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Implementation of Telemedicine among General Population and Its Impact on Health Care Management during Pandemic Attacks

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ABSTRACT

Among the elements that make up the mosaic known as e Health, telemedicine has been defined as the use of ICT to transmit medical information for diagnosis and treatment and learning objectives, undoubtedly receiving the most attention over time. Telemedicine was initially developed to bring healthcare services closer to the population living in remote places with limited health resources thereby improving accessibility, later became a method to improve the quality of healthcare by facilitating healthcare training and decision-making to health professionals in remote areas. This study aimed to evaluate the implementations of telemedicine among general populations and their impact on health care management during pandemics. The study explores the intentions of the callers with respect to covid pandemic and urges to seek some health advice but unable to come out of the home due to restrictions or lockdown at their area. Study had evidenced that most of the respondents were not having all the symptoms. Some are with fever, some with cold, but with the travel history many of them worried about health conditions in pandemic situations. Health seeking behavior was significantly more than normal conditions which shows the health literacy high when they are in pandemic conditions due to their needs, circumstances and other impacts. Overall, implementation of telemedicine among the general population and health care management during pandemic attacks has positive influence on the population at study area.

Key words: Telemedicine, Health Care Management, Pandemic and E Health

Introduction

Telemedicine is one of the key innovations in healthcare services, not only from technology but also from cultural and social perspectives as it benefits access to health services and improves the quality of healthcare and organizational efficiency. Telemedicine plays a role in providing solutions to the challenges posed by socio-economic changes in the 21st century healthcare system (greater health care needs, aging population Increased mobility of people, need to manage large amounts of data global competitiveness and better healthcare), all in an environment where budget constraints and spending constraints However, there are significant hurdles in standardizing telemedicine and full merger and expansion. Despite the strong political will to integrate information and communications technologies (ICTs) with healthcare and the increasing activities associated with telemedicine, it still has a small token in clinical and healthcare settings. In addition, although a growing number of pilot projects and viability studies are underway, there are few applications of telemedicine in clinical

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practice and included in medical procedures. And even these are often canceled once the initial phase is over (Broens 2007, WHO 2010).

The purpose of this study was to provide a solution for the successful deployment of telemedicine services (and eHealth in general) in healthcare settings in the wake of the pandemic. After reviewing the literature identifying the major theories, models, and frameworks used in applied sciences, we have introduced a theoretical framework that addresses the barriers to consolidating and standardizing the use of telemedicine in healthcare institutions. This descriptive study gathered qualitative data from various sources on a specific topic and summarized and synthesized literature to determine "what is known" about a topic (Jones 2004).

Theoretical framework is based on understanding the context within the broader structure along with the challenges and opportunities it presents. The document introduces readers to the realities of implementing telemedicine services in real health settings. Analyze the interactions that occur between the ICT adoption process and the changes that occur in the organization management models, culture, and medical services; and finally, reflect key issues related to prioritization, design, implementation, integration, and assessment. Analysis of this theoretical framework should allow the creation of a research program that focuses on the key areas of successful telemedicine development and proposed actions to overcome difficulties, aimed at the community of experts. (in the broadest sense) willing to work in any field anything related to the advancement of the healthcare sector both in health and social environment with implementation and intensive use of ICT. In May 2005, the health ministers of the 192 member states of the World Health Organization (WHO) met in Geneva for the 58th World Health Assembly and approved a resolution on eHealth (WHO 2005). Recognize the contribution of ICT integration into health and health system management considering it a unique opportunity for public health development.

The WHO report defines eHealth as “a cost-effective and safe use of information and communication technologies in support of health and health-related fields. including health services health surveillance health literature health education knowledge and research,” and it states that eHealth “strengthens fundamental human rights by improving equality, solidarity, quality of life and quality of care” (WHO 2004). WHO a global strategy in the field of eHealth and encourages Member States to develop long-term strategic plans for the development and implementation of eHealth services shared by other international, national and regional organizations. In fact, in early April 2004, the European Union developed a Action Plan (EU eHealth Action Plan 2004–2010) for the creation of the so-called “European eHealth Area” of the European Union states that eHealth” can improve access and boost the quality and effectiveness of the services offered” continued: “Combined with organizational changes and new skills development, e-Health can enable better care for less money within a people-centred healthcare system. It therefore responds to the key challenges facing the health sector” (European Union 2004). In 2011, the Pan American World Health Organization (PAHO) supported this interest by developing an eHealth strategy and action

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plan (2012-2017) for countries in Latin America and the Caribbean (Pan American Health Organization 2011).

Materials and Methods

Quantitative study conducted using survey and questionnaire as a tool to collect research data. Such questionnaire researchers are prominent and modified according to the study. Yes or No type attitude questionnaire was constructed; a primary pilot study was conducted and tested. The data presented in tables and the questionnaire elements reflected using the percent score represented in each respective table. In addition, data analysis was conducted by SPSS (V.22). Primary data was collected by the author with the help of Thai- native speakers through personal interactions with the subjects. To acquire accurate and reliable data, the author took all the precautionary measures, apart from that caution and care were taken while data collection. The author took all possible effort to establish a friendly relationship with the quarry respondents. So that the respondents do not feel hesitation to provide samples, personal information and data. Prior to the interview, the author described the prime objectives of the study to each and every quarry worker. Consequently, they were convinced that the purpose of the study was purely research and was not likely to have any adverse effects or diminish their livelihood. Telemedicine health advice seeking respondents are 127 and conducted a cross sectional retrospective study, study site at Thalath Ongkharak, Nakhon Nayok, Thailand.

Results and Discussion

Table: 1. Caller demographic information

Parameter	Mean ± SD
Age	44.42±15.25
Gender	Male 31 (24.41 %) Female 96 (75.59 %)

Table 1 explores demographic characteristics of respondents in regards to the covid pandemic. Age mean 44.42 and standard deviation 15.25 and males 24.41% and females 75.59%. The study explores the intentions of the callers with respect to covid pandemic and urges to seek some health advice but unable to come out of the home due to restrictions or lockdown at their area. So telecallers could not meet their doctors on time to seek health advice or their condition at the time of pandemic.

Table: 2. Distribution of respondents based on Symptoms with COVID – 19 scoring and Basic treatment advised

Parameter	Positive (%)	Negative (%)
Fever	61 (48.03)	66 (51.97)
Cough	81 (63.78)	46 (36.22)
Flue	72 (56.69)	55 (43.31)
Diarrhoea	63 (49.61)	64 (50.39)

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Travel history	79 (62.21)	48 (37.79)
Primary contact	98 (77.17)	29 (22.83)
Medical history		
Anti inflammatory	39 (30.71)	88 (69.29)
Antiviral	69 (54.33)	58 (45.67)
Antipyretic	42 (33.07)	85 (66.93)
Antidiarrheal	36 (28.35)	91 (71.65)
Antihistamine	47`(37.01)	80 (62.99)
Calcium	79 (66.22)	48 (37.78)
Vitamin –D	86 (62.77)	41 (32.23)
Vitamin- C	92 (72.44)	35 (27.56)

Symptoms with COVID – 19 scoring as follows with fever (48.03%), without fever (51.97%), with cough (63.78%), without cough (36.22%) ; with flue (56.69%) , without flue (43.31); with diarrhoea (49.61%) , without diarrhoea (50.39%); with travel history (62.21%) , without diarrhoea (37.79%) ; with primary contact (77.17%) , without diarrhoea (22.83%). Basic treatment advised with Anti inflammatory (30.71%), without Anti inflammatory (69.29%); with antiviral (54.33%), without Antiviral (45.67%); with Antipyretic (33.07%), without Antipyretic (66.93%); with Anti diarrheal (28.35%), without Anti diarrheal (71.65%); with Antihistamine (37.01%), without Antihistamine (62.99%); with Calcium (66.22%), without Calcium (37.78%); with Vitamin –D (62.77%), without Vitamin –D (32.23%); with Vitamin- C (72.44%), without Anti diarrheal (27.56%). Study had evidenced that most of the respondents were not having all the symptoms. Some are with fever some with cold, cough but with the travel history many of them worried about health condition in pandemic situations. Health seeking behavior was significantly more than normal conditions which shows the health literacy high when they are in pandemic conditions due to their mental condition circumstances and other impacts.

Table: 3. Management of callers by COVID-19 testing, home isolation, hospital admission and recovered from symptoms

Parameter	Offered / Suggested (%)	Not offered /Not Suggested (%)
COVID-19 Testing	31 (24.41)	96 (75.59)
Home isolation	87 (68.50)	40 (31.50)
hospital admission	21 (16.54)	106 (83.46)
Recovery		
with home isolation	106 (83.46)	
In hospital	21 (16.54)	

Table 3 shows how to manage respondents based on testing home isolation to hospital recovery from symptoms. Testing suggested (24.41%) and not suggested (75.59%); home isolation suggested (68.50%) and not suggested (31.50%) admit to hospital (16.54%) and not admitted (83.46%) recovery from symptoms. Most of the respondents were recovered at home in isolation with mild medications to recover with symptoms and come to normal life

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able to work light works rather than heavy works. Most of them expressed their concern that they do feel like no energy fatigue, fainted drowsy or air walk so suggested multivitamins or calcium or vitamind3 to enhance their metabolism.

During the outbreak of COVID-19, it is necessary to control and to limit the spread of the virus and to protect doctors, nurses and Other healthcare professionals E-health programs including telemedicine can lead to limiting the spread of infection by allowing patients to receive medical advice from home. Such telemedicine programs are common in high-income countries, particularly China (upper-middle income group), the study shows. The effectiveness of telemedicine in serving patients information and preventing unnecessary hospital visits of telemedicine to provide, this service while protecting medical care experts demonstrate usefulness as a clinical tool. This study shows that telemedicine services are being used with 857 patients calling the center for matters related to Symptoms and management of COVID-19 in a month. There is currently little published paper on the field of telemedicine. No dissemination of summary information implanting telemedicine could be a hurdle to defense others from taking the leap on their own 9 recognition of the presence of telemedicine is likely to be an important facilitator in the adoption of telemedicine, especially in the healthcare sector Providers Because of this, there is a need for telemedicine training to healthcare professionals in Thailand recent studies Reportedly conducted in low- and middle-income countries also suggested the same.

12–15 studies performed in Karachi, showing what doctors can do to understand the technology and learn how to use it properly without the rigorous training that is sometimes necessary for consumers (Moghbeli 2017). The introduction of telemedicine plays an important role in safety measures and reduction of the impact of the epidemic in setting up emergency care. Using telemedicine in non-urgent services It has been shown that effective care can still be provided while Distance between people. In addition, the use of telemedicine has facilitated Quarantine/self-isolation/protection but doctors show no symptoms to provide treatment and counselling from home as well reduce the pressure in the system Telemedicine is reported to reduce the incidence of 'White Coat Syndrome' and the effects of The frequency of hospital visits through the use of interactive medicine. Video and email reduce patient anxiety. It is an ideal platform for monitoring and follow-up Communicable diseases such as tuberculosis13 Moving patient counseling online increases the chances of Violation of patient privacy, which could pose a threat to the principles of protection (Mahalli 2012).

As mentioned earlier, in low- and middle-income countries, telemedicine is still an emerging field with little knowledge, Experience or advice on frameworks for implementation, the triage system is used in Thailand different from that of the more involved VMCS with financial investment in labor and video conferencing equipment and establishing requirements for online consent of appointment, reminder and report to pharmacist. While patients in Pakistan are not ready electronically and have a lower general knowledge ICT and Telemedicine As highlighted by a recent study in Karachi lacks the financial support to access a reliable network and the public's familiarity with ICT is a major barrier to the public.

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Understand the value of telemedicine However, in many countries the healthcare sector has already taken its first steps in the direction of e-health (Perisetti 2020, Ashfaq 2020).

These findings indicate that telemedicine services made a positive impact on health care management in Thailand with a promising level of success received from local people and an economic assessment is required first and then bring the appropriate tools to use to plan to deal with the epidemic of COVID-19 into practice. The ability to transfer results from the study of health technology assessment from one context to another is a common problem and should be given special attention in evaluating telemedicine applications. One of the reasons for this difficulty is that the application of telemedicine in health systems in general is a process that impacts the organization. To reach the full potential of telemedicine, sometimes adjustments must be made in the distribution of work among health professionals, as well as in the way of communication between experts. Likewise interoperability and degree of integration with other clinical or administrative systems; it would be critical if patients and healthcare facilities will benefit from the use of new telemedicine services. Technical infrastructure often varies from country to country and this can lead to significant differences in costs per patient and the possibility of introducing the same telemedicine services in different countries. This study provides illustrative insights in the operation of telehealth for different Purpose Telehealth may have different medical uses an area with a clear intervention strategy based on according to the needs of patients and physicians as a future perspective We recommend using telehealth system for creating a virtual hospital At home but with remote health help to reduce the burden to hospital.

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