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Original Research Article

Suicide risk in caregivers of patients with schizophrenia

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ABSTRACT

Background: The high risk of suicide among schizophrenic and other severe mental illness patients has been of great concern. It is critical to find effective care interventions to mitigate suicidal ideation and depressive symptoms to enhance patient outcomes, especially when discharged.
Methods: The study was a cross-sectional comparative study that involved a sample of 71 patients with schizophrenia, schizoaffective, or bipolar disorder. There were two groups of participants, namely home care (n=36) and usual outpatient care (n=35). A structured questionnaire was used to collect sociodemographic and clinical data. The Beck scale of suicidal ideation and the Beck depression inventory (BDI) were used to measure suicidal ideation and depression, respectively. The statistical analysis was conducted using relevant parametric tests, with $p<0.05$ considered statistically significant.
Results: Home care patients had much lower scores on suicidal ideation than patients who were under their regular outpatient care (0.94±4.24 vs. 3.83±5.44; p=0.016). Equally, depression scores were also low when compared with the usual care group (6.14±7.75 vs. 11.17±9.18; p=0.015). The groups did not differ significantly in baseline sociodemographic and clinical features.
Conclusions: Suicidal ideation and depression are lower in the case of severely mentally ill patients with home care services. The introduction of structured home-based psychiatric care can be essential in the preventive strategies of suicide among patients with schizophrenia and associated disorders.

Keywords: Suicide, Risk, Caregivers, Schizophrenia

INTRODUCTION

It is still difficult and inaccurate to foresee suicide in this group, although the lifelong suicide risk for those with schizophrenia is estimated at 5%. Suicide is another important concern for those who have schizophrenia.[1] Within the scope of this perspective article, the principal risk variables consistently discovered in rigorous assessments of suicide risk in individuals with schizophrenia are investigated. Particular emphasis is placed on the complex link that exists between anosognosia and the risk of suicide. Due to the little progress that has been achieved in understanding and preventing suicide among persons who have schizophrenia, this study focuses on potential research subjects for the future, with a special emphasis on the ethical concerns that are associated with these research methodologies specifically.[2]

Comprehensive analyses of the risk factors for suicide in people with schizophrenia

Emotional symptoms were identified as a primary risk factor. When assessing emotional symptoms, it may be difficult to discern whether depression is a component of schizophrenia, a side effect of schizophrenia, or a different disorder, depending on the circumstances. Addictions to substances, a lack of commitment to treatment, and thoughts or actions that are indicative of suicide ideation are additional risk factors.[3] The outcomes

of their study brought to light the need to treat emotional symptoms, improve treatment compliance, and maintain a high level of risk awareness, especially after experiencing significant losses. Similar risk factors were discovered in a thorough study of schizophrenia and suicide that was carried out in the year the year 2010. The researchers came to the conclusion that comprehension was a risk factor for suicidal behaviour and had to be taken into consideration while dealing with anosognosia. Diseases of the body, feelings of sadness, and hopelessness were prominent risk factors.[4] A protective factor for schizophrenia is the presence of comorbidities as well as appropriate treatment. The year 2014 saw the publication of clinical recommendations as well as a comprehensive analysis of the variables that put persons with schizophrenia at risk for committing suicide.[5]

The results of this research provided evidence that the existence of affective symptoms, previous attempts at suicide, and the frequency of hospitalisations for mental health conditions all contribute to an increased risk of suicide. to conduct a comprehensive investigation as well as “meta-analysis” of the potential risks that are linked to suicidal thoughts, mortality, and attempts in people who have schizophrenia. The study's findings revealed that, in addition to the listed risk factors, continuous risk factors included younger age, higher IQ, and shorter illness duration.[6] This study specifically examined suicide risk in adolescents who were diagnosed with psychotic disorders. In line with the findings of other studies, it was shown that the most significant risk for attempting suicide occurred during the first stages of the disease. Especially before they have their first hospital stay or throughout the first month of their hospital stay, they should take this medication. The vast majority of endeavours were conducted while patients were receiving outpatient treatment. Research on psychosis in its initial episode indicates that the most perilous timeframe is the period immediately before and immediately after the initiation of therapy. These findings agree with those studies.[7]

Evaluation of the risk of suicide in people with schizophrenia

To the present day, suicide among those who suffer from schizophrenia remains a challenging medical issue. The evaluation of suicide risk in this cohort is affected by a variety of factors, including environmental, social, cultural, psychological, clinical, and demographic factors. Mental health professionals who work with patients who have schizophrenia may have had suicide episodes, even though they have made efforts to detect risk. Frequently, assessments of the risk of suicide produce outcomes that are falsely positive. When it comes to the management of SRF (suicide risk formulation), suicide risk, this is based on data obtained from the suicide risk assessment (SRA) process and is gaining greater significance than SRA.[8] The levels of suicide risk serve as a guiding principle for the treatment and management choices available. An overview of the SRF approach reveals that it considers four significant features.

To determine the full extent of the specific threats, a risk factor assessment is expected to be conducted. The diagnosis should not be overemphasised, and the context should be taken into consideration. Mental health professionals are expected to evaluate patients' clinical histories and conditions, as well as their clinical backgrounds. It is extremely crucial to keep this in mind since certain patients may not disclose their plan to commit suicide. In addition, this should not prevent individuals from inquiring about other means of suicide.[9] The use of the SRF to examine a wide range of risk factors has the potential to enhance suicide prevention. People who use this strategy are better able to appreciate the risks that are associated with schizophrenia. When developing research methods for studies on suicide risk in schizophrenic persons, SRF should be considered. These processes should consider a larger context rather than concentrating on diagnosis.[10]

The connection between anosognosia and suicide in individuals with schizophrenia

Poor insight is considered a marker of schizophrenia, which is associated with fundamental brain anomalies rather than serving as a coping mechanism. This is because the relationship between poor insight and outcomes is rather convoluted. One of the most typical symptoms of schizophrenia is anosognosia, which may be translated as a loss of consciousness. Functional outcomes are compromised because it often predicts nonadherence to medication and leads to errors in patient self-assessment. According to the findings of the study, schizophrenia has been connected to several factors, including the absence of illness awareness, difficulties in language processing, and executive dysfunction.[11] The prefrontal cortex and the frontal lobe of patients who have limited awareness have been proven to have anomalies in their brain architecture. This implies that anosognosia is a substantial and significant risk associated with suicide in persons with schizophrenia. That deficient insight cannot be construed as denial that the individual is suffering from schizophrenia. However, this association is only significant when one is experiencing feelings of depression and hopelessness.

According to a “meta-analysis” of the brain region linked to cognitive as well as clinical insight in schizophrenia, diagnostic data is connected to the brain’s extensive anomalies. Still, the hippocampus and ventrolateral prefrontal cortex are primarily associated with mental cognition. This is the conclusion reached by the researchers. Regarding symptoms, the cognitive domain of illness and disease understanding comprises two distinct realms that do not fully overlap.[12] The views and perceptions of the environment that people with schizophrenia have been different from those of other people. The mental illness known as schizophrenia causes

a disruption in both emotional stability and cognitive function, which in turn leads to a change in consciousness and a reduced ability to react to stimuli.[13] There is a correlation between schizophrenia and impaired conscious thought clarity, which in turn affects the ability of an individual to make sensible choices that are in line with their genuine goals.

Suicide risk and neurocognitive profile in people with schizophrenia

According to studies on general cognition, social cognition, and suicide risk, people who have mental health issues are more sensitive to socio-emotional cues, and they also have worse attentional control and learning abilities. One of the factors that might impact suicidal thoughts and behaviours is an inability to effectively deal with the perceived stress of social situations. It is referred to as social cognition when an individual can observe, identify, and evaluate not only their own feelings but also those of others. Individuals who have attempted suicide have a larger impairment in this skill as compared to those who have suicidal thoughts.[14]

In a thorough investigation, it was shown that persons with suicide and initially experienced psychosis exhibited reduced cognitive performance and more variability than patients with first-episode psychosis who do not participate in suicidal behaviour. This was particularly true in the early phases of the condition. There is a significant correlation between deficiencies in psychomotor skills, such as speed and dexterity, visual memory, and processing speed, and an increased risk of engaging in suicidal behaviour. On the other hand, these relationships often weaken with time.[15]

The capacity to commit suicide

According to the findings of an in-depth investigation into the risk for suicide, cognitive function is a factor.[16] When compared to persons who were considering suicide, those who attempted suicide had much worse cognitive function than those who were not. The progression from having suicidal thoughts to actually attempting suicide or completing suicide is what is meant by term "suicidal capability". The 3 primary components that constitute the capacity to commit suicide.[17]

Staff training in the treatment of schizophrenia suicidal patients

It is essential to provide medical personnel with comprehensive information about the most effective methods of communication with a patient who is suicidal and has schizophrenia.[18] There are several risk factors for suicide, including having difficulty adapting to the milieu of the ward and having poor interactions with the staff. The presence of staff members who can deal with the anxiety and despair that patients experience is an essential component of the therapeutic setting.[19] In addition, it is essential for staff members to comprehend that a patient who displays a larger degree of paranoia or withdrawal should be seen as being at a higher risk of committing suicide. revealed that, in comparison to other patients, suicidal persons expressed higher dissatisfaction with their treatment and imposed a greater burden on the personnel working in the hospital.[20] These individuals who are suicidal need a great deal of assistance and reassurance, and they are more prone to exhibit reluctance when it comes to leaving the secure environment of the hospital. established a condition known as "terminal malignant alienation," which was caused by the patient's fluctuating suicidal tendencies and excessive demands. This condition ultimately resulted in the patient being separated from the hospital staff, which ultimately led to the patient being rejected. Given these conditions, workers must possess a positive character.[21]

Handling depression symptoms in schizophrenia patients

The treatment of depression in suicidal patients who have schizophrenia is very important since depressive symptoms are risk factors for suicidal conduct in people who have schizophrenia.[22] When evaluating depression in people who have schizophrenia, it is important to take into consideration the reversible causes of depressive symptoms. These include the use of substances and withdrawal from them, as well as the dysphoria and akathisia that are brought on by antipsychotic drugs.[23] even though there hasn't been a lot of research done on this subject, psychosocial therapies are now considered to be major strategies that may be used to enhance pharmaceutical treatments. Patients who suffer from schizophrenia and symptoms of depression have other treatment options available to them in addition to pharmacological methods.[24]

Objectives

Objectives were to identify the demographic, social, and psychological factors that are associated with the risk of suicide among caregivers, to study the link between suicidal thoughts, feelings of helplessness, and the pressure that caregivers experience.

METHODS

Study design

It was a cross-sectional, comparative observational study, which aimed to determine the levels of suicidal ideation and depressive symptoms in patients with severe mental illness with various modes of psychiatric care.

Study setting and study period

It was conducted at Hassan Institute of Medical Sciences, Hassan, Karnataka, India, between January and December 2019.

Study population

The participants involved in the research were patients with schizophrenia, schizoaffective disorder, or bipolar disorder who received treatment in psychiatric care via home care or the normal outpatient care.

Sample size and grouping

The 71 patients took part in the research.

Home care group

The 36 patients who had been provided with structured psychiatric home care services.

Normal care group

The 35 patients undergoing normal outpatient psychiatric care.

Age, gender, illness duration, history of substance use, hospitalisations, and psychiatric diagnosis were compared to make the two groups similar.

Inclusion criteria

Patients aged 18-65 years, meets criteria of schizophrenia, schizoaffective disorder, or bipolar disorder of the DSM-IV-TR, at least two years of the duration of illness, on uninterrupted psychiatric care for at least six months, prior psychiatric hospitalisation history of at least one psychiatric hospitalisation and co-residency with a family caregiver were included in the study.

Exclusion criteria

Intellectually disabled patients, patients who experience severe cognitive impairment are an obstacle to assessment and patients who have not or cannot give informed consent were excluded from the study.

Description of care models

Home care group

The patients were given structured psychiatric home care service, which included a monthly visit to the house by a multidisciplinary team of mental health professionals comprising a psychiatrist, psychiatric nurse, social worker, and psychiatry resident. Services included medication monitoring, psychoeducation for patients and caregivers, treatment adherence assessment, side-effect monitoring, and psychosocial support.

Usual care group

Patients were provided with regular outpatient psychiatric treatment that comprised frequent hospital follow-up visits, medication prescriptions, and normal clinical follow-up without serious home-based treatments.

Data collection tools

Data were collected using: A questionnaire to be used to measure sociodemographic and clinical data. Beck scale on suicidal ideation (BSSI) to determine suicidal thought. BDI to determine the level of depressive symptoms.

There was standardisation of all instruments used, which had been validated previously.

Assessments were conducted only once during the study period, either in the outpatient clinic or during home visits.

Statistical analysis

The statistical package of the social sciences (SPSS) was used to analyse the data. The continuous variables were used in the form of the mean and standard deviation, and the categorical variables were used in the form of frequencies and percentages.

Continuous variables were compared between groups using an independent t test. Categorical variables were tested using the chi-square test. The p value was set at<0.05.

Data collection and instruments

A questionnaire was utilised to collect demographic data, and a standard, validated inventory and scale were employed to assess how common depression and thoughts of suicide were among the patients. This was done in accordance with the aims of the research. Additionally, the Beck scale for suicidal ideation and the BDI were among the instruments that were included in the research, and previous studies have validated all of these instruments.

The specifications of the research instruments are described. A single examination was conducted during the experiment, either in the outpatient clinic or at patients' residences (home-visit group).

RESULTS

A total of 71 patients participated in the study. These patients were evenly distributed between two groups: 35 received conventional therapy, and 36 received home care. In the home care group, there were 22, 8, and 6 patients, and in the TAU group, there were 21, 6, and 8 individuals with a diagnosis of schizoaffective disorder, schizophrenia, and bipolar disorder, respectively.

This information is shown in Tables 1 and 2. With respect to statistical analysis, the total number of individuals in the two groups did not differ significantly.

Table 1: An overview of the main risk factors for suicide in individuals with schizophrenia.

Risk factors	
Major	Symptoms of anxiety, sadness, and affective. disorders
	Prior attempts at taking one's own life
	Hospitalisation rates for mental health conditions
Other risk factors	Younger age
	Recent illness onset (especially during the first year)
	Recent admission
	Male sex
	Substance abuse
	Unemployment
	Higher IQ
	Feelings of worthlessness/hopelessness
	Poor treatment adherence

Table 2: Comparison of clinical and sociodemographic characteristics between patients receiving home care and usual outpatient care.

Variables		Home care, N (%)	Usual care, N (%)	Total	Chi-square/ t test	P value
Gender	Female	16 (44.3)	18 (51.3)	34 (47.8)	0.346	0.555
	Male	20 (55.5)	17 (48.5)	37 (52.0)		
Job	housewife	11 (30.5)	11 (31.3)	22 (31.0)	2.930	0.570
	Unemployed	23 (63.8)	18 (51.3)	41 (57.6)		
	Freelance	1 (2.7)	3 (8.5)	4 (5.5)		
	Worker	1 (2.7)	2 (5.6)	3 (4.1)		
	Employee	0	1 (2.8)	1 (1.2)		
Education	Illiterate	3 (8.2)	2 (5.6)	5 (7.0)	2.606	0.455
	Under-graduate	21 (58.2)	17 (48.5)	38 (53.4)		
	diploma	21 (58.2)	10 (28.5)	20 (28.1)		
	Bachelor's degree or higher	2 (5.5)	6 (17.0)	8 (11.2)		
Type of disorder	Schizophrenia	22 (61.0)	21 (60.0)	43 (60.5)	0.580	0.747
	Schizoaffective disorder	8 (22.1)	6 (17.0)	14 (19.6)		
	Bipolar disorder	6 (16.6)	8 (22.8)	14 (19.6)		
History of smoking	Have	13 (36.0)	18 (51.3)	29 (40.7)	1.692	0.192
	Don't have	23 (63.8)	17 (48.5)	40 (56.2)		
History of substance use	have	8 (22.1)	8 (22.8)	16 (22.4)	0.003	0.948
	Don't have	28 (77.7)	27 (77.0)	27 (77.0)		
History of alcohol use	Have	3 (8.2)	4 (11.3)	7 (9.8)	0.190	0.661
	Don't have	33 (91.6)	31 (88.5)	64 (90.0)		
History of physical illness	Have	6 (16.6)	13 (37.0)	19 (26.7)	3.794	0.051
	Don't have	30 (83.2)	22 (62.8)	52 (73.1)		
Patient's main caregiver	Spouse	9 (25.0)	11 (31.3)	20 (28.1)	3.950	0.412
	Father	8 (22.0)	12 (34.1)	20 (28.0)		
	Mother	18 (50.0)	11 (31.3)	29 (40.7)		
	Brother	1 (2.7)	1 (2.8)	2 (2.7)		
Number of hospitalisations	1-2 time(s)	23 (63.8)	25 (71.3)	48 (67.5)	0.491	0.781
	3-5 time(s)	10 (27.7)	8 (22.8)	18 (25.3)		
	6-7 time(s)	3 (8.2)	2 (5.6)	5 (7.0)		
Age (in years)		39.69 (9.95)	40.59 (12.10)	40.15 (11.04)	0.328	0.742
Duration of the disorder (in years)		9.69 (8.36)	9.91 (6.04)	9.80 (7.26)	0.126	0.900

It is specified that the demographic and history data for patients in the usual care and home care groups are provided. A statistical comparison of the variables in the investigation revealed no difference between the two groups.

The mean scores of the Beck Scale for Suicidal Ideation components showed a lower average overall for the group receiving home care services. The multivariate analysis showed that the observed Beck scale scores differed significantly between the two groups across all components. This difference was observed between the two groups. The home-visit group's mean score on the Beck scale was 0.94 (±4.24), whereas the typical group's score was 3.83 (±5.44), with a p=0.016 indicating a significant difference between the two groups.

According to the findings, those who received care regularly scored higher on the BDI than those who received care at home. Depression levels that differ statistically significantly were found to exist between the two groups, as shown by the results of the independent t-test. The home visit group's mean score on the BDI was 6.14 (with a standard deviation of 7.75); in contrast, the outpatient therapy group's score was 11.17 (with a standard deviation of 9.18), with a p=0.015 (Table 3).

Table 3: Comparison of Beck scale for suicidal ideation components and depression scores between patients receiving home care and usual outpatient care.

Ideation for suicide beck scale components	Grouping	Mean	SD	Sum of squares	Mean of square	F value	P value
Death wish	Home care	0.35	1.28	16.122	16.122	6.117	0.015
	Usual care	1.30	1.90				
Suicide preparation	Home care	0.35	1.68	21.318	21.318	4.700	0.033
	Usual care	1.45	2.50				
Suicidal idea	Home care	0.22	1.32	12.370	12.370	4.738	0.032
	Usual care	1.06	1.85				
				MD1	**SDD2**	**T value**	**P value**
Total score of suicide	Home care	0.93	4.23	2.87	1.14	16.122	0.015
	Usual care	3.82	5.43				
Depression	Home care	6.140	7.74	5.02	2.00	2.497	0.014
		11.16	9.17				

The distribution of suicide attempt methods and reported causes of attempted suicide are illustrated in Figures 1 and 2, respectively.

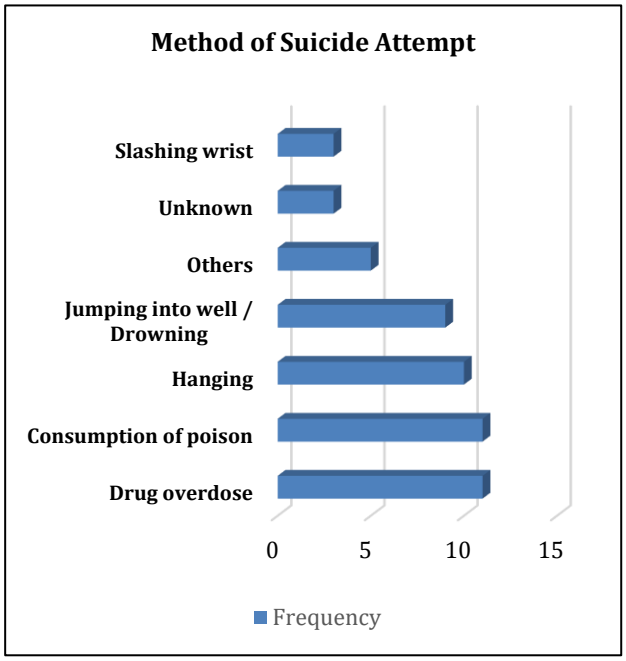

Figure 1: Suicide attempt techniques.

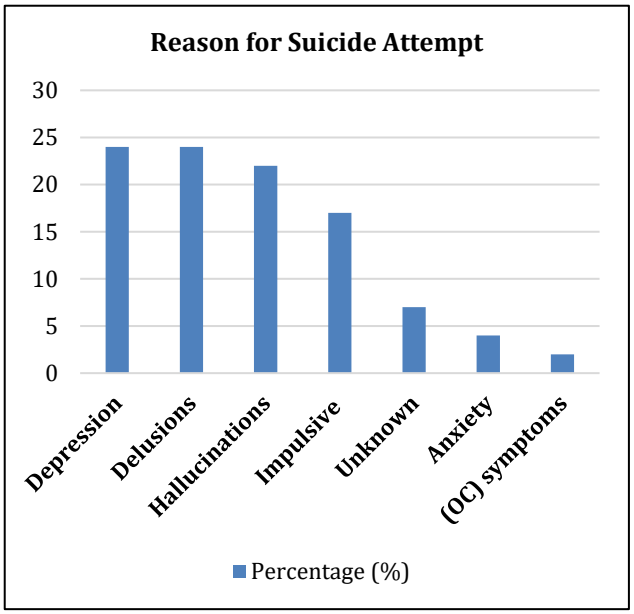

Figure 2: Causes of attempted suicide.

DISCUSSION

The current study discovered that patients with formatted home care services showed a significant reduction in

suicidal ideation and depressive symptoms compared to the usual outpatient care. In particular, the mean scores on the Beck Scale on Suicidal Ideation and the BDI were both lower in the home care group, which requires further investigation of the efficacy of better psychosocial support and frequent contact in reducing suicide risk and depressive symptoms associated with it.

In line with prevalence rates of suicidal ideation being high in schizophrenia, as observed in the epidemiological literature, a meta-analysis found estimated lifetime and point prevalence of suicidal ideation in people with schizophrenia as 34.5% and 29.9%, respectively, and this means that the issue is widespread in clinical populations.[25] Moreover, earlier cross-sectional research in Indian tertiary care units had determined that approximately a quarter of schizophrenic patients report suicidal ideation in the present, and comorbid depression is strongly linked to suicidal ideation. These results support the necessity to treat depressive symptoms as a suicide prevention measure in schizophrenia, which also occurs in the home care cohort, as extensive monitoring and treatment compliance might have led to a reduction in the prevalence of depressive symptoms.[26] The same indication of the observed relationship between high levels of depressive symptoms and suicidal ideation in schizophrenia is enhanced by the large, institutionalised sample foundations, which developed depression as a key correlate of suicidal thought and activity.[27] This highlights the clinical urgency to diagnose and treat the affective symptoms and psychotic features early in life.

Although the analysis was based on comparative care models as opposed to the use of community case management interventions per se, similar evidence in other treatment models indicates that more personalised and intensive management approaches can produce improved clinical outcomes, such as decreased relapse and suicide. Indicatively, case-managed and multicomponent community treatments have been demonstrated to enhance adherence and phenomenal clinical severity, which may mediate in reducing suicide risk in the long term.[28]

It is noteworthy that elevated levels of suicide mortality have been recorded among schizophrenic patients in large cohort research studies over the lifespan, with young adults being especially susceptible.[29] Even though research did not evaluate the mortality outcomes, the lower levels of suicidal ideation in the home care group indicate that the improved care can also have implications for suicide prevention efforts, particularly for high-risk age groups.

In addition to the studies on schizophrenia, there exists evidence on other psychiatric group populations that provides evidence on the possible effectiveness of enhanced supportive care. Structured support and follow-up are highly beneficial because longitudinal community care interventions for depression have been linked to a greater reduction in suicidal ideation over time than usual care. Although these studies do not specifically apply to schizophrenia, they do agree with findings showing that more proactive care models have the potential to mitigate suicidal ideation.[30]

Collectively, the existing findings are an addition to the existing literature that shows that structured home care, which involves frequent follow-up, follow-up adherence, and psychosocial engagement, can offer benefits compared to standard outpatient strategies in minimising suicide-related outcomes in individuals with severe mental illness. This comparative evidence leads to a more comprehensive perception of the strategies of suicide prevention and helps to incorporate the comprehensive and patient-focused models of care into psychiatric practice.

Limitations

This research has limitations that should be considered when interpreting the results. The cross-sectional design does not allow building causal links between the mode of care and the suicidal ideation or depressive symptoms. The research was conducted in a single tertiary care setting, and the sample is small, thereby limiting the generalizability of the findings to other settings. Further, self-reported scales were used to measure suicidal ideation and depression and are prone to response and recall bias. Additional longitudinal and multicenter research involving larger samples is needed in the future to gain a better insight into the long-term benefits of home-based psychiatric treatment on the suicide prevention.

CONCLUSION

The results of the current research imply that structured psychiatric home care is linked with the overall reduced rates of suicidal thoughts and depressive symptoms in severely mentally ill patients in comparison to the typical outpatient care. Home-based services provided to the patients showed benefits in terms of regular follow-up, closer symptom observation, as well as increased psychosocial support, and this could be one of the reasons why emotional stability was improved, and the desire to commit suicide decreased.

The relative decrease of suicidal ideation in the home care group highlights the role of continuity of care in non-hospital settings. Psychiatric interventions in the home setting would enable prompt detection of emerging risk factors, improve treatment adherence, and increase family members' participation in the treatment process. These aspects are specifically applicable in the treatment of schizophrenia and other associated disorders, in which instances relapse, social isolation, and untreated symptoms of depression significantly contribute to the risk of suicide.

Moreover, the considerably low depressive symptomatology scores in the home care group emphasise the close connection between depressive symptomatology and suicidal ideation in the severely mentally ill patients. The development of models of comprehensive and individualised care might, consequently, become an important step towards suicide prevention. This research evidence suggests that the provision of structured home care services should be integrated as an adjunctive strategy to normal outpatient care in the mental health systems.

To sum up, it can be stated that the introduction of home-based psychiatric care could be an effective method to decrease the risk of suicide and enhance the overall clinical outcomes of patients with schizophrenia and other related psychiatric disorders. The longitudinal and multicenter studies that will be conducted in the future also need to be larger in terms of the sample they will use to determine causality and to further assess the long-term utility of home care interventions in suicide prevention.

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