

# Social and Personal Functioning in Schizophrenia: Relationship to Sociodemographic and Clinical Factors

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## Abstract

Two-thirds of people with schizophrenia are unable to fulfill basic social roles, such as spouse, parent, and worker, even when in a state of remission of psychotic symptoms. Many factors affect personal and social functioning in schizophrenic patients and accurate assessment of functional status is important in evaluating the need for treatment and seek a successful outcome. The objective of this study was to assess the level of personal and social functioning in schizophrenic patients in the stable phase and determine the relationship of the level of personal and social functioning with sociodemographic and clinical factors. This was a cross-sectional study of 120 participants schizophrenic patients in a mental hospital in North Sumatra province. Level of personal and social functioning measured by the Personal and Social Performance Scale (PSP). Relationship between personal and social functioning with sociodemographic and clinical factors were assessed using Chi-square test (significant values  $P < 0.05$ ). This study found 29 participants (24.2%) were high level of personal and social functioning, while 91 participants were low (75.8%). There was a significant relationship between the level of personal and social function with age ( $p = 0.019$ ), gender ( $p = 0.003$ ), employment status ( $p = 0.0001$ ), educational level ( $p = 0.0001$ ), and duration of schizophrenia disorders ( $p = 0.0001$ ).

**Keywords:** schizophrenia, personal and social function, PSP

## 1. Introduction

Schizophrenia is a chronic mental illness associated with hallucinations, delusions, thought disorder, less talk and emotional expression, social withdrawal, and impaired ability to interact with others, as well as cognitive deficits. The worldwide prevalence has been estimated to be in the range of 0.5 to 1.5%. Many schizophrenic patients who suffer chronically or episodically throughout their lives, with impaired function of personal, social, and employment (AK Kawata *et al.*, 2008).

Although it has been 50 years of pharmacological and psychosocial intervention, schizophrenia remains one of the major causes of disability in the world (Bowie CR *et al.*, 2006; SJ Schmidt *et al.*, 2011). V'azquez-Barquero *et al.* in his study of 76 schizophrenic patients during the 3-year follow-up found that patients with schizophrenia tend to distributed equally over a range of social disability, with approximately 60% having moderate to good social functioning (Bellack AS *et al.*, 2007). Pinna F *et al.* found only 20.5% of patients with schizophrenia who achieve a high level of functionality, which achieved a score of over 70 which indicates the state of the so-called functional remission (F Pinna *et al.*, 2013). Currently, the development of treatment of schizophrenia is to optimize the function of life of patients with schizophrenia, both total or partial remission (Purnama DA *et al.*, 2012). Hope functional improvements in the stable phase is covering more autonomous social behavior, the ability to actively participate in rehabilitation therapy, and function better at work (Lindenmayer JP, 2008).

## 2. Subject and Methods

This study was approved by the Research Ethics Committee of Medical Faculty University of Sumatera Utara. One hundred and twenty patients with schizophrenia Pempropusu mental hospital were recruited as participants with consecutive sampling. Inclusion criteria were subjects aged 15-55 years, diagnosis of schizophrenia according to the diagnostic criteria of ICD X, stable phase of treatment, and was accompanied by family/caregiver who knows the patient's condition last for at least 1 month. Exclusion criteria were suffer from chronic physical diseases that can affect the social and personal functioning in daily living, comorbidity with substance use and other mental disorders.

### 2.1 Assessment and Rating

These study used the Personal and Social Performance Scale (PSP). Personal and Social Performance Scale (PSP) instrument was developed in 1999 and published in 2000 by Morosini *et al.* to measure personal and social functioning of patients with schizophrenia. Personal and Social Performance Scale (PSP) consists of 4 domains, which includes 16 components measured 19 assisted questions in the form of a structured interview (Purnama DA *et al.*, 2012). This instrument has been validated in Indonesia by Darmawan, A. Purnama and his colleagues in 2008 with good validity for 70.504%, consisting of 4 domains, namely; self-care, with 6 components; socially useful activities, with 3 components; personal and social relationships, with 2 components; aggressive and

disruptive behaviours, with 5 components. Overall assessment of all scores ranged from 1 (maximum dysfunction) to 100 (maximum function), based on the scores obtained in each domain. The total score exceeds 70 shows a high functioning, while a score below 70 indicates low functioning. (F Pinna *et al.*, 2013; Brissos S *et al.*, 2011).

### 2.2 Statistical Analysis

Univariate analysis was performed to describe each variable and was described by frequency table. Bivariate analysis was performed to analyze whether there are association between personal and social functioning with sociodemographic and clinical factors, used Chi square test and a significant level was considered as 5%. Followed by multivariate logistic regression analysis. Statistical analysis was performed using SPSS software.

### 3. Result

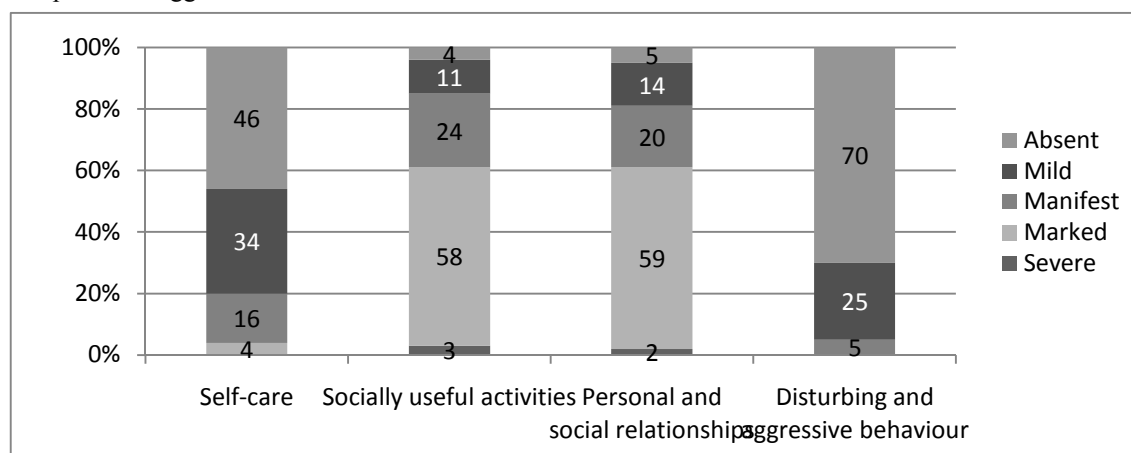
Demographic characteristics of 1200 participants are illustrated in Table 1.

**Table 1. The distribution of the sample based on demographic and clinical characteristics**

Variable	n = 120	%
Age (years)		
<40	52	43.3
≥40	68	56.7
Gender		
Men	70	58.3
Woman	50	41.7
Marital status		
Married	33	27.5
Single	87	72.5
Employment status		
Employed	46	38.3
Not employed	74	61.7
Educational Level		
≤ middle school	67	55.8
≥ high school	53	44.2
Onset (years)		
< 40	85	70.8
≥ 40	35	29.2
Frequency of hospitalization		
≤ 5	70	58.3
>5	50	41.7
Illness durations (years)		
≤ 2	25	20.8
>2	95	79.2

PSP mean score was 56.48 (SD ± 13.97). The level of high personal and social functioning (score ≥ 70) on the subject of the study found as many as 29 participants (24.2%), with a mean score was 75.38 (SD ± 3.46), while the level of low personal and social functioning (scores <70) was found in 91 participants (75.8%), with a mean score was 50.46 (SD ± 10.12).

Fifteen percent of the study subjects had mild difficulty or no difficulty in the domain of socially useful activity, and 19% in the domain of social and personal relationships. While the majority of research subjects, namely 80%, was found difficulty mild or no difficulty in the domain of self-care and by 95% in the domain of disruptive and aggressive behavior.



**Figure 1. Social functioning of schizophrenia patients (n = 120) according to the Personal and Social Performance (PSP) scale domain**

The level of high personal and social functioning was more prevalent in the age group <40 (34.6%), female gender (38.0%), married (33.3%), employed (47.8%), the higher level of education (39.6%), onset  $\geq$  40 years (31.4%), frequency of hospitalization  $\leq$  5 (25.7%), and duration of the illness  $\leq$  2, (60.0%). There was a significant relationship between the level of personal and social functions with age ( $p = 0.019$ , OR = 2.74 IK95% = 1.16 to 6.5), gender ( $p = 0.003$ , OR = 3.68, IK95% = 1.53 to 8.85), employment status ( $p = 0.0001$  obtained, OR = 8.74, IK95% = 3.32 to 23.14), educational level ( $p = 0.0001$ , OR = 4.83, IK95% = 1.29 to 12.19), and illness duration ( $p = 0.0001$ , OR = 8.68, IK95% = 3.25 to 23.14). There was no significant relationship between the level of personal and social functions with marital status ( $p = 0.149$ , OR = 1.92, IK95% = 0.79 to 4.67), age of onset ( $p = 0.233$ , OR = 1.71, IK95% = 0.71 to 4.13), and the frequency of hospitalization ( $p = 0.639$ , OR = 1.23, IK95% = 0.52 to 2.89).

**Table 2 Relationship sociodemographic and clinical factors with social and personal level**

Variable	Level of functional (n=120)		p	OR (CI 95%)
	High (%)	Low(%)		
Age (years)				
<40	18(34.6)	34 (65.4)	0.019	2.74 (1.16-6.5)
$\geq$ 40	11 (16.2)	57 (83.8)		
Sex				
Man	10 (14.3)	60 (85.7)	0.003	3.68 (1.53-8.85)
Women	19 (38.0)	31 (62.0)		
Marital Status				
Married	11 (33.3)	22 (66.7)	0.149	1.92 (0.79-4.67)
Single	18 (20.7)	69 (79.3)		
Employment				
Employed	22 (47.8)	24 (52.2)	0.0001	8.74(3.32 – 23.14)
Not employed	7 (9.50)	67 (90.5)		
Educational level				
$\leq$ middle school	8 (11.9)	59 (88.1)	0.0001	4.83 (1.29-12.19)
$\geq$ high school	21 (39.6)	32 (60.4)		
Onset (years)				
<40	18 (21.2)	67 (78.8)	0.233	1.71 (0.71-4.13)
$\geq$ 40	11 (31.4)	24 (68.6)		
Hospitalization				
$\leq$ 5	18 (25.7)	52 (74.3)	0.639	1.23 (0.52-2.89)
>5	11 (22.0)	39 (78.0)		
Illness duration				
$\leq$ 2	15 (60.0)	10 (40.0)	0.0001	8.68 (3.25-23.14)
>2	14 (14.7)	81 (85.3)		

Through multivariate logistic regression obtained that influence the level of social and personal functions are education, employment, and illness duration of schizophrenia. The strength of the relationship from the largest to the smallest is illness duration (OR = 7.82), employment (OR = 5.78), and level of education (OR = 4.64).

#### 4. Discussion

This study found that the high level of personal and social functioning (score  $\geq$  70) on the subject of the study only about 29 people (24.2%), while the low level of personal and social functioning (score <70), as many as 91 people (75.8%). Brissos and his colleagues in his study of 104 schizophrenic patients also found the high level of personal and social functioning (score  $\geq$  70) was only in a small proportion of schizophrenic patients (18.3%) (Brissos S, Palhava F et al., 2011). Psychosocial deficits is one of the key feature of schizophrenia that can be observed in the early stages of the disease, during acute exacerbations, and as part of the syndrome residuals (for long-term maintenance treatment) (MW Huang et al., 2012; Brissos S, Palhava F et al., 2011). Patients with schizophrenia are usually not able to maintain close relationships, work functioning, community activities, and self-care (Jaracz K et al., 2007).

This study shows that only 15% of the subjects who have mild difficulty or no difficulty in the domain of socially useful activity, and 19% domain of social and personal relationships. While the majority of research subjects, namely 80%, was found difficulty mild or no difficulty in the domain of self-care and 95% in disruptive and aggressive behavior. Brissos and his colleagues found only 17% of schizophrenic patients who have mild

difficulty or no difficulty in the domain of socially useful activity, and 27% in social and personal relationships. As for the domain of self-care, and disturbing and aggressive behaviors, mild difficulty or no difficulty found respectively 76% and 90% (Brissos S, Palhava F et al., 2011). The development of personal relationships with other people and participation in social activities may be an aspect of social functioning more difficult to achieve and can be interpreted as an indication of a higher level of functionality and integration into society (Kawata AK et al., 2008).

There is a significant relationship between the level of personal and social functions with age ( $p = 0.019$ ,  $OR = 2.74$ ,  $IK95\% = 1.16$  to  $6.5$ ), gender ( $p = 0.003$ ,  $OR = 3.68$ ,  $IK95\% = 1.53$  to  $8.85$ ), employment status ( $p = 0.0001$ ,  $OR = 8.74$ ,  $IK95\% = 3.32$  to  $23.14$ ), education level ( $p = 0.0001$ ,  $OR = 4.83$ ,  $IK95\% = 1.29$  to  $12.19$ ), and illness duration ( $p = 0.0001$ ,  $OR = 8.68$ ,  $IK95\% = 3.25$  to  $23.14$ ). This result is consistent with research conducted by Brissos and colleagues that found a significant difference in terms of age of schizophrenic patients to social functioning and personal level, where patients with low-level functions are contained in the older age ( $p = 0.005$ ) (Brissos S, Palhava F et al., 2011). Elderly schizophrenic patients typically have a reduced ability to function socially, but it could be due to a few decline in other areas. Performance function in elderly schizophrenic patients is also associated with various factors (Reverger MJ, 2012). Turola and colleagues found a significant difference between the performance of personal and social functions with gender, where lesser in men than women ( $p < 0.0001$ ) (Turola MC et al., 2012). Cahvea and colleagues found that women are better adapted and found fewer disabilities than men (S Ochoa et al., 2012).

Brissos and his colleagues also found significant relationship between employment status and personal level of social functioning ( $p < 0.001$ ), which showed that patients with low functional level is more often found in non-working (Brissos S, Palhava F et al., 2011). Employment status before admission to the hospital has become a factor that can predict the outcome of psychosocial function, in which patients who do not work shows that functional outcome was significantly lower (Brissos S, Molodynski et al., 2011). Erol and his colleagues at the research also found a significant relationship between level of education and social functioning in schizophrenic patients ( $p < 0.001$ ), however the level of education has a significant impact on the ability of facial emotion recognition and cognitive functioning (Erol A et al., 2009), as well as better employment opportunities (Brissos S, Palhava F et al., 2011). Research by Brissos and colleagues who found a significant relationship between the duration of schizophrenia disorders with personal and social functioning level, where patients with a longer duration of the disorder have low levels of function (Brissos S, Martinez VB et al., 2011).

## 5. Conclusion

The high level of social and personal functioning in schizophrenic patients were only found by 29 people (24.2%), while as many as 91 people were in low level (75.8%). There was a significant relationship between the level of social and personal functioning with age ( $p = 0.019$ ), gender ( $p = 0.003$ ), employment status ( $p = 0.0001$ ), educational level ( $p = 0.0001$ ), and duration of schizophrenia disorders ( $p = 0.0001$ ).

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