Article

Facilitators and Barriers to Social Function Recovery in Individuals with Schizophrenia: A Qualitative Study

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Abstract

More than 80% of individuals with schizophrenia (IWS) experience a persistent decline in social functioning, creating lifelong burdens for families and society. Despite this, recovery efforts remain suboptimal. This study explored the facilitators and barriers influencing the social function recovery of post-hospitalisation IWS who have reintegrated into society. Conducted at community health centres (CHCs) in the city of Semarang, Indonesia, the research used a qualitative research design involving in-depth, semi-structured interviews with 64 participants, including 16 IWS, 16 family caregivers, 12 health cadres, 12 cultural figures, and eight healthcare professionals. The research process adhered to established ethical principles and incorporated measures to ensure the trustworthiness of the findings. The main facilitators of social function recovery identified include: 1) National Health Insurance (NHI); 2) family support; 3) support from cultural figures; and 4) Javanese ancestral values. Barriers include: 1) misconceptions about schizophrenia and its causes; 2) traditional care practices that are contrary to health; 3) three types of stigma: social stigma, IWS stigma, and family stigma; 4) suboptimal management of caregiving burdens within families; 5) lack of social support from neighbours; and 6) disorganised management of rehabilitative services for IWS at CHCs. The findings highlight an urgent need for an integrated system to support social function recovery, involving IWS, their families, nurses, health cadres, and cultural figures. Such a system should adopt a sociocultural, community-based approach combining public education for the wider community,

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psychoeducation for IWS and their families, and vocational and social skills training for IWS to promote sustainable recovery and social reintegration.

Keywords: barriers; cultural figure; facilitators; Indonesia; schizophrenia; social function recovery

Introduction

Schizophrenia is a severe mental disorder characterised by marked personality disorganisation, a chronic course, and the need for long-term treatment (Stein et al. 2021). Negative symptoms of schizophrenia contribute to a decline in social functioning (Correll and Schooler 2020), which manifests as an inability to meet basic needs, fulfil life responsibilities, and maintain social roles (Achim et al. 2023). This deterioration places lifelong burdens on the families and society of individuals with schizophrenia (IWS) (Liu et al. 2020; Yunita et al. 2020).

Social function recovery is a primary goal in the management of schizophrenia and a key predictor of IWS quality of life (Cruwys et al. 2020; Puspitosari et al. 2019). However, recovery efforts remain suboptimal, leading to persistently low recovery rates (Tirupati and Ramachandran 2020). In Indonesia, specific data on the recovery of IWS social functions are lacking. However, a preliminary study in the city of Semarang, Indonesia, revealed that 100% of post-hospitalisation IWS had not optimally engaged in recovery activities. Many families avoid taking IWS to public places due to shame, while neighbours fear that IWS might pose a danger to others.

External factors influencing social function recovery include social support (Saha et al. 2020), stigma mitigation efforts (Silva and Restrepo 2019; Stangl et al. 2019), cultural appreciation of IWS rights (Kirmayer 2023), and mental health services oriented toward recovery (Cruwys et al. 2020). Social support refers to the assistance individuals receive that fosters a sense of belonging and care. However, social support for IWS recovery in Southeast Asian countries, including Indonesia (Irmansyah et al. 2020), remains inadequate (Gamieldien et al. 2021).

Behavioural deviations exhibited by IWS contribute to stigma, which involves discrediting and demeaning individuals through negative labelling (Wogen and Restrepo 2020). Social stigma is among the top five challenges in addressing mental health issues in Indonesia, contributing to low social support, which hinders community engagement in mental health services (Irmansyah et al. 2020; Pribadi et al. 2020) and obstructs IWS rehabilitation and quality of life (Ran et al. 2021). Studies from Singapore, Ghana, and Kenya indicate high levels of social stigma (Potts and Henderson 2021; Shahwan et al. 2022), with reported prevalence in the Pacific Islands ranging from 25.4% to 85.2% (Ran et al. 2021). In Indonesia, social stigma against IWS remains prevalent (Subu et al. 2021; Irmansyah et al. 2020), particularly in Central Java (Widodo et al. 2019).

Self-stigma is associated with poor clinical and functional outcomes, positively correlating with depressive symptoms and suicidal ideation while negatively impacting recovery efforts (Dubreucq et al. 2021). Global studies indicate that 31.3% of IWS experience self-stigma, with the highest prevalence in Southeast Asia (39.7%) and the Middle East (39%) (Dubreucq et al. 2021). Self-stigma, including both the stigma experienced by IWS and their families, remains high at both the national level in Indonesia and the local level in Central Java (Windiarti et al. 2022).

Purpose of the Study

This study aims to explore the facilitators and barriers affecting the social functioning recovery of individuals with IWS following hospitalisation, who have reintegrated into society.

Methods

The methods for this study include the research design, study setting, study population, sample size and sampling technique, research instruments, data collection, data analysis, and trustworthiness.

Research Design

The study employed a qualitative phenomenological approach, which is the most effective method for providing a description of the phenomenon and achieving the study's objectives.

Study Setting

The study was conducted between October 2023 and March 2024 in the working areas of the Ngesrep, Srondol, Padangsari, and Pudak Payung community health centres (CHCs) in the city of Semarang, Central Java, Indonesia. The prevalence of schizophrenia in Indonesia is 0.18%, with Central Java reporting 0.25% (Idaiani et al. 2019) and Semarang at 0.23% (Dinas Kesehatan Provinsi Jateng 2022). These data indicate that the prevalence of schizophrenia in the city of Semarang is higher than the national average.

Study Population

For this study, eligible participants were IWS aged 17 to 65 years old who had taken medication regularly over the past two months and had a maximum of eight instances of rehospitalisation. Participants were excluded if they had psychiatric comorbidities (such as substance abuse) or had engaged in aggressive or disruptive behaviour within the previous month. All participants provided informed consent to take part in the study.

Sample Size and Sampling Technique

The study included a total of 64 participants: 16 IWS, 16 family caregivers, 12 health cadres, 12 cultural figures, and eight healthcare professionals. Before participating, all individuals received both written and verbal explanations of the research objectives, procedures, rights and obligations, and the potential benefits and risks of the study.

Research Instruments

The research instruments included a sociodemographic questionnaire, the Personal and Social Performance (PSP) scale, a semi-structured in-depth interview guide, and a semi-structured focus group discussion (FGD) guide. The in-depth interviews explored six key areas: 1) understanding schizophrenia and its causes; 2) social functioning and recovery efforts; 3) experiences of social stigma; 4) experiences of self-stigma; 5) social support from family, the surrounding community, health cadres, healthcare professionals at the CHCs, and the government; and 6) rehabilitative services for IWS at the CHCs. The FGDs focused on four areas: 1) an understanding of schizophrenia and its causes; 2) types of rehabilitative services for IWS at the CHCs; 3) forms of social support provided to IWS and their families; and 4) factors underlying the provision of social support.

Data Collection

The researcher conducted home visits to carry out in-depth interviews with IWS and their caregivers separately, with each lasting approximately 25–30 minutes. FGDs were held with health cadres and cultural figures at local government offices, each session lasting 45 minutes, while FGDs with healthcare professionals at Ngesrep CHC lasted for 50 minutes.

Data Analysis

Thematic analysis was performed using Colaizzi's method. Data analysis was conducted manually through the following steps: 1) listening to interview and FGD recordings and combining them with field notes to create unified transcripts for analysis; 2) translating the transcripts into English; 3) repeatedly reading the transcripts to identify similarities and patterns in participants' responses; 4) coding meaningful data segments; 5) classifying data into themes; and 6) grouping themes into variables and examining qualitative relationships. Redundant, overestimated, inaccurate, or ambiguous themes were removed. Member checking with participants was conducted to validate the findings.

Trustworthiness

Credibility was ensured through several strategies: 1) member checking, by presenting interpreted interview transcripts to participants for validation; 2) source triangulation, by cross-checking information from multiple sources; and 3) technique triangulation, using multiple methods including in-depth interviews, FGDs, and observations.

To ensure transferability and dependability, all research team members were actively involved in the research process, data analysis, and report writing.

Results

The results include the sociodemographic characteristics of the participants and thematic findings.

Sociodemographic Characteristics

The sociodemographic characteristics of the participants are presented in Table 1.

Table 1: Sociodemographic characteristics of participants (N = 64)

Characteristics	IWS (n = 16)		Family caregivers (n = 16)		Health cadres (n = 12)		Cultural figures (n = 12)		Healthcare professional (n = 8)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Gender										
Male	8	50.00	6	37.50	0	0.00	9	75.00	1	12.50
Female	8	50.00	10	62.50	12	100.00	3	25.00	7	87.50
Marital status										
Single	9	56.25	1	5.25	0	0.00	0	0.00	0	0.00
Married	4	25.00	12	75.00	12	100.00	12	100.00	8	100.00
Widowed	2	12.50	3	18.75	0	0.00	0	0.00	0	0.00
Divorced	1	6.25	0	0.00	0	0.00	0	0.00	0	0.00
Education										
No formal education	1	6.25	0	0.00	0	0.00	0	0.00		
Elementary	6	37.50	10	62.50	1	8.33	0	0.00		
Secondary	9	56.25	5	31.25	10	83.33	10	83.33		
High school	0	0.00	1	6.25	1	8.33	2	16.67		
Medical profession									1	12.50
Nurse									1	12.50
Diploma in nursing									6	75.00
Occupation										
Unemployed	7	43.75	1	6.25	3	25.00	0	0.00		
Employed	6	37.50	12	75.00	9	75.00	11	91.67		
University student/ Student	1	6.25	0	0.00	0	0.00				
Housewife	2	12.50	3	18.75	0	0.00	0	0.00		
Retirement	0	0.00	0	0.00	0	0.00	1	8.33		
Personal monthly income (IDR)										
0	10	62.50								
< 2,800,000	5	31.25								

Characteristics	IWS (n = 16)		Family caregivers (n = 16)		Health cadres (n = 12)		Cultural figures (n = 12)		Healthcare professional (n = 8)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
≥ 2,800,000	1	6.25								
Household income monthly (IDR)										
< 2,800,000			7	43.75	2	16.67	3	25.00	0	0.00
≥ 2.800.000			9	56.25	10	83.33	9	75.00	8	100.00
Social function values										
41–50	2	12.50								
51–60	3	18.75								
61–70	3	18.75								
71–80	0	0.00								
81–90	8	50.00								
Relationship with IWS										
Mother			6	37.50						
Father			1	6.25						
Husband			2	12.50						
Son/daughter			1	6.25						
Wife			2	12.50						
Elder brother/sister			1	6.25						
Younger brother/sister			1	6.25						
Aunt			2	12.50						
Role										
Head of community Health centre									1	12.50
Nurse in charge of mental health									7	87.50

Characteristics	IWS (n = 16)		Family caregivers (n = 16)		Health cadres (n = 12)		Cultural figures (n = 12)		Healthcare professional (n = 8)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
	Medi-an	Min-Max	Medi-an	Min-Max	Mean	SD	Mean	SD	Med-an	Min-Max
Age (years)	41	19–64	53.50	33-65	49.75	± 3.75	54.75	± 5.80	30.50	25-49
Duration of illness (years)	13.50	2–34								
Frequency of medical treatment (time)	2.00	1–6								
Years of experience as a cadre					13.41	± 2.87				

Thematic Findings

The themes, categories, and subcategories derived from the study's findings are outlined in Table 2.

Table 2: Themes, categories, and subcategories

Themes	Categories	Subcategories
Facilitators of social function recovery	1. National Health Insurance (NHI)	–
	2. Family support	1. Information support 2. Instrumental support 3. Emotional support
	3. Support from cultural figures	1. Instrumental support 2. Emotional support
	4. Javanese ancestral values	–
Barriers to social function recovery	1. Misconceptions about schizophrenia and its causes	1. Misconceptions about schizophrenia 2. Misconceptions about causes of schizophrenia
	2. Traditional care practices, contrary to health	–
	3. Types of stigma: social, self, and family	1. Negative belief about group/self 2. Agreement with belief and/or negative emotional reaction 3. Behaviour response to prejudice
	4. Suboptimal caregiving burden management within families	–
	5. Lack of social support from neighbours	–
	6. Disorganised rehabilitative service management for IWS at CHCs	1. Unstructured planning function 2. Unstructured organising function 3. Unstructured staffing function 4. Unstructured directing function 5. Unstructured controlling function

In the following themes, verbatim quotations from participants are presented to illustrate key themes emerging from the data. These quotes provide insights into the perspectives of family caregivers (FC), individuals with schizophrenia (IWS), and cultural figures (CF), who were central to the study.

Theme 1: Facilitators of Social Function Recovery in IWS

Category 1: National Health Insurance (NHI)

All IWS participants were members of the NHI scheme under the Contribution Assistance Recipients (CAR) category.

> I only need money to pay for a Gojek ride [ride-hailing service] to Amino Mental Hospital, using BPJS [National Health Insurance] or does not pay. (FC_4)

> Thank God, now there is free BPJS. (FC_5)

> If I go to a mental hospital, I don't have to pay. (IWS_1, IWS_8)

Category 2: Family Support

Family support plays a crucial role in the recovery process for IWS.

Subcategory 1: Information Support

> My husband always tells me to take my medication. (IWS_1, IWS_6)

> My mother tells me to say *istighfar* [seeking forgiveness from God]. (IWS_2)

Subcategory 2: Instrumental Support

> My husband takes me to the community health centre for a referral, then to the mental hospital. (IWS_1)

> Sometimes my father brings me food. (IWS_6)

> My younger sibling gives me money. (IWS_4, IWS_7)

Subcategory 3: Emotional Support

> My children love me. There is a sense of affection. (IWS_1)

> I try to take care of him as much as I can. (FC_2, FC _6, FC_7)

> I always motivate my wife to get well. (FC_1)

Category 3: Support from Cultural Figures

Community leaders, particularly cultural figures, provide support to IWS.

Subcategory 1: Instrumental Support

> Mr. H. gave me a parking lot to manage. (IWS_5)

> Sometimes Mr. S. gives me food, fried snacks, and coffee. (IWS_7)

I gave him a job to make a garden. Thus, he feels that he is still valuable [and] can still make money. (CF _1)

Subcategory 2: Emotional Support

We as a community must support so that patients can recover, not recur, not [get] angry. We love each other; we talk to each other well. (CF_3)

When he was angry, I called him; I talked to him and drank coffee so that his emotions would decrease. (CF_8)

Category 4: Javanese Ancestral Values

The Javanese ancestral values, particularly the moral teachings, emphasise humanitarian principles that inspire the community to provide social support for others, including IWS.

I told his family. He is your father, your husband. … Even though he is mentally ill now, he once lived with you and had children together. In Javanese culture, we must not forget our origins. (CF_1)

Families should not abandon them; they should still be treated as human beings, so they feel they still have value. That's what our ancestors said. (CF_1, CF_5)

With sincerity and compassion, we treated him with patience, fed him, and eventually, he recovered and even started a family. Humanising people is the teaching of our ancestors. (CF_1)

I told her son. What else can you do? You have to support her. She is your mother, your origin. According to Javanese advice, it is your duty. (CF_8)

Theme 2: Barriers to Social Function Recovery in IWS

Category 1: Misconceptions About Schizophrenia and Its Causes

Subcategory 1: Misconceptions About Schizophrenia

Some families and cultures attribute schizophrenia to supernatural or traditional causes.

Schizophrenia is a form of multiple personality disorder. … When they are conscious, they feel like themselves, but when anxious or panicked, they become someone else. (CF_2, CF_5)

Subcategory 2: Misconceptions About the Causes of Schizophrenia

Some families and cultural figures believe in mythical or spiritual explanations for schizophrenia.

They feel guilty about their past actions. Too many sins lead to stress. (CF_5)

His father thinks that W. is not crazy but deliberately behaves like a crazy person because he fights his parents too often. (CF_1)

It is caused by ancestral karma—five or even seven generations back. (CF_3)

From a supernatural perspective, mental disorders occur due to being infiltrated by evil spirits. (CF_1)

It's because of black magic, ma'am. There is an unknown external factor. (CF_1)

Mental disorders occur due to a contradiction between the conscious and subconscious mind. (CF_1)

Actually, she was fine, but when she was in a trance, she was angry for no reason. I told her to take a bath to cool her mind. (CF_6)

Category 2: Traditional Care Practices

Some families and cultural figures believe the causes of schizophrenia are supernatural or mystical, leading them to implement traditional care practices aligned with these beliefs.

Three years ago, I took him to some shamans until my money ran out. (FC_5)

Because the cause was ancestral karma, I took him to the graves of his ancestors. He would communicate with the soul of his ancestors. (CF_1)

His ancestors may have a covenant with Satan, so he must pray to God so that the sins of his ancestors will not be inflicted on him. (CF_1, CF_6, CF_8)

Category 3: Social, IWS, and Family Stigmas

Subcategory 1: Negative Belief About IWS/Self

Negative Belief About Group

It's difficult to employ someone with a mental illness. (CF_8)

If possible, one should avoid marrying someone with a mental disorder; it would be unfair to their future children. (CF_7)

In the past, A.'s younger sibling was in love with a neighbour's child. But the neighbour's mother said, 'Why date a girl whose brother is crazy? Don't do it.' (FC_2)

Negative Belief About Group Self

Yes, it's sad. … I can never be normal like others. (IWS_3)

It feels like I want to die when people call me crazy. (IWS_8)

Subcategory 2: Agreement with Belief and/or Negative Emotional Reactions

When I walked by, children would sometimes run away in fear. (IWS_3)

People feel disgusted and afraid of those with mental disorders. (HC_3, HC_5)

The neighbours were mostly just afraid he would have an outburst. (FC_6)

Some people insult me. Even little kids smile mockingly. (IWS_5)

My friends don't want to be near me. (IWS_2, IWS_5)

Some people blame me, saying his mother didn't pay enough attention to him. Back then, his younger sibling was still small and mischievous, and I couldn't take care of him properly because his father also had a stroke. (FC_4)

I feel sad. I can't play with my friends. (IWS_5)

Even within the family, it is considered a disgrace, so IWS are hidden away. (HP_1, HP_3, HP_4)

After being discharged from the psychiatric hospital, I felt ashamed to face people. (IWS_3)

Yes, I feel inferior. Some people laugh at me, and others say, 'Hey, look, he was admitted to a psychiatric hospital.' (IWS_3)

Actually, I am ashamed of my son. His behaviour towards others is disrespectful. (FC_4)

Subcategory 3: Behaviour Response to Prejudice

I used to work washing motorcycles, but after I dropped one just once, they immediately told me to quit. (IWS_4)

Can someone like me even get a job? (IWS_7)

It's hard to find a job. (IWS_3)

I keep thinking that my future is ruined. I won't be able to get married. (IWS_3)

Category 4: Inadequate Family Support in Caregiving

Family caregivers strive to provide social support to IWS; however, in some families, certain members exhibit a lack of concern and involvement in caregiving.

My sibling never helps. (IWS_2)

His father never cared. In the past, W. wandered the streets for weeks, but his father didn't even try to look for him. He never once took him to the psychiatric hospital. (FC_2)

The only one willing to give me money is my eldest child. (IWS_8)

Category 5: Lack of Social Support from Neighbours

Neighbours provide minimal social support for the recovery of IWS, often reinforcing exclusion and social isolation.

The neighbours said, 'Don't bring them to gatherings—what if they suddenly become aggressive?' (FC_13)

A customer once said, 'Let someone else serve the customers, not them [IWS].' (FC_4)

I once attended a funeral, but everyone ignored me. (IWS_5)

Category 6: Unstructured Management of Rehabilitative Services for IWS at CHCs

The planning, organising, staffing, directing, and controlling functions of rehabilitative services for IWS at CHCs remain suboptimal.

Subcategory 1: Unstructured Planning Function

There is no clear, structured, and systematic mental health service programme. (HP_1)

When it comes to mental health, there is still no established framework. What are the indicators? What are the targets? Which levels are involved? Who are the network partners? What about the laboratory support? Other programmes are already well organised. In the past, the community healthcare centre and the social services office operated separately. Now, it is somewhat better. The Social Service Office is becoming more active in providing support. Moreover, local stakeholders seem to have started taking action. (HP_1)

Subcategory 2**:** Unstructured Organising Functions

At the primary healthcare centre, we only know what tasks we need to complete, the screening targets, and whom to assist. It would be helpful if a clear workflow were also provided. (H_1)

It seems that mental health programmes have only been actively promoted in the last two or three years. Before that, they were practically dormant. (HP_1)

CMHN [community mental health nursing] services have not yet been implemented in the community healthcare centre. (HP_2, HP_4)

If CMHN services are to be implemented, the leading sector should be the local authorities. Who issues the cadre appointment letters? Isn't it the village head? (HP_1)

Subcategory 3: Unstructured Staffing Function

> Healthcare workers have never received training in CMHN. (H_2, H_5, H_6)

Subcategory 4: Unstructured Directing Function

> No, I have never provided input or guidance to community health cadres on assisting in the social function recovery of IWS. Usually, after I receive training from the health department, I gather the cadres at the primary healthcare centre, and they accompany me on home visits to patients. But this has not happened yet. (HP_3)

Subcategory 5: Unstructured Controlling Function

> We have not yet assessed the services for recovery, as there is no standardised format available. (HP_4, HP_7, HP_8)

Discussion

The findings from this study provide a comprehensive understanding of the rehabilitation service system, particularly regarding the recovery of social functioning for post-hospitalisation IWS who have reintegrated into society in Indonesia. The first supporting factor highlighted economic and social networks, the second and third supporting factors emphasised social networks, and the fourth factor related to local community values. The seven inhibiting factors were related to the understanding of the disease, social networks, traditional care practices, and the rehabilitation service system at the CHCs.

The first supporting factor, the NHI programme, provides significant financial support, aligning with previous research that highlights health insurance as a key factor in reducing treatment costs. Consequently, having health insurance is associated with improved access to mental health services (Blunt et al. 2020; Munira et al. 2023), although most of the IWS participants come from the middle to lower economic classes, as indicated in Table 1. This finding is also in line with the results of previous research that explains socioeconomic networks are one of the effective factors in improving rehabilitation (Somtua 2025; Woodward et al. 2023).

The study results indicate that local societal values, particularly Javanese ancestral values—such as remembering one's origins, not neglecting others, and avoiding mockery—serve as strong motivators for social support. On the other hand, the management of rehabilitation services for IWS in the CHCs is not organised. It fosters misconceptions about schizophrenia and its causes (Chukwuma et al. 2024). These misconceptions contribute to traditional care practices that are contrary to health, perpetuate social stigma, and lead to suboptimal management of care burdens in families. Traditional care, which is contrary to health, is based on the belief in traditional society that schizophrenia is caused by an ancestor's curse and karma. This finding is consistent with Luitel et al. (2025), which suggests that mental disorders are often attributed to demonic possession, sin, or ancestral curses. Contrary to this

understanding, scientific theory states that schizophrenia has a hereditary component; however, what is inherited is genetic predisposition, not sin. Schizophrenia is a highly heritable psychiatric condition with a lifetime prevalence of approximately 1%. The first specific genetic risk factor robustly linked to schizophrenia was a 1.5–3 megabase (Mb) deletion at 22q11.2, previously associated with DiGeorge and velocardiofacial syndromes (Owen et al. 2023).

Misconceptions about schizophrenia and its causes lead to inadequate social support (Choi et al. 2024; Indriati et al. 2021) and contribute to social stigma (Pribadi et al. 2020). This social stigma hinders recovery (Gurung et al. 2023) and triggers self-stigma among IWS and their families (Kehyayan et al. 2021), as well as a lack of social support from neighbours (Irmansyah et al. 2020). Self-stigma occurs when IWS and their families internalise social stigma, leading to negative self-perception and diminished self-worth. Both the IWS's own stigma and the family's stigma significantly hinder engagement in social and vocational activities, thereby impeding the recovery process. This finding aligns with previous research indicating that feelings of shame often prevent families from including individuals with IWS in social environments or public spaces.

All these research findings explain that supporting and inhibiting factors for social function recovery are interrelated. Understanding schizophrenia and its causes, along with family-centred care, cultural factors, and the social values of the local community, presents both opportunities and challenges for social function recovery of IWS within the Indonesian community. This study successfully synthesises the interrelationships

between various facilitators and barriers to social functioning recovery in IWS, as illustrated in Figure 1.

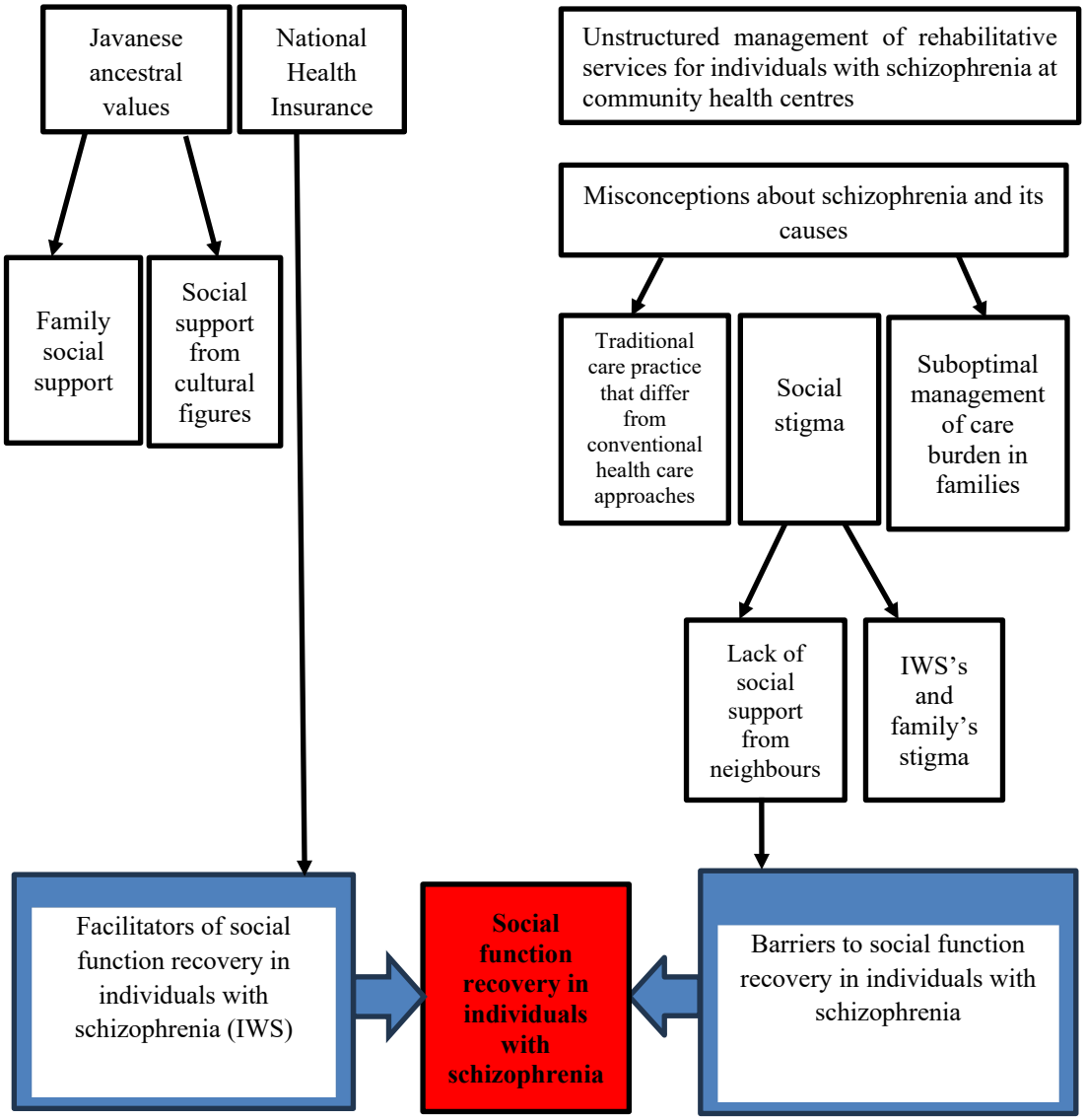

Figure 1: The relationship between various facilitating and inhibiting factors in the social function recovery of individuals with schizophrenia

Limitation and Implications for Future Research

This study expands the understanding of the dynamics of recovery of social function among post-hospitalisation IWS who have reintegrated into society in Semarang City, Central Java, Indonesia. However, there are limitations affecting the scope and generalisability of the findings. The people of Central Java continue to value cultural figures and the guidance of their ancestors, so the findings may not be applicable to other communities. Nonetheless, some insights may be partially transferable to other tribal communities in Indonesia or abroad that face similar sociocultural challenges. Future research could examine the long-term effects of social function recovery using a management and sociocultural approach over several years.

Recommendations

Nurses responsible for mental health care in CHCs are expected to provide psychoeducation while addressing self-stigma among IWS and their families. As the community's most accessible primary healthcare facility, the CHCs should establish an integrated social function recovery management system involving IWS, families, healthcare professionals, health cadres, and cultural figures, using a sociocultural approach tailored to the local context. Key strategies include public education, psychoeducation for IWS and their families, and vocational social training for IWS.

Conclusions

The recovery of social function for post-hospitalisation IWS reintegrating into society requires coordinated efforts from various sectors. This involves the integration of family caregivers, social support from families and the surrounding environment, a structured health service system, and a multidisciplinary, culturally sensitive approach.

Authors' Contributions

Research framework: II, BK. Data collection: II. Data validation, interpretation, and analysis: II, AS, BK, AA. Review, editing, and final manuscript: II, AS, BK, AA.

Availability of Data and Material

The anonymised dataset used and analysed during the current study is available from the corresponding author upon reasonable request.

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Ethical Considerations

This study received ethical approval from the Health Research Ethics Committee of Diponegoro University (Approval No. 398/EC/KEPK/FK-UNDIP/VIII/2023, dated August 1, 2023). Research was conducted in accordance with the Helsinki Declaration. Participants provided both written and verbal informed consent, acknowledging their rights, potential benefits, and the voluntary nature of their participation.

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Conflict of Interest

The authors declared that there were no conflicts of interest to disclose.

References

Achim, Amélie M., Marc André Roy, and Marion Fossard. 2023. "The Other Side of the Social Interaction: Theory of Mind Impairments in People with Schizophrenia Are Linked to Other People's Difficulties in Understanding Them." *Schizophrenia Research* 259: 150–57. https://doi.org/10.1016/j.schres.2022.07.001.

Blunt, Elson Oshman, Johanna Catherine Maclean, Ioana Popovici, and Steven C. Marcus. 2020. "Public Insurance Expansions and Mental Health Care Availability." *Health Services Research* 55 (4): 615–25. https://doi.org/10.1111/1475-6773.13311.

Choi, Hyojin, Maija Reblin, and Kristin Litzelman. 2024. "Conceptualizing Family Caregivers' Use of Community Support Services: A Scoping Review." *Gerontologist* 64 (5): 1–11. https://doi.org/10.1093/geront/gnad039.

Chukwuma, Obinna V., Esther I. Ezeani, Evelyn O. Fatoye, Janet Benjamin, Okelue E. Okobi, Chuka G. Nwume, and Esther N. Egberuare. 2024. "A Systematic Review of the Effect of Stigmatization on Psychiatric Illness Outcomes." *Cureus* 16 (6): e62642. https://doi.org/10.7759/cureus.62642.

Correll, Christoph U., and Nina R. Schooler. 2020. "Negative Symptoms in Schizophrenia: A Review and Clinical Guide for Recognition, Assessment, and Treatment." *Neuropsychiatric Disease and Treatment* 16: 519–34. https://doi.org/10.2147/NDT.S225643.

Cruwys, Tegan, Bridie Stewart, Lisa Buckley, James Gumley, and Brett Scholz. 2020. "The Recovery Model in Chronic Mental Health: A Community-Based Investigation of Social Identity Processes." *Psychiatry Research* 291 (April): 113241. https://doi.org/10.1016/j.psychres.2020.113241.

Dinas Kesehatan Provinsi Jateng. 2022. *Profil Kesehatan Jawa Tengah Tahun 2021*. Semarang: Dinas Kesehatan Provinsi Jateng.

Dubreucq, Julien, Julien Plasse, and Nicolas Franck. 2021. "Self-Stigma in Serious Mental Illness: A Systematic Review of Frequency, Correlates, and Consequences." *Schizophrenia Bulletin* 47 (5): 1261–87. https://doi.org/10.1093/schbul/sbaa181.

Gamieldien, Fadia, Roshan Galvaan, Bronwyn Myers, Zarina Syed, and Katherine Sorsdahl. 2021. "Exploration of Recovery of People Living with Severe Mental Illness (SMI) in Low/Middle-Income Countries (LMICs): A Scoping Review." *BMJ Open* 11 (3): 1–13. https://doi.org/10.1136/bmjopen-2020-045005.

Gurung, D., M. Neupane, K. Bhattarai, B. Acharya, N. C. Gautam, K. Gautam, S. Koirala, et al. 2023. "Mental Health-Related Structural Stigma and Discrimination in Health and Social Policies in Nepal: A Scoping Review and Synthesis." *Epidemiology and Psychiatric Sciences* 32. https://doi.org/10.1017/S2045796023000823.

Idaiani, Sri, Indri Yunita, Dwi Hapsari Tjandrarini, Lely Indrawati, Ika Darmayanti, Nunik Kusumawardani, and Rofingatul Mubasyiroh. 2019. "Prevalensi psikosis di Indonesia berdasarkan Riset Kesehatan Dasar 2018." *Jurnal Penelitian Dan Pengembangan Pelayanan Kesehatan* 3 (1): 9–16. https://doi.org/10.22435/jpppk.v3i1.1882.

Indriati, Indriati, Wien Soelistyo Adi, Tuti Anggarawati, Yuni Astuti, and Delisa Alfriani. 2021. "Familial Experiences of Caring for Schizophrenia Patients during the Covid-19 Pandemic: A Qualitative Study." *Jurnal Ners* 16 (1): 35. https://doi.org/10.20473/jn.v16i1.24130.

Irmansyah, Irman, Herni Susanti, Karen James, Karina Lovell, Sri Idaiani, Soimah Imah, Giur Hargiana, et al. 2020. "Civic Engagement and Mental Health System Strengthening in Indonesia: A Qualitative Examination of The Views of Health Professionals and National Key Stakeholders." *BMC Psychiatry* 20 (1): 1–15. https://doi.org/10.1186/s12888-020-02575-3.

Kehyayan, Vahe, Ziyad Mahfoud, Suhaila Ghuloum, and Tamara Marji. 2021. "Internalized Stigma in Persons with Mental Illness in Qatar: A Cross-Sectional Study." *Frontiers in Public Health* 9 (June): 1–12. https://doi.org/10.3389/fpubh.2021.685003.

Kirmayer, Laurence J. 2023. "Cultural Poetics of Illness and Healing." *Transcultural Psychiatry* 60 (5): 753–69. https://doi.org/10.1177/13634615231205544.

Liu, Zhu, Catrina Heffernan, and Jie Tan. 2020. "Caregiver Burden: A Concept Analysis." *International Journal of Nursing Sciences* 7 (4): 438–45. https://doi.org/10.1016/j.ijnss.2020.07.012.

Luitel, Nagendra P., Bishnu Lamichhane, Prakriti Koirala, Poonam Sainju, Amshu Ghimire, Kamal Gautam, Mark J. D. Jordans, and Brandon A. Kohrt. 2025. "Treatment of Depression by Traditional Faith Healers in Nepal: A Qualitative Study." *SSM - Mental Health* 7: 100425. https://doi.org/10.1016/j.ssmmh.2025.100425.

Munira, Lafi, Pranee Liamputtong, and Pramon Viwattanakulvanid. 2023. “Barriers and Facilitators to Access Mental Health Services Among People with Mental Disorders in Indonesia: A Qualitative Study.” *Belitung Nursing Journal* 9 (2): 110–17. https://doi.org/10.33546/bnj.2521.

Owen, Michael J., Sophie E. Legge, Elliott Rees, James T. R. Walters, and Michael C. O’Donovan. 2023. “Genomic Findings in Schizophrenia and Their Implications.” *Molecular Psychiatry* 28 (9): 3638–47. https://doi.org/10.1038/s41380-023-02293-8.

Potts, Laura C., and Claire Henderson. 2021. “Evaluation of Anti-Stigma Social Marketing Campaigns in Ghana and Kenya: Time to Change Global.” *BMC Public Health* 21 (1): 1–14. https://doi.org/10.1186/s12889-021-10966-8.

Pribadi, Teguh, Esther C. L. Lin, Po See Chen, Shih Kai Lee, Reziki Fitryasari, and Chih Hsuan Chen. 2020. “Factors Associated with Internalized Stigma for Indonesian Individuals Diagnosed with Schizophrenia in a Community Setting.” *Journal of Psychiatric and Mental Health Nursing* 27 (5): 584–94. https://doi.org/10.1111/jpm.12611.

Puspitosari, Warih Andan, Shanti Wardaningsih, and Sandeep Nanwani. 2019. “Improving the Quality of Life of People with Schizophrenia through Community Based Rehabilitation in Yogyakarta Province, Indonesia: A Quasi Experimental Study.” *Asian Journal of Psychiatry* 42: 67–73. https://doi.org/10.1016/j.ajp.2019.03.022.

Ran, Mao Sheng, Brian J. Hall, Tin Tin Su, Benny Prawira, Matilde Breth-Petersen, Xu Hong Li, and Tian Ming Zhang. 2021. “Stigma of Mental Illness and Cultural Factors in Pacific Rim Region: A Systematic Review.” *BMC Psychiatry* 21 (1): 1–16. https://doi.org/10.1186/s12888-020-02991-5.

Saha, Somen, Apurvakumar Pandya, Ajay Chauhan, Bakul Buch, Siddharth Makwana, Saiyad Vikar, and Priya Kotwani. 2020. “Psychosocial Rehabilitation of People Living with Mental Illness: Lessons Learned from Community-Based Psychiatric Rehabilitation Centres in Gujarat.” *Journal of Family Medicine and Primary Care* 9. https://doi.org/10.4103/jfmpc.jfmpc_991_19.

Shahwan, Shazana, Chong Min Janrius Goh, Gregory Tee Hng Tan, Wei Jie Ong, Siow Ann Chong, and Mythily Subramaniam. 2022. “Strategies to Reduce Mental Illness Stigma: Perspectives of People with Lived Experience and Caregivers.” *International Journal of Environmental Research and Public Health* 19 (3). https://doi.org/10.3390/ijerph19031632.

Silva, María Alejandra, and Diana Restrepo. 2019. “Functional Recovery in Schizophrenia.” *Revista Colombiana de Psiquiatria* 48 (4): 252–60. https://doi.org/10.1016/j.rcp.2017.08.004.

Somtua, Niramol. 2025. “Community-Based Rehabilitation for Older Adults Post-Stroke in Thailand: An Ethnographic Study.” *Belitung Nursing Journal* 11 (1). https://doi.org/10.33546/bnj.3690.

Stangl, Anne L., Valerie A. Earnshaw, Carmen H. Logie, Wim Van Brakel, Leickness C. Simbayi, Iman Barré, and John F. Dovidio. 2019. "The Health Stigma and Discrimination Framework: A Global, Crosscutting Framework to Inform Research, Intervention Development, and Policy on Health-Related Stigmas." *BMC Medicine* 17 (1): 18–23. https://doi.org/10.1186/s12916-019-1271-3.

Stein, Dan J., Andrea C. Palk, and Kenneth S. Kendler. 2021. "What Is a Mental Disorder? An Exemplar-Focused Approach." *Psychological Medicine* 51 (6): 894–901. https://doi.org/10.1017/S0033291721001185.

Subu, Muhammad Arsyad, Del Fatma Wati, Netrida Netrida, Vetty Priscilla, Jacqueline Maria Dias, Mini Sarah Abraham, Shameran Slewa-Younan, and Nabeel Al-Yateem. 2021. "Types of Stigma Experienced by Patients with Mental Illness and Mental Health Nurses in Indonesia: A Qualitative Content Analysis." *International Journal of Mental Health Systems* 15 (1): 1–12. https://doi.org/10.1186/s13033-021-00502-x.

Tirupati, Srinivasan, and Padmavati Ramachandran. 2020. "Schizophrenia, Recovery and the Individual-Cultural Considerations." *Australasian Psychiatry* 28 (2): 190–92. https://doi.org/10.1177/1039856219889320.

Widodo, Arif, Yayi Suryo Prabandari, Aris Sudiyanto, and Ibrahim Rahmat. 2019. "Increasing the Quality of Life of Post Shackling Patients Through Multilevel Health Promotion of Shackling Prevention." *Bali Medical Journal* 8 (2): 678. https://doi.org/10.15562/bmj.v8i2.1470.

Windiarti, S. E., A. Suwandono, Z. Shaluhiyah, and A. Ediati. 2022. "The Development of Mental Health Caring Urban-Village Model to Reduce Stigma and Improve the Quality of Life Among People with Schizophrenia in Semarang, Indonesia." *NeuroQuantology* 20 (7): 2452–59. https://doi.org/10.14704/nq.2022.20.7.NQ33318.

Wogen, Jenifer, and Maria Teresa Restrepo. 2020. "Human Rights, Stigma, and Substance Use." *Health and Human Rights* 22 (1): 51–60.

Woodward, Abi, Nathan Davies, Kate Walters, Danielle Nimmons, Fiona Stevenson, Joanne Protheroe, Carolyn A. Chew-Graham, and Megan Armstrong. 2023. "Self-Management of Multiple Long-Term Conditions: A Systematic Review of the Barriers and Facilitators amongst People Experiencing Socioeconomic Deprivation." *PLoS ONE* 18 (2 February): 1–24. https://doi.org/10.1371/journal.pone.0282036.

Yunita, Fildzah Cindra, Ah Yusuf, Hanik Endang Nihayati, and Nurullia Hanum Hilfida. 2020. "Coping Strategies Used by Families in Indonesia When Caring for Patients with Mental Disorders Post-*Pasung*, Based on a Case Study Approach." *General Psychiatry* 33 (1): 1–8. https://doi.org/10.1136/gpsych-2018-100035.