JPS. Volume 11 No 1. May 2022
e-ISSN:2716-358X; p-ISSN:2355-2409
DOI=10.20473/jps.v11i1.20597
Available online at https://e-journal.unair.ac.id/JPS/index

Article

Suicide Attempt in Schizophrenia

Igha Vinda Harikha [1,2], Nalini Muhdi[1,2], Tiwik Koesdiningsih[3]

[1]Department of Psychiatry, Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia
[2]Dr. Soetomo Hospital, Surabaya, Indonesia
[3]Faculty of Medicine Wijaya Kusuma, Surabaya, Indonesia

OPEN ACCESS

ARTICLE INFO

Received: July 9, 2020
Revised: December 6, 2020
Accept: March 11, 2022
Published: May 31, 2022

*) Corresponding Author :
ghaharikha@gmail.com

Keywords: Suicide, Suicide Attempt, Schizophrenia

ABSTRACT

At present, not only is the role of the psychiatrist very important in dealing with the phenomenon of suicide, but also the general public. Suicide is a social phenomenon and has spread to almost all parts of the world, both in developed and developing countries, from rich countries to poor countries. The risk of suicide among people with schizophrenia is higher than in the general population. A suicide attempt is an act of self-injury that is done intentionally to die but does not cause death. The act shows psychological difficulties and there are several risk factors associated with suicide attempts. Schizophrenia is a chronic and severe psychiatric disorder with a huge global health burden. Among those suffering from schizophrenia, the lifetime suicide rate is around 5% and suicide is the leading cause of premature death.

Cite this as: Harikha. I. V., Muhdi. N., Koesdiningsih. T. "Suicide Attempt in Schizophrenia". *Jurnal Psikiatri Surabaya*, vol. 11, no. 1. pp. 33-43, 2022, doi: 10.20473/jps.v11i1.20597

Introduction

Currently, not only the role of psychiatrists is very important in dealing with the phenomenon of suicide, but also the general public. Suicide is a social phenomenon and has been widespread in almost all parts of the world, both in developed and developing countries, from rich to poor countries. Suicide is an act to kill oneself intentionally. It is estimated that by 2020, 1.53 million people will die from suicide worldwide, meaning that there will be 1 death every 20 seconds. One of the world's psychological problems that are threatening at this time is suicide. In 2003, in Indonesia, there were 112 suicides and during the first 6 months of 2004, 92 cases were found. So we can conclude that the number of suicides in Indonesia increases from year to year [1]. Due to the complexity and difficulty of schizophrenia symptoms, people with schizophrenia are more likely to attempt suicide than those without schizophrenia. The prevalence of lifetime suicide attempts in those with schizophrenia ranges from 20% to 40%. When compared with those who do not suffer from schizophrenia, the chances of suicide attempts in schizophrenic patients are higher. Among the various causative factors, depression and anxiety explain the bulk of the association between schizophrenia and suicide attempts, suggesting that half of the schizophrenic patients suffer from depressive symptoms and these symptoms are associated with an increase in suicide attempts. Among schizophrenic patients, it was reported that depression was associated with a seven-fold higher risk of suicide attempts, and depression with anxiety together explained 17.5% of the variability in suicide attempts. These findings suggest that it is important for health care professionals working in the community to recognize the need to assess the presence of other mental health problems along with symptoms of schizophrenia. The prevalence of suicide attempts among those who live in the community can be reduced by developing best practices to support patients who have schizophrenia with other comorbid mental health conditions [2].

Discussion

Schizophrenia

Definition

According to PPDGJ III, schizophrenia is a syndrome with a variety of causes (not yet known) and extensive disease course (not always chronic or deteriorating), and many consequences that depend on the balance of genetic, physical, and socio-cultural influences [3].

Epidemiology

World Health Organization (WHO) states that more than 66% of the total number of schizophrenic patients in developing countries do not receive adequate control measures. In Indonesia, the coverage of schizophrenia patients is 15.1%, and only 48.9% of the population who seek treatment regularly take the medication [4]. There is no difference in the prevalence of schizophrenia between men and women. Based on the onset and course of the disease, there are differences between men and women. The onset in men is found earlier than in women. In men, the onset of schizophrenia is at the age of 10 to 25, while in women, it is between 25 and 35 years old [5]. Approximately 3% to 10% of women with schizophrenia present with the onset of the disease after the age of 40. In general, the outcomes for female patients with schizophrenia are better than for men [6].

Pathophysiology

There are various theories about the

etiology of schizophrenia that are currently widely adopted, among others: [7]
1. Genetics
2. Neurochemistry: several hypotheses regarding the effects of neurochemistry, namely:
a. The dopamine hypothesis suggests that schizophrenia is caused by overactivity in the mesolimbic dopamine pathway
b. Neurodevelopmental hypothesis

Diagnosis
In Indonesia, the diagnosis criteria for schizophrenia still use the Guidelines Diagnosis of Mental Disorders in Indonesia edition III (PPDGJ-III), which refers to the International Statistical Classification of Diseases and Related Health Problems 10th Revision [3].

Management
Patients with schizophrenia have a poor quality of life as a result of poor medical care, homelessness, unemployment, financial constraints, lack of education, and poor social skills. Thus, a review of the factors associated with the holistic management of schizophrenia is essential. Importantly, one of the achievements of the management of this disorder is not only alleviating some of the symptoms but also improving the quality of life of patients (by having a successful job and human relations) [8].

Suicide Attempt
Suicide
Suicide comes from the Latin "suicide", with "sui" which means itself, and "cidium" which means murder. According to Schneidman, suicide is the behavior of conscious destruction aimed at oneself by an individual who views suicide as the best solution. Suicide can also be described as a mental state that which an individual has experienced psychological pain and feelings of frustration that last a long time so that the individual sees suicide as the only solution to the problem at hand that can stop the pain he feels. Baechler said that suicide is a behavior that seeks a solution to an existential problem by experimenting with someone's life. According to Nabe and Corr (2003), death can be called suicide, if accompanied by an intention to die [9].
There are 4 definitions of suicide according to Maris, Berman, Silverman, and Bongar (2000), among others:
1. Intentional suicide
2. Performed with intention
3. Performed by oneself to oneself
4. Can occur directly (active) or indirectly (passive)
So it can be said that suicide in general is the behavior of killing oneself to die as a solution to a problem.
The terms include ideas and suicidal behavior: [10]
1. Suicidal ideation: the thought of committing suicide, with the degree of seriousness varies according to the specificity of the suicide plan and the degree of suicidal ideation.
2. Suicidal intent: subjective expectations and the desire to injure oneself with the hope to die in the end.
3. Lethality of suicidal behavior: dangerous objective which threatens the life associated with the action and method of suicide. Note that this lethal form does not always match individual expectations and what is medically dangerous.
4. Aborted suicide attempt: an act that potentially hurt oneself with explicit/implicit evidence that the person concerned wanted to die but was stopped before the damage was done to the body.
5. Suicide attempt: self-injurious behavior with a non-fatal outcome accompanied by explicit/implicit evidence that the person desires to die.

6. Suicide: self-inflicted death with explicit and implicit evidence that the person wanted to die.

7. Deliberate self-harm: the intentional pain, an act that destroys and injures oneself without the desire to die.

Table 1. Criteria for suicidal behavior [11], (Obegi)

Criterion A: suicidal ideation or suicidal intent

A. In the last 2 weeks, the presence of suicidal thoughts, suicidal intentions or both

1. Repetitive thoughts related to suicide, minutes, or hours, can be any of the following symptoms:

a) Recurring desire to die

b) Recurring internal debate about life versus death

c) Recurring thoughts about suicide

2. Evidence (explicit or implicit) that a person has at least some intention of dying by suicide as shown by one of the following symptoms:

a) Intention of self-reporting or urging to act on thoughts of killing oneself

b) Communication of impending death such as separation

c) Clear statements about self-killing

d) Time spent considering how to die, researching methods, or planning for suicide

e) Selection and intention to use methods that the individual believes may cause emotion f) Have and intend to use a wholly or partly successful plan to die from suicide

g) Auditory hallucinations call for suicide that makes the person feel the need to obey or delusions where suicide is deemed necessary.

h) Preparation for death inconsistent with current life circumstances

i) Preparation for attempted suicide j) Attempted suicide, including attempts that were canceled and interrupted

Criterion B: Other affective, cognitive, and behavioral symptoms

B. In the past 2 weeks, the presence of one or more of the following:

1. Unbearable psychological pain

2. Despair, self-reported

3. Excessive arousal in the form of insomnia, nightmares, agitation, or severe anxiety

4. A rigid belief that suicide is the only choice

5. Readiness to die by suicide as indicated by a greatly reduced fear of death, a lack of ambivalence about death, acceptance of suicide as a solution, or a real antidote to suicide.

Criterion C: exclusion

C. A suicide diagnosis may not be appropriate to describe the percentage of people who are contemplating suicide who are sanctioned by social, cultural, religious, or political beliefs.

Suicide Attempt

Definition

Suicide attempts and complete suicide attempts have a complex relationship and have slightly different definitions. This is due to the interaction and comorbidity between the etiologies of the two behaviors. Most people who do suicide make several suicide attempts before finally succeeding in committing suicide. A suicide attempt, according to Beck (in Salkovskis, 1998), is a situation where a person has carried

out behavior that actually or appears to be life-threatening to end his life or shows the intention to kill his life but has not resulted in death. So what is meant by suicide attempts is an attempt to kill oneself but has not resulted in death [9].

Epidemiology

According to WHO, in 2015, around 800,000 suicides were documented worldwide, and globally 78% of all suicides completely occur in countries with middle and low economic status. Overall, suicides account for 1.4% of deaths worldwide. Suicide attempts were more common in women, while complete suicides were three times more common in men. Suicide attempts increased up to 30 times more than suicides. This suicide attempt is an important predictor of complete suicide [12]. Suicide attempts fall within the broader definition of self-harm, which means suicide by physical harm with or without the intention to die. Worldwide, there are little data on suicide attempts, and the quality is very low due to a lack of reliable statistics, which are sometimes associated with underdiagnosis, misdiagnosis, or undiagnosed at the time of reporting. WHO does not receive information from any country in the world on this topic [13].

The number of suicide attempts is 10-30 times higher than that of complete suicides. In the United States, the number reaches 100–200 suicide attempts in adolescents aged 15-24 years [12]. Based on the results of the research conducted, being young, widowed or divorced, and suffering from a psychiatric disorder represent all of the risk factors for suicide attempts. However, more suicide attempts increase the risk of death and are the most relevant risk factor for complete suicide. A study by Kiran Jakhar of 250 patients with schizophrenia in New Delhi showed that the rate of self-injuring was 22.59% and this 10% had attempted suicide at least once and they had lower Global Assessment of Functioning (GAF) scores than those who had not attempted suicide [14]. The percentage of reported suicides in Indonesia in this context ranges between 60% and 98% of all suicides [15].

Risk Factors of Suicide Attempts

The trigger of suicide includes [16]:

1. Family factors
2. Environmental factors
3. Biological factors
4. Prior history of suicide
5. Psychological factors

During the first decade of the disorder, schizophrenic patients are at substantial risk. Having symptoms such as delusions, anhedonia, asociality, blunted affect, having negative feelings, and non-adherence to medication is associated with a greater risk of suicide in patients with schizophrenia. Depression comorbidities and a history of suicidal behavior are important contributors to the risk of suicide in patients with schizophrenia [12].

Suicide Attempt in Schizophrenia

Epidemiology

Compared to the general population, people with schizophrenia had 3.7 times higher risk of premature death. Men and women with schizophrenia had a reduced life expectancy of about 19 and 16 years, respectively. Among those with schizophrenia, the lifetime suicide rate is about 5% and suicide is the leading cause of death [13]. Many studies reported that a history

of a suicide attempt is the greatest risk factor for both inpatient and outpatient care for men and women. Past attempts affect the overall risk for successful suicide, particularly during the initial 2 years after the suicide attempt. Patients with schizophrenia tend to commit suicide attempts more lethally and violently than the general population [17].

The leading cause of death among those affected by schizophrenia is suicide. Even though suicidal ideation can be present in various stages of the disease, several differences have been explained between the risk of suicide in patients who experience the first episode of psychosis and those with long-term schizophrenia. The incidence is very high during the first year of illness and reaches a steady decline over the following years. Suicidal ideas and attempts may also be common among sufferers with psychotic experiences [18]. Previous suicide attempts were a major risk factor for suicide death and the lifetime prevalence of suicide attempts in schizophrenic patients ranged from 1.93% in Taiwan to 55.1% in the US. Several demographic and clinical factors are associated with the risk of suicide attempts in people with schizophrenia. Patients with comorbid depressive symptoms, a family history of suicide, and multiple hospitalizations are at a higher risk of suicide attempts. The comorbid substance use disorder and more severe psychotic symptoms may also increase the risk of suicide attempts [13]. Some of the potential risk factors for suicide attempts in schizophrenic patients that were not analyzed in this study were an insight into the disorder, non-adherence to medication, symptoms of schizophrenia, living conditions, marital status, and living alone. The absence of this potentially significant finding could lead to bias [2].

Patients with younger onset of the disease have a higher risk of committing suicide attempts. The varying prevalence of suicide attempts in different areas can be partly explained by differences in socio-cultural and economic contexts and health care policies. For example, accessible mental health services and resources can effectively reduce the risk of suicidal behavior while social discrimination against schizophrenic patients can lead to internalized stigma and increase the risk of suicide attempts. Besides, religious and cultural factors are associated with the prevalence of substance abuse, such as alcohol and cocaine which in turn can increase the risk of suicide attempts. Schizophrenic patients with the late-onset disease may have relatively better social skills and functioning, and less violent or impulsive tendencies, all of which can reduce the risk of suicide [13].

Dynamics of Suicide Attempts in Schizophrenia

Thirty percent of schizophrenic patients will attempt suicide within the period of the disorder. The suicide rate in schizophrenia is said to be around 10%, although there is little evidence to support this. Upon further analysis, the evidence shows that 5% of individuals with schizophrenia will commit suicide, with an increased risk in the early phase of the disorder, during hospitalization, or immediately after hospital discharge, and cases with frequent relapses. In periods with predominant psychotic symptoms, such as persecutory delusion, maintained posture, increased fear, and suspicions, also mental deterio-

ration, these conditions increase the risk of suicide in this population. Non-specific factors such as depression, hopelessness, agitation, impulsivity, and anxiety increase the risk of suicide in schizophrenia, as in other psychiatric disorders [6]. An estimated 5%-10% of sufferers with schizophrenia die of suicide. Research on risk factors for suicide among sufferers with schizophrenia, although often false positive, is important to be well recognized to properly assess suicide risk. Studies have established that the greatest risk of suicide in schizophrenia occurs in the first 10 years of experiencing the disorder [17]. Factors associated with the risk of suicide in the early stages of schizophrenia are previous suicide attempts and social aspects, lack of social support and unstable relationships, social distortion after the first episode, and social distress. Some psychotic symptoms such as suspicion, paranoid delusions, mental disintegration and agitation, negative symptoms, depression, hopelessness, command hallucinations, and substance abuse are associated with a higher risk of suicide. It has been suggested that perfectionism and good levels of insight among individuals who have recently experienced psychotic symptoms are significantly associated with a higher number of suicide attempts. Besides, recent evidence suggests that prefrontal cortex dysfunction may be associated with suicide in the early stages of schizophrenia [18].

Suicide is the leading relevant cause of death among patients affected by schizophrenia and the rate of suicide attempts in psychotic patients ranges from 10% to 50%. Schizophrenic patients (40-79%) had suicidal ideation at least once during the course of the disease and also the estimated suicide rate was 579 per 100,000 people per year and the lifetime risk of dying from suicide was 5.6%. In particular, suicide-related deaths were higher in patients newly diagnosed with schizophrenia (≤5 years from diagnosis). The risk of suicide is twofold higher at the onset of a psychotic illness than at a later date. In the first phase (which may be called a “risky mental state” or “prodromic”), suicidal behavior may be the result of an unfamiliar pre-psychotic experience. Delays in accessing the mental health care system and starting treatment can greatly contribute to increasing the risk of suicide among schizophrenic patients at the first episode of psychosis (FEP). During the acute phase of schizophrenia, psychotic experiences (delusions, command hallucinations, or passive states) and feelings such as fear, stigma, and loss are relevant factors for suicide. The risk of suicide during the post-psychotic recovery phase may be related to loss of role and function largely due to neurocognitive sequelae [18].

Triggers for suicidal thoughts and mental health conditions such as depressive disorders show a strong association with suicide in schizophrenia. More than 50% of patients with complete suicide have depression at the time of suicide and have a depressive disorder suspected of triggering suicidal behavior in schizophrenics. The number of relapses may be an indicator of the severity of the disorder and has been associated with a higher risk of suicide in schizophrenic patients in both inpatient and outpatient settings. Despair is an important risk factor for inpatients with schizophrenia even in the absence of depression. Insight into intrusion can be linked to suicide

only if it causes despair. Despair has been established as a better sign of complete suicide than depression. The young age group has one of the higher risks of suicide in schizophrenia than the general population. Young age appears to increase the risk of violent suicide in both sexes. The age for complete suicide is reported to be younger than for other psychiatric disorders, at around the age of 30. Besides the higher risk at a young age, the mortality rate for schizophrenic patients is also higher than in the general population in all age groups and an increased risk of death was found in both men and women aged ≥ 50 years. Research showed that the risk of suicide is also higher in the schizophrenic patient group. Strong evidence, including in large-scale prospective studies, suggests that the risk of suicide is highest in the initial period, particularly in the first year of the disorder. The risk of suicide is very high at the time of hospitalization, with an estimation of 1/3 of schizophrenic patients committing suicide during hospitalization or within 1 week of hospital discharge. Several studies have reported that the peak risk of suicide happens during this time. However, the increased risk is not limited to this time, and there is evidence that the risk remains high during the first year after hospital discharge. Substance abuse has been reported in 50% of patients with schizophrenia. Some authors have suggested that alcohol abuse may be associated with suicide attempts, but not complete suicide. For substance abuse, many studies reported an increased risk of suicide and impulsivity. In particular, the abuse of stimulants (cocaine, amphetamine) has been shown to increase the risk of suicide attempts [17].

Management of Suicide Attempts in Schizophrenia

Suicidal behavior (with or without the intention to die) is not a disease or disorder in itself, it is found that more than 90% of suicides are related to mental disorders. Research on suicidal behavior has a strong focus on the relationship between psychopathology and suicide, and some prevention programs appear to rely solely on psychiatric risk factors as guidelines for population-based suicide prevention. Most individuals who commit suicide have mental disorders, so the suicide rate is related to mental health treatment only. Although mental health care is effective in preventing suicide for at-risk populations, comprehensive preventive measures must also take into account the broad psychosocial factors that can influence suicidal behavior. Mental disorders are undoubtedly a major risk factor for suicide and focus on psychopathological markers that can help explain and prevent suicidal behavior, but in reality, most individuals with mental disorders do not commit suicide. Several studies in Europe & America that have been conducted in mental hospitals with subjects who had suicide attempts have confirmed the evidence for a strong association with suicidal behavior. This possibility leads to an overestimation of psychiatric risk factors and their association with suicidal behavior in the general population [19].

The prevention of suicide in schizophrenic patients is complex. Suicide prevention efforts should focus on improving adherence to therapy. One study showed that antipsychotic drugs, including clozapine, risperidone, olanzapine, and quetiapine can reduce the risk of suicide. Several oth-

er studies have demonstrated the efficacy of clozapine for the management of suicide in schizophrenia. The efforts to reduce suicidal behavior are associated with the reduction in symptoms of depression. The Food and Drug Administration (FDA) indicates that clozapine will reduce the risk of recurrent suicidal behavior in schizophrenia/schizoaffective patients. The tendency to use clozapine early will reduce the risk of suicide in schizophrenia. Recently, a study indicated that clozapine was used after schizophrenic patients had failed a single antipsychotic treatment, no more than two antipsychotics were used, this is the established guideline. Other second-generation antipsychotics also have the potential to prevent suicide. For example, a retrospective study of the use of atypical antipsychotics in schizophrenia/schizoaffective patients with suicidal behavior showed that among those who had attempted suicide, 16.1% took second-generation antipsychotics, while among the non-suicidal group, 37% took second-generation antipsychotics. Another study showed a four-fold risk of suicide attempts among schizophrenic patients who stopped taking olanzapine or risperidone [20].

Long-term injections are often used for the treatment of psychotic disorders. Observation of the effect of antipsychotic injections on the risk of suicide has yielded inconsistent results. For example, Battaglia et al. demonstrated that monthly intramuscular injection of fluphenazine decanoate reduced self-injurious behavior in outpatients with a history of multiple suicide attempts. Shear et al reported suicide in two young men who developed severe akathisia after treatment with fluphenazine injection.

Concomitant depression with schizophrenia is a significant risk factor for suicidal behavior in schizophrenic patients. One study showed a link between a reduced risk of suicide and the use of antidepressants. Antidepressant use has been associated with a reduction in all-cause death when used in conjunction with antipsychotic drugs. Psychiatrists should consider adding antidepressant drugs to schizophrenia patients with depressive symptoms. Besides, drugs that reduce substance abuse (eg, naltrexone or acamprosate) should be given to patients with comorbid schizophrenia/schizoaffective disorders and substance use disorders [20].

One study found that cognitive therapy reduced suicidal ideation in people with schizophrenia. Interventions such as vocational rehabilitation, social skills training, and supportive employment can reduce social isolation and feelings of hopelessness, and consequently, reduce suicide in schizophrenic patients. Family intervention can reduce the risk of suicidal behavior, and should therefore be a necessary component of the treatment plan for every patient with schizophrenia. Such interventions considerably reduce readmission and recurrence rates in individuals with psychotic disorders, as well as improve their social and vocational performance. Family intervention usually increases adherence to pharmacological therapy. Relatives of patients with schizophrenia also sometimes show exaggerated emotional reactions and are intolerant, judgmental, or emotionally overreacting to the patient. Family members who have high emotional expression can cause suicidal behavior in schizophrenics. One of the goals of family interventions is to re-

duce psychological distress among family members and to reduce emotions expressed in the family of schizophrenic patients. Prevention of suicidal behavior in schizophrenic patients should include identifying patients at risk, providing the best therapy for psychotic symptoms, and managing comorbid depression and substance abuse. It is very important to educate mental health and non-mental health workers about suicide prevention strategies [20].

Conclusion

The act of deliberately killing oneself is called suicide. The World Health Organization (WHO) states that more than 66% of the total number of schizophrenic patients in developing countries do not receive adequate control measures. In Indonesia, the coverage of schizophrenia treatment is 15.1%, and only 48.9% of the population who seek treatment regularly take the medicine. Thirty percent of schizophrenic patients will attempt suicide within the period of the disorder. The suicide rate in schizophrenia is said to be around 10%, although there is little evidence to support this. Upon further analysis, the evidence shows that 5% of individuals with schizophrenia will commit suicide, with an increased risk in the early phase of the disorder, during hospitalization, or immediately after hospital discharge, and cases with frequent relapses.

In periods with predominant psychotic symptoms, such as persecutory delusion, maintained posture, increased fear, and suspicions, also mental deterioration, these conditions increase the risk of suicide in this population. An estimated 5%-10% of sufferers with schizophrenia die of suicide. The prevention of suicide in schizophrenic patients is complex. Doctors need to be trained in how to identify patients at high risk of suicide. Careful management of psychotic symptoms, comorbidities with depression, and drug use disorders should be taken to prevent suicide in schizophrenic patients.

References

[1] U. G. Rahmi, Y. Yaunin, and R. Semiarti, "Artikel Penelitian Gambaran Angka Kejadian Tentamen Suicidum pada Penderita Gangguan Jiwa di RS Jiwa H . B Saanin Periode Januari − Desember 2013," vol. 6, no. 2, pp. 396–402, 2017. DOI: 10.25077/jka.v6i2.711

[2] F.-T. E. and E. O. http://orcid. org/000.-0002-9705-6216 A. O.-H. Hollister B. AO - Fuller-Thomson Bailey; ORCID: http://orcid.org/0000-0002-8914-7492, "Schizophrenia and Suicide Attempts: Findings from a Representative Community-Based Canadian Sample," Schizophr. Res. Treatment, vol. 2016, p. no pagination, 2016, [Online]. Available: http://www.hindawi.com/journals/sprt/%5Cnhttp://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emed18a&NEWS=N&AN=608551514

[3] M. Rusdi, Buku Saku Diagnosis Gangguan Jiwa: Rujukan Ringkas dari PPDGJ-III dan DSM 5. Jakarta: PT Nuh Jaya, 2013.

[4] Kemenkes RI, "Laporan Hasil Riset Kesehatan Dasar (Riskesdas) Indonesia tahun 2018," Riset Kesehatan Dasar 2018. pp. 182–183, 2018.

[5] J. A. Afolayan, I. O. Peter, and A. N. Amazueba, "Prevalence of Schizophrenia among Patients Admitted Into a Nigeria Neuro-Psychiatric Hospital," IOSR J. Dent. Med. Sci., vol. 14, no. 6, pp. 2279–

861, 2015, doi: 10.9790/0853-14660914.
[6] P. R. Sadock, Benjamin J., Virginia A. Sadock, Kaplan & Sadock's Comprehensive Textbook of Psychiatry, 10th ed. Philadelphia, USA, 2017.
[7] W. F. Maramis and A. A. Maramis, Catatan Ilmu Kedokteran Jiwa, 2nd ed. Surabaya: Airlangga University Press, 2009.
[8] P. Ganguly, A. Soliman, and A. A. Moustafa, "Holistic Management of Schizophrenia Symptoms Using Pharmacological and Non-pharmacological Treatment," Front. Public Heal., vol. 6, no. June, 2018, doi: 10.3389/fpubh.2018.00166.
[9] B. M. Maris, R. W., Berman, A. L., Silverman , M. M., & Bongar, Comprehensive Textbook Of Suicidology. Belmont: Guilford Press, 2000.
[10] P. R. Sadock, Benjamin J., Virginia A. Sadock, Kaplan & Sadock's Synopsis of Psychiatry Behavioral Science/ Clinical Psychiatry, 11th ed. Philadelphia, USA, 2015.
[11] J. H. Obegi, "Rethingking suicidal behavior disorder," Crisis, vol. 40(3), pp. 209 – 219, 2019, doi: https://doi.org/10.1027/0227-5190/a000543.
[12] S. Bachmann, "Epidemiology of suicide and the psychiatric perspective," Int. J. Environ. Res. Public Health, vol. 15, no. 7, pp. 1–23, 2018, doi: 10.3390/ijerph15071425.
[13] L. Lu et al., "Prevalence of suicide attempts in individuals with schizophrenia: A meta-analysis of observational studies," Epidemiol. Psychiatr. Sci., 2019, doi: 10.1017/S2045796019000313.
[14] K. Jakhar, R. P. Beniwal, T. Bhatia, and S. N. Deshpande, "Self-harm and suicide attempts in Schizophrenia," Asian J. Psychiatr., vol. 30, pp. 102–106, 2017, doi: 10.1016/j.ajp.2017.08.012.
[15] E. D. Klonsky, A. M. May, and B. Y. Saffer, "Suicide, Suicide Attempts, and Suicidal Ideation," Annu. Rev. Clin. Psychol., vol. 12, no. 1, pp. 307–330, 2016, doi: 10.1146/annurev-clinpsy-021815-093204.
[16] D. Bestari and H. M. Margono, "Uji Validitas Dan Reliabilitas Sheehan-Suicidality Tracking Scale (S-STS) Dengan Beck Scale For Suicidal Ideation(Bssi) Sebagai Gold Standard Pada Populasi Umum Di Surabaya," Pelayanan Kesehat., vol. 2013, no. Dm, pp. 3–13, 2010, doi: 10.1163/15718085-12341263.
[17] Anak Ayu Sri Wahyuni, "Bunuh Diri Pada Skizofrenia," J. Chem. Inf. Model., vol. 53, no. 9, pp. 1689–1699, 2019, doi: 10.1017/CBO9781107415324.004.
[18] A. Ventriglio et al., "Suicide in the early stage of schizophrenia," Front. Psychiatry, vol. 7, no. JUN, pp. 1–9, 2016, doi: 10.3389/fpsyt.2016.00116.
[19] N. Stulz et al., "Patient-identified priorities leading to attempted suicide: Life is lived in interpersonal relationships," Crisis, vol. 39, no. 1, pp. 37–46, 2018, doi: 10.1027/0227-5910/a000473.
[20] Sher and Kahn, "Suicide in Schizophrenia: An Educational Overview," Medicina (B. Aires)., vol. 55, no. 7, p. 361, 2019, doi: 10.3390/medicina55070361.