CASE REPORT

Impact of Psychosocial Interventions in Schizophrenia: A Case Study

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ABSTRACT

Background: Substance use can trigger psychosis, leading to substance-induced psychotic disorders. In some cases, this progresses to chronic conditions such as schizophrenia or Bipolar Affective Disorder. Substance use disorder (SUD) imposes significant social and personal burdens on individuals and their families. *Aim:* To highlight the role of psychosocial interventions in the assessment and management of schizophrenia, which developed over years of substance use. *Methods:* An intervention-based case study was done at the inpatient department of the Central Institute of Psychiatry (CIP), Ranchi, during August-September 2023. Data were collected from the Case Record File (CRF), socio-demographic variables, and standardized assessment tools. Psychosocial management along with pharmacotherapy were administered to the patient. *Outcomes:* Qualitative outcomes of the psychosocial intervention indicated improvement in serial Mental Status Examinations (MSE). Quantitative measures, including the Positive and Negative Syndrome Scale (PANSS) and the Readiness to Change Questionnaire (RCQ), reflected this improvement. McMaster Family Assessment Device, showed significant enhancement in the family's knowledge about the illness, communication patterns, affective responsiveness, affective involvement, and general family functioning. *Conclusion:* The study demonstrates that psychosocial interventions, alongside pharmacotherapy, can substantially enhance clinical and family outcomes for individuals with schizophrenia stemming from substance-induced psychosis.

Keywords: Substance, psychosis, schizophrenia, psychosocial

INTRODUCTION

Human has been consuming psychoactive plant products, such as tea, coffee, tobacco, cocaine, opium and cannabis for medicinal and recreational purposes since time immemorial.[1] As per the World Health Organization,[2] substance abuse refers to the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs. Psychosis is a group of symptoms that affects the mind and the individual loses touch with reality. Common manifestations of psychosis include hallucinations, delusions, and paranoia.[3] It is a key symptom of medical conditions, The Diagnostic and Statistical Manual of Mental Disorders (fourth edition),[4] recognizes a variety of drug-induced schizophrenia but is also observed in bipolar disorder, depression, drug intoxication and withdrawal, and a variety of non-psychiatric, psychotic disorders, including delusional and hallucinatory types of cannabis-induced psychotic disorder. The ICD-10[2] refers to substance-induced psychosis as a cluster of psychotic phenomena that occurs during or immediately after psychoactive substance use, they are characterized by hallucinations, misidentifications, delusions, and/or ideas of reference, psychomotor disturbances, and an abnormal affect, which may range from intense fear to ecstasy. This situation creates some degree of clouding of consciousness is present. Psychoactive substance-induced psychotic disorders may present with different types of abnormal affect, which may range from intense fear to ecstasy.

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This situation creates some degree of clouding of consciousness is present. Psychoactive substance-induced psychotic disorders may present with different types of symptoms influenced by the pattern of substance involved and the personality of the user. ICD-10 describes Schizophrenia as a psychiatric disorder that is 'characterized in general by fundamental and characteristic distortions of thinking and perception and by inappropriate or blunted affect. Clear consciousness and intellectual capacity are usually maintained, although certain cognitive deficits may evolve in the course of the time. The disturbance involves the most basic functions that give the normal person a feeling of individuality, uniqueness, and self-direction', hallucinations and delusions are also commonly found. Psychiatric Social Work trainee explored a case report.[5] A Single-Case Experimental Design (SCED) is an appropriate method to serve the goal of evidence-based practice (EBP).[6] The plethora of psychosocial factors that lead to substance abuse and the consequences of the same is beautifully portrayed in the index case.

BRIEF CLINICAL CASE HISTORY

Index patient Mr. MKS, 27 years of age, Hindu, unmarried, male, studied up to class 8, hailing from the lower socio-economic background of Chatra district of rural Jharkhand, was admitted to CIP with chief complaints of intake of cannabis and alcohol for past six years, muttering and smiling to self, wandering tendencies, aggressive, abusive language and assaultive behaviour and decreased sleep for past four years, diagnosed with Mental and behavioural disorders due to use of alcohol, harmful use (F10.1) with Mental and behavioural disorders due to use of cannabinoids, currently using the substance [active dependence] (F 12.24) with Schizophrenia, unspecified (F 20.9).

The patient was apparently maintaining well six years ago and was working as a helper in trucks. In his free time, he started taking cannabis and alcohol on a regular basis with his friends. Gradually he started taking them alone also. Though guardians were unable to give details of consumption pattern. The patient slowly started being irritable and for the last four years, he preferred to interact less with others, remaining mostly to himself, though he used to interact with his friends with whom he would consume substances. The patient would also be spotted muttering to self and would smile to self. He would keep talking about his faith regarding Hindu and Muslim religions and keep talking about the places he has been to. Sometimes his muttering would be incoherent. The patient would remain quiet when his family members would enquire him about the same. Sometimes he would get aggressive when others say something to him. The patient would be aggressive, without or on minimal provocation and would be assaultive. The patient would not express remorse or seek forgiveness. He would run away after such encounters. The patient was maintaining well on medications from CIP and continuing them till Feb 2021, one day he suddenly left home in March 2021. He was located only after 2 days and then remained away for 2 months. He would visit home but ran away again. The patient also has reduced sleep. He would sleep for a few hours but would go missing even at night. He would not be at home during the day either. The day he was admitted to CIP his persistent and pervasive mood was irritable. His biological functions were within normal limits. His activities of daily living and role functioning were impaired.

METHODOLOGY

Single-Case Quasi-Experimental Design (SC(Q)ED) is used in this study. A patient, who was admitted to the inpatient department of Central Institute of Psychiatry, Ranchi during August-September 2023 was studied. A bio-psycho-social assessment was done with the index case. Psychopathology of the index case was assessed by ICD-10 criteria and serial mental status examination (MSE) was taken by the psychiatric social work trainee. The Positive and Negative Syndrome Scale (PANSS)[7] was used on a serial basis to measure the symptom severity of schizophrenia while pharmacotherapy was going on (table 1). Family assessment was done following the McMaster approach.[8] Family Distress Index[9] was administered to measure family maladaptation. A tailor-made intervention was done to manage the index case. Case Record File (CRF) and socio-demographic variables were reviewed. The 'Readiness to change questionnaire' (RCQ)[10] was used as a pre-post-measurement of motivational enhancement therapy (MET), Family Assessment Device was used to see in family functions.

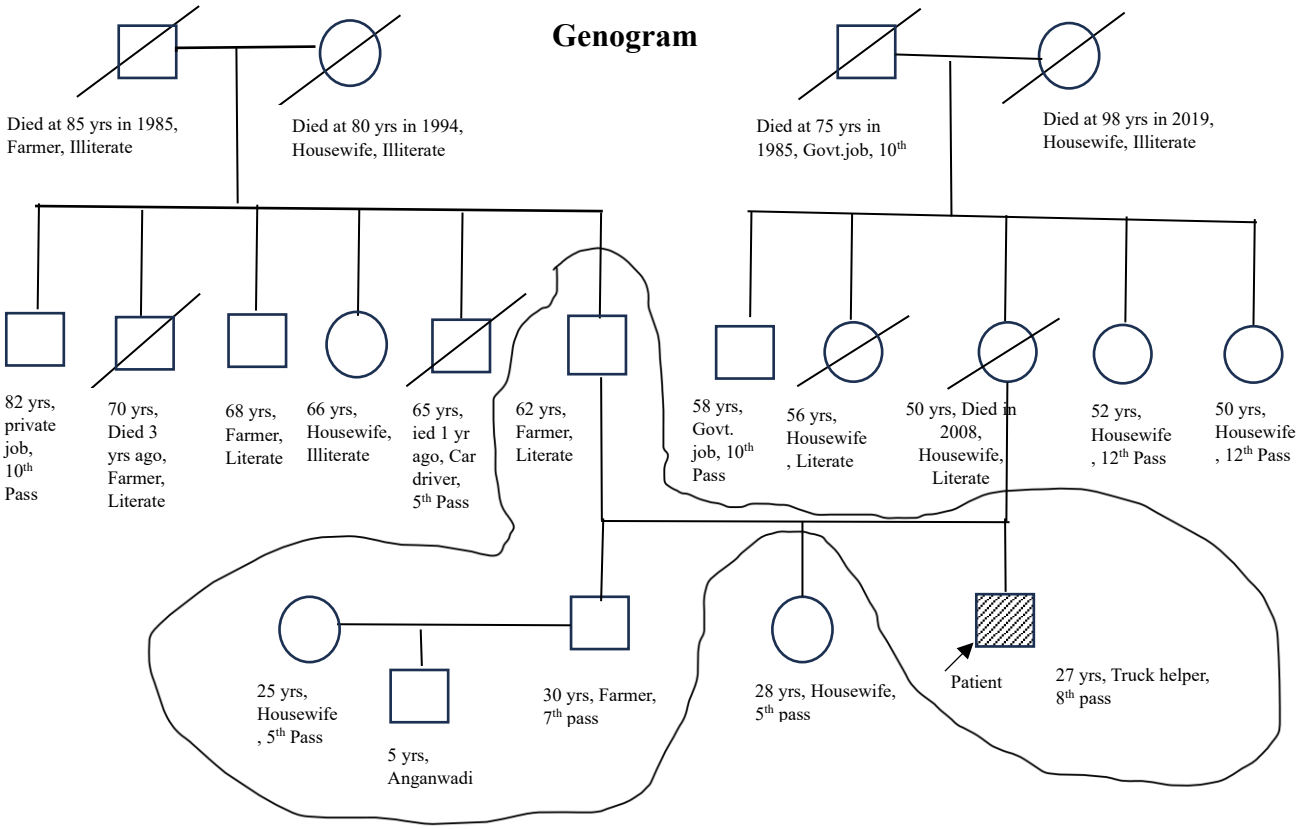
PSYCHOSOCIAL ANALYSIS

A psychosocial assessment reveals that the patient belongs to an extended family consisting of five members. It was noted that the patient's mother died of a heart attack in 2008 by a sudden death, and the family was not prepared for the loss. At that time, the patient was 12 years old. He studied up to Class 8 and then left school due to financial problems in the family. He wanted to earn money and contribute to the household. So, since 2011, at the age of 15 the patient started working as a truck helper. He worked in this role for seven years, during which he gradually began using substances and left working. He has not worked for the past five years, since 2018.

During his work as a truck helper, he accompanied truck drivers on long journeys and visited various places. He earned ₹7,000 to ₹8,000 per month, keeping ₹1,000 to ₹2,000 for himself and giving the rest to his father for family expenses.

Table 1 Positive and Negative Syndrome Scale (PANSS) Score

Item Date	01/08	11/08	21/08	31/08	09/09	21/09
Positive Scale						
Delusion	5	5	4	3	2	1
Conceptual Disorganization	5	4	4	3	2	2
Hallucinatory Behaviour	6	6	5	4	3	1
Excitement	4	4	4	3	2	2
Grandiosity	3	3	3	3	2	1
Suspiciousness/Persecution	4	3	3	2	1	1
Hostility	5	4	4	3	2	1
Total	32	29	27	21	14	9
Negative Scale						
Blunted Affect	4	3	3	2	2	1
Emotional Withdrawal	4	4	4	3	2	2
Poor Rapport	6	6	5	4	3	2
Passive/Apathetic Social Withdrawal	5	5	4	3	2	1
Difficulty in Abstract Thinking	6	6	5	4	3	2
Lack of Spontaneity and Flow of Conversation	6	5	4	3	2	1
Stereotyped Thinking	6	5	4	3	3	2
Total	37	34	29	22	17	11
General Psychopathology Scale						
Somatic concern	1	1	1	1	1	1
Anxiety	1	1	1	1	1	1
Guilt feelings	1	1	1	1	1	1
Tension	1	1	1	1	1	1
Mannerisms and posturing	1	1	1	1	1	1
Depression	1	1	1	1	1	1
Motor retardation	1	1	1	1	1	1
Uncooperativeness	6	5	4	3	2	1
Unusual thought content	4	3	3	2	2	2
Disorientation	4	4	4	3	3	2
Poor attention	6	6	5	5	4	3
Lack of judgment and insight	6	6	5	4	3	2
Disturbance of volition	4	4	3	3	2	2
Poor impulse control	5	4	4	3	3	2
Preoccupation	5	4	4	3	3	2
Active social avoidance	3	3	2	2	2	1
Total	50	46	41	35	31	24
Grand Total Score	119	109	97	78	62	44
1-Absent, 2-Minimal, 3-Mild, 4-Moderate, 5-Moderately Severe, 6-Severe, 7-Extreme						



An analysis of family dynamics reveals that the family's internal boundary is open, while the external boundary is diffused. The couple subsystem (between the patient's brother and sister-in-law) is inadequately formed and functioning. The parental subsystem (between the patient's father and him) is also inadequately formed and functioning. Similarly, the sibling subsystem is formed but not functioning effectively. The family is in the eighth stage of the family life cycle. The nominal head is the father, while the functional head is the elder brother.

A democratic decision-making pattern is present in the family. The elder brother and father, being the earning members, take care of the family and fulfil their roles as leaders by meeting the family's materialistic needs. The patient's sister-in-law manages household chores, and in her absence, the father assumes these responsibilities. The father experienced role burden.

The communication pattern between the patient's sister-in-law communicates with him through her husband. High noise levels are present in the family due to the patient's illness. Reinforcement for desired behaviour is lacking. Involved parenting is present in the family, with the patient's father following a permissive parenting style.

The family has a need-based relationship, with emotional connectedness being absent. Though, family members were celebrating festivals and attending social gatherings with paternal family members. Problem-solving abilities and strategies are inadequate, with the father and elder brother relying on neighbours and relatives for support.

The family's primary, secondary, and tertiary support system was adequate. The patient has a healthy relationship with his father, need-based relationships with his elder brother and friends, and a strained relationship with his sister-in-law.

On assessment, it was found that the family is dysfunctional in the areas of roles, communication, behaviour control, problem-solving, and general family functioning, as per the McMaster Family Assessment Device.

The patient's psychopathology was treated by a psychiatrist through pharmacotherapy. Additionally, psychosocial management was undertaken by the psychiatric social work trainee. Psychological interventions were carried out by the Clinical psychologist; nursing

care by the nursing professional which were not reported in the case study

PSYCHOSOCIAL INTERVENTION

Intake: It was conducted following the principle of acceptance in Social Case Work, emphasizing mutual acceptance between the Psychiatric Social Work (PSW) trainee and the patient. An initial assessment of the patient's profile was carried out, including socio-demographic details, family background, date of admission, and the number of past admissions. The intake process was conducted through file review. A preliminary appraisal of the case was undertaken, based on which an intervention plan was developed.

The PSW trainee interacted with the patient's father, brother, and sister-in-law, explaining the purpose of the assessment before proceeding. Various family dynamics within the household, including the patient's illness history, were explored. Queries from family members were addressed, and their feedback was gathered. A safe space was created between the patient and the PSW trainee for further intervention, adhering to the principle of confidentiality in Social Case Work.

Building a Therapeutic Alliance: Rapport building was carried out in line with the principle of a meaningful relationship in Social Case Work. Initially, it was challenging to engage the patient as he was guarded. However, consistency on the part of the PSW trainee helped establish a harmonious understanding with the patient and his family.

The patient was seen daily in the ward after admission. As pharmacotherapy showed positive effects, rapport was gradually established. The patient was encouraged to talk about his life, family, work, and other aspects of his experiences. The family members were cooperative throughout the process.

Intervention with Individual

- **Activity Scheduling:** As patient came with long term illness of schizophrenia, he was not maintaining his personal hygiene. With unstructured activity scheduling initial focus was behavioural activation. Gradually it focused on structuring his actives of daily living focusing on pleasure principle and mastery principle and was explained about the rationale behind it. It was done throughout his journey with the hospital.
- **Psychoeducation:** He was explained about signs and symptoms of his illness, importance of drug adherence, importance of follow up visits, maintaining healthy routine, exercise are also discussed focus was formation of appropriate self-care behaviour. It was done in five sessions.
- **Motivational Enhancement Therapy:** Motivational enhancement therapy (MET) was taken for controlling substance abuse disorder. The trainee helped the patient in understanding the DARES principle (develop discrepancy, avoid argument, roll with resistance, express empathy and self-efficacy). FRAMES elements (feedback, responsibility, advice, menu, express and self-efficacy) were discussed. In the cost-benefit analysis patient was enabled to weigh the benefits of continuing substance abuse and the cost of continuing substance abuse. He understood the importance of the negative consequences of substance use in arenas like health, social, familial, occupational and financial. He decided to change his behaviour. His stages of motivation changed from pre-contemplation to contemplation as per the readiness to change the questionnaire and his locus of control changed from extrinsic to intrinsic. MET was done through five sessions with one booster session.
- **Disability certification:** The patient was evaluated regularly. Indian Disability Evaluation and Assessment Scale (IDEAS) was administered to the patient and he was found to be moderate disabled. The certification process was initiated. He was counselled regarding the welfare benefits as well.

Intervention with Family

- **Psychoeducation:** Patient's family where they were helped to develop the understanding and insight about signs and symptoms of the illness. They were psycho-educated about the importance of drug adherence and other factors causing the illness. They were family was also educated about their belief in faith healing. Prognosis, treatment procedure and duration were also discussed. It was done in four sessions.

- **Structural Family Therapy:** In the family assessment, it was found that the family unit is malfunctioning. Family therapy was done to help the family lead a healthy life.
  - **Communication Training:** Discrepancies between verbal and non-verbal communication were addressed and how it is affecting the patient and the family functioning were explained. The importance of clarity, directness, openness and sufficiency to improve the communication pattern between the family members was discussed during sessions to improve the communication pattern of the family. It was done through three sessions.
  - **Reinforcement Practice on the Family:** Family members were explained about reinforcement. The importance of reinforcement along with expressing positive emotions like affection, love and warmth were discussed. Principles of operant conditioning were introduced. It was done through two sessions.
  - **Aligning Boundary:** Each individual in the family unit is unique in their way and the importance of accepting the family members and creating a protected environment were discussed. The role of clear internal as well as external boundaries was shared. It was done through two sessions.
  - **Minimizing Expressed Emotions:** Family members were explained about negative expressed emotions present in the family and hostility, overinvolvement and critical comments were addressed. The importance of expressing positive emotions like affection, love and warmth was discussed. It was done through two sessions.
- **Disability Certification:** Family members were counselled regarding the disability certificate and welfare benefits of it. The certification process was also explained to them. It was done in one session.

- **Pre-discharge Counselling:** The patient and his family members were explained about the importance of treatment adherence, medication side effects, follow up and early signs of detection of the illness. Measurements to be taken for medication side effects and early signs of the illness were also discussed. Patient's future plans were also discussed.
- **Discharge Counselling with the patient and the family:** Patient and his family members were summarized all the sessions separately. Feedback of the previous sessions were also taken. They were explained about the importance of treatment adherence and regular follow up was advised. Queries were addressed and discussed.

OUTCOME

Following the psychosocial intervention, the patient reported significant improvement in his condition. His understanding of the illness improved, particularly regarding its prognosis, the importance of treatment adherence, and drug compliance. The patient's motivation to reduce substance intake progressed from the pre-contemplation stage to the contemplation stage.

The PSW trainee conducted additional sessions of Motivational Enhancement Therapy (MET) on an outpatient basis, which helped the patient reach the maintenance phase of recovery. During these outpatient interventions, the trainee learned that the patient had started working as a farmer.

Psychoeducation sessions enhanced the family's knowledge about the patient's illness, leading to improved communication patterns among family members. Improvements were also observed in the family's expressed emotions. Family-level interventions yielded positive results, as evidenced by quantitative improvement in the McMaster Family Assessment Device (table 2).

Table 2 Family Assessment Device Score

Family Function Domain	Cut off	Pre		Post	
		Score	Imp.	Score	Imp.
Roles	2.3	2.4	DF	2.1	F
Communication	2.2	2.3	DF	2	F
Behavioural Control	1.9	2.2	DF	1.8	F
Problem-Solving	2.2	2.4	DF	2.1	F
Affective Involvement	2.1	1.8	F	1.8	F
Affective Responsiveness	2.2	2	F	2	F
General Functioning	2.0	2.1	DF	1.8	F

DISCUSSION

The parent's role is very important in the upbringing of the child as a psychologically and sociologically adjusted person.[12] The patient's

mother died when he was twelve years of age. Losing a parent during childhood or adolescence impacts the child or adolescent's social and emotional development. Aresté[13] pointed out that individuals who experienced various adverse childhood experiences, such as grieving during childhood and adolescence due to the loss of parents, were 4 –12 times more prone to alcohol consumption, misuse of psychoactive substances, and any psychiatric illness. In this case, it was found that the index patient dropped out of school after 8th standard. Maynard et al.,[14] Bachman et al.[15] and Townsend et al.[16] found that students who drop out of high school may experience higher risk for problems related to the use of nicotine, alcohol, cannabis, and other illegal drugs. The index patient faced poverty in his household while he was growing up and similar findings were also found by previous researchers.[17][18] Poverty in households with children or adolescents has early mental health status to be a risk factor for later drug misuse.[19] Social learning theories and systemic family approaches suggest that the family interaction pattern is bidirectional and thus the behaviour of each of its members impacts the rest.[20] The family dynamics reveal that the internal boundary was found to be open, the external boundary was diffused, and the family is following a switchboard communication pattern. Gruber & Taylor [21] replicated the same findings that family role structures and role assignments can be barriers to facing substance use and abuse issues. Processes relating to the management of feelings, role structures communication, and need fulfilment within the family, the system is related to drug abuse behaviour [22]. Intake and rapport building were done following the principle of meaningful relationship of Social Case Work. It was at first difficult as the patient was guarded. Consistency helped the PSW trainee to create a harmonious understanding with the patient and his family. The patient has been seen in the ward every day since admission. With positive response to pharmacotherapy, rapport was gradually established with the patient. He was encouraged to talk about his life, family, work, and everything. Family members were cooperative. As the patient came with the long-term illness of schizophrenia, he was not maintaining his personal hygiene. With unstructured activity scheduling initial focus was behavioural activation. Gradually it focused on structuring his day focusing on the pleasure principle and mastery principle and was explained about the rationale behind it. Porter et al.[23] and Ekers et al.[24] shared that behaviour activation may interrupt the vicious cycle by assisting individuals with schizophrenia to reconnect with positive experiences through monitoring their daily activities, helping them to feel pleasure while completing even a small task and restoring their role functioning. Psychoeducation sessions were taken with the patient. The focus was the formation of appropriate self-care behaviour. In sessions he was explained about signs and symptoms of his illness, the importance of drug adherence, importance of follow-up visits, maintaining healthy routine and exercise are also discussed. Psychoeducation was done through five sessions. Lincoln et al.,[25] Bechdolf et al.,[26] Merinder et al.,[27] Pitschel-Walz et al. [28] and Magliano et al. [29] pointed out that psychoeducation of the patient and family members is associated with shorter duration of hospitalisation, reduced number of relapses, improvement in the state of health and psychosocial functioning of the patients, as well as their better cooperation and extensive knowledge about illness. Serial mental status examination (MSE) taken by the PSW trainee and PANSS administered by the psychiatrist revealed significant improvement in the patient. Motivational enhancement therapy (MET) was done with the patient for controlling substance abuse disorder. The trainee helped the patient understand the DARES principle (develop discrepancy, avoid argument, roll with resistance, express empathy and self-efficacy). FRAMES elements (feedback, responsibility, advice, menu, express and self-efficacy) were discussed. His stages of motivation changed from pre-contemplation to contemplation as per the readiness to change the questionnaire (RCQ) and his locus of control changed from extrinsic to intrinsic. Miller, W. R., & Rollnick, S.[30] shared that motivation is essential for a person to achieve behaviour change and maintain goal-related behaviours. Project Match Research Group,[31] Team UKATT Research Team[32] and Sellman et al.[33] find that MET has been shown to be efficacious in reducing alcohol consumption and related consequences. Indian Disability Evaluation and Assessment Scale was administered to the patient and he was found to be moderately disabled. The certification process was

initiated. He was counselled regarding the welfare benefits. Psychoeducation sessions were initiated with the patient's family where they were helped to develop an understanding and insight about the illness. The family roles are very important in the prevention of drug abuse which can reduce the incidence of drug abuse [34]. In the family assessment, it was found that the family unit was malfunctioning. Family therapy was done to help the family lead a healthy life. The structural approach (Minuchin, 1974) of family therapy postulates a normative family model, claiming that families function particularly well when certain family structures prevail.[35]

CONCLUSION

The present case study demonstrates that psychosocial interventions are effective when individuals are provided with adequate support, enhancing their capacity for change. Psychosocial management adhered to the core principles of Social Case Work, including acceptance, a non-judgmental attitude, individualization, and purposeful expression of feelings.

This case study employed various management strategies, such as intake, building a therapeutic alliance, activity scheduling for behavioural activation, psychoeducation, and Motivational Enhancement Therapy (MET), to assist the patient. Counselling played a pivotal role in increasing awareness regarding disability welfare benefits.

Qualitative outcomes of the psychosocial intervention indicated improvement in serial Mental Status Examinations (MSE), with the patient showing significant progress in managing his illness and developing a better understanding of his condition. The patient's motivation to address substance abuse advanced from the pre-contemplation stage to the preparation stage.

Quantitative measures, including the Positive and Negative Syndrome Scale (PANSS) and the Readiness to Change Questionnaire (RCQ), reflected these improvements. At the family level, reported outcomes from the patient and family members, as well as assessments using the McMaster Family Assessment Device, indicated significant enhancements in the family's knowledge about the illness, communication patterns, affective responsiveness, affective involvement, and overall general functioning.

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