Prevalence, demographic, clinical features and its association of comorbid depressive symptoms in patients with schizophrenia

Sri Padma Sari1
Meidiana Dwidiyanti2
Diyan Yuli Wijayanti3
Widodo Sarjana4

1,2,3 Nursing School, Diponegoro University, Semarang, Indonesia
4 Department of Psychiatry, Faculty of Medicine, Diponegoro University, Semarang, Indonesia

Correspondence:
S. P. Sari
Universitas Diponegoro Fakultas Kedokteran,
School of nursing
Jl Prof Soedarto SH
Tembalang Semarang
Semarang, central java, ID 50321
Indonesia

E-mail: sripadmasari@fk.undip.ac.id

Abstract

Depressive symptoms have been reported in schizophrenic patients since the initial clinical label of the disease. This study aims to examine the prevalence, demographic, and clinical features of comorbid depressive symptoms in patients with schizophrenia in Indonesia. This study was a descriptive design with a survey approach and correlational design with a cross-sectional approach. Total sample of this study was 305 schizophrenic patients. Data were collected using a characteristic data questionnaire (demographic and clinical features) and Calgary Depression Scale for Schizophrenia (CDSS) questionnaire. Among 305 respondents assessed, 112 respondents (36.7%) experienced depression. Most charactheristic of respondents who had depression were aged 24-42 years old, male, single, and unemployed. Factors significantly associated with depression in schizophrenic patients were occupational status, age at onset suffered mental disorder, length of hospital stay and mental disorder diagnoses. Moreover, demographic factors and clinical features comorbid on depressive symptoms can help in determining depression.

Keywords: Schizophrenia, depression, prevalence, demographic, clinical features

Introduction:

Mental disorders occur in all regions of the world (Kessler et al., 2009). The most prevalence of these disorders which is estimated to suffered schizophrenia about 21 million people and nearly one in 10 (676 million) people affected by depression and anxiety (WHO, 2016). Based on the Indonesian Health Ministry (2013), the prevalence of mental disorders such as schizophrenia is around 1% and emotional disorders such as depression and anxiety was approximately 6% of the total population.

Schizophrenia is a severe mental disorder characterized by thoughts that affect individual feelings and behaviors disturbances (WHO, 2017). Schizophrenia carries a heavy psychological burden for the sufferer to feel inferior, isolated, and unable to function properly so as to experience depression (Chemerinski et al., 2009). Depression is the emotional state disruption of human function associated with the feeling on the subjective experience spectrum from happiness to sadness as he or she interacts with his or her environments characterized by severe sadness, feelings of innocence and guilt, withdrawal, sleep disorder, loss of appetite, interest and pleasure in the usual activities. Proportions of patients manifesting depression ranged from a high of 75% to a low of 7%, with the modal of depression rate was 25% (Siris, 2000). Depression in schizophrenia can occur in the early phases of psychosis 45-83%, acute phase 29-75%, and post-nicotics (post-schizophrenia) 5-54% (Upthegrove, 2009). A recent study showed that the prevalence of comorbid depressive symptoms in first episode was 54% from 240 patients (Dai et al., 2017). Another study revealed the prevalence of depression as assessed by MINI and CDSS was 25% and 23.5% from 136 patients (Grover et al., 2017)

The impact of depression on people with schizophrenia will lead to poorer quality of life for the patient (Hou et al., 2016; Rayan & Obiedate, 2017; Reine et al., 2003) and a suicidal risk (Hor & Taylor, 2010; Rajkumar, 2015; Ventriglio et al., 2016; WHO, 2016; Yan et al., 2013) The higher level of depression can decrease the quality of life in schizophrenic patients (Shargh et al., 2016) and greater social isolation (Tan & Rossell, 2016). Study showed that the incidence of suicide is very high in the first year of patients experiencing schizophrenia approximately 50% of deaths in men and 35% of deaths in women (n = 9156) (Upthegrove, 2009).

Depressed symptoms had associated with many factors. Previous studies showed that factors affecting depression are gender (Bottlender et al., 2000; Dai et al., 2017), age, marital status, occupational status, having family members with mental disorders (Bottlender et al., 2000), and type of schizophrenia (Schennach et al., 2015). Other studies have showed that risk factors for depression in schizophrenic patients include marital status, education level, low socioeconomic status, family history of schizophrenia, affective disorder (emotional and mood disorders), suicide history, length of suffering, length of treatment, hallucinations, and lack of attention (Balcı et al., 2016). In contrast, age, marital status, education (Dai et al., 2017; Grover et al., 2017), gender, occupational status, religion, length of suffering, type of schizophrenia (Grover et al., 2017), age at onset suffered schizophrenia, length of hospital stay (Grover et al., 2017; Schennach et al., 2015), and type of drugs (Schennach et al., 2015) have no correlation with depression in schizophrenic patients.

Although few studies have investigated comorbid depressive symptoms in patients with schizophrenia, but the still ongoing inconsistenly about the topics mentioned above indicates that empirically based knowledge about depression in schizophrenia and its background factors is worth developing. Moreover, most of the previous studies regarding the comorbid depressive symptoms in schizophrenic patients have not been undertaken in Indonesia. Hence, this study examined the prevalence, demographic, and clinical features of comorbid depressive symptoms in patients with schizophrenia in Indonesia.

Material and Methods

Design

This study was a descriptive design with a survey approach and correlational design with a cross-sectional

approach. The study was conducted at inpatient room on three psychiatric hospitals in Central Java, Indonesia, during April – July 2017.

Sample and Setting
Participants were recruited through non-probability sampling with incidental sampling. The selection criteria for participants were people with schizophrenia, aged 18-60 years, no experiencing verbal communication interference, can communicate well, and in stable condition. A total of 305 patients were enrolled in the study.

Ethical Considerations
The study received approval from the Research Ethics Committee, Faculty of Medicine, Diponegoro University, Indonesia, with number 158/EC/FK-RSDK/IV/2017. The objectives of the study, the procedures, potential risks and benefit, protection of confidentiality and right to withdraw during the study were explained to the participants. Participants were assured about confidentiality and their anonymity would be guarented. In addition, all participants signed a written consent form.

Data Collection
The data were collected using a characteristic data questionnaire (demographic and clinical features) dan Calgary Depression Scale for Schizophrenia (CDSS) questionnaire. Demographic questionnaire to seek the background of the participants included age, gender, marital status, occupational status, and religion, while clinical features consists of age at onset suffered mental disorder, length of suffering mental disorder, frequency of hospital stay, length of hospital stay, mental disorder diagnoses, and type of drugs.

CDSS questionnaire to examine depression in schizophrenic patients. This questionnaire is an observation and semi-structured scale, where respondents are asked to answer questions by interview. The CDSS scale has 9 items included depression, hopeless, low self-esteem, referral ideas in the form of blame, pathological guilt, morning depression, early morning awakening, suicidal ideas, and observed depression. Each item is checked according to the patient's experience according to operational criteria 0 to 3 (0, "None", 1 "Mild", 2 "Moderate", 3 "Severe"). Overall internal consistency among items was .74 (Cronbach's alpha).

Data Analysis
Data of respondents were analyzed and described using frequency, percentage, mean, and standard deviation. The T-test and Chi-Square statistic test, were applied to test the correlation between demographic characteristics and clinical features of respondents with depression in patients with schizophrenia.

Results
The final sample consisted of 305 respondents with age category were dominated by the early adult in the age ranging between 18-40 years old as much as 73.1% (223 people) and the average age is 35 years old. The majority of the respondents were male gender (69.2%), single (53.4%), graduated from senior high school (32.1%), employed (55.7%), and moslem (96.4%) (Table 1).

Table 1. Demographic characteristics of respondents (N=305)

Demographic Characteristics	Frequency	Percentage (%)
Age		
18-40 years old	223	73.1
41-60 years old	82	26.9
Gender		
Male	211	69.2
Female	94	30.8
Marital status		
Single	163	53.4
Married	112	36.7
Divorced	28	9.2
Death divorced	2	0.7
Occupational status		
Unemployed	135	44.3
Employed	170	55.7
Religion		
Moslem	294	96.4
Christian	11	3.6

The mean age at onset suffered mental disorder of study sample was 28.34 (SD = 8.177) years old, the mean length of suffering mental disorder were 6.45 (SD = 6.118) years, the mean frequency of hospital stay was 3.68 (SD = 3.409) times, and the mean length of hospital stay was 14.13 (SD = 22.796) days. The highest number of mental disorder diagnoses is unspecified schizophrenia as (54.4%) and the classification of drug in most respondents used is atypical drugs (81.6%) (Table 2).

Table 2. Clinical features of respondents (N=305)

Clinical features	Frequency	Percentage (%)
Age at onset suffered mental disorder (Mean, SD)	28.34 years old	8.177
Length of suffering mental disorder (Mean, SD)	6.45 years	6.118
Frequency of hospital stay (Mean, SD)	3.68 times	3.409
Length of hospital stay (Mean, SD)	14.13 days	22.796
Mental disorder diagnoses		
Paranoid schizophrenia	102	33.4
Hebephrenic schizophrenia	6	2.0
Catatonic schizophrenia	26	8.5
Unspecified schizophrenia	166	54.4
Residual schizophrenia	3	1.0
Simple schizophrenia	2	0.7
Type of drugs		
Typical	54	17.7
Atypical	249	81.6
Atypical + Depressant	2	0.7

Table 3. Depression level of respondents (N=305)

Spiritual Coping	Frequency	Percentage (%)
Patients with depression	112	36.7
Patients without depression	193	63.3

In the whole sample, 112 respondents (36.7%) experienced depression (Table 3). Majority charactheristic of respondents who had depression were aged 24-42 years old (M = 32.88, SD = 9.08), male (69.6%), single (58%), unemployed (51.8%), moslem (94.6%), age at onset suffered mental disorder ranged between 19-34 years old (M = 26.46, SD = 7.82), length of suffering mental disorder was 0-13 years (M = 6.43, SD = 6.23), frequency of hospital stay was 0-7 times (M = 3.51, SD = 3.79), length of hospital stay was 0-49 days (M = 14.22, SD = 35.06), had unspecified schizophrenia (45.5%), and got atypical drug (79.5%). The factors significantly associated with depression in schizophrenic patients were occupational status (p = .044), age at onset suffered mental disorder (p = .002), length of hospital stay (p = .007), and mental disorder diagnoses (p = .015), whereas age (p = .572), gender (p = .894), marital status (p= .288), religion (p = .212), length of suffering mental disorder (p = .581), frequency of hospital stay (p = .070), and type of drug (p = .970) had no correlated to depression in patients with schizophrenia (Table 4).

Table 4. Factors influencing depression of respondents (N=305)

Characteristics	Patients with depression	Patients without depression	Significance
Total (n, %)	112 (36.7)	193 (63.3)	
Age (Mean, SD)	32.88 (9.08)	35.68 (8.74)	.572
Gender (n, %)			
Male	78 (69.6)	133 (68.9)	.894
Female	34 (30.4)	60 (31.1)	
Marital status (n, %)			
Single	65 (58)	98 (50.8)	
Married	36 (32.1)	76 (39.4)	.288
Divorced	10 (8.9)	18 (9.3)	
Death Divorced	1 (0.9)	1 (0.5)	
Occupational status (n, %)			
Unemployed	58 (51.8)	77 (39.9)	**.044**
Employed	54 (48.2)	116 (60.1)	
Religion (n, %)			
Moslem	106 (94.6)	188 (97.4)	.212
Christian	6 (5.4)	5 (2.6)	
Clinical features (Mean, SD)			
Age at onset suffered mental disorder	26.46 (7.82)	29.43 (8.20)	**.002**
Length of suffering mental disorder	6.43 (6.23)	6.46 (6.05)	.581
Frequency of hospital stay	3.51 (3.79)	3.78 (3.17)	.070
Length of hospital stay	14.22 (35.06)	14.08 (10.06)	**.007**
Mental disorder diagnoses (n, %)			
Paranoid schizophrenia	44 (39.3)	58 (30.1)	**.015**
Hebephrenic schizophrenia	5 (4.5)	1 (0.5)	
Catatonic schizophrenia	11 (9.8)	15 (7.8)	
Unspecified schizophrenia	51 (45.5)	115 (59.6)	

Characteristics	Patients with depression	Patients without depression	Significance
Residual schizophrenia	1 (0.9)	2 (1.0)	
Simple schizophrenia	0 (0.0)	2 (1.0)	
Type of drugs (n, %)			
Typical	21 (18.75)	33 (17.1)	
Atypical	89 (79.46)	160 (82.9)	.970
Atypical + Depressant	2 (1.79)	0 (0.0)	

Discussion

This is the first study to examine the prevalence, demographic, and clinical features of comorbid depressive symptoms in schizophrenic patients in Indonesia. In our study, depression in schizophrenia was found 36.7% and this result is compatible with the literature. Prevalence rates for depression in in patients with schizophrenia ranged from a high of 75% to a low of 7%, with the depression rate was 25% (Siris, 2000). In a first-episode study with schizophrenic patients, Dai et al. (2017) reported the prevalence of comorbid depressive symptoms in first episode was 54% from 240 patients. Grover et al. (2017) investigated the prevalence of depression 23.5% from 136 patients, respectively.

Most charactheristic of schizophrenic patients who had depression were aged 24-42 years old with the average age is 35 years old, male sex (69.6%), single (58%), unemployed (51.8%), and moslem (94.6%). Similarly, Balcı et al. (2016) reported the average age of the patients is 35, 54.2% patients diagnosed schizophrenia with depression male sex, 50.8% is single, and 68.3% of them do not work. These findings also found on Majadas et al. (2012) that the mean age of the patients was 35 years, with men comprising 59% of the sample. Differences in the sociodemographic data were found concerning age and marital and occupational status, showing that the depressed patients were aged 21-45 years old, more frequently single, and unemployed than the non-depressed patients (Bottlender et al., 2000).

Our study also shows majority of depressed patients is moslem. Previous studies found the types of religion of 82.4% schizophrenic respondents with depression is Hindu (Grover et al., 2017). However, in relation to religion in a previous study in Swiss of 115 patients with schizophrenia found that 45% of patients considered religion to be the most important element in life, and religion can have a positive effect (e.g. hope, meaning, and purpose) (Huguelet et al., 2011). Study in Korea stated that the provision of spiritual and religious therapy will provide an increased response to the treatment of depressed patients (Kim et al., 2015). High spirituality has a positive effect because the individual with his/ her own religious convictions has the motivation to overcome the change in his physical state in a self-sustaining treatment and trust with God.

Findings of this study age at onset suffered mental disorder with depression ranged between 19-34 years old. Grover et al. (2017) showed that the onset suffered schizophrenia ranged 14-30 years old. Similarly, previous study also found between 18-36 years old the patients first time suffered schizophrenia. In present study reported length of suffering mental disorder with depression was 0-13 years. This result did not same with Grover et al. (2017) who found that duration of suffering schizophrenia between 3-21 years. As for the average duration of disease, 24.0% of them had 7-12 months, 20.8% had 1-3 years, 27.5% had between 3-5 years and 27.5% had five years or above (Balcı et al., 2016). Average depression in schizophrenic patients frequency treated at the Psychiatric Hospital was 0-7 times and length of hospital stay was 0-49 days. However, Bottlender et al. (2000) stated the duration of hospital stay of schizophrenic patients with depression was 19-93 days.

According to depression groups, the most patients had unspecified schizophrenia diagnoses (45.5%). Conversely, Grover et al. (2017) reported in their study that subtype unspecified schizophrenia as minority (5.9%) and subtype paranoid as majority (94.1%). Our study also found the majority of depressed patients using atypical drug (79.5%). In line with research of Balcı et al. (2016) 12.5% of patients was using typical antipsychotic, 83.3% atypical antipsychotic, and 4.2% of them was using typical and atypical antipsychotics combination treatment.

The factors correlates of depressive symptoms in this sample of our study were occupational status, age at onset suffered mental disorder, length of hospital stay, and mental disorders diagnoses, whereas age, gender, marital status, religion, length of suffering mental disorder, frequency of hospital stay, and type of drug had no correlated to depression in patients with schizophrenia.

This study showed that occupational status correlated to depression in patients with schizophrenia. A previous study reported 68.3% of schizophrenic patients are not working and lower the monthly income of the household is, the higher the depression rate gets (Balcı et al., 2016). Mallett et al. (2002) also found that there was a significant relationship between occupational status and the onset of schizophrenia. These findings are compatible with Bottlender et al. (2000) who also investigated on depression in schizophrenia being correlated to lower socio-economical level and people who are unemployed is one of the contributing factors of depression in schizophrenic patients because workers have an optimistic sense of the future and a passion for life greater than those who do not work.

The recent suggests that presence of depression is influenced by age of onset, length of hospital stay, and subtype of schizophrenia. However, the findings of this study do not supported by earlier studies. Numerous study conducted by Grover et al. (2017), Balcı et al. (2016), and Schennach et al. (2015) reported do not have any significant influence on the presence or absence of depression.

Conclusion

In nutshell, this study suggest that prevalence of depressive symptoms on schizophrenic patients is high in Indonesia and the factors correlates of depressive symptoms in this sample were occupational status, age at onset suffered mental disorder, length of hospital stay, and mental disorders diagnoses. Hence, demographic factors and clinical features comorbid on depressive symptoms can help in determining depression and depression may accompany all the phases of schizophrenia. Specifically, in light of the suicidal tendencies, recognition and treatment of depression is an important clinical task.

More studies with a regression design can aid in exactly identifying factors influencing depression among people with schizophrenia and further research about intervention to decrease the impact of depressive symptoms still needed.

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