Perceived Level of Satisfaction of Filipino Patients Residing in Metro Manila towards Teleconsultation as New Means of Healthcare Delivery

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Abstract: Teleconsultation introduces a new way of healthcare delivery that allows the patients to communicate and have consultations with the physicians without the need to physically go to the actual hospitals and clinics. This study aims to determine the level of satisfaction of patients who utilized Teleconsultation as a new method of healthcare delivery system from January, 2020 to December, 2020, and to determine the specific factors influencing it. This study follows a descriptive quantitative research design. It included 360 participants with ages ranging from 20-50 years old. The Sample size was computed using Cochran's equation. In statistical analysis, data were analyzed using the SPSS version 27.0. Data were collected using a questionnaire with an 8-point Likert scale and this questionnaire was distributed through google forms. Snowball sampling was used to invite participants in the study. The hypotheses of the study were focused on the positive effects of the three variables involved in the satisfaction of patients with Teleconsultation namely: Access and Features of the service, Attitude of the Staff and Physician, and the Quality of the Practice and Medical Care. The structural model narrowed these variables and showed which among these three variables affected the satisfaction of the patients the most. It was shown that the Attitude of the Staff and Physician affected patients' satisfaction the most. Results obtained from the study supported the idea that the respondents were satisfied about Teleconsultation as shown by the following results: Access and Features of the Teleconsultation Service (m=6.30-6.54); Attitude of Staff and Physician of the Teleconsultation Service (m=6.60-6.93), and Quality of Practice and Medical Care Provided (m=6.51-6.81); an average value of 6 above indicates a positive connotation as shown by mean values of six or higher.

Key Words: — ***Healthcare, Pandemic, Satisfaction, Teleconsultation.***

I. INTRODUCTION

Every day, thousands of Filipinos queue up in hospitals and clinics for hours hoping to receive medical consultations. Even hospital rooms accommodate more patients than its normal capacity due to lack of space and facilities. With the growing population, more pressure adds to the government and the country's health sector. Even before the emergence of pandemic, the health system was already facing different challenges.

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As new technologies arise from global improvement and research, healthcare is now revolutionized by the innovative idea of Teleconsultation. According to WHO, the utilization of ICT (Information and Communications Technology) is being denoted by telemedicine so that medical information and health care would be more accessible thus improving patient outcomes The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment, prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities (WHO). The introduction

and popularization of the Internet has further accelerated the pace of ICT advancements, thereby expanding the scope of Teleconsultation to encompass Web-based application software (e.g. e-mail, teleconsultations and conferences via the Internet) and multimedia approaches (e.g. digital imagery and video). Telehealth as the use of electronic communications used to share medical information from one site to another, for the purpose of improving the patient's health. The implementation of this new technology can impact health through the support and improvement of healthcare delivery, and the impact of societal digitalization on both physical and mental health [1]. Gone are the days when patients had no choice but to physically be present for a consultation on simple concerns such as minor symptoms, inquiries on medication, or follow up on previous check-ups. More importantly, the threat of the COVID-19 pandemic highly popularized telemedicine as a new means of providing health services to patients, in an effort to not only curve the number of positive cases but also because hospitals and other healthcare facilities are overstretched and focused on their response to the pandemic. During this pandemic, Technology has acted as a great enabler of patient continuity through remote consultation, ongoing monitoring, and patient education using telephone and videoconferencing in the COVID-19 era [2].

The telemedicine platform features an online consultation clinic and those specifically sanctioned by the government were available 24/7. Telemedicine was used not only in the delivery of a remote consultation but also used to disseminate health information and educate the general public. In the Philippines, several platforms were used such as *MEDIFI*, an application program designed in 2015 originally meant to connect patients and physicians remotely in an effort to relieve the overburdened healthcare system in the country. This application software is included in the synchronous modality of healthcare delivery wherein both patient and physician are connected real time via a call or an audio-video interaction using gadgets such as a mobile phone, tablet, laptop or a desktop computer.

There is also an asynchronous modality where a patient gathers information based on a physician's instructions and forwards it to the physician to be responded to at a later time. Another modality is through remote patient monitoring wherein a hospital or a healthcare facility forwards the patient's clinical data to the physician which may or may not be in real time.

In a study of patients with vascular diseases conducted by Li et al. (2020), during the pandemic telemedicine was seen as a better option rather than delaying appointments. Some advantages mentioned were minimizing or eliminating risk to infection, there is no need for travel and waiting time has decreased significantly. All patients that were surveyed agreed that telemedicine is as satisfying when compared to physical consultations. The use of video call or sending of images also allowed for a better consultation than just the use of communicating over the phone. Other advantages mentioned were improvement of access for healthcare and the decrease of patient expenses [3].

Teleconsultation may contain certain issues in today's time, this may include misdiagnosis. In nature, misdiagnosis has the possibility to increase overall costs to the general health care system. The CDC states that one third of antibiotics prescriptions are unnecessary. If a service is not able to determine a diagnosis, the patient may be advised to go to the ER or any urgent care service within the area. Another issue in view is on the people who provide Teleconsultation service to the public. It is not common in hospitals to have an alternative consultation medium such as Teleconsultation [4].

A. Teleconsultation and its impact on healthcare

In terms of cost, Neville (2018) said that the personal and often unseen costs incurred by the patient are reduced with telehealth as well [5]. The use of telehealth allows patients to save on travel costs associated with doctor visits as well as decreases the time a patient would be required to be away from work. It has been found in the research that the behavioral therapy which is delivered in a face-to-face manner has the same effectivity in treatment with that of delivered through telehealth; however, the telehealth cost was considerably less [6].

According to Goodini et al. (2015), the principal benefit to telehealth is the ability to reduce or eliminate the geographic distance causing spatial barriers for patients to receive care and treatment from providers using advanced telecommunication technologies [7].

Looking at the State Telehealth Laws and Reimbursement Policies Report of 2020, one of the most significant changes for telehealth related to the COVID-19 pandemic has been payment parity between telehealth and in clinic care. Previously, many states required insurers to cover telehealth but did not stipulate payment parity. Low

reimbursement is a factor which affects the use of Teleconsultation. Henry (2017) mentioned that without payment, it would be difficult for clinicians to afford to provide the service, despite data from previous studies suggesting clinicians were broadly supportive about its use. At the same time, payment rates should reflect the cost of the service, avoiding overpayment if clinicians can use telehealth to deliver more visits per session [8]. The concept of payment equity is emerging so as to avoid perversely incentivizing the use of telehealth encounters [9].

Teleconsultation's application in different global crises would be of great help in minimizing health risks for both the patients and health workers. One specific situation wherein Teleconsultation could be utilized is the current large-scale outbreak of COVID-19 in which the droplet transmission of infection requires social distancing, considering more contact with other people would be much riskier. So as to increase the efficiency of healthcare delivery, Teleconsultation and virtual care can be utilized together and adapted into the healthcare system. It promotes social distancing measures and helps medical centers in managing prolonged waiting times and risk of disease progression. By minimizing in-person visits and reducing face-to-face contact among physicians and patients, the use of virtual care solutions can help lessen the transmission of the virus and protect medical practitioners from infection [10].

B. Factors that affect the use of Teleconsultation

In a study conducted by Stenberg in 2018, using detailed 2015 household data, the report analyzed three basic telehealth activities as practiced by consumers aged 15 or older. These include: online health research, online health maintenance, and online health monitoring via devices that exchange data remotely with medical personnel. Stenberg concluded that rural residents were less likely than urban people to engage in the telehealth activities, with 17 percent of rural people conducting online health research, 7 percent participating in online health maintenance, and 1.3 percent utilizing online health monitoring. The use of all of these telehealth activities is increased among people who finished higher levels of education. In the study, the use of telehealth increased among individuals with a higher household income, the effect of income varied across the participants [11].

In a study conducted by Suzuki et al. (2020) on developing countries in Asia and Africa, they have discovered that one of the main factors that affects the development and usage of telemedicine in a country is their economic status. This factor was analyzed by collecting data on the per capita Gross Domestic Product (GDP) and its growth rate. Another factor that they studied on was healthcare development which was analyzed by gathering data on the number of doctors, nurses and midwives present in the countries studied. The final factor that was analyzed was the Information Technology (IT) penetration which was done by gathering data on the number of mobile phone contracts and internet contracts of the people in the participating countries. Their study gave the result that developing countries experience difficulty in adapting telemedicine due to the fact that it is not accessible and practical to a huge part of their population [12].

Almathami et al. (2020) defined Teleconsultation as e-consultation, a method which enables patients to communicate with health care professionals through the use of information and communication technologies (ICTs). According to the study, external and internal factors affect these services both in positive or negative ways. External factors are those in surrounding the system and the environment that affect the system itself. It includes internet speed and poor network services, patients' and clinicians' training with regards to the usage of online gadgets and applications, time and schedule flexibility, accessibility to specialist care, as well as obstructions at home which could be a distraction during the actual time of Teleconsultation. Internal factors on the other hand are the users' behaviors toward the utilization of Teleconsultation. This includes convenience from elimination of travel expenses and waiting time, patients' lack of knowledge and unfamiliarity with the approach of Teleconsultation, the interaction between the clinicians and patients, and the positive or negative perception of patients toward the system [13].

C. Basis of Satisfaction for Patients

De Rosis et al. (2016) in their research studied different influencing factors related to the Teleconsultation users and to the Teleconsultation-patient behavior. With empirical evidence, three basic hypotheses were formulated in the study and were verified through performing statistical models. With the first hypothesis, individuals who feel less satisfied, utilize the Internet for health-related purposes more frequently. As a matter of fact, because a good relationship with the general practitioner is assumed as the basis of a doctor-patient partnership, finding a negative association between satisfaction and good experience with the physician and the decision to use the Internet for health was expected. On the other hand, it was hypothesized that sharing health-related

information found on the Internet with the general practitioner is positively associated with a higher satisfaction and better experience with the same family doctor [14].

Based on a study by Beard et al. (2019), it aimed to examine whether patients and their caregivers living in rural and remote areas are satisfied with telehealth videoconferencing as a mode of service delivery in managing their health. Studies of people living in rural and remote areas who attended outpatient appointments for a health condition via videoconference were included if the studies measured patient and/or caregivers' satisfaction with telehealth. Data on satisfaction was extracted and descriptively synthesized. The outcomes of satisfaction with telehealth were categorized into system experience, information sharing, consumer focus and overall satisfaction. These dimensions had high levels of satisfaction. Despite these positive findings, the current evidence base lacks clarity in terms of how satisfaction is defined and measured. People living in rural and remote areas are generally satisfied with telehealth as a mode of service delivery as it may improve access to health care and avoid the inconvenience of travel [15].

System experience was the most commonly measured dimension of satisfaction appearing in 29 studies (81%). It included the audio-visual quality of videoconferencing, accessibility of a service in one's local health care centre, time and cost savings for patients, patient comfort in participating in telehealth, technical support and operations, and usability of telehealth technology. There were high levels of satisfaction across all these domains, especially with regards to service accessibility. This was linked to convenience of attending an appointment in one's local community, saving travel time and costs [15].

Continuing with the same study, satisfaction with information sharing was measured by 21 studies (58%). It included the communication quality between the patient and health care provider, patient confidentiality, thoroughness of clinical assessment, information completeness, and patient comprehension and usefulness [15]. (Beard et al. 2019) Communication between the patient and health care provider positively influenced satisfaction with telehealth by enabling patients to feel listened to, have their concerns addressed, have time to ask questions and participate in the data sharing and decision making. Most of the patients are satisfied that information was safely handled and remained confidential, though there were minor reports that videoconferencing might increase the risk of breach of confidentiality of patients' health information [16].

D. Hypothesis

H1: There is a positive relationship between access and features of the service and level of patient's satisfaction.

H2: There is a positive relationship between the attitude of both hospital staff and attending physician, and the level of patients' satisfaction.

H3: There is a positive relationship between the quality of practice and medical care, and the level of patients' satisfaction

II. METHODOLOGY

A. Framework

The objective of this study was to construct a framework that shows how different extrinsic factors affect patients' satisfaction towards Teleconsultation.

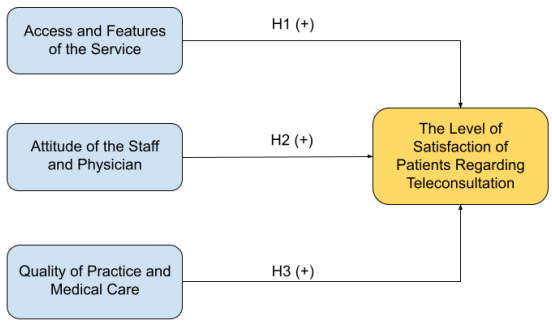

Fig.1. *Conceptual Framework*

B. Research Method and Design

This research made use of quantitative descriptive design. Quantitative research relies on the collection and analysis of numerical data to describe, explain, predict, or control variables and phenomena of interest [17]. Specifically, this research made use of a descriptive approach in conjunction with the quantitative research design. A descriptive approach has the specific purpose of describing and interpreting the current status of individuals, settings, or events [18]. The descriptive approach was useful in the goal of the study to determine the perceived level of satisfaction of Filipino patients on Teleconsultation as a mode of healthcare delivery. The Analysis and Interpretation of Results: Statistical analysis of

data will include computation of percentages, frequencies, and mean.

C. Participants

This study included 360 participants who underwent Teleconsultation residing in Metro Manila. Persons who are part of this research have the age ranges between 20 and 50 years old. The criteria of choosing the participants mainly relies on where they live and conducted their Teleconsultation session. To be qualified to become a participant in our study, the person should be fully consented and willing to participate, must have been a resident of Metro Manila at the time they underwent Teleconsultation, and must be between the ages of 20 and 50 years old. Persons who are not living in Metro Manila and outside the age range, they will not be considered for the study as participants. The group of people the research required are regarded and credited after the study has been completed. All data gathered was manipulated and correlated to create new literature on Teleconsultation in the Philippines.

D. Data Gathering Procedure and Research Tool

The data collection component of research is common to all fields of study including physical and social sciences, humanities, business, etc. While methods vary by discipline, the emphasis on ensuring accurate and honest collection remains the same [19]. First, the prospective participants were reached via email containing the consent form which summarizes the importance of the research study. The non-probability sampling of snowballing was used to gather respondents for the study. An initial number of 30 participants consisting of the researchers' family and close friends was gathered and they served as the respondents for the pilot testing. In the pilot testing, the computed value for Cronbach Alpha was above 0.7 proving the validity of the testing instrument. After this, the respondents for the actual data collection branched out from the initial 30 participants until a total number of 360 participants was reached. The participants were reached via various communication channels such as messenger, Viber, SMS, or call to obtain their email addresses. The consent form emphasized the freedom of the participants to choose if they would participate in the study or not. If the participants chose to accept the request to participate in the research study, subsequent instructions were given as to how they would give their responses to the research questionnaire which was used to gather data. The survey questionnaire was constructed in a manner that would collect the demographic details of the research participants. This was used with the factors established in the questionnaire affecting the research participants' perceived level of satisfaction with Teleconsultation. This study made use of a five-item survey questionnaire with an 8-point Likert scale to measure respondents' input and determine the patients' satisfaction. The five-item survey questionnaire was adapted from a sample questionnaire by the Supercare Medical Group which was initially used to determine patient satisfaction and provide insights on the improvement of overall patient care. The 8-point Likert scale, on the other hand was patterned after a similar scale that was used in the study entitled "The Telehealth Satisfaction Scale (TeSS): Reliability, validity, and satisfaction with telehealth in a rural memory clinic population" which was published by Morgan et al. in 2014. The objectives of this research study was similar to the objectives of the aforementioned research and in this study, the scale was used to gather the total score in the survey questionnaire that they used [20].

E. Data Analysis Plan

Data analysis for this study was done using the Statistical Package for Social Sciences (SPSS). Determining the effect of the given factors towards the level of satisfaction among patients was represented using the Structural Equation Model. Correlation analyses and multiple linear regression were used to investigate the relationship of factors. The data gathered will be analyzed using the application SPSS version 27. Descriptive statistics was used to characterize the extent of the patient's level of satisfaction. A P-value $< .05$ will be considered statistically significant.

III. Results And Discussion

A. Respondent's Background on Teleconsultation

As shown in Table 1, for the respondent's mode of delivery for Teleconsultation over 63.8% (n=230) had their Teleconsultation via phone call while 35.1% (n=128) availed via video call. With regards to the respondent's nature of consultation, 63.6% (n=230) consulted due to an illness, 28.2% (n=103) consulted for a routine check-up and the remaining percentage availing Teleconsultation for other reasons.

Over 42.5% (n=153) of the respondents had no companion during the consultation proper, 28.2% (n=103) were with their parents, 21.2% (n= 77) were with their spouse, 6.6% (n= 24) were with their children and the remaining percentage were with other family members.

For gadgets used in Teleconsultation, 78.9% (n=288) of the respondents used a mobile phone, 36.7% (n=134) used a laptop or desktop computer, 11.8% (n=43) of the respondents used a landline 0.5% (n=2) used an iPad. For this variable, each value presented in the Table has already been calculated against 100%. 99.2% (n= 360) of the respondents have access to internet connection and 86.3% (n=313) believe that Teleconsultation is a good substitute for coming to the hospital. 91.5% (n=334) of the respondents believe that the primary advantage of using Teleconsultation is that there is no need to travel. 85.5% (n= 312) believe that the primary advantage is that in using Teleconsultation there is no infection risk. 45.2 % (n= 165) of the respondents believe that the primary advantage of Teleconsultation is that there is no need to wait for a long time. 11.2% (n=41) of the respondents believe that the primary advantage of using Teleconsultation is that it's cheaper and the remaining 9.9% (n=36) believes that Teleconsultation is more personal. For this variable, each value presented in the Table has already been calculated against 100%.

Table.1. Respondents Background on Teleconsultation

Variable	Frequency	Percent
Mode of Delivery		
Phone Call	231	63.8 %
Video Call	128	35.1 %
Others: (Text Messaging, Mobile App, Zoom)	4	1.1%
Nature of Consultation		
Due to Illness	230	63.6%
Routine Check - up	103	28.2%
Others: (Pregnancy, Therapy, 2nd Opinion)	30	8.2%
Companion during Teleconsultation Proper		
None	153	42.5%
Parents	103	28.2%
Spouse	77	21.1%
Children	24	6.6%
Others: (Cousin, Grandmother)	6	1.6%
Gadget used for Teleconsultation	**each value is calculated over 363*	**each percentage is over 100*
Mobile Phone	288	78.9%
Laptop or Desktop Computer	134	36.7%
Landline Phone	43	11.8%
iPad	2	0.5%
Access to Internet		
With Access	360	99.2%
No Access	3	0.8%
Opinion on Teleconsultation		
Good substitute for conventional consultation	313	86.3%
Not a good substitute for conventional consultation	50	13.7%
Advantages of Teleconsultation	**each value is calculated over 363*	**each percentage is over 100*
No need to travel	334	91.5%
No infection	312	85.5%
No need to wait for a long time	165	45.2%
Cheaper	41	11.2%
More personal	36	9.9%

B. Patients' Satisfaction Based on Access and Features of the Service

The data shown is regarding the satisfaction of the patients with respect to the access and features of Teleconsultation. The data is expressed in descriptive statistics wherein mean and standard deviation was computed; and Measurement Model wherein the factor loading values were analyzed for.

Descriptive Statistics of Patients' Satisfaction Based on Access and Features of the Service:

As shown in Table.2, these questions are used for determining patients' satisfaction with regards to the access and feature of Teleconsultation. The answers of the respondents were shown through the use of mean and standard deviation. In the likert scale of the questionnaire, 1 to 4 denotes not satisfied while 5 to 8 indicates satisfied. The mean of all items ranges from 6.30 to 6.54, which falls into the positive values of the satisfaction. For the standard deviation, it ranges from .829 to 1.050. The item with the highest mean value is "effectiveness of the health information materials" while the item with the lowest mean value is "getting after hours care when needed".

In a study done by Protheroe et.al. 2015, patient information leaflets are usually 'noticed' in most primary healthcare centres, usually positioned in the waiting rooms, and there is evidence from a recent qualitative study that patients value and access these health information materials. However, questions are raised as to whether these information materials can be read and understood by patients, and whether they are useful for promoting and maintaining good health. These health information materials are very necessary in the understanding of the patients' conditions in a more comprehensive way. Leaflets or infographics are part of these categories because they provide information in a summarized and creative manner. Other health information materials can be in a form of video advertisements demonstrating how the service helps the patients. These may affect the satisfaction of the people because in the modern age, they are more attracted to information that is summed up rather than in blocks of text [21].

Since it was scored the lowest, "getting after hours care when needed" needs improvement for it might not be well executed by the Teleconsultation service they attended to. However, when extra hours are offered during the health care provision, it can be aimed at offering medical services to more patients. Most of the services offered aren't limited to specific conditions but will be available to all. Depending on the hospital, they can limit the services offered to minor medical services that can be done within a short time including minor surgery [22].

Table.2. Descriptive Statistics of the Level of Satisfaction Based on the Access and Features of the Service

Indicator	**Mean**	**Std. Deviation**
Ease of making appointments	6.30	.955
Availability of appointment within a reasonable amount of time	6.43	.902
Receiving care as soon as needed	6.36	.960
Getting after hours care when needed	6.30	1.049
Efficiency of check-in progress	6.42	.949
Ability to be notified about changes	6.51	.829
Ease of getting a referral	6.44	.927
Phone calls were answered promptly	6.52	.780
Getting advice when needed during office hours	6.40	.913
Procedure was explained properly (if applicable)	6.50	.885
The test results were reported in a reasonable amount of time	6.46	.914
Effectiveness of the health information materials	6.54	.889
Ability to return calls was in a timely manner	6.41	.966

The ability to contact them after clinic hours	6.30	1.050
Ability to obtain medication and treatment	6.43	.977

Measurement Model of Patients' Satisfaction Based on Access and Features of the Service:

In the given data from Table 3, the statement that contributes the most to the satisfaction in terms of the access and features of Teleconsultation is B13 or "Ability to return calls was in a timely manner" with a factor loading value of 0.838. In a pilot study focusing on Improving Responsiveness to Patient Phone Calls by O'Brien et al. (2017), inappropriate handling of an urgent patient phone call may result in devastating consequences if not anticipated and prevented [23].

In contrast, the least impactful to the satisfaction of the patient is B7 or "Ease of getting a referral." Additionally, the satisfaction with access could be determined by organisational aspects, such as obtaining referrals, ease of arranging appointments, and the opportunity to be seen on the patient's day of choice [24].

All of these statements are considered significant because their values are higher than 0.50 which is the threshold value that makes the factor loading valid. Since all of the factor loading values are greater or higher than 0.50, they are all considered helpful or impactful to the patients' satisfaction.

Table.3. Measurement Model of the Level of Satisfaction Based on the Access and Features of the Service

Indicators	**Loading**	**Reliability Coefficient (0.951)**
Ease of making appointments	0.769	
Availability of appointment within a reasonable amount of time	0.835	
Receiving care as soon as needed	0.808	
Getting after hours care when needed	0.787	
Efficiency of check-in progress	0.831	
Ability to be notified about changes	0.777	
Ease of getting a referral	0.591	
Phone calls were answered promptly	0.780	
Getting advice when needed during office hours	0.790	
Procedure was explained properly (if applicable)	0.627	
The test results were reported in a reasonable amount of time	0.833	
Effectiveness of the health information materials	0.775	
Ability to return calls was in a timely manner	0.838	
The ability to contact them after clinic hours	0.745	
Ability to obtain medication and treatment	0.764	

C. Patients' Satisfaction Based on Attitude of Staff and Physician

The following data shows both the Descriptive Statistics and the Measurement Model of how the different indicators in the attitude of staff and physician affect the satisfaction of patients. The Descriptive Statistics shows the mean and standard deviation. For the Measurement Model, the following factor loading values will give a numerical meaning to how it specifically affects patients' satisfaction.

Descriptive Statistics of Patients' Satisfaction Based on Attitude of Staff and Physician:

Presented in Table 4 are the mean and standard deviations from the answers of the respondents. With the scale, 5 to 8 represents a positive value. While a negative value is denoted by 1 to 4. The mean of all of the statements fall within a range of 6.60 to 6.93, falling on the positive values of the satisfaction. The standard deviation of the statements falls within a range of 0.798 to 0.977. The statement where there is a higher mean than the rest is C7 or "The physician and staff were discreete with patient information." This shows that patients have a high regard for confidentiality regarding their information and has a major impact on their satisfaction. According to a study by Bradbury et al. (2016), most of the patients are satisfied that

information was safely handled and remained confidential [16]. Meanwhile, the lowest mean was seen in C2 or "The helpfulness of the people who assisted you with billing or insurance."

Table.4. Descriptive Statistics of the Level of Satisfaction Based on the Attitude of Staff and Physician

Indicator	Mean	Std. Deviation
The courtesy of the person who took your call	6.71	.945
The helpfulness of the people who assisted you with billing or insurance	6.60	.977
The friendliness of the staff who assisted you with your appointment	6.64	.974
The caring concern of the physician	6.82	.836
The physician showed respect to time	6.76	.898
The physician was approachable	6.83	.841
The physician and staff were discreet with patient information	6.93	.798
The professionalism of the staff and physician who assisted with the appointment	6.85	.814

Measurement Model of Patients' Satisfaction Based on Attitude of Staff and Physician:

As presented in Table 5, the value of the factor loading dictates how much of an impact the statement makes to the satisfaction of the patients. In the given data, the statement that contributes to the satisfaction in terms of the attitude of the staff and physician is C4 or "The caring concern of the physician with a factor loading value of 0.839.

According to Prakash (2010), a patient's liking the doctor has a lot to do with the patient getting better [25]. A patient's expectations of a good service depend on age, gender, nature of illness, hour of the day, his or her attitude toward the problem and the circumstances. In general, patients expect their doctors to keep up the timings, behave cordially, and communicate in their language. They expect care, concern, and courtesy in addition to a good professional job. Thus, a physician's concern or general welfare they express towards the patient is a vital part of how the patient's satisfaction will result.

The least impactful or correlated with the satisfaction of the patient is C7 or "The physician and staff were discreete with patient information" with a factor loading value of 0.738. In a study made in Northwest Ethiopia by Asres et al. (2020), the researchers concluded that satisfaction with courtesy, and the respect and confidentiality extended by the examiner during physical examinations were associated factors for patient satisfaction. Although it affects the satisfaction the least, it is still an important factor that can influence the overall satisfaction of the patient towards Teleconsultation [26].

Table.5. Measurement Model of the Level of Satisfaction based on the Attitude of Staff and Physician

Indicator	Loading	Reliability Coefficient (0.916)
The courtesy of the person who took your call	0.803	
The helpfulness of the people who assisted you with billing or insurance	0.748	
The friendliness of the staff who assisted you with your appointment	0.797	
The caring concern of the physician	0.839	
The physician showed respect to time	0.805	
The physician was approachable	0.796	
The physician and staff were discreet with patient information	0.738	

The professionalism of the staff and physician who assisted with the appointment	0.815	

D. Patients' Satisfaction Based on Quality of Practice and Medical Care Provided

Data being shown here is in regard to the quality of practice and the medical care that is provided during the Teleconsultation. The data will be expressed through both descriptive statistics, wherein both mean and standard deviation are computed for, and Measurement model where the values for factor loading were analyzed for.

Descriptive Statistics of Patients' Satisfaction Based on Quality of Practice and Medical Care Provided:

Table.6 illustrated the means and standard deviations of the responses on the quality of practice and medical care provided, this was done using likert scale where values 1 to 4 were negative values and values 5 to 8 were positive values. Since the range for the means of the respondent answers are between 6.51 and 6.81 we consider responses as positive as they are at the positive end of the likert scale. The range for the standard deviations of these questions are 0.880 and 1.042. The statement where there is a higher mean than the rest is D1 or "willingness to listen carefully", according to Awdish et al. (2017) active listening not only builds trust with the patient but also allows the co-creation of an authentic and viable care plan [27]. Whereas the lowest mean can be seen in D6 or "The thoroughness of the examination", according to Asif et al. (2017) an unthorough examination of the patient can lead to both incorrect and missed diagnoses [28].

Table.6. Descriptive Statistics of the Level of Satisfaction Based on the Quality of Practice and Medical Care Provided

Indicator	**Mean**	**Std. Deviation**
Willingness to listen carefully	6.81	.880
Taking time to answer questions	6.80	.878
Amount of time spent with the appointment	6.65	1.004
Explaining things in a way that was easily understood	6.72	.956
Clarity on instructions regarding medication/follow-up care	6.74	.914
The thoroughness of the examination	6.51	1.042
Clarity on advice given on ways to stay healthy	6.77	.971

Measurement Model of Patients' Satisfaction Based on Quality of Practice and Medical Care Provided:

Based on the Table.7, the values of factor loading dictates how big of an impact the statement makes on the satisfaction of the patient. In the given data, the statement that contributes to the satisfaction in terms of quality of practice and medical care provided is D7 or "clarity on advice given on ways to stay healthy" with a factor loading value of 0.862.

According to Silver (2015), the use of the internet in identifying and treating health can cause issues as there could be misinterpretation of the information provided or the use of an inadequate site for health information, which highlights greatly the importance of the advice given by the healthcare provider [29].

The statement that has the lowest value for factor loading is D1 or "willingness to listen carefully" with a value of 0.776. According to Jagosh et al. (2011), listening serves as a both a complex and vital feature of clinical practice as the information provided by the patients can be beneficial for the clinical investigation [30].

Table.7. Measurement Model of the Level of Satisfaction Based on the Quality of Practice and Medical Care Provided

Indicator	**Loading**	**Reliability Coefficient (0.903)**

Willingness to listen carefully	0.776	
Taking time to answer questions	0.777	
Amount of time spent with the appointment	0.734	
Explaining things in a way that was easily understood	0.816	
Clarity on instructions regarding medication/follow-up care	0.828	
The thoroughness of the examination	0.768	
Clarity on advice given on ways to stay healthy	0.862	

E. Patient's Overall Satisfaction

The following data shows the descriptive statistics and measurement model of the patients' overall satisfaction. In the descriptive statistics, the mean and the standard deviation are determined, while the measurement model shows the calculation of the factor loading between the variables.

Descriptive Statistics of Patient's Overall Satisfaction:

Table.8 shows the mean and standard deviation derived from the data gathered from the respondents. The questionnaire utilized Likert scale or 1 to 8, by which 4 and below denotes dissatisfaction while 5 and above denotes satisfaction. As seen in the results, the computed mean ranges from 6.24 to 6.91 which indicates satisfaction of the patients, whereas the computed standard deviation ranges from 0.832 to 1.354. Among all the statements under the overall satisfaction, E5 which states "Teleconsultation as a convenient form of healthcare delivery during the current COVID-19 pandemic" appears to be the one with the highest mean. This implies that most of the respondents consider Teleconsultation as an essential channel to receive healthcare services during the pandemic. On the other hand, E4 which states "Teleconsultation as an alternative for conventional physical consultation" appears to have the lowest mean. Despite the convenience of utilizing Teleconsultation in the middle of the pandemic perceived by the patients, least of the respondents consider it as a good alternative for conventional physical consultation, which means most still prefer conventional physical consultation over Teleconsultation.

Table.8. Descriptive Statistics of the Level of Satisfaction Based on the Overall Satisfaction

Indicator	**Mean**	**Std. Deviation**
Talking with physician	6.88	.832
Physician's understanding of the medical problem	6.90	.849
Physician's explanation of the patient's condition	6.72	.886
Teleconsultation as an alternative for conventional physical consultation	6.24	1.354
Teleconsultation as a convenient form of healthcare delivery during the current COVID-19 pandemic	6.91	.860
Use of Teleconsultation for follow-up in the future	6.41	1.234
General experience with Teleconsultation	6.63	1.037

Measurement Model of Patient's Overall Satisfaction:

Table 9 shows the tally of the results for factor loading obtained from the responses of the patients. Its validity is exhibited, considering that all the values are higher than 0.50, which means that all the statements are helpful and have an impact on the patients or the respondents in terms of their overall satisfaction towards Teleconsultation.

As shown in Table.11, E6 which states "Use of Teleconsultation for follow-up in the future" has the highest

value and it can be deduced from this that among others, this is the one that contributes most to the patients' overall satisfaction. According to the study conducted by Greenhalg et al. (2016) entitled "Virtual online consultations: advantages and limitations (VOCAL) study", there are some aspects of preoperative preparation and postoperative follow-up that can be achieved through remote consultations [31]. This can be correlated to this study; Teleconsultation has advantages recognized by the patients which greatly contribute to their overall satisfaction.

On the other hand, the statement with the least is E4 which states "Teleconsultation as an alternative for conventional physical consultation". In a study conducted by Fuerst (2017) entitled "Patients Prefer Face-to-Face Communications with Doctor", patients, particularly those who are suffering from advanced cancer, prefer to communicate with their doctors in a face-to-face manner, than repeatedly through a computer [32]. Over Teleconsultation, patients would still go for conventional physical consultation despite the advantages they identified.

Table.9. Measurement Model of the Level of Satisfaction Based on the Overall Satisfaction

Indicator	**Factor Loading**	**Reliability Coefficient (0.888)**
Talking with physician	0.798	
Physician's understanding of the medical problem	0.747	
Physician's explanation of the patient's condition	0.765	
Teleconsultation as an alternative for conventional physical consultation	0.713	
Teleconsultation as a convenient form of healthcare delivery during the current COVID-19 pandemic	0.729	
Use of Teleconsultation for follow-up in the future	0.858	
General experience with Teleconsultation	0.802	

F. Structural Equation Model

This structural equation model shows the 3 factors namely, access and features of the service, attitude of staff and physician, and quality of practice and medical provided are significant predictors of the patients' satisfaction given their path coefficient values and their p value. The path coefficient of "Access and Features of the service" is 0.20, "Attitude of Staff and Physician" has a path coefficient of 0.42, and "Quality of Practice and Medical Care Provided" has a path coefficient of 0.34. This shows that the attitude of staff and physicians has a greater influence on the level of satisfaction followed by the quality of practice and medical care provided and finally, access and features of the service. Furthermore, the R2 value of the model which is 0.79 is an indicator that the 3 factors can explain up to 79% of the variability of the patients' satisfaction on Teleconsultation. The average block VIF was calculated with a value of 3.691 as well as the average full collinearity VIF with a value of 4.035 both having values below 5 which indicates a good structural model. The calculated Tenenhaus GoF of 0.698 also indicated a good structural model.

The results of the structural equation model show the first factor, "Access and Features of the Service" is shown to having a significant impact on patient satisfaction levels which is like the findings by a study conducted by Beard et al. (2019), wherein high levels of satisfaction among patients were observed especially with regards to service accessibility [15]. The second factor, "Attitude of Staff and Physician" is shown to have the largest impact on the level of satisfaction. According to Tokuda (2016), the satisfaction of the patients adhered to the empathy and rapport of the healthcare provider to the patient [33]. The emotional support and the professionalism provided was also included as factors that affect satisfaction level of patients towards Teleconsultation. The third factor, "Quality of Practice and Medical Care Provided" as being part of the factors that can affect patients' satisfaction can be correlated in the study conducted by Beard et al. (2019). This study mentioned that the thoroughness of clinical assessment and the completeness of the information affects patients' level of satisfaction [15].

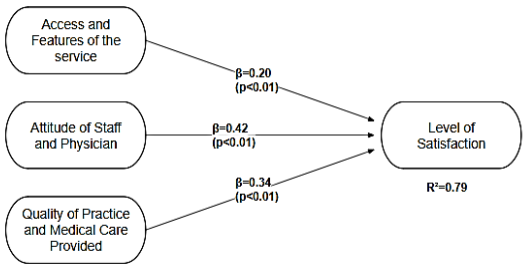

Fig.2. Structural Equation Model

Table.10 presents the supported hypotheses. There is a positive relationship between access and features of the service and level of patient's satisfaction ($\beta = 0.201$, $p < 0.01$) indicating that better access and features of the service results to a higher level of satisfaction. There is a positive relationship between the attitude of both hospital staff and attending physician, and the level of patients' satisfaction ($\beta = 0.421$, $p < 0.01$) indicating that a good attitude of both hospital staff and attending physician results to a higher level of satisfaction. There is a positive relationship between the quality of practice and medical care, and the level of patients' satisfaction ($\beta = 0.335$, $p < 0.01$) indicating that a high quality of practice and medical care results to a higher level of satisfaction.

Table.10. Standardized Path Coefficient of the Effect of Access and Features of the Service, Attitude of Staff and Physician, and Quality of Practice and Medical Care Provided to Satisfaction

	Path Coefficient	**p-value**	**Standard error**	**Effect size**	**Hypothesis**	**Result**
Access and Features of the Service --> Satisfaction	0.201	<0.01	0.051	0.149	H1	Supported
Attitude of Staff and Physician --> Satisfaction	0.421	<0.01	0.049	0.36	H2	Supported
Quality of Practice and Medical Care Provided --> Satisfaction	0.335	<0.01	0.050	0.284	H3	Supported

IV. CONCLUSION

In the light of the data and results gathered, the following conclusions are made.

Patients' satisfaction with the use of Teleconsultation during the year 2020:

The patients were satisfied with Teleconsultation during the year 2020. This room of improvement may be patterned to what the people were not satisfied with based on the study. Looking back at the descriptive statistics, the portion in which the respondents were generally dissatisfied was with the Access and Features of the service.

This means that the facilities that offer Teleconsultation in Manila need improvement of this said specific requirement. With this conclusion, the researchers hope that this pandemic became an eye-opener on different alternatives in preserving the quality of human healthcare even if it is integrated with technology. The Philippines deserves a better healthcare system especially during a pandemic.

Factors that influenced the level of satisfaction of patients who made use of Teleconsultation during the year 2020:

The researchers can conclude that hospitals or clinics that offer the service of Teleconsultation should focus on making sure that the Attitude of Staff and Physician is always in order and in its best quality. For the patients to maximize their satisfaction regarding the service, the Attitude of Staff and Physician should be well-maintained and standardized. Going back to the data, the statement under this factor that greatly affected the patients' satisfaction was "The caring concern of the physician." The physician's attitude is much more important to the patients than the staff.

This conclusion might mean that the patients who experienced Teleconsultation look at how the physician treats them or the concern they give to the patient. This evaluation will further influence the satisfaction of the patients towards satisfaction.

Barriers that affected the level of satisfaction of patients who made use of Teleconsultation during the year 2020:

The access and features of the service were not a huge factor in the overall satisfaction of the patients but may still contribute to it. The reason behind this might be because they were not expecting a lot from this since we do not have the capabilities to offer high-tech services. It is important to suggest that to improve based on what they lacked as patients. The cost of using Teleconsultation should be lessened and the amount of hospitals that offer them should be increased. With this, the future of Teleconsultation in the Philippines will be bright even after the pandemic.

Data that could be provided to future researchers for the improvement of Teleconsultation delivery in the country:

The patients were satisfied with their experience of utilizing Teleconsultation. It can be concluded that patients have a high regard for the following aspects of their Teleconsultation if: their calls are returned to in a timely manner as this means their needs are considered urgent, the physician shows caring concern, and advice on how to stay healthy is provided to them. However, patients are less satisfied as they find it not easy to get a referral, and if they notice that the healthcare providers are indiscreet with patient information and are inattentive to them. Future researchers could refer to the results of this study and conduct further studies on how the aspects presented directly affected the patients, as well as to arrive at different ways for improvement.

Recommendations:

For future researchers, it is recommended to find other factors that could affect the level of satisfaction of patients towards Teleconsultation. A remainder of 21% is still unknown; thus, making it a great basis for future research. Another recommendation for future researchers is to study the satisfaction of patients from a different location here in the Philippines. The researchers decided to focus on residents of Metro Manila since there were little to no studies regarding Teleconsultation in the Philippine setting. More research needs to be done in this field in the Philippine setting. Another recommendation would be for the future researchers to focus more on the different aspects of Teleconsultation and reasons that resulted in low satisfaction of the patients and how these aspects could be improved more in the future. Our data also provides a baseline information with regards to patient satisfaction and can help researchers formulate theories and study about the efficiency and effectiveness of Teleconsultation.

Ethics approval:

This study was approved by the Faculty of Pharmacy Research Ethics Committee at the University of Santo Tomas, España, Manila, Philippines. With Certificate no. FOP-ERC-2021-01-160.

Consent to participate:

Consent to participate was made through the data gathering instrument using google forms. The consent was gathered virtually due to limitations brought about by the pandemic.

Consent for publication:

The researchers give their full consent for the publication of this study.

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