

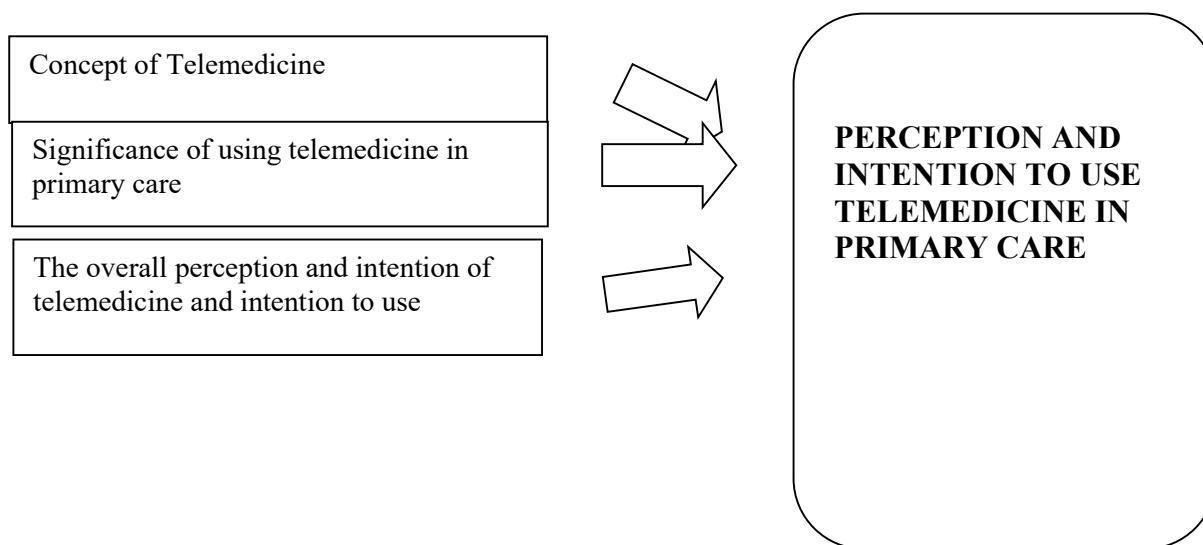
Hills and Hills (2019) have analysed that virtual primary care is one of the integral aspects of the evolution of telehealth or telemedicine. In other words, it can also be considered as a good example of a successful approach to primary care that allows the patients to access primary care virtually in the time of their needs or urgency. The adoption of virtual primary care helps the patients educate themselves for managing their diseases and provides medical help for the patients who have no such primary care providers due to lack of engagement or lack of access (Healthcareitnews.com, 2021).

It has been found that since the outbreak of a pandemic, virtual primary care has been one of the fastest-growing markets in the healthcare system. According to the report, it has been projected to reach approximately 40% by the end of 2021. After the pandemic, the demand for virtual primary care has increased immensely among patients, healthcare organisations and physicians across the globe.



The Royal College of General Practitioners (RACGP) Australia determines that there are two models that have been identified to deliver primary care through technology. The models include "Synchronous" and "Asynchronous" Telemedicine. The "Synchronous" healthcare model has been used to provide effective treatment to mental health on a real time basis (Healthcareitnews.com, 2021). On the other hand, "Asynchronous" telemedicine model provides continuous interaction between the service providers and patients, albeit not in a real time basis. Thus, it can be said the adoption of virtual primary care is an effective healthcare model to provide effective primary care services to the patients.

## 2.8 Conceptual Framework



From the above discussion, it can be stated that due to the advent of advanced technology worldwide, the demand for using telemedicine is increasing rapidly. Since the outbreak of the pandemic in 2019, the popularity of this digital technology has been increasing to prevent the spread of the diseases. However, in the post covid era, the significance of telemedicine has not decreased, and both the perception and intention to use telemedicine in primary healthcare services has changed. It is undeniable that there are still some factors that are influencing the perception to use telemedicine in primary care, but its multiple benefits bring efficiency in the healthcare services worldwide.

## 3.0 Methodology

### 3.1 Research design

Research design is a framework which is chosen by the researcher in its research studies. This allows the researchers to hone in on the research methods which are appropriate for subject matter (Mohajan, 2018). The chosen research design is **explanatory research design** for the study. Conclusive design has been avoided as it would restrict the researcher determining the cause of specific behaviour or occurrence whereas explanatory research design helped the researcher to be flexible and adapt changes in the research progress.

The data collected in this research study are integrated coherently and logically explained with the help of explanatory research design. The reason for choosing the explanatory research design is to have deep analysis of information received in the research process.

### 3.3 Data collection method

Data collection method refers to a procedure of collecting information from the relevant sources. It helps the researcher to have solutions for research questions (Melnikovas, 2018). By evaluating outcomes of the problem this procedure helps the researcher to conclude answers for relevant questions. As per the research principles two types of data collection method are identified: They are Primary data collection method and secondary data collection method for conducting

the research study, a primary data collection method has been chosen. Reason for choosing this collection method is to attain raw data from its origin. It is seen that raw data is always reliable and acceptable. This is the reason this method has been undertaken. Another reason for choosing this method is with resolving the specific research issues which cannot be solved through secondary sources. Secondary sources have the tendency to misrepresent information which sometimes generates biased features. This means to make available the information in an objective manner not received by the manager. This is the reason that secondary sources have been avoided.

In addition, primary data collection has advantage of providing up-to-date information which secondary sources fall through to provide. By selecting the primary data collection method, the obtained information has authenticity and is specific in nature. For collecting the primary data, surveys with the customers have been initiated to know the situations of telehealth in Malaysia. Customers have been contacted for the survey in Johor, Malaysia. The customers from this area have been selected to participate in the survey regarding telehealth. Other forms of primary collection have been avoided as it does not meet the requirements of the research study. Survey that has been selected to be made is conducted under the participants of telemedicine in primary care. This form of collecting method has helped to have abundant authentic information from the respondents.

### **3.4 Data collection tools and techniques**

There are several data collection tools and techniques such as physical survey, paper survey and others (Young et al., 2018). For conducting the survey for this study, a paper-based survey has been initiated. The survey questions were divided into two parts to obtain answers from telemedicine consumers. For the pilot study, 5 sample size were chosen to proceed the test in the SPSS.

First survey part was constituents of the demographic questions. These were in the form of age ethnic, gender, group, marital and living status and others. On the other hand, the survey part 2 consisted of a set of questions associated with the usefulness of telemedicine. The received data is presented with the help of statistical representation can be made. The information of the respondents is displayed in the tables and quantitative analysis is conducted in this study to analyze the statistical data.

### **3.5 Sampling method and sampling size**

Sampling method is defined as selecting a group of individuals from which the researcher chose to obtain data (Young et al., 2018). The present study has prioritized the convenience sampling as it easy to use and its associated advantages to the research work. In quantitative studies such as the undertaken approach, the sample is usually incorporated as it allows gaining basic data and understands underlying trends reading the subject matter without any complications. Thus, convenience sampling was initiated due to the ease of implementations. The sample size for this survey consisted of 120 respondents.

The increasing need of representative statistical sample the empirical research has been initiated which has enhanced the demand for effectively determining the sample size for the research. 120 respondents have been selected from 1.5 million populations using a formula below. The reason behind 120 sample size is to ensure that the overall study meet its objective as larger population may not help to conclude the study with effectiveness.

**Sample Size =  $(\text{Range}/2)^2 / (\text{accuracy level}/\text{confidence level})^2$**

To conduct pilot study 5 sample population has been chosen from Malaysia primary healthcare clinics.



Target group/sample composition	Visits/ Year	Population of selected areas	Sample population
Klinik T	150000	50	1
Klinik L	100000	20	1
Klinik HFP	200000	10	1
Klinik M	100000	10	1
Klinik MS	210000	20	1
Total		120	5

On the other hand the pilot study has been conducted considering 5 samples from the selected population. Further the scope of better understanding the perception and intentions behind the adoption of telemedicine by customers.

### 3.6 Data analysis

Data analysis is defined as an analysis of the collected information for accomplishing the research objectives (Chen et al., 2018). In the nutshell, survey analysis has been made from received information. The received data has been analyzed by using SPSS software. 34 questions have been set to collect information for this study. The survey data have been analyzed with the help of SPSS software and discussed for focusing on telehealth and it is using patterns among the customers. The correlations analysis, descriptive analysis and regression analysis was conducted by using the SPSS software to test underlying interrelationships of the variables to accomplish the research objectives.

Furthermore for the pilot study, five questions have been selected to better understand the intention and use of telemedicine in the primary health care units. In order to understand the relationship between the dependent and the independent variable the following analysis has been considered such as descriptive statistics, correlation analysis and regression analysis. It has further helped to determine the significant correlation between the chosen variables for the pilot test.

### 3.12 Summary

The conducted study has initiated the research process by undertaking the primary data collection method. This was done by choosing Survey for collecting primary quantitative data. On the other hand, the research framework was built on the three pillars. For example positivism research philosophy, explanatory research design and deductive research approach. 34 sets of questions had been prepared and 120 respondents had been selected to extract raw

## 4.0 Results and Discussion

### 4.1. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Gender	120	.00	2.00	1.5750	.61716
Age	120	1.00	5.00	3.0583	.99828
Ethnic group	120	1.00	4.00	1.8083	.78103
Marital status	120	1.00	4.00	1.7583	.51850
Education level	120	2.00	4.00	3.1000	.80335
Income level	120	.00	6.00	3.3167	1.25680
Valid N (list wise)	120				

Table 4.1.1: Demographic Descriptive Statistics

From table 4.1 the mean values and standard deviations of the demographics of the research participants have been identified. The demographics that have been taken into account in this analysis are age, ethnic group, gender, education level, income level, marital status. The mean value obtained from gender is 1.5750 and standard deviation is 0.61716. On the other hand the mean value of age is 3.0583 whereas standard deviation is 0.99828. For the ethnic group mean value obtained is 1.8083 and the standard deviation value is 0.78103. Marital status mean and standard deviation value are 1.7583 and 0.51850 respectively. Accordingly, the education and the income level mean and standard deviation are as follows 3.1000 and 0.80335 whereas 3.3167 and 1.25680 respectively.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Presence of morbidity	120	.00	6.00	1.5667	2.30722
Electronic device ownership	120	.00	4.00	1.5000	.57977
Experience with telemedicine services	120	.00	2.00	1.8750	.37935
Often used telemedicine services	120	.00	5.00	2.7500	2.06308
Concerns about using telemedicine services	120	.00	4.00	2.3000	1.52624
Telemedicine improving quality of my healthcare	120	.00	4.00	2.7083	.94732
Telemedicine improving access to my healthcare	120	.00	4.00	2.6583	1.21265
Usefulness of telemedicine in my daily routine	120	.00	4.00	2.7250	1.13732
Telemedicine helping in better managing my treatment plan	120	.00	4.00	2.6333	1.13710
Telemedicine is difficult to use	120	.00	4.00	2.8250	1.10509
Telemedicine system is clear and understandable	120	.00	4.00	2.7000	1.17823
Telemedicine allows face to face clinical contacts	120	.00	4.00	2.5583	1.09848
Positive intention to use and adopt telemedicine services	120	.00	4.00	2.6750	1.09362
Telemedicine provides comprehensive care services	120	.00	4.00	2.4917	1.16674

Benefitted tremendously telemedicine services	120	.00	4.00	2.3000	1.22028
Provides patent care and management	120	.00	4.00	2.6417	1.22162
Increases access to health care services	120	.00	4.00	2.6500	1.20677
Improve quality of care	120	.00	4.00	2.6583	1.19168
Provides reliable second opinion	120	.00	4.00	2.6333	1.24976
Saves time	120	.00	4.00	2.8833	1.23794
Saves money	120	.00	4.00	2.6917	1.25555
Follow up after physical visits beneficial	120	.00	4.00	2.8000	1.23397
Telemedicine is perceived as not important	120	.00	4.00	2.1417	1.10989
Healthcare professional resistance to use telemedicine	120	.00	4.00	2.2333	1.09800
Financial reimbursement not integrated to current health plans	120	.00	4.00	2.4083	1.19871
Lack of understanding on the clinical applications of telemedicine	120	.00	4.00	2.4750	1.19496
Lack of regulatory framework governing telemedicine	120	.00	4.00	2.1583	1.11518
Valid N (list wise)	120				

**Table 4.1.2: Variables Descriptive Statistics** The table 4.2 reflects the values of mean along with standard values of the variables considered for the conduction of the particular research study. It has been observed from the descriptive statistics that the mean value obtained from presence of morbidity is 1.5667 whereas the standard deviation is 2.30722. There are other variables that intend to affect the use of telemedicine in Malaysia. On the other hand mean and standard deviation experience with telemedicine services are 1.8750 and 0.37935 accordingly. The descriptive study has helped to provide the summary as well as the characteristics of the data obtained. From the descriptive statistics it is further relevant to make a report. On the other hand the standard deviation that has been evident in terms of using telemedicine services is 2.6308 which shows a greater deviation in terms of using telemedicine services in Malaysia. On the contrary there is less standard deviation found in the case of improving services in healthcare which is 0.94732 and the mean value obtained is 2.7083. Furthermore, it is also seen that telemedicine services intend to save time and money as well. Therefore the standard deviation obtained in case of time saving is 1.23794 whereas the standard deviation of saving money is 1.25555. Hence, it ensures that there is less deviation between them. This contributes to the development of proper inferences from statistical analysis.

#### 4.2 Regression analysis Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	provides reliable second opinion, saves money, telemedicine system is clear and understandable, saves time <sup>b</sup>	.	Enter

a. Dependent Variable: experience with telemedicine services

b. All requested variables entered.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.257 <sup>a</sup>	.066	.034	.37292

a. Predictors: (Constant), provides reliable second opinion, saves money, telemedicine system is clear and understandable, saves time

**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1.132	4	.283	2.035	.094 <sup>b</sup>
Residual	15.993	115	.139		
Total	17.125	119			

a. Dependent Variable: experience with telemedicine services

b. Predictors: (Constant), provides reliable second opinion, saves money, telemedicine system is clear and understandable, saves time



Model	Unstandardize d Coefficients		Standardize d Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.001	.124		16.110	.000
telemedicine system is clear and understandable	-.044	.033	-.138	-1.364	.175
saves time	-.065	.032	-.211	-1.993	.049
saves money	.010	.028	.032	.355	.723
provides reliable second opinion	.058	.032	.192	1.816	.072

a. Dependent Variable: experience with telemedicine services

Table 4.2: Regression Analysis

### Analysis

From model summary table 4.6 the values of R, R-square and adjusted R-square have been considered to understand the state of the correlation, variation and generalization of the results obtained from the survey. R-value reflects the correlation between the different (dependent and independent) variables of the research study. If the value obtained is greater than 0.4 then it is considered that the results can be further subjected to analysis and evaluation.

Linear regression is the important step in terms of correlation. It is mainly used whenever it is necessary to predict the value of variables based on the value of other significant variables. The variable that is predicted is called a dependent variable on the other hand the variable that is used to predict the independent variable. In order to understand the significant relationship between the dependent variable and independent variable the three different tables are required to analyze. The model summary in table 4.3 provides R and R square value. The “R” value helped to represent the simple correlation that is .257. The “p-value” less than 0.05 represents a statistically insignificant value however the “R” value in this case is 0.257 which is significant. This means that there is no effect observed between the variables that have been tested in the above table.

Through the literature it is also significant that virtual primary care is termed to be the new model in terms of healthcare delivery. Therefore, it is not affected by any second opinion, inexpensive, easy to access and time saving. It is assumed irrespective of all the variables telemedicine is in greater demand by the customer as well as the healthcare centers are adopting it efficiently. On the other hand R square value is referred to as the proportion of variance in terms of dependent variable that is often predicted from independent variable. The R square value depicted in the above table is .066 which is greater than 0.5 and thus it is showing a higher level of correlation and a stronger relationship between the dependent

and independent variable. Thus, any change in one factor will significantly affect the other factors as well. The sig value in the anova table is .094 which is greater than 0.05 indicates a strong relationship between the variables.

Coefficient in the regression table indicates how much the dependent variable increases or decreases whenever there is any change in the independent variable. The beta value obtained in terms of easy understanding shows a negative value of -.138 whereas saving times indicates a negative value of -.211. Therefore, the negative beta coefficient indicates that any change in one unit in the predictor variable the outcome variable seems to decrease by the beta coefficient value. On the other hand the positive variable shows every one unit increase in the predictor variable the outcome variable intends to increase by beta coefficient value as seen in terms of reliable second option and saves money shows .192 and .032 accordingly.

#### 4.3. Correlation analysis

Correlations					
		saves money	saves time	provides reliable second opinion	telemedicine system is clear and understandable
saves money	Pearson Correlation	1	-.029	.099	.113
	Sig. (2-tailed)		.755	.283	.219
	N	120	120	120	120
saves time	Pearson Correlation	-.029	1	.466**	.379**
	Sig. (2-tailed)	.755		.000	.000
	N	120	120	120	120
provides reliable second opinion	Pearson Correlation	.099	.466**	1	.381**
	Sig. (2-tailed)	.283	.000		.000
	N	120	120	120	120
telemedicine system is clear and understandable	Pearson Correlation	.113	.379**	.381**	1
	Sig. (2-tailed)	.219	.000	.000	
	N	120	120	120	120
**. Correlation is significant at the 0.01 level (2-tailed).					

Table 4.3: Correlation analysis

From the correlation table 4.3 it significantly seen that the correlation value developed in terms of saving money and time saving is -.029 which shows that variables are negatively correlated. This ensures that any change in one variable may not affect the other. On the other hand the Pearson correlation between saving money and providing a reliable second option is positively correlated that shows 0.099 which ensures that the correlation is positive and strongly correlated as the value is greater than 0.05. Similarly, the correlation that has been developed in case of saving money

and is understandable is 0.113 which ensures a positive and strong correlation between the two variables. Thus it ensures that a change in one variable will affect the other accordingly.

Similarly, the Pearson correlation that has been obtained from the telemedicine ensures clear understanding and saves money is 0.113 which shows a strong correlation between the two variables. On the contrary, the Pearson correlation value obtained from other variables such as save time provides a reliable second opinion which is 0.379 and 0.381 respectively. Therefore, through the correlation table it shows that a positive correlation between the variables and thus a change in any one variable will significantly change the other as well.

#### 4.4 Normality and Reliability Analysis of Adapted Questionnaire

Case Processing Summary			
		N	%
Cases	Valid	120	98.4
	Excluded <sup>a</sup>	2	1.6
	Total	122	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.548	4

Tests of Normality						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
saves money	.330	120	.000	.778	120	.000
saves time	.346	120	.000	.735	120	.000
provides reliable second opinion	.349	120	.000	.766	120	.000
telemedicine system is clear and understandable	.292	120	.000	.810	120	.000
a. Lilliefors Significance Correction						

Table 4.4: Normality and Reliability Analysis

Reliability is referred to as overall consistency of measures thus the measure is referred to as reliable if the measure produces similar results under consistency conditions. The most reliable measure is expected to be between 0.9 and 0.8 whereas reliability between 0.6 and 0.5 is poor reliability. In table 4.5 reliability and normality statistics the Cronbach's alpha value is 0.548 which lies between 0.5 and 0.6 is stated to be poor reliability.

Furthermore, in the normality test table Shapiro-Wilk is considered as it is appropriate for small to large sample size. The sig value of the Shapiro-Wilk test is higher than 0.05 the data is considered normal whereas below 0.05 shows that the data deviate from normal distribution. The table shows that the sig value of the variable is 0.000 which deviates from the normal distribution.

### 4.3 Discussion

From the above analysis the perception and intention for using telemedicine in primary care has been determined. The Table 4.1 shows the mean and standard deviation of the demographics of the survey participants. The ethnic group, gender, age, marital status and income level has been taken into consideration to discuss the socio-demographic factors of the respondents that influence the perception of users to use telemedicine in primary care. The Table 4.1.1 reflects the variable descriptive statistics and it has been evident that there is less deviation among the factors. The standard deviation that has been achieved which states that improve access to health care is 1.21265. On the other hand standard deviation obtained from quality of health care is 0.94732. Additionally, the low deviation among the variables such as, improvement in telemedicine access, benefits related to cost and money shows that the telemedicine needs improvement for providing better care service to the users and reducing the cost and money of the patients. From the Table of 4.2 the regression value has been found that “R” value is 0.257 which ensures simple correlation among the two variables. However, the “R” value is greater than 0.05 which ensures a positive correlation among the variable.

After the pandemic, the demand of telemedicine has been increased among both the patients and service providers due to its cost effectiveness, and efficiency to provide treatment without even visiting the patients. The findings from the statistical analysis and the literature review have highlighted alignment to a certain extent. From both findings it has been observed that concerns associated with the usage of telemedicine services, benefits, cost effectiveness or cost saving, better second opinions and positive influence significantly impacts the perception of telemedicine in primary care and also regulates the adaptation of the services. Positive experiences positively affect the intention of use of such services in the context of primary care. However, concerns can adversely affect the intentions retained.

The conducted study findings have depicted that the major reasons for increasing reliability over telemedicine is the ease of access and fast delivery of services. These are the main perception, which is increasing the broader adaptations of telemedicine and removing the burdens on the healthcare sector. Additionally it is determined that the reduction in the overall costs and hassle free services is another cause attributed to the telemedicine usage. The telemedicine is determined to be a revolutionary change, which is advancing the healthcare sector by making it more innovative in nature. With telemedicine healthcare is becoming more resilient.

### 4.4 Summary

The data depicts the necessity of Telemedicine application in the healthcare system in order to provide better services to the patients. It helps the healthcare organization to provide service to the patients at an affordable price. The telemedicine technology helps the patients by providing valuable service and increasing the efficiency. It could also provide timely services to the patients in times of emergency.

## 5.0 Conclusion

### 5.1 Conclusion

The study has focused on the perception and intention for using telemedicine in primary care. The conducted study has used primary- quantitative data analysis. The collected data has revealed the significance of telemedicine in primary care and the perception of the practitioners along with intentions of them to use this to provide primary care. Additionally, the pivotal role played by telemedicine increasing the general public health awareness is depicted in the conducted study in brief. The extant literature have shown the transitions that are triggered by the innovations such as telemedicine which is providing more access to routine healthcare services to the general public.

## 5.0 References

1. Abd Ghani, M. K., Mohamed, M. A., Mostafa, S. A., Mustapha, A., Aman, H., & Jaber, M. M. (2018). The design of flexible telemedicine framework for healthcare big data. *International Journal of Engineering & Technology*, 7(3.20), 461-468. Retrieved from: <https://www.researchgate.net/profile/Mazin->

- [Mohammed/publication/327982374\\_The\\_Design\\_of\\_Flexible\\_Telemedicine\\_Framework\\_for\\_Healthcare\\_Big\\_Data/links/5f2d3ab4299bf13404aba2b4/The-Design-of-Flexible-Telemedicine-Framework-for-Healthcare-Big-Data.pdf](#)
2. Abushaar, L., & Ismail, A. (2017, December). Acceptance of Teleconsultation Among Doctors and The Determinant Factors in Teaching Hospital in Malaysia. In *2nd Public Health International Conference (PHICo 2017)* (pp. 37-42). Atlantis Press. Retrieved from: <https://www.atlantis-press.com/article/25897430.pdf>
  3. Adenuga, K. I., Iahad, N. A., & Miskon, S. (2017). Towards reinforcing telemedicine adoption amongst clinicians in Nigeria. *International journal of medical informatics*, 104, 84-96. Retrieved from: <https://www.academia.edu/download/55067867/1-s2.0-S1386505617301466-main.pdf>
  4. Alexander, G. C., Tajanlangit, M., Heyward, J., Mansour, O., Qato, D. M., & Stafford, R. S. (2020). Use and content of primary care office-based vs telemedicine care visits during the COVID-19 pandemic in the US. *JAMA network open*, 3(10), e2021476-e2021476. Retrieved from: <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2771191>
  5. Ayatollahi, H., Mirani, N., Nazari, F., & Razavi, N. (2018). Iranian healthcare professionals' perspectives about factors influencing the use of telemedicine in diabetes management. *World journal of diabetes*, 9(6), 92. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/pmc6033705/>
  6. Barney, A., Buckelew, S., Meshierakova, V., & Raymond-Flesch, M. (2020). The COVID-19 pandemic and rapid implementation of adolescent and young adult telemedicine: challenges and opportunities for innovation. *Journal of Adolescent Health*, 67(2), 164-171. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/pmc7221366/>
  7. Chen, X., Hu, H., Xu, X., Gong, J., Yan, Y., & Li, F. (2018). Probability sampling by connecting space with households using GIS/GPS technologies. *Journal of Survey Statistics and Methodology*, 6(2), 149-168. <https://academic.oup.com/jssam/article/6/2/149/4822522>
  8. Cortez, C., Mansour, O., Qato, D. M., Stafford, R. S., & Alexander, G. C. (2021, July). Changes in short-term, long-term, and preventive care delivery in US office-based and telemedicine visits during the COVID-19 pandemic. In *JAMA Health Forum* (Vol. 2, No. 7, pp. e211529-e211529). American Medical Association. Retrieved from: <https://jamanetwork.com/journals/jama-health-forum/fullarticle/2781917>
  9. Elsaie, M. L., Shehata, H. A., Hanafi, N. S., Ibrahim, S. M., Ibrahim, H. S., & Abdelmaksoud, A. (2020). Egyptian dermatologists attitude toward telemedicine amidst the COVID19 pandemic: a cross-sectional study. *Journal of Dermatological Treatment*, 1-7. Retrieved from: [https://www.afamed.org/Document/Download/egyptian%20dermatologists%20attitude...\\_8148967.pdf](https://www.afamed.org/Document/Download/egyptian%20dermatologists%20attitude..._8148967.pdf)
  10. Gilmore, A. K., & Ward-Ciesielski, E. F. (2019). Perceived risks and use of psychotherapy via telemedicine for patients at risk for suicide. *Journal of telemedicine and telecare*, 25(1), 59-63. Retrieved from: <https://journals.sagepub.com/doi/pdf/10.1177/1357633X17735559>
  11. Gilmore, A. K., & Ward-Ciesielski, E. F. (2019). Perceived risks and use of psychotherapy via telemedicine for patients at risk for suicide. *Journal of telemedicine and telecare*, 25(1), 59-63. Retrieved from: <https://journals.sagepub.com/doi/pdf/10.1177/1357633X17735559>

12. Gong, Z., Han, Z., Li, X., Yu, C., & Reinhardt, J. D. (2019). Factors influencing the adoption of online health consultation services: the role of subjective norm, trust, perceived benefit, and offline habit. *Frontiers in public health*, 7, 286. Retrieved from: <https://www.frontiersin.org/articles/10.3389/fpubh.2019.00286/full>
13. Gu, D., Humbatova, G., Xie, Y., Yang, X., Zolotarev, O., & Zhang, G. (2021, August). Different Roles of Telehealth and Telemedicine on Medical Tourism: An Empirical Study from Azerbaijan. In *Healthcare* (Vol. 9, No. 8, p. 1073). Multidisciplinary Digital Publishing Institute. Retrieved from: <https://www.mdpi.com/2227-9032/9/8/1073/pdf>
14. Harst, L., Lantzsch, H., & Scheibe, M. (2019). Theories predicting end-user acceptance of telemedicine use: systematic review. *Journal of medical Internet research*, 21(5), e13117. Retrieved from: <https://www.jmir.org/2019/5/e13117>
15. Healthcareitnews.com, (2021). Will virtual primary care become a new model of healthcare delivery?. Retrieved 16 November 2021, from <https://www.healthcareitnews.com/news/will-virtual-primary-care-become-new-model-healthcare-delivery>
16. Heyworth, L., Kirsh, S., Zulman, D., Ferguson, J. M., & Kizer, K. W. (2020). Expanding access through virtual care: The VA's early experience with Covid-19. *NEJM Catalyst Innovations in Care Delivery*, 1(4). Retrieved from: <https://catalyst.nejm.org/doi/pdf/10.1056/CAT.20.0327>
17. Hills, W. E., & Hills, K. T. (2019). Virtual treatments in an integrated primary care-behavioral health practice: An overview of synchronous telehealth services to address rural-urban disparities in mental health care. *Medical Science Pulse*, 13(3). Retrieved from: <https://agro.icm.edu.pl/agro/element/bwmeta1.element.agro-ad2a081f-41d6-4151-849d-410ee548ed5d/c/54.pdf>
18. Indria, D., Alajlani, M., & Fraser, H. S. (2020). Clinicians perceptions of a telemedicine system: a mixed method study of Makassar City, Indonesia. *BMC medical informatics and decision making*, 20(1), 1-8. Retrieved from: <https://link.springer.com/article/10.1186/s12911-020-01234-7>
19. Kamal, S. A., Shafiq, M., & Kakria, P. (2020). Investigating acceptance of telemedicine services through an extended technology acceptance model (TAM). *Technology in Society*, 60, 101212. Retrieved from: <http://dl.wroya.com/2020/05/8921038b6e.pdf>
20. Kato-Lin, Y. C., & Thelen, S. T. (2021). Telemedicine for acute conditions during COVID-19: a nationwide survey using crowdsourcing. *Telemedicine and e-Health*, 27(7), 714-723. Retrieved from: <https://www.liebertpub.com/doi/epdf/10.1089/tmj.2020.0351>
21. Khatun, F., Palas, M. J. U., & Ray, P. K. (2017). Using the unified theory of acceptance and use of technology model to analyse cloud-based mHealth service for primary care. *Digital Medicine*, 3(2), 69. Retrieved from: [https://www.digitmedicine.com/temp/DigitMed3269-2228534\\_061125.pdf](https://www.digitmedicine.com/temp/DigitMed3269-2228534_061125.pdf)
22. Kissi, J., Dai, B., Dogbe, C. S., Banahene, J., & Ernest, O. (2020). Predictive factors of physicians' satisfaction with telemedicine services acceptance. *Health informatics journal*, 26(3), 1866-1880. Retrieved from: <https://journals.sagepub.com/doi/pdf/10.1177/1460458219892162>
23. Kondrateva, G., Baudier, P., & Ammi, C. (2020, January). The digital natives' paradox: Adoption of telemedicine cabin. In *International Marketing Trends Conference, Paris* (pp. 16-18). Retrieved from: <https://archives.marketing-trends-congress.com/2020/pages/PDF/079.pdf>



24. Lee, J. Y., Wong, C. P., & Lee, S. W. H. (2020). m-Health views and perception among Malaysian: findings from a survey among individuals living in Selangor. *Health*, 6. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7063268/pdf/mh-06-2019.09.16.pdf>
25. Lin, Z. (2017). The Overall Perception of Telemedicine and Intention to Use Telemedicine Services: A comparison between frequent travelers and non frequent travelers. Retrieved from: [https://ecommons.cornell.edu/xmlui/bitstream/handle/1813/56813/Lin\\_cornell\\_0058O\\_10117.pdf?sequence=1](https://ecommons.cornell.edu/xmlui/bitstream/handle/1813/56813/Lin_cornell_0058O_10117.pdf?sequence=1)
26. Ly, B. A., Kristjansson, E., Labonté, R., & Bourgeault, I. L. (2018). Determinants of the intention of Senegal's physicians to use telemedicine in their professional activities. *Telemedicine and e-Health*, 24(11), 897-898. Retrieved from: [https://www.researchgate.net/profile/Ronald-Labonte/publication/323350632\\_Determinants\\_of\\_the\\_Intention\\_of\\_Senegal's\\_Physicians\\_to\\_Use\\_Telemedicine\\_in\\_Their\\_Professional\\_Activities/links/5bd1b0ad45851537f59a1b09/Determinants-of-the-Intention-of-Senegals-Physicians-to-Use-Telemedicine-in-Their-Professional-Activities.pdf](https://www.researchgate.net/profile/Ronald-Labonte/publication/323350632_Determinants_of_the_Intention_of_Senegal's_Physicians_to_Use_Telemedicine_in_Their_Professional_Activities/links/5bd1b0ad45851537f59a1b09/Determinants-of-the-Intention-of-Senegals-Physicians-to-Use-Telemedicine-in-Their-Professional-Activities.pdf)
27. Malhotra, P., Ramachandran, A., Chauhan, R., Soni, D., & Garg, N. (2020). Assessment of knowledge, perception, and willingness of using telemedicine among medical and allied healthcare students studying in private institutions. *Telehealth and Medicine Today*. Retrieved from: <https://telehealthandmedicinetoday.com/index.php/journal/article/view/228/301>
28. Mckinsey.com. (2021). Retrieved 16 November 2021, from <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality>
29. Melnikovas, A. (2018). Towards an explicit research methodology: Adapting research onion model for futures studies. *Journal of Futures Studies*, 23(2), 29-44. <https://jfsdigital.org/wp-content/uploads/2019/01/03-Melnikovas-Onion-Research-Model.pdf>
30. Mida.gov.my, (2021). Telemedicine and Digital Health: A New Normal for Healthcare Providers. (2021). Retrieved 15 November 2021, from <https://www.mida.gov.my/telemedicine-and-digital-health-a-new-normal-for-healthcare-providers/>
31. Mohajan, H.K., (2018). Qualitative research methodology in social sciences and related subjects. *Journal of Economic Development, Environment and People*, 7(1), pp.23-48. [https://mpira.ub.uni-muenchen.de/85654/1/MPPRA\\_paper\\_85654.pdf](https://mpira.ub.uni-muenchen.de/85654/1/MPPRA_paper_85654.pdf)
32. Mueller, M., Knop, M., Niehaves, B., & Adarkwah, C. C. (2020). Investigating the acceptance of video consultation by patients in rural primary care: empirical comparison of preusers and actual users. *JMIR medical informatics*, 8(10), e20813. Retrieved from: [https://medinform.jmir.org/2020/10/e20813?utm\\_source=TrendMD&utm\\_medium=cpc&utm\\_campaign=JMIR\\_TrendMD\\_0](https://medinform.jmir.org/2020/10/e20813?utm_source=TrendMD&utm_medium=cpc&utm_campaign=JMIR_TrendMD_0)
33. Nguyen, M., Waller, M., Pandya, A., & Portnoy, J. (2020). A review of patient and provider satisfaction with telemedicine. *Current Allergy and asthma reports*, 20(11), 1-7. Retrieved from: <https://link.springer.com/article/10.1007/s11882-020-00969-7>
34. Ramírez-Correa, P., Ramírez-Rivas, C., Alfaro-Pérez, J., & Melo-Mariano, A. (2020). Telemedicine acceptance during the COVID-19 pandemic: an empirical example of robust consistent partial least squares path modeling. *Symmetry*, 12(10), 1593. Retrieved from: <https://www.mdpi.com/838234>

35. Reiners, F., Sturm, J., Bouw, L. J., & Wouters, E. J. (2019). Socio-demographic factors influencing the use of eHealth in people with chronic diseases. *International Journal of Environmental Research and Public Health*, 16(4), 645. Retrieved from: <https://www.mdpi.com/1660-4601/16/4/645/pdf>
36. Snyder, H., (2019). Literature review as a research methodology: An overview and guidelines. *Journal of business research*, 104, pp.333-339. <https://www.sciencedirect.com/science/article/pii/S0148296319304564>
37. Sorensen, M. J., Bessen, S., Danford, J., Fleischer, C., & Wong, S. L. (2020). Telemedicine for surgical consultations—pandemic response or here to stay?: a report of public perceptions. *Annals of surgery*, 272(3), e174. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/pmc7299120/>
38. Statista. (2021). Malaysia: opinion on usage of telemedicine 2018 | Statista. (2021). Retrieved 15 November 2021, from <https://www.statista.com/statistics/918386/telemedicine-usage-thought-malaysia/>
39. Thomas, E. E., Haydon, H. M., Mehrotra, A., Caffery, L. J., Snoswell, C. L., Banbury, A., & Smith, A. C. (2020). Building on the momentum: Sustaining telehealth beyond COVID-19. *Journal of telemedicine and telecare*, 1357633X20960638. Retrieved from: <https://journals.sagepub.com/doi/pdf/10.1177/1357633X20960638>
40. Thong, H. K., Wong, D. K. C., Gendeh, H. S., Saim, L., Athar, P. P. B. S. H., & Saim, A. (2021). Perception of telemedicine among medical practitioners in Malaysia during COVID-19. *Journal of medicine and life*, 14(4), 468. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/pmc8485382/>
41. Van Veen, T., Binz, S., Muminovic, M., Chaudhry, K., Rose, K., Calo, S., ... & Miller, J. B. (2019). Potential of mobile health technology to reduce health disparities in underserved communities. *Western Journal of Emergency Medicine*, 20(5), 799. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6754190/pdf/wjem-20-799.pdf>
42. Welch, B. M., Harvey, J., O'Connell, N. S., & McElligott, J. T. (2017). Patient preferences for direct-to-consumer telemedicine services: a nationwide survey. *BMC Health services research*, 17(1), 1-7. Retrieved from: <https://link.springer.com/content/pdf/10.1186/s12913-017-2744-8.pdf>
43. Woiceshyn, J. and Daellenbach, U., 2018. Evaluating inductive vs deductive research in management studies: Implications for authors, editors, and reviewers. *Qualitative Research in Organizations and Management: An International Journal*. [https://www.researchgate.net/profile/Jaana-Woiceshyn-2/publication/324596659\\_Evaluating\\_Inductive\\_versus\\_Deductive\\_Research\\_in\\_Management\\_Studies\\_Implications\\_for\\_Authors\\_Editors\\_and\\_Reviewers/links/5b78d9aa92851c1e121f7477/Evaluating-Inductive-versus-Deductive-Research-in-Management-Studies-Implications-for-Authors-Editors-and-Reviewers.pdf](https://www.researchgate.net/profile/Jaana-Woiceshyn-2/publication/324596659_Evaluating_Inductive_versus_Deductive_Research_in_Management_Studies_Implications_for_Authors_Editors_and_Reviewers/links/5b78d9aa92851c1e121f7477/Evaluating-Inductive-versus-Deductive-Research-in-Management-Studies-Implications-for-Authors-Editors-and-Reviewers.pdf)
44. Woo, K., & Dowding, D. (2018). Factors affecting the acceptance of telehealth services by heart failure patients: an integrative review. *Telemedicine and e-Health*, 24(4), 292-300. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/pmc5915260/>
45. World Health Organization. (2020). *Ethical standards for research during public health emergencies: distilling existing guidance to support COVID-19 R&D* (No. WHO/RFH/20.1). World Health Organization. <https://apps.who.int/iris/bitstream/handle/10665/331507/WHO-RFH-20.1-eng.pdf>
46. Xyrichis, A., Iliopoulou, K., Mackintosh, N. J., Bench, S., Terblanche, M., Philippou, J., & Sandall, J. (2021). Healthcare stakeholders' perceptions and experiences of factors affecting the implementation of critical care telemedicine (CCT): qualitative evidence synthesis. *Cochrane Database of Systematic Reviews*, (2). Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/pmc6492374/>
47. Young, J. C., Rose, D. C., Mumby, H. S., Benitez-Capistros, F., Derrick, C. J., Finch, T., ... & Mukherjee, N. (2018). A methodological guide to using and reporting on interviews in conservation science research. *Methods in Ecology and Evolution*, 9(1), 10-19. Retrieved from: <https://besjournals.onlinelibrary.wiley.com/doi/pdf/10.1111/2041-210X.12828>