The Effect Of Teletherapy And Nurse Led Clinics On Quality Of Life In Patients With Mental Health Disorders - A Comparative Study

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Abstract

Background

Mental health disorders significantly impact individuals' thinking, behavior, and well-being, with conditions like depression and anxiety being prevalent globally. Managing these disorders is challenging due to the need for long-term care, stigma, symptom variability, and limited access to services, especially in rural areas. The scarcity of psychiatrists in developing countries exacerbates these issues. Alternative care models, such as teletherapy and nurse-led clinics, offer promising solutions by improving accessibility and reducing stigma.

Materials and Methods

This was a comparative study conducted in the department of psychiatry of a tertiary care teaching hospital. 200 patients with mental illnesses were enrolled in this study to assess the impact of nurse-led clinics and teletherapy on quality of life (QOL). Group T (100 patients) received standard care plus additional support in the form of teletherapy and nurse led clinics, while Group C (100 patients) received only standard care. Baseline and post-intervention QOL were measured using the QOL 10 scale. Data analysis used chi-square tests, with a p-value <0.05 indicating statistical significance.

Results

The study found no significant differences in gender distribution or mean age between Group T (32% males, mean age 37.02) and Group C (43% males, mean age 39.12). Anxiety disorders were the most prevalent in both groups. Group T, receiving teletherapy and nurse-led interventions, showed significant improvement in all 10 domains of the QOL 10 scale over 12 weeks (P < 0.0001), while Group C, receiving standard care, did not show statistically significant improvements (P > 0.05).

Conclusion

Nurse led interventions and teletherapy was more effective in improving the quality of life score (QOL 10) in patients with mental health issues as compared to those who received only standard care.

Keywords: Telemedicine, Nurse led interventions, Mental Disorders, Quality of Life

Introduction

Mental illness, also known as mental health disorders, encompasses a wide range of conditions that affect an individual's thinking, feeling, behavior, and overall mental well-being. These disorders can significantly impair daily functioning and quality of life. Major types of mental illnesses include mood disorders (such as depression and bipolar disorder), anxiety disorders (such as generalized anxiety disorder and panic disorder), psychotic disorders (such as schizophrenia), eating disorders (such as anorexia nervosa and bulimia nervosa), and personality disorders (such as borderline personality disorder and antisocial personality disorder).[1] According to the World Health Organization (WHO), mental health disorders are among the leading causes of disability worldwide, with depression alone affecting millions of people globally. Anxiety disorders are similarly prevalent.[2]

Managing patients with mental health disorders presents numerous challenges. These patients often require long-term care and support, which can be both resource-intensive and demanding. The stigma associated with mental illness further complicates management, leading to social isolation and reluctance to seek help. Additionally, the variability in symptoms and the chronic nature of many mental health conditions necessitate a personalized

approach to treatment, which can be difficult to achieve consistently. Accessibility to care is another significant hurdle; individuals in rural or underserved areas may have limited access to mental health services, exacerbating their conditions and hindering recovery.[3]

The scarcity of psychiatrists in developing countries, including India, poses a substantial barrier to effective mental health care. In India, for instance, the ratio of psychiatrists to the population is alarmingly low, with estimates suggesting less than one psychiatrist per 100,000 people. This shortage is mirrored in many other low- and middle-income countries, where mental health services are often underfunded and undervalued. The limited availability of trained mental health professionals means that many individuals do not receive the care they need, leading to a treatment gap that has severe consequences for public health and individual well-being. This gap is further widened by the migration of healthcare professionals to more developed nations in search of better opportunities, leaving the already strained systems in developing countries even more depleted.[4]

To address the scarcity of psychiatrists and improve access to mental health care, alternative healthcare delivery models such as teletherapy and nurse-led clinics have emerged as promising solutions.[5] Teletherapy leverages digital communication technologies to provide remote mental health services, thereby overcoming geographical barriers and enhancing access to care. This model has gained traction during the COVID-19 pandemic, demonstrating its potential to reach patients who might otherwise be unable to access traditional in-person therapy.[6]

Nurse-led clinics, on the other hand, empower specially trained nurses to deliver mental health care services, including assessment, intervention, and follow-up. These clinics can be particularly effective in rural and underserved areas, where nurses often serve as the first point of contact for patients.[7]

Teletherapy and nurse-led clinics can significantly improve the quality of life for patients with mental health issues. Teletherapy offers the convenience of receiving care from the comfort of one's home, reducing the need for travel and the associated costs and time.[8] It also provides a level of anonymity that can help reduce the stigma associated with seeking mental health care. Nurse-led clinics offer a holistic approach to care, with nurses often adopting a more empathetic and patient-centred approach. These clinics can provide continuous, consistent care and ensure timely follow-ups, which are crucial for managing chronic mental health conditions. By integrating these alternative models into the healthcare system, it is possible to provide more comprehensive, accessible, and effective mental health services.[9]

Despite the potential benefits of teletherapy and nurse-led clinics, there is a significant knowledge gap regarding their impact on the quality of life of patients with mental health disorders. Existing studies have primarily focused on the effectiveness of these models in terms of symptom reduction and treatment adherence.[10]

Materials And Methods

This was a comparative study conducted in the department of psychiatry of a tertiary care medical college. 200 patients were enrolled in this study on the basis of a predefined inclusion and exclusion criteria. Institutional ethics committee approved the study and informed written consent was obtained from either patient or caretaker of the patient enrolled in this study. The sample size was calculated on the basis of pilot studies done on the subject of quality of life of patients with mental disorders. Assuming 90% power and a 95% confidence interval, the sample size required was 90 patients. Based on the central limit theorem, the sample size was calculated to be sufficient if it was more than 90; thus, we included 100 consecutive patients with mental illness who received teletherapy and nurse led interventions (Group T). Similar numbers of patients with mental health issues were enrolled as control group who received only standard care (Group C).

On the day of enrolment demographic details of all the participants such as age, gender, and socioeconomic status were noted. Information was collected on patients' age (categorized into age groups from 18 to over 60 years), family type (nuclear or joint), locality (rural or urban), education level (from illiterate to postgraduate), marital status (married or unmarried), occupation (housewife, government employee, self-employed, or unemployed), and total monthly family income. A detailed medical history was obtained, focusing on any co-morbid medical conditions. History of similar illness or history of any other mental illness in any of the family members was asked and noted.

the Quality of Life (QOL) 10 scale[11] was used to assess the baseline quality of life, covering aspects such as physical health, mental health, self-perception, social relationships, and overall quality of life, all performed by registered nurses. Patients in the control group received standard care, which included explanations of their disease

conditions, current prescribed medications and counselling session. Patients in the treatment group received standard care plus additional support through nurse-led clinic counselling and teletherapy sessions, conducted twice a week for three months. These sessions included inquiries about emotional wellbeing, therapeutic regimens, and lifestyle, as well as providing information on self-care management, persuasive statements regarding medical management, education, counselling, and emotional support through non-medical conversation. After three months, the Quality of Life Index was assessed again and comparison of quality of life between patients who received nurse-led clinic and telecommunication counselling and those who did not was done. The comparison of quality of life score was done between both the groups.

Depending on the data distribution, continuous variables were presented as mean and standard deviation (SD), while categorical variables were expressed as numbers and percentages (n, %). The analysis of categorical variables was conducted using the chi-square (χ2) test. P value less than 0.05 was taken as statistically significant.

Inclusion criteria:
1. Patients with mental health disorders.
2. Patients more than 18 years of age
3. Patients who gave informed written consent to be part of study.

Exclusion criteria:
1. Patients who refused informed written consent to participate.
2. Patients with any comorbidity conditions such as Diabetes Mellitus, Hypertension, Thyroid dysfunctions.
3. Patients with severe cognitive impairments that would hinder their ability to participate in teletherapy sessions or understand the Quality of Life scale.
4. Patients with active substance abuse disorders.

Results
The analysis of the gender distribution of the studied cases showed that in Group T, there were 32 males (32%) and 68 females (68%). In Group C, there were 43 males (43%) and 57 females (57%). The p-value for the gender distribution comparison between the two groups was 0.1439, indicating that the difference was not statistically significant.

	Group T		Group C	
	Cases	Percentage	Cases	Percentage
Males	32	32 %	43	43%
Females	68	68 %	57	57 %
Total	100	100 %	100	100 %
P = 0.1439 (Not significant)				

Table 1 - Gender Distribution of the studied cases

The analysis of the age distribution of the studied cases showed that in Group T, the majority of participants were aged 31-40 years, accounting for 42 cases (42.00%), followed by 28 cases (28.00%) in the 18-30 years age group, 18 cases (18.00%) in the 41-50 years age group, and 12 cases (12.00%) aged above 50 years. The mean age for Group T was 37.02 years with a standard deviation of 11.27 years. In Group C, the age distribution showed that 45 cases (45.00%) were aged 31-40 years, followed by 22 cases (22.00%) in the 18-30 years age group, 19 cases (19.00%) in the 41-50 years age group, and 14 cases (14.00%) aged above 50 years. The mean age for Group C was 39.12 years with a standard deviation of 12.34 years. The mean age of both the groups was found to be comparable with no statistically significant difference (P=0.2104).

	Group T		Group C	
	Cases	Percentage	Cases	Percentage
18-30	28	28.00%	22	22.00%
31-40	42	42.00%	45	45.00%
41-50	18	18.00%	19	19.00%
Above 50 years	12	12.00%	14	14.00%
Total	100	100 %	100	100 %

Mean Age	37.02 +/- 11.27	39.12 +/- 12.34
P = 0.2104 **(Not significant)**		

Table 2 - Age distribution of the studied cases

The analysis of the socioeconomic status of the studied cases showed that the majority of individuals in both Group T and Group C fell into the lowest socioeconomic class (V, with a monthly income of less than 1314.5 rupees). Specifically, 47 cases (47.00%) in Group T and 46 cases (46.00%) in Group C belonged to this category. The next most common socioeconomic class was IV (1314.5-2541.27 rupees), with 31 cases (31.00%) in Group T and 26 cases (26.00%) in Group C. For class III (2630-4294 rupees), there were 12 cases (12.00%) in Group T and 14 cases (14.00%) in Group C. Class II (4381.5-8675.3 rupees) included 7 cases (7.00%) in Group T and 10 cases (10.00%) in Group C. Lastly, the highest socioeconomic class I (8763 rupees and above) had 3 cases (3.00%) in Group T and 4 cases (4.00%) in Group C.

Social Class (Monthly income in rupees)	Group T		Group C	
	Cases	Percentage	Cases	Percentage
I (≥ 8763 and above)	3	3.00%	4	4.00%
II (4381.5-8675.3)	7	7.00%	10	10.00%
III (2630-4294)	12	12.00%	14	14.00%
IV (1314.5-2541.27)	31	31.00%	26	26.00%
V (< 1314.5)	47	47.00%	46	46.00%
Total	100	100%	100	100%

**Table 3 - Socioeconomic status of participants as determined by BG Prasad Socio demographic scale**

The analysis of the demographic distribution across different factors for Group T and Group C revealed notable patterns. Nuclear families were more common in both groups, with 60% of Group T and 55% of Group C living in such households. Joint families comprised a smaller proportion; making up 40% of Group T and 45% of Group C. Group T had 63% of its cases from rural areas and 37% from urban areas. In contrast, Group C had a more balanced distribution, with 52% of cases from rural areas and 48% from urban areas. In Group T, 20% were illiterate, 30% had primary education, 25% had secondary education, 15% were graduates, and 10% were postgraduates. Group C showed a similar pattern, with 22% illiterate, 28% with primary education, 26% with secondary education, 14% graduates, and 10% postgraduates. Marital status analysis showed that the majority of individuals in both groups were married, with 70% in Group T and 65% in Group C. Unmarried individuals made up 30% of Group T and 35% of Group Cin terms of occupation, Group T had a distribution of 30% housewives, 20% government employees, 25% self-employed, and 25% unemployed. Group C had 32% housewives, 18% government employees, 24% self-employed, and 26% unemployed.

Factor	Categories	Group T		Group C	
		Cases	Percentage	Cases	Percentage
Family Type	Nuclear	60	60.00%	55	55.00%
	Joint	40	40.00%	45	45.00%
Locality	Rural	63	63.00%	52	52.00%
	Urban	37	37.00%	48	48.00%
Education Level	Illiterate	20	20.00%	22	22.00%
	Primary	30	30.00%	28	28.00%
	Secondary	25	25.00%	26	26.00%
	Graduate	15	15.00%	14	14.00%
	Postgraduate	10	10.00%	10	10.00%
Marital Status	Married	68	68.00%	65	65.00%
	Unmarried	32	32.00%	35	35.00%
Occupation	Housewife	28	28.00%	32	32.00%
	Government Employee	22	22.00%	18	18.00%

	Self-employed	27	27.00%	24	24.00%
	Unemployed	23	23.00%	26	26.00%
Total		100	100%	100	100%

Table 4 - Comparison of Sociodemographic factors of the studied cases in both the groups

The analysis of the mental illness categories between Group T and Group C revealed that anxiety disorders were the most prevalent in both groups. Mood disorders and substance-related and addictive disorders also showed notable frequencies, with substance-related disorders being slightly more common in Group C. Neurodevelopmental disorders and obsessive-compulsive and related disorders had similar occurrences in both groups. Eating disorders, personality disorders, trauma- and stressor-related disorders, somatic symptom and related disorders, and psychotic disorders were less prevalent and showed minor differences between the groups.
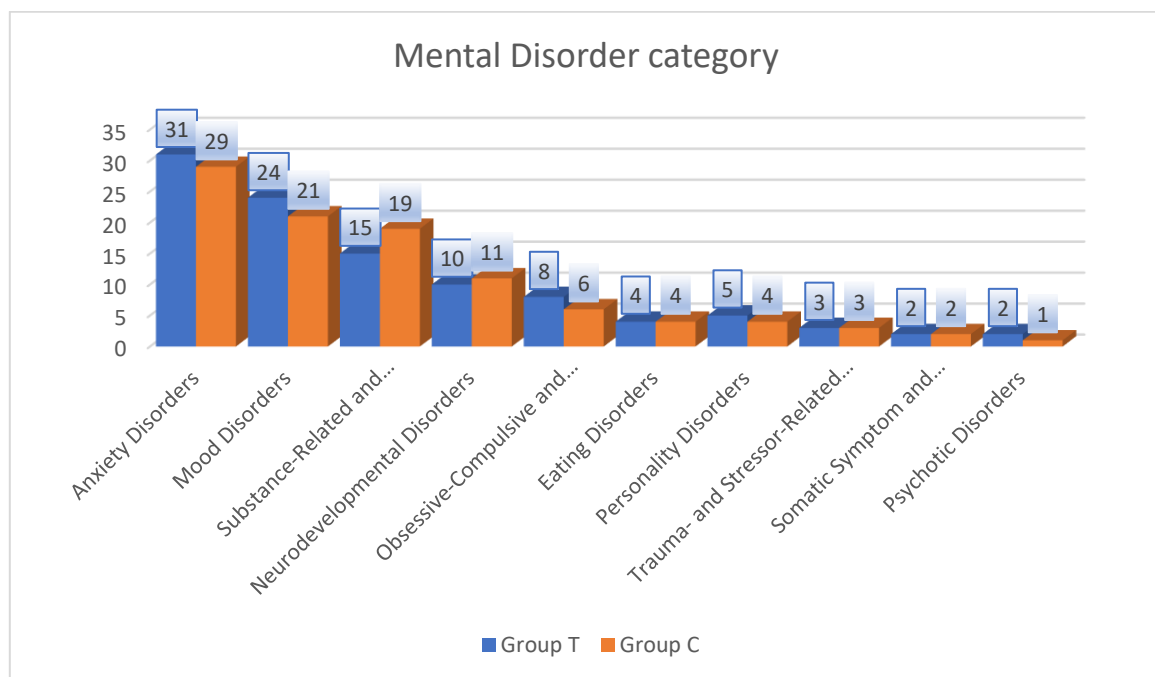
Figure 1 - Mental disorder categories in studied cases

The patients were assessed for all 10 domains of QOL scale. The analysis of patients in Group T who were provided with in addition to standard care reported a statistically significant improvement in all 10 domains of QOL 10 scale (P <0.05).

QOL 10 Scale in Group T over the period of follow up (12 weeks)	First consultation	At Last, Follow up	P Value
Q 1 How do you consider your physical health at the moment?	4.57 +/- 2.10	1.34 +/- 0.92	P < 0.0001[*]
Q 2 How do you consider your mental health at the moment?	4.50 +/- 2.05	1.30 +/- 0.90	P < 0.0001[*]
Q 3 How do you feel about yourself at the moment?	4.60 +/- 2.15	1.40 +/- 0.95	P < 0.0001[*]
Q 4 How are your relationships with your friends at the moment?	4.55 +/- 2.12	1.32 +/- 0.92	P < 0.0001[*]
Q 5 How is your relationship with your partner at the moment?	4.48 +/- 2.08	1.28 +/- 0.91	P < 0.0001[*]
Q 6 How do you consider your ability to love at the moment?	4.52 +/- 2.11	1.36 +/- 0.94	P < 0.0001[*]
Q 7 How do you consider your sexual functioning at the moment?	4.54 +/- 2.09	1.33 +/- 0.93	P < 0.0001[*]
Q 8 How do you consider your social functioning at the moment?	4.58 +/- 2.13	1.38 +/- 0.96	P < 0.0001[*]

Q 9 How is your working ability at the moment?	4.53 +/- 2.07	1.31 +/- 0.90	P < 0.0001*
Q 10 How would you assess your quality of your life now?	4.59 +/- 2.14	1.35 +/- 0.94	P < 0.0001*

Table 5 - Comparison of QOL 10 score in group T over a period of 12 weeks follow up

The analysis of QOL 10 scale in group C (control group) showed that though there was improvement in all 10 parameters of QOL 10 scale the difference was not statistically significant (P>0.05).

QOL 10 Scale in Group T over the period of follow up (12 weeks)	First consultation	At Last follow up	P Value
Q 1 How do you consider your physical health at the moment?	4.32 +/- 1.98	3.88 +/- 1.74	0.09
Q 2 How do you consider your mental health at the moment?	4.25 +/- 1.95	3.92 +/- 1.94	0.1213
Q 3 How do you feel about yourself at the moment?	4.35 +/- 2.02	3.90 +/- 1.86	0.102
Q 4 How are your relationships with your friends at the moment?	4.30 +/- 1.97	3.75 +/- 1.75	0.025
Q 5 How is your relationship with your partner at the moment?	4.28 +/- 1.96	3.90 +/- 1.6	0.161
Q 6 How do you consider your ability to love at the moment?	4.34 +/- 1.99	3.88 +/- 1.72	0.08
Q 7 How do you consider your sexual functioning at the moment?	4.33 +/- 1.98	4.01 +/- 1.82	0.235
Q 8 How do you consider your social functioning at the moment?	4.36 +/- 2.01	3.90 +/- 1.88	0.09
Q 9 How is your working ability at the moment?	4.31 +/- 1.95	3.82 +/- 1.76	0.06
Q 10 How would you assess your quality of your life now?	4.32 +/- 2.02	3.85 +/- 1.74	0.07

Table 6 - Comparison of QOL 10 score in group C over a period of 12 weeks follow up

Discussion

In our study of 200 cases with mental health issues there was a female preponderance in both the groups. in Group T there were 32 males (32%) and 68 females (68%) andin Group Cthere were 43 males (43%) and 57 females (57%).The mean age for Group T was 37.02 years with a standard deviation of 11.27 years. The mean age for Group C was 39.12 years with a standard deviation of 12.34 years. The mean age of both the groups was found to be comparable with no statistically significant difference (P=0.2104).Clara Maestre-Miquel et al conducted a cross-sectional study to assess gender differences in the prevalence of self-reported mental disorders, psychological distress, and psychotropic drug consumption.[12]The data was comprising of 22,141 adults aged 18 and over. The study found prevalences of 13.8% for mental disorders, 18.3% for psychological distress, and 13.9% for psychotropic drug consumption. Women had significantly higher probabilities of mental disorders (1.74-fold), psychological distress (1.26-fold), and psychotropic drug consumption (1.26-fold) compared to men. Factors such as age, marital status, education, self-rated health, chronic disorders, alcohol consumption, and smoking were also associated with these conditions. Based on these findings, the authors concluded that women in Spain are more affected by these mental health issues and recommended targeted mental health screening for specific populations. Similar female preponderance in mental health issues was also reported by the authors such as Albert PR et al[13] and Malhotra S et al.[14]

The analysis of distribution of mental health issues in studied cases showed that anxiety disorders were the most prevalent in both groups. Mood disorders and substance-related and addictive disorders were also common. Eating disorders, personality disorders, trauma- and stressor-related disorders, somatic symptom and related disorders, and psychotic disorders were less prevalent. Zachary Steel et al conducted a systematic review and meta-analysis to determine the global prevalence of common mental disorders from 1980 to 2013.[15] An optimized search strategy identified 174 surveys across 63 countries, providing period and lifetime prevalence estimates. Meta-analysis revealed that 17.6% of respondents met criteria for a common mental disorder in the past year, while 29.2% experienced one at some point in their lives. Women had higher rates of mood (7.3% vs. 4.0%) and anxiety disorders (8.7% vs. 4.3%), whereas men had higher rates of substance use disorders (7.5% vs. 2.0%). Regional variations were also observed, with lower prevalence in North and South East Asia and higher lifetime prevalence

in English-speaking countries. Based on these findings, the authors concluded that anxiety disorders are the most common disorders related to mental health. These findings were similar to our study. Similar pattern of mental illness was also reported by the authors such as Barry R et al[16] and Talebi Met al. [17]

The patients were assessed for all 10 domains of QOL scale. The analysis of patients in Group T who were provided with in addition to standard care reported a statistically significant improvement in all 10 domains of QOL 10 scale. The analysis of QOL 10 scale in group C (control group) showed that though there was improvement in all 10 parameters of QOL 10 scale the difference was not statistically significant. Fernandes ML et al conducted a study to assess anxiety and depression in head and neck cancer patients, evaluate the effectiveness of nurse-led interventions, and compare these psychological issues with socio-demographic variables.[18] Thirty patients aged over 18 at were evaluated. Nurse-led interventions, including education, reinforcement, and care, were administered from admission to discharge, with a post-test at follow-up. Results showed a significant reduction in anxiety and depression levels, which decreased from moderate to mild. Depression was significantly associated with occupation, and treatment compliance. The study concluded that nurse-led interventions effectively reduce anxiety and depression in head and neck cancer patients and should be routinely implemented. Similar beneficial effects of nurse led interventions and teletherapy were also reported by the authors such as Bulkes NZ et al[19] and Haruna J et al.[20]

Conclusion

The study found that the nurse led interventionsand teletherapy was effective in improving the quality of life score (QOL10) in patients with mental health issues. Nurse led interventions and teletherapy should be used in cases with mental health issues in addition to standard care.

Conflict Of Interest: None

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