International Egyptian Journal of Nursing Sciences and Research (IEJNSR)

Original Article

Received 29/05/2022
Accepted 17/06/2022
Published 01/07/2022

Patient satisfaction with use of telepsychiatry and perception of mental stigma in psychiatric clinic

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ABSTRACT

Patient satisfaction is a crucial and frequently used parameter for assessing the standard of medical service. The COVID-19 epidemic forces the health systems to quickly adapt and find ways to deliver their customary offline services using online resources. Telepsychiatry enables psychiatrists to care for more patients in the far places. Where both the psychiatrists and their patients were able to connect, run through psycho diagnostics, and even recommend (pharmacology and psychotherapy) treatment. ***Aim***: We aimed to assess patient level of satisfaction with use of telepsychiatry and their felt stigma in psychiatric clinic. ***Design:*** The descriptive correlational design was used. ***Setting***: carried out at private health care center and private clinic that provide care through telepsychiatry using Chezlong, and Nabd Tech application. **Tools**: The study data was collected by using the following two tools: **Tool I**: Standardized Stigma Scale, **Tool II:** Patient Satisfaction Questionnaire Short Form (PSQ-18). ***Result*****:** The main results revealed that more than half of the individuals that were investigated, were satisfied with tele psychiatry, most of them had great stigma level, also, there was not a statistically significant correlation between stigma and satisfaction with tele psychiatry. ***Conclusion*****:** the majority of the studied patients were satisfied with the accessibility of using telepsychiatry and there was no statistically significant correlation between patients' satisfaction with using tele psychiatry and their perception of mental stigma. ***Recommendations*****:** we offered recommendations for health IT policy makers, developers, and researchers to sustain the continuity of telehealth activities beyond the COVID-19 pandemic and enable the wide adoption and use of telehealth services.

Keywords: telepsychiatry, patient satisfaction, stigma, psychiatric clinic

Introduction

Telemedicine is a method of delivering healthcare remotely through technology, most frequently using video conferencing. Psychiatric screening and evaluations, treatment (individual, group, or family therapy), patient education, and medication management are all offered as part of telepsychiatry, a branch of telemedicine that

involves direct online connection between a psychiatrist and the patient. Telepsychiatry also includes providing mental health care consultation and expertise to primary care doctors that help them to provide care. In a live, interactive communication, mental health care can be offered, called video-based telepsychiatry which involves recording medical information in the form of images and videos. ***(Jay et.al 2020 & Kushner et.al 2018).***

Video-based telepsychiatry satisfies patients' demands for practical, affordable, and simple access to mental health care. Additionally, it helps patients in a number of ways, such as increasing their access to mental health specialty care that might not otherwise be available (for example, in rural areas), bringing care to them where they are, minimizing the need for long drives or potential transportation issues, and enhancing continuity of care and follow-up without the stigma that can significantly slow down recovery· (***Doze et.al 2020)***

Negative attitudes or discrimination towards someone because of a distinctive attribute, such as a mental illness, health condition, or handicap, are examples of stigma. other factors associated with stigmas include gender, sexuality, race, religion, and culture. Unfortunately, there is still a stigma attached to mental illness. While stigma is not exclusive to mental disorders, attitudes toward psychiatric illnesses are more negative than those toward physiological illnesses. Stigma is one of the leading risk factors for poor mental health outcomes, according to research. Stigma causes treatment delays and reduces the likelihood that a person with mental illness will receive proper and adequate care**.** ***(Hawker et.al 2019& Shrivastava et.al 2012)***

There are different types of stigma associated with mental illness; the most serious type is social stigma, which is seen as the primary cause of unfavorable health outcomes. Numerous studies on the stigma of mental illness have shown that stigma endures, and most people still have a negative attitude toward those who suffer from psychiatric illness, despite the public's increased awareness of the nature of many mental health conditions. ***(Oexle et.al 2018)***

Another critical type is internalized stigma that leads to internalized shame about having g a mental disease results .In a long term investigation, it was discovered that this form of stigma contributes to serious and destructive results like social rejection, isolation, worse psychological well-being , violence ,harassment, bullying ,a bad quality of life feelings of humiliation and self-doubt , disability so people who are stigmatized are more likely to be repelled from seeking help , which lead to delay treatment that finally the main cause of increases morbidity and mortality rate, in this line telepsychiatry consider magical stick for those patients suffering from sigma and fear to seek treatment . ***(Hartini e.t.al ,2018)***

As psychiatrists and other clinicians in telepsychiatry do not need to be licensed in the state(s) where the patient is situated, telepsychiatry aids psychiatrists in treating more patients in remote locations. There is strong evidence supporting the efficacy of telepsychiatry, and studies have found that patients, psychiatrists, and other providers are very satisfied with the service. It has been established that overall

tele psychiatric encounters with patients of all ages were positive and satisfying for both medical professionals and patients. Whether it is for children, adolescents, or adults, in terms of examination and treatment. For some people, such as those with autism, severe anxiety disorders, PTSD, depression, ADHD, and patients with physical limitations, telepsychiatry may be preferred to in-person care ***(Szczesniak 2018)***

As a subcategory of mental health services, psychiatry has always relied on a high level of patient-provider interaction. Because of the evaluation methods employed by psychiatrists in today's medical profession, it is vital for patients and psychiatrists to have direct interaction because psychiatry often entails psychopharmacological treatment and study of nonverbal clues. As a result, technologies that deliver mental health services at a distance must include the essential degrees of personal interaction to assure the quality and type of care required. Due of this need, telepsychiatry has typically relied on interactive audiovisual conferencing systems over high-bandwidth networks. A typical telepsychiatry system consists of a video camera, a microphone, speakers, a headset, one or two monitors, and either a camera or a microphone at either end. (***Leonard*** & ***McGinty et.al 2019)***

Finally, it's worth to focus all attention to the role of nurse in tele psychiatry, one of the evolving roles of nurses as they take on new responsibilities of providing nursing service in home settings is the use of information technology (IT). Telehealth nursing focuses on patients' long-term wellness, self-management, and health. This IT solution provides nursing care across a distance, empowering the care providers with the ability to monitor, educate, follow-up, collect data, and provide multidisciplinary care including remote interventions, pain management, and family support in an innovative fashion.

Eventually, it is important to mention that telepsychiatry is used in a wide range of settings, including private practice, outpatient clinics, hospitals, schools, prisons, nursing homes, and military treatment facilities. Telepsychiatry is also being used in nursing homes to provide consistent and excellent psychiatric care.

Aim of the study:

The aim of this study was to determine the patients' level of satisfaction with use of telepsychiatry and perception of mental stigma in psychiatric clinic

Research questions:

- What is the level of patients' satisfaction with using telepsychiatry in the psychiatric clinic?
- What is the level of perceived mental stigma?
- What is the relation between the patient level of satisfaction with the use of telepsychiatry and their perceived stigma in the psychiatric clinic?

Subjects and Method

Research design: Descriptive correlational design was used in this study.

Research setting:

This study was conducted at a private medical facility and a private clinic that offers tele

psychiatric care utilizing the Chezlong and Nabd Tech applications.

Subjects:

A convenient sample of 100 patients who complete a telepsychiatry appointment within private health care centers and clinics through Chezlong, and Nabd Tech application, The subjects of this study were selected according to the following criteria: both sexes, all age groups, stabilized patient, well educated, having insight, and agree to participate in the study.

Tools of the study

The data of this study was collected using the following three tools:

Tool I: Socio-demographic characteristics and clinical data

It was developed by the researchers which includes: (age, sex, marital status, level of education, residence, income, diagnosis)

Tool II: Standardized Stigma Scale

It was developed by ***Dinos et al., (2004***), to measure stigma of mental illness, it consists of 42 items, subdivided into three subscales: (1) "Disclosure (2) "Discrimination" and (3) "Positive aspect subscale". Each item is assessed on a 5 – point Likert scale ranging from 1 to 5, with 1 representing "strongly disagree" and 5 representing "strongly agree". The minimum number of points is 42 and the maximum number of points is 210. Some items were reversed in scoring (items 21,26,35,36).

Scoring system of these questionnaires was as follow:

- < 50% -65% = less stigma
- > 65% = great stigma

Tool III: Patient Satisfaction Questionnaire Short Form (PSQ-18): it was developed by ***Davis &Ware*** **(1988)**.to determine the extent to which different delivery system satisfy the patients.

It consists of 18-item divided into seven subscales (General satisfaction, technical satisfaction, Interpersonal satisfaction, Communication satisfaction, financial satisfaction, Time spent on communication satisfaction and Accessibility satisfaction subscales).

Each item is rated on a 5-point Likert scale ranging from 1 "strongly disagree" to 5 "strongly agree". The minimum number of points is 18 and the maximum number of points is 90. To avoid errors when answering the scale, note that the following points must be scored reversed: (7,12,13,14,17)

Scoring system of these questionnaires was as follow:

- < 50% -65% = Un Satisfied
- > 65% = Satisfied

Methods:

The study was carried out through the following steps:

Administrative approval: -

- To start data collection, an official letter from the faculty of nursing, Tanta University was taken first,
- To conduct the study, an official permission was obtained from the responsible authorities "the director of private health care center and private

clinic " for data collection after clarifying the purpose of the study

Ethical Considerations:

- This study was approved by director of private health care center and private clinic.
- Nature of the study did not make any harm or pain to the patients
- Online Knowledgeable consent toke from the patients after explanation of the purpose of the study
- Confidentiality of data were secure. Patients were reassured that the information gathered is kept private and is solely utilized for the study's purposes.
- The right of patients to withdraw from the study at any time was respected
- All study tools were translated into Arabic language and content validity was tested by a jury of five experts in the field of psychiatric nursing.
- All study tools were tested for reliability using Cornbrash's Alpha coefficient test and t was founded (r = ,78 & ,86) respectively).
- Tools of the study were designed by Google forms to be an online questionnaire. (https://forms.gle/QGLEH5Rsv4CWcYkt6)
- Online Pilot study was executed with 10 patients to evaluate the tentatively tools for the clarity, feasibility, and the applicability. Those10 patients were excluded later from the actual study.
- **Actual study:** The study data was collected during three months from (October to December 2021) through creating WhatsApp group for all patients after completing their telepsychiatry appointment through Chezlong, and Nabd Tech application to illustrate the purpose of the study and to gain their cooperation. The researchers assign the study tools on the respondents and explains how to fill an online questioner.

Statistical analysis:

The data was collected, tabulated, coded, and statistically analyzed using the mean, standard deviation standard error, the linear correlation coefficient, and chi-square by SPSS V19 (Statistical Package for Social Studies) created by IBM, Illinois, Chicago, USA. The level of significance was adopted at $P < 0.05$.

Results

Table 1 describes the sociodemographic traits of the patients under study. 53 percent of them were discovered to be male, according to their sex. The majority of them (52%) were found to be between the ages of 20 and 30, with a mean age of (30.2700 8.54442) years. Additionally, 44% of them were married, which is more than one third of them. It was discovered that 62 % of them claimed they didn't make enough money. It was obvious that 64% of them were from rural areas based on where they lived. According to their diagnosis, 22 percent of them had mixed anxiety and depression as well as schizophrenia/schizoaffective disease.

Table 2 represents Level of satisfaction among the studied patients regarding the use of telepsychiatry by subscales of patient' satisfaction scale, it was found that 58% of the studied patients were satisfied with accessibility of use of tele psychiatry, 55% of them satisfied with interpersonal satisfaction subscale questionnaire. Regarding, the general satisfaction level with use of tele psychiatry, it was found that 43% of the studied patients were satisfied.

Figure 1: shows the studied patient's total score of satisfaction with using telepsychiatry, it was found that more than half of the studied patients (62%) were satisfied with using telepsychiatry

Table 3: demonstrates percentage distribution of the studied patients regarding their level of stigma. The findings showed that 83% of the patients under study had high levels of disclosure stigma, 93% had high levels of discrimination stigma, and 64% had high levels of positive aspect stigma.

Figure 2 reflects the percentage distribution of total score of the studied patients regarding their level of experienced stigma, the result illustrated that, more than two third (82%) of the studied patients had high level of stigma.

Table 4 shows the relation between the level of satisfaction with tele psychiatry and socio demographic characteristics of the studied patients, it was found that there was a statistically significant relationship between level of satisfaction with tele psychiatry and sex and income of the studied patients, as **p- value** less than .05. This table also shows a statistically significant relationship between patients' diagnoses and contentment with telepsychiatry, since it was found that 14 percent of the patients who were satisfied with telepsychiatry had schizophrenia and schizoaffective disorder. (x^2 = 13.268 and p- value = .010*).

Table 5 demonstrates the relation between level of stigma and socio demographic characteristics of the studied patients. It was found that there was a statistically significant relation between level of stigma and marital status, level of education, and income of the studied patients, where (x^2 = 8.600 & p- value = .014*, x^2 = 11.846 & p- value = .003* and x^2 = 10.764 and p- value = .002*) respectively.

Also, this table illustrates that there was a statistically significant relation between level of stigma and diagnosis of the studied patients, as it was observed that 19 % of the studied patients who had great stigma level had schizophrenia and schizoaffective disorder while (x^2 = 22.476 and p-value = .000*)

Table 6 demonstrates correlation between stigma, and patients' satisfaction scale of the studied patients, the result of the present study found that there was not a statistically significant correlation between patients' satisfaction with tele psychiatry and their experienced stigma as (r = .014 and p-value = .889).

Table 1: - Distribution of the studied patient according to their socio-demographic characteristics and clinical data.

Studied nurses (N =100)			
Socio-demographic criteria		**N**	**%**
Sex	**Male**	53	53%
	Female	47	47%
Age	**20 – 30**	52	52%
	31 – 40	36	36%
	41 –	12	12%
	Mean SD: 30.2700± 8.54442		
Marital status	**Single**	31	31%
	Married	44	44%
	Divorced	25	25%
Residence	**Urban**	36	36%
	Rural	64	64%
Education level	**Higher education**	55	55%
	Middle education	39	39%
	Low education	6	6%
Income	**Enough**	38	38%
	Not enough	62	62%
Diagnosis	**Schizophrenia/ schizoaffective disorder**	22	22%
	Bipolar affective disorder	19	19%
	Mixed anxiety and depression	22	22%
	Anxiety disorder	19	19%
	Depression	18	18%

Table 2: Level of satisfaction among the studied patients regarding the use of telepsychiatry by subscales of patient' satisfaction scale.

Subscales of patient' satisfaction scale	Studied patients (N =100)		
	Level of satisfaction	**N**	**%**
General satisfaction	**Unsatisfied**	57	57%
	Satisfied	43	43%
Technical satisfaction	**Unsatisfied**	50	50%
	Satisfied	50	50%
Interpersonal satisfaction	**Unsatisfied**	45	45%
	Satisfied	55	55%
Communication satisfaction	**Unsatisfied**	50	50%
	Satisfied	50	50%
Financial satisfaction	**Unsatisfied**	54	54%
	Satisfied	46	46%
Time spent communication satisfaction	**Unsatisfied**	47	47%
	Satisfied	53	53%
Accessibility satisfaction	**Unsatisfied**	42	42%
	Satisfied	58	58%

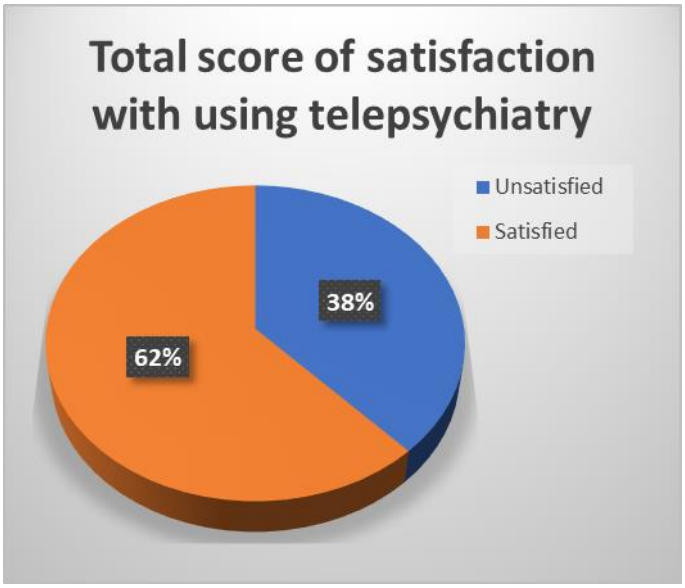

Figure 1: The studied patient's total score of satisfaction with using telepsychiatry

Table 3: Percentage distribution of the studied patients regarding their level of stigma by its subscales

Stigma subscales	Studied patients (N =100)		
	Level of stigma	N	%
Disclosure	Less stigma	17	17%
	Great stigma	83	83%
Discrimination	Less stigma	7	7%
	Great stigma	93	93%
Positive aspect	Less stigma	36	36%
	Great stigma	64	64%

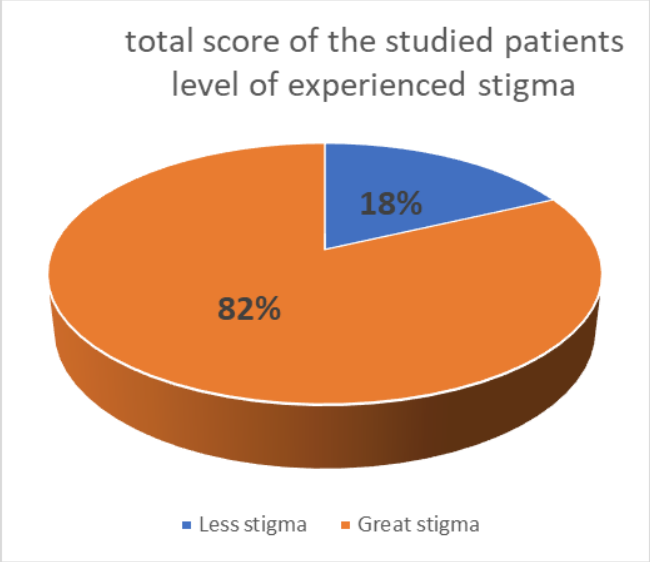

Figure 2: Percentage distribution of total score of the studied patients regarding their level of experienced stigma

Table 4: Relation between level of satisfaction with telepsychiatry and socio demographic characteristics and clinical data of the studied patients

Socio-demographic characteristics		Studied patients (N =100) level of satisfaction with telepsychiatry			
		Un satisfied	Satisfied	X^2	P value
Sex	Male	25%	28%	4.025	.045*
	Female	13%	34%		
Age	20 – 30	21%	31%	31.77	.284
	31 – 40	13%	23%		
	41 –	4%	8%		
	Mean SD: 30.2700± 8.54442				
Marital status	Single	15%	16%	3.507	.173
	Married	17%	27%		
	Divorced	6%	19%		
Residence	Urban	17%	19%	2.031	.154
	Rural	21%	43%		
Education level	Higher education	0%	6%	4.840	.089
	Middle education	20%	35%		
	Low education	18%	21%		
Income	Enough	21%	17%	9.589	.005*
	Not enough	46%	16%		
Diagnosis	Schizophrenia/schizoaffective disorder	8%	14%	13.26	.010*
	Bipolar affective disorder	14%	5%		
	Mixed anxiety and depression	6%	16%		
	Anxiety disorder	5%	14%		
	Depression	5%	13%		

Table 5: Relation between level of stigma, socio demographic characteristics and clinical data of the studied patients

Socio-demographic characteristics		Studied patients (N =100) Level of stigma			
		Less stigma	Great stigma	X^2	P value
Sex	Male	29%	24%	.240	.624
	Female	28%	19%		
Age	20 – 30	29%	23%	25.43	.604
	31 – 40	21%	15%		
	41 –	7%	5%		
	Mean SD: 30.2700 ± 8.54442				
Marital status	Single	11%	20%	8.600	.014*
	Married	30%	14%		
	Divorced	16%	9%		
Residence	Urban	20%	16%	.048	.827
	Rural	37%	27%		
Education level	Higher education	0%	6%	11.84	.003*
	Middle education	29%	26%		
	Low education	28%	11%		
Income	Enough	14%	24%	10.76	.002*
	Not enough	33%	29%		
Diagnosis	Schizophrenia/ schizoaffective disorder	3%	19%	22.47	.000*
	Bipolar affective disorder	12%	7%		
	Mixed anxiety and depression	15%	7%		
	Anxiety disorder	13%	6%		
	Depression	14%	4%		

* Statistically significant relation: p- value less than .05

Table 6: Correlation between stigma, and patients' satisfaction scale of the studied patients

Variables	Studied patients (N =100)	
	Patients' satisfaction questionnaire	
	r.	P value
Stigma scale	.014	.889

*Statistically significant relation: p- value less than .05

Discussion

Telepsychiatry is the delivery of psychiatric care remotely, via audio or video sessions, to a patient in a different place, using electronic communication and other technology. Patients who reside in remote, inconvenient, or rural areas can now utilize telepsychiatry to meet their mental health needs. Evidence also suggests that the use of Telepsychiatry has helped to address a number of earlier issues, including a shortage of mental health doctors and the stigma associated with mental health facilities. ***Kadri (2020)***

Concerning to patient level of satisfaction with the use of telepsychiatry in the recurrent study, it was found that half of the studied patients were satisfied with accessibility of use of tele psychiatry and satisfied with interpersonal satisfaction subscale questionnaire and regarding to the general satisfaction level with use of tele psychiatry, it was found that about half of them were satisfied with use of tele psychiatry. This result is in an agreement with ***Kadri (2020)*** who found that majority of the studied patients were satisfied with accessibility of use of tele psychiatry, more than

half of them satisfied with interpersonal satisfaction subscale questionnaire and most of them had general satisfaction with use of tele psychiatry.

In the present study, it was found that, most of the studied patients were satisfied with tele psychiatry, this may be attributed to those patients were satisfied with duration of the session they received, comfortability, ease of reaching to tele psychiatry setting, quality, carefulness, appointment, and privacy. These results matched with the results of ***Zammit (2019)*** who found that majority of patients who participated in the tele psychiatry service were satisfied with tele psychiatry.

The devaluation, shame, and discomfort experienced by people with mental illness are referred to as the stigma of mental illness. ***Abdullah (2011).*** For those who experience mental illness, stigma unquestionably has negative psychological, cultural, political, and economic effects. ***Dovidio (2000).*** As they are prone to stigma and prejudice as a result of the symptoms of the disorder, many mental patients claim that they experience stigma and discrimination as a result of their illness. ***Henderson (2009).***

Regarding patient level of experienced stigma in the existing study, many of the patients studied experienced a high level of stigma. this may be attributed as Egyptian families face shame, grief, fear, and a violation of the family's reputation when caring for a mentally ill family member. This is supported by ***Dinos S et al (2004)*** who found in his study that the majority of the patients studied had a high level of disclosure stigma, and the majority of them had a high level of stigma discrimination, but more than half of them had a high level of stigma positive aspect.

Regarding to relation between the satisfaction with tele psychiatry and sex, current Results presented that less than half of the studied patients who satisfied with tele psychiatry were female this result is supported by ***Almalky et al (2021)*** who found that more than half of the studied patients who satisfied with telepsychiatry were female**.** ***Kadri (2020)*** was incongruent with the present results and stated that none of demographic or other variables correlated significantly with satisfaction with telepsychiatry.

Current Results showed that there is a high level of stigma among young patients in relation to the analyzed patients' experience of stigma (20-30 years). This can be explained by the fear that mental stigma will affect young psychiatric patients' opportunities for future job, marriage, and education. In contrast, as people get older, they grow more accepting of their disease and the problems that go along with it. This conclusion is supported ***by Hartini N. et al (2018)***.'s research, which found that the average age of mental stigma is 23.3 years. This runs counter to the findings of ***Zaske et al (2018),*** who posited a connection between ageing and more frequent experiences of stigma. The present study showed that about quarter of the studied patients who had a high stigma level were male, which could be attributed to increased anxiety as well as a fear of being called mentally ill, so jeopardizing her ability to

marry or obtain work. This study is backed up by a study by ***Gierk (2018),*** which found that male gender is associated with higher mental health stigma ratings. From the other line ***Verhaeghe et al (2010)*** who found that only about half of his studied patients who had great stigma level were male.

The present study showed that the married studied patients had less stigma level. This may be attributed to that the presence of the spouse may be helping to overcome the stigmatization. in the same directions ***Hartini et al (2018)*** consistent with this result as he observed that married individuals have a higher tolerance for mental illness than divorced or single people. However, ***Szczesniak (2018) and Kalisova (2018)*** could not detect any significant effect of marital status on the level of stigma.

The present study showed that more than quarter of the studied patients who living in rural areas had less stigma level. In the same line ***Mutiso (2018) et al.*** mentioned that rural individuals were more positive than those residing in urban areas.

This is contradicted by ***Townley (2017)*** found that mental health stigma perceptions were higher in non-urban areas, which can be attributed to a variety of factors including fear of categorizing mentally ill patients into a small and closed community, low awareness levels, and the lack of inadequacy of mental health services.

The present study showed that quarter of the studied patients with a middle level of education had a high level of stigma, which could be explained by the fact that people with a lower educational level may have weak adaption skills or tactics to overcome perceived stigmatization. In a similar vein, ***Hartini et al (2018)*** observed that patients with poor educational levels, such as illiteracy and those who have not completed high school, have higher mental stigma ratings.

According to the current findings, nearly a quarter of the patients with lower levels of stigma did not have enough money. This study is not supported by ***Hartini et al (2018),*** who discovered that patients from low socioeconomic backgrounds had high stigma scores.

The current results illustrate that less than a quarter of the studied patients who had great stigma level had schizophrenia and schizoaffective disorder, this attributed to that the presence of psychotic symptoms itself lead to stigmatization for the psychiatric patients. This finding is corroborated by ***Sayed (2021),*** who found that patients with schizophrenia and other psychotic disorders with higher stigma levels are more likely than those with lower values, this is in line with the findings of ***Holubova (2018),*** who found that those with neurotic spectrum disorders or depression reported less self-stigma than people with schizophrenia spectrum disorders.

Regarding to correlation between stigma, and patients' satisfaction with tele psychiatry ,present study showed that there was not a statistically significant correlation between stigma and satisfaction with tele psychiatry this may be due to cost as it require many sessions and each sessions

require much cost in addition to cost , lack of confidentiality also, utilization of telemedicine for patients runs the risk of leaving a "digital paper trail," allowing unwanted people to access personal information. Other breaches in confidentiality include poor security of transcribed medical information, improper storage of video or voice recordings of the session, all this increase patient level of stigma. This is incongruent with a study done by ***Bashshur 2020 &Obisike (2018)*** who found that telemedicine reduces the treatment burden of stigmatization on patients with chronic disease.

Conclusion:

The present study found that more than half of the patients it surveyed were satisfied with the use of low-cost technologies that are made available by the widespread use of personal computers, the internet, mobile devices, and videoconferencing software by mental health professionals to provide mental health services. However, despite the fact that the majority of individuals had high levels of stigma, there was no statistically significant link between stigma and satisfaction with telepsychiatry.

Recommendations: Based on our findings,

- Health IT policy makers, developers, and researchers should sustain the continuity of telehealth activities beyond the COVID-19 pandemic and enable the wide adoption and use of telehealth services.
- Increase social media channels to reduce feelings of stigma and discrimination.
- Workshops and continuous training to disseminate (New technology, videoconferencing technology) in mental health services, schools, universities, and community.

- **Author Contributions**

  The study was designed by A.A.W. Data collection, analysis, and synthesis were performed by A.A.W. and M.M.Z. Manuscript writing was done by E.G. and A.A.W. Critical revisions for important intellectual content were provided by A.A.W., M.M.Z., and E.G. The study was supervised by all researchers.

- **Declaration of Conflicting Interests**

  The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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