



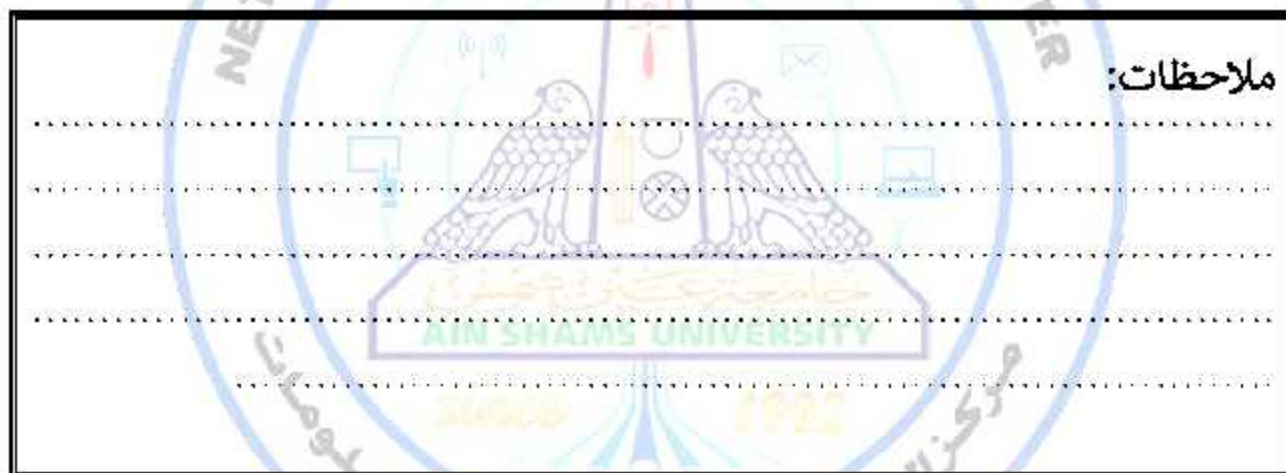
000000

تم رفع هذه الرسالة بواسطة / سنوي محمود عقل

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى

مسئولية عن محتوى هذه الرسالة.

ملاحظات:





Assessment of Telepsychiatry services provided by the Institute of Psychiatry during COVID-19 Pandemic

Thesis

*Submitted in Partial Fulfillment of the M.Sc. Degree in
Neuropsychiatry*

By

Nouran Mohamed Sabry Abdel Aziz

M.B., B.Ch., Ain Shams University

Supervised by

Prof. Dr. Maha Mohamed Sayed

*Professor of Psychiatry
Faculty of Medicine, Ain Shams University*

Prof. Dr. Maha Mohamed El Gaafary

*Professor of Community, Environmental and Occupational Medicine
Faculty of Medicine, Ain Shams University*

Prof. Dr. Nesreen Mohamed Mohsen

*Professor of Psychiatry
Faculty of Medicine, Ain Shams University*

Prof. Dr. Sherien Ahmed Khalil

*Professor of Psychiatry
Faculty of Medicine, Ain Shams University*

Prof. Dr. Hoda Mohamed Farid

*Professor of Geriatrics
Faculty of Medicine, Ain Shams University*

Faculty of Medicine
Ain Shams University

2022

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالَ

سَبِّحَانِكَ لَا تَعْلَمُ لَنَا
إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْعَظِيمُ

صدق الله العظيم

سورة البقرة الآية: ٣٢

Acknowledgment

*First and foremost, I feel always indebted to **ALLAH**, the Most Kind and Most Merciful.*

*I'd like to express my respectful thanks and profound gratitude to **Prof. Dr. Maha Mohamed Sayed**, Professor of Neuropsychiatry, Faculty of Medicine, Ain Shams University for his keen guidance, kind supervision, valuable advice and continuous encouragement, which made possible the completion of this work.*

*I am also delighted to express my deepest gratitude and thanks to **Prof. Dr. Maha Mohamed El Gaafary**, Professor of Community, Environmental and Occupational Medicine, Faculty of Medicine, Ain Shams University, for his kind care, continuous supervision, valuable instructions, constant help and great assistance throughout this work.*

*I am deeply thankful to **Prof. Dr. Nesreen Mohamed Mohsen**, Professor of Neuropsychiatry, Faculty of Medicine, Ain Shams University, for her great help, active participation and guidance.*

*I wish to introduce my deep respect and thanks to **Prof. Dr. Sherien Ahmed Khalil**, Professor of Neuropsychiatry, Faculty of Medicine, Ain Shams University, for her kindness, supervision and cooperation in this work.*

*I wish to introduce my deep respect and thanks to **Prof. Dr. Hoda Mohamed Farid**, Professor of Geriatrics, Faculty of Medicine, Ain Shams University, for her kindness, supervision and cooperation in this work.*

I would like to express my hearty thanks to all my family for their support till this work was completed.

Last but not least my sincere thanks and appreciation to all patients participated in this study.

Nouran Mohamed Sabry Abdel Aziz

List of Contents

Title	Page No.
List of Tables	i
List of Figures	iii
List of Abbreviations	iv
Introduction.....	1
Aim of the Work.....	6
Review of Literature	
Mental Health Services Worldwide.....	7
Burden of Mental Health Disorders.....	17
COVID-19 as a Pandemic and its Impact on Mental Health.....	21
Telemedicine and Telepsychiatry	33
Doctor/Patient Relationship.....	45
Telepsychiatry in Ain Shams University	60
Patients and Methods	64
Results.....	74
Discussion.....	106
Conclusion	131
Recommendations.....	132
Strengths & Limitations.....	134
Summary	136
References.....	142
Appendix I	180
Appendix 2.....	182
Arabic Summary	—

List of Tables

Table No.	Title	Page No.
Table (1):	Demographic and Academic Descriptive of the Interviewed Physicians	75
Table (2):	Attitude of the Interviewed Physicians toward Remote Consultation.....	76
Table (3):	Association of remote consultation attitude score with demographic and academic characteristics of the Interviewed physicians.....	81
Table (4):	Description of Demographic Characteristics of the Interviewed Patients.....	82
Table (5):	Descriptive Data about First Visit or Follow up Schedule of the Interviewed Patients.....	84
Table (6):	Descriptive data about the Availability of Near-by Mental Healthcare Services	85
Table (7):	Changes in illness status during COVID-19 pandemic	86
Table (8):	Preferences of Interviewed Clients to either Remote or Physical Consultation.....	87
Table (9):	Companionship with the patient during 1 st Visit Consultation	89
Table (10):	Reasons for remote consultation preference	89
Table (11):	Source of knowledge about remote consultation	91
Table (12):	Main drive for seeking remote consultation	91
Table (13):	Evaluation of the remote consultation encounter from the patients' perspective.....	93
Table (14):	Management plan prescribed by the physician.....	96
Table (15):	Evaluation of the technical aspects of the remote consultation encounter	97
Table (16):	Future use and recommending use of RC for others.....	97

List of Tables (Cont...)

Table No.	Title	Page No.
Table (17):	Sociodemographic factors affecting satisfaction by RC	98
Table (18):	Satisfaction by RC among clients in relation to onset of complaint.....	99
Table (19):	Association between adherence to the follow ups and degree of satisfaction	99
Table (20):	Preference of remote versus physical consultation as mentioned by clients.....	100
Table (21):	Source of information about remote clinic as mentioned by clients	101
Table (22):	Main drive for RC as mentioned by clients	102
Table (23):	Satisfaction of clients by RC in relation to characteristics of the encounter.....	103
Table (24):	Future use and recommendation for RC as mentioned by clients	105
Table (25):	Rating of the technical aspects of RC by clients in relation to degree of satisfaction.....	105

List of Figures

Fig. No.	Title	Page No.
Figure (1):	Emerging trends in telepsychiatry and implications for clinical practice.....	44
Figure (2):	Conceptual model	56
Figure (3):	Attitude of the Interviewed Physicians toward Remote Consultation.....	77
Figure (4):	Attitude of the Interviewed Physicians toward Remote Consultation.....	77
Figure (5):	Changes in illness status during COVID-19 pandemic	86
Figure (6):	Preference of RC vs physical consultations	87
Figure (7):	Reason for choosing remote consultations	90
Figure (8):	The main drive to seek help by remote consultation.....	92
Figure (9):	Overall satisfaction with RC	94

List of Abbreviations

Abb.	Full term
AI.....	Artificial intelligence
AIDS.....	Acquired Immune Deficiency Syndrome
AVH.....	Ain Shams Virtual Hospital
CDC.....	Center for Disease Control
DALYs.....	Disability Adjusted Life Years
ECT.....	Electroconvulsive Therapy
EMR.....	Electronic medical record)
EMR.....	Eastern Mediterranean Region
ER.....	Emergency Room
HC.....	Health Care
HDI.....	Human development index
HCW.....	Health care workers
HIV.....	Human Immune Deficiency Virus
IATV.....	Interactive television
IT.....	Information Technology
MGH.....	Massachusetts General Hospital
MHPSS.....	Mental health and psychosocial support
MNS.....	Mental, neurological, and substance use
MSc.....	Masters Degree
NGO.....	Non-Governmental Organization
OPC.....	Outpatient Clinic
PCMH.....	Patient-Centered Medical Home
PC.....	Personal Computer
PhD.....	Doctor of Philosophy
PCP.....	Primary Care Practitioner
PTSD.....	Post Traumatic Stress Disorder
PHEIC.....	Public Health Emergency of International Concern

List of Abbreviations (Cont...)

Abb.	Full term
<i>RC</i>	<i>Remote consultation</i>
<i>SARS</i>	<i>Severe Acute Respiratory Syndrome</i>
<i>TAM</i>	<i>Technology Acceptance Model</i>
<i>OTN</i>	<i>The Ontario Telemedicine Network</i>
<i>WEF</i>	<i>The World Economic Forum</i>
<i>TM</i>	<i>Telemedicine</i>
<i>TTT</i>	<i>Treatment</i>
<i>UHI</i>	<i>Universal health system</i>
<i>USA</i>	<i>United states of America</i>
<i>WHO</i>	<i>World Health Organization</i>
<i>YLDs</i>	<i>Years lived with disability</i>
<i>YLLs</i>	<i>Years of life lost</i>

INTRODUCTION

On March 11, 2020, the World Health Organization (WHO) declared the coronavirus disease 2019 (COVID-19) outbreak as a pandemic, with over 720,000 cases reported in more than 203 countries as of 31 March. This announcement followed the declaration of a Public Health Emergency of International Concern (PHEIC) on January 30. The confinement of population and the outbreak impact on health care systems is disrupting routine care for non-COVID-19 patients. In this context, telemedicine, particularly video consultations, has been promoted and scaled up to reduce the risk of transmission (*Ohannessian et al., 2020*).

Telemedicine is broadly defined as the use of information technology (IT) to deliver medical services over distances (*Tanriverdi et al., 1999; Perez-Garcia et al., 2015*).

As providing adequate and equal access to healthcare services is a priority of the WHO (*Humphreys et al., 2008*). One proposed solution to problems of quality, accessibility, and costs of medical care is the use of telemedicine (*Tanriverdi et al., 1999; Perez-Garcia et al., 2015*).

Meanwhile it is important to acknowledge that telemedicine in general and telepsychiatry in particular, also called tele-mental health (*Perez-Garcia et al., 2015*), are not new tools in medicine that the use of videoconferencing in psychiatry

began during the 1950s, where in 1959, the Nebraska Psychiatric Institute was using early video conferencing to provide group therapy, long-term therapy, consultation-liaison psychiatry, and medical student training at the Nebraska state hospital in Norfolk. In 1969, Massachusetts General Hospital (MGH) provided psychiatric consultations of adults and children at a Logan International Airport health clinic. During the 1970s-80s it became increasingly common, expanding to most diagnostic and therapeutic interactions. By the 1990s, it spread further across the world, particularly in Australia, and research began on its ability to facilitate access to care, overcome geographical obstacles and how it compared to in-person care. By the 2000s, the field began to see it as effective, but slightly different, than in-person care, and research in outcome studies provided a platform for practice guidelines (*Hilty et al., 2013*).

Recent technological advances have led to the use of telemedicine as a way to increase access to health care to those who have limited resources. Through the use of videoconferencing equipment. The increasing accessibility of broadband internet have allowed this technology to reach more parts of the world, while the increasing sophistication of equipment such as high-definition televisions and remote-controlled webcams has allowed this technology to feel less impersonal (*Perez-Garcia et al., 2015*).

Telemedicine (TM) has the potential to help by permitting mildly ill patients to get the supportive care they need while minimizing their exposure to other acutely ill

patients. After all, the only infection that one can catch while using TM is a computer virus. To encourage the TM approach, nearly all health plans and large employers offer some form of coverage for TM services.

Although the use of TM has increased over the last 2 to 3 years, rates of TM adoption among allergists are still low (*Portnoy et al., 2020*).

In response to the current COVID-19 situation, the Centers for Medicare & Medicaid Services and commercial health plans largely have waived co-pays for TM visits as a means to encourage utilization in this time of need, and allergists need to pay attention to this (*Portnoy et al., 2020*).

A recent survey demonstrated that patients are willing to use telehealth, but some barriers still exist, like for example how many people revert to what they are used to doing and the way in which they previously interacted with the health care system. Patients would prefer that they see their own provider through TM versus someone with whom they do not have a previously established relationship. Patients may be unaware that they have TM as an option and do not know how to make use of it (*Portnoy et al., 2020*).

The key use of telemedicine in these illustrations is to have a thorough understanding of the current healthcare situation in the country and also provide healthcare from a distance, without

diminishing the quality of care, to enable more successful prevention without face-to-face interaction and the inherent dangers of traditional service provision (**Leite et al., 2020**).

Indeed, it is shortsighted to consider the utility of telemedicine as being limited to handling the current crisis whose utility will dissipate when the pandemic crisis ends (**Bashshur et al., 2020**).

Most studies of telepsychiatry report high levels of satisfaction among patients and their relatives as well as among clinicians (**Bishop et al., 2002**).

So, developing telemedicine in general and telepsychiatry in particular along with patients and clinicians' satisfaction must be one of our priorities.

Some studies revealed that, patients speak freely when using telepsychiatry, are willing to use it again, and positively rate their experiences with providers. Patients also prefer telepsychiatry over waiting a longer period of time to see a specialist or traveling a significant distance for an appointment. Moreover, telepsychiatry can reduce absenteeism (work, school), enhance sense of patient choice and control, and spare patients from long, expensive, and life-disrupting journeys (**Chung-Do et al., 2020**).

Patient satisfaction is a growing concern in all aspects of healthcare because the patients are the only source of

information that can report how they were treated and if the treatment received met the patients' expectations of care. If the patients are not happy with their healthcare services being provided remotely, the service becomes redundant and expensive. With the increase in prevalence of telehealth, it is important to maintain the key quality indicator of patient satisfaction regardless of modality of delivery. The voice of the customer needs to be continuously heard (*Kruse et al., 2017*).

Providers' opinions about telemedicine is also important, the competency of the practitioner on the other end of the system and the completeness of the patient records both comprise important considerations for providers. Trust among healthcare workers influences and directly affects their attitudes toward the telemedicine set-up. Practitioners also appreciate the educational possibilities of teleconsultations, as well as the method's ability to reduce unnecessary specialist referrals. If specialists can get initial views of the patients, they can make early decisions about the need for full office visits (*Whitten et al., 2005*).

So, conducting research to assess the satisfaction of patients and health care providers was mandatory to keep pace with the ongoing development across the world.