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Early onset schizophrenia in a 17 year old child

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ABSTRACT
Schizophrenia is a serious mental disorder that can affect behavior, emotions, and communication. Schizophrenia sufferers can experience hallucinations, delusions, confused thinking, and changes in behavior that can be detected at an early age range of 16 or 17 years or generally can also occur at 16 or 17 years which is referred to as early onset. Case: The patient is a boy aged 17 years old The patient hit his biological father and there was a change in behavior since the end of April 2023 which was informed by the Islamic boarding school to the patient's parents. The patient believes he is close to Allah and can punish people who are deemed to have sinned. The patient admitted to hearing whispered voices in the form of commands or comments which influenced changes in the patient's behavior which also made him irritable. Discussion: The patient was diagnosed as suffering from paranoid schizophrenia. The patient had perception disorders in the form of auditory, visual, and tactile hallucinations anddepersonalization. There is a disturbance in the form of non-realistic thought and there is a disturbance in the content of thought in the form of delusions of grandeur in the patient. The psychiatric approach for patients consists of administering atypical antipsychotics along with supportive psychotherapy. Psychoeducation and family therapy are also carried out to ensure that the patient's family understands the disease and the importance of compliance with treatment. Conclusion: Apart from requiring pharmacological therapy, patients with schizophrenia also need psychotherapy and psychoeducation so that patients receive family support and speed up the patient's recovery. Holistic care is needed to treat patients to prevent disease recurrence. Early-onset schizophrenia patients must have ongoing therapeutic monitoring because they can develop worse schizophrenia in later adulthood.

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INTRODUCTION

Schizophrenia is a variable clinical syndrome, having psychopathology that includes cognition, emotion, perception, and other aspects of behavior. Schizophrenia is a mental disorder that occurs due to an imbalance of dopamine in the human brain.[1] This dopamine disorder in every human's brain gives special characteristics, namely, disturbed mood or emotional control disorders and withdrawal from external relationships.[2] According to BKRI statistical data, around 1% of Indonesia's population may have this disorder.[3]

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Based on Basic Health Research Data (RISKESDAS) in 2013, it is stated that the prevalence of sufferers of severe mental disorders or schizophrenia is 1.7 per mile in Indonesia. RISKESDAS data for 2018 shows that there has been an increase in the prevalence of sufferers of severe mental disorders or schizophrenia to 6.7 per 1000 households in Indonesia. 2018 Basic Health Research Data (Riskesdas) states that the prevalence of schizophrenia/psychosis in Indonesia is 6.7 households that have household members (ART) suffering from schizophrenia/psychosis. In general, Riskesdas also states that as many as 84.9% of people with schizophrenia/psychosis in Indonesia have received treatment, but the adherence rate for taking medication is still quite low at 48.9% for people with psychosis. As many as 36.1% of sufferers who did not regularly take medication in the last month said they felt healthy. As many as 33.7% of sufferers do not routinely seek treatment and 23.6% cannot afford to buy medicine regularly.[4]

Based on overall data for schizophrenia sufferers, Lampung Province is ranked 13th out of all provinces in Indonesia. The research results revealed that the number of schizophrenia sufferers recorded was around 3.0%, while the prevalence of emotional mental disorders was 3.6%, lower than the national figure of 9.8%.1 Based on data from the Lampung Province Regional Mental Hospital (RSJD) in 2022, schizophrenia patients increased from 1,445 people to 2,478 people. Relapse can occur due to interrupted treatment and lack of family participation in caring for people with mental disorders.[5] revealed that Based on data obtained from the Lampung Provincial Mental Hospital in 2015, there were 27,490 outpatient mental patient visits, of which 2,606 were new patients. and 24,884 were old patients, of which 17,924 were men and 9,566 were women. From data on 24,884 old patients, 19,907 patients experienced recurrence.

From the results of the analysis and reports of research results that have been revealed in the above study regarding schizophrenia sufferers in Lampung Province, we present a case report about a teenager with schizophrenia, followed by a discussion about establishing the diagnosis, treatment carried out and the family approach to schizophrenia sufferers in teenage age. The case report will be reviewed as well as the following analysis in the paragraph below.

CASE REPORT

Patient An. GM, 17 years old, graduated from high school, Muslim, Javanese, unmarried, addressed in South Sumatra, came to the Emergency Room (IGD) of the Regional Mental Hospital (RSJ) of Lampung Province with complaints of restlessness and changes in behavior since 6 months ago. The patient hit his biological father and there was a change in behavior since the end of April 2023, which was informed by the Islamic boarding school to the parents. The patient believes he is communicating with God and can punish people who are deemed to have sinned. The patient is the last child of three siblings. According to the family, the patient previously had no signs and symptoms of mental disorders.

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In December 2022, the patient learned silat and at that time the patient reported that he heard whispers in the form of orders or people talking, so the Islamic boarding school reported to the family that there was a change in the patient's behavior. The family then took the patient for treatment to a psychiatrist at the Ahmad Yani Metro General Hospital, but the medication he received was not taken regularly. The complaints then got worse, in April 2023 he started talking to himself more often, wandering around by himself, banging on residents' doors, and disturbing friends.

The patient is the only son and is the expected child. Prenatal and perinatal history and early childhood history were good and found no abnormalities and were the same as other children in general. In middle childhood, late childhood, and adolescence, patients have many friends. The patient is quite close to his second older sister but does not have a good relationship with his first older sister. The patient studied elementary school for 6 years, junior high school for 3 years, then continued high school at an Islamic boarding school.

The patient has no history of seizures, asthma, hypertension, diabetes mellitus, kidney or heart disease. Denied history of head trauma. The patient has started smoking since he entered high school and consumes 3-5 cigarettes a day, the patient smokes 3-5 days a week, the patient has never drunk alcoholic beverages, and has no history of using psychoactive substances or drugs.

From mental status, compos mentis awareness, and attitude during cooperative interviews. Appearance of a teenage boy, short hair, good self-care. The patient speaks spontaneously, and fluently, with sufficient volume, clear articulation, good amplitude, poor quality, and quantity, but occasionally does not answer according to questions. Dysphoric mood with limited and moderately harmonious affect. Auditory and visual hallucinations were found. Thought productivity is sufficient, thought forms are non-realistic, circumstantial thought processes occasionally increase in a flight of ideas, thought flow is smooth, thought content is delusional of grandeur, temporary cognition is estimated according to physical age, the patient's overall assessment of reality is disturbed with grade I insight.

From the results of the supporting examination, no disturbance was found. The results of internal and neurological status examinations were within normal limits. The therapy given was risperidone 1.5 mg at a dose of 2 times 1 1/2 tablets per day, Trihexyphenidyl 2 times 2 mg, Valproic acid 2 times 250 mg per day, and Chlorpromazine 1 time 25 mg per day at night. After treatment in the form of oral medication and hospitalization for 21 days, the patient's condition improved as indicated by reduced hallucinations and thought disturbances.

In patients, symptoms in the form of perceptual disorders such as auditory hallucinations, visual, and tactile hallucinations, and depersonalization are greatly reduced. Non-realistic thought forms were reduced and there was a reduction in thought content disturbances in the form of delusions of grandeur. Good orientation to place, time, people, and situations. Immediate memory is good. Short, medium, and long-term memory is good. Good concentration, good calculations, adequate reading

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and writing abilities, good visuospatial abilities, good abstract thinking abilities, patience to think abstractly, and good information and intelligence abilities. The patient's impulse control is good and there is no potential for harm to himself or the examiner.

Social value is good, test value is good, and insight 1, and RTA are disturbed. The patient's impression is reliable. So based on these findings an Axis I diagnosis can be made in the form of F.20.0 Paranoid Schizophrenia. The patient's last education was high school, apart from that the patient did not find any signs of personality disorders (F60). So until now, there is no diagnosis in Axis II.

Based on the results of the history and simple diagnostic examination, no abnormalities were found, but routine blood laboratory investigations need to be carried out again on this patient to determine whether there is a general medical condition so that there is no diagnosis of Axis III. During the history taking, the patient's friends felt uneasy with the patient's behavior, which often disturbed and pointed the machete. Thus, it can be concluded that in Axis IV there are problems related to the social environment. To assess the patient's ability to function in life, the GAF (Global Assessment of Functioning) scale can be used. In this patient, Axis V was obtained, and the current GAF score was 60-51, namely there were moderate symptoms and moderate disability.

RESULTS AND DISCUSSION

Schizophrenia is a disease caused by the interaction of hyperactivity of dopamine in the mesolimbic system. Broadly speaking, the symptoms of schizophrenia are divided into two or more main symptoms such as delusions, hallucinations, disorganized speech, and catatonic behavior, as well as other main symptoms in the form of negative symptoms, such as a decrease in social and work function since the appearance of these positive and negative symptoms for at least 6 months. This. Based on the DSM V diagnostic criteria, while based on the PPDGJ III or ICD10 diagnostic criteria, these symptoms last for at least 1 month. (6) wrote that the prognosis of schizophrenia can be assessed based on the following factors, namely: age of onset of the disease, nature of onset, presence or absence of predisposing factors, social history, sexual history, work history, form of symptoms, marital status, family history, presence or absence of neurological disorders or trauma, history of remission and relapse, and the patient's existing support system.

(7) explains that schizophrenia can affect the life and development of adolescents, the need for handling psychosocial problems for adolescents who live with schizophrenic fathers must consider the psychological and social impacts. Individuals are said to have schizophrenia if they show initial symptoms (prodromal phase) for more than 6 months. The early symptoms of schizophrenia are characterized by irrational thoughts, abnormal behavior, and withdrawal from the social environment. The symptoms of schizophrenia are further explained, such as passivity and apathy, difficulty in abstract thinking, loss of motivation, and confusion in thinking (8).

Childhood schizophrenia, also called childhood-onset schizophrenia or early-onset schizophrenia, is a severe mental health disorder diagnosed in children under the age of 13. It is very rare, affecting less than 0.04% of children.4 Symptoms of schizophrenia usually

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appear in late adolescence or young adulthood. Onset in men usually occurs between the ages of 15 - 25 years and in women occurs between the ages of 25 - 35 years. Childhood-onset schizophrenia is characterized by distorted thinking, altered perception, abnormal behavior, and the use of unusual language and words. This can greatly affect a child's development and their ability to function in daily activities. When this condition is diagnosed before the age of 18 but after the age of 13, it is called early-onset schizophrenia (EOS) (9).

The diagnostic criteria used to diagnose childhood schizophrenia are similar to those used for adults with schizophrenia. The difference between the onset of schizophrenia in childhood and adulthood is that children with schizophrenia at a young age are more likely to experience certain symptoms as adults compared to people who experience schizophrenia as adults. Children are also said to be more likely to experience paranoid delusions (beliefs that other people will harm them) compared to people who develop schizophrenia in adulthood (10).

In this patient, the therapy given was Risperidone 2x1.5 mg per day. The dose is increased gradually over 1-3 weeks until the optimal dose is reached, then maintained for 8-12 weeks before entering the maintenance stage. In the maintenance phase, the dose can be considered to be reduced gradually until a minimum dose is obtained without causing relapse. The reason for using risperidone is because Risperidone is a second-generation antipsychotic drug with minimal side effects for extrapyramidal syndrome and sedative effects and does not cause changes in cognitive function in patients, and this drug is also easy to obtain (11).

Dopamine receptor antagonists have been widely replaced by newer atypical antipsychotics as first-line therapy for children and adolescents with schizophrenia given their more favorable side effect profile. These serotonin-dopamine agonists, including risperidone (Risperdal), olanzapine (Zyprexa), and clozapine (Clozaril), differ from conventional antipsychotics in that they are serotonin receptor agonists with some type 2 (D) dopamine receptor activity but no dominance of D receptor antagonism. Additional atypical antipsychotics, such as quetiapine (Seroquel) and ziprasidone (Geodon), are also serotonin-dopamine antagonist agents used in pediatric and adolescent patients.

The patient was also given trihexyphenidyl 2x2 mg. Trihexyphenidyl is an anticholinergic drug that does not need to be given routinely or to prevent extrapyramidal side effects, because the occurrence of extrapyramidal side effects is individual and the anticholinergic drug only needs to be given if EPS (extrapyramidal syndrome) side effects occur. 5 Currently, it is the standard standard. The gold standard for treating schizophrenia is class II antipsychotics (APG-II). Both in terms of efficacy and side effects, APG-II is better than APG-I. Risperidone is one of the APG-IIs that has a greater effect on reducing negative symptoms (the patient's attempts to withdraw from the environment) and positive symptoms (hallucinations, thought process disorders). Risperidone works on serotonin 5-HT2 receptor affinity which is effective for negative symptoms and dopamine D2 and has some affinity for alpha-adrenergic receptors, histamine H2, and dopamine D1. The most widely used dose is 4

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mg/day which can bind D2 receptors around 60-70%. Meanwhile, doses higher than 6 mg/day can bind more than 77% which can result in the possibility of EPS. The recommended dose is 1-6 mg/day.7

A prognosis is the best picture of the future course and impact of a patient's condition. People who suffer from early-onset schizophrenia, whose symptoms appear before the age of 13, usually have a poor prognosis and impact if treated inappropriately (12) Knowledge of patients and families, especially parents, must also be increased to eliminate the possibility of drug withdrawal in patients and prevent relapse in adulthood. Increasing self-confidence and optimization also needs to be carried out by patients in the maintenance phase

The prognosis in this patient is supported by the absence of organobiological abnormalities, so the prognosis in this patient for quo ad vitam is dubia ad bonam. For the prognosis quo ad functionam and quo ad sanationam there are several factors, namely gender, where the prognosis for men is worse than for women. Symptoms that occur at a young age make the prognosis worse. Factors that provide a good outcome picture are clear trigger factors and positive symptoms.

Apart from providing treatment with a predetermined dose in the healing and management of patients with early-onset schizophrenia, several factors can be provided so that patients can be treated and produce a high recovery rate. (13) revealed that if the treatment given to schizophrenia patients is apart from administering medication doses, another thing that can help is help from the environment in the form of therapy and motivation, as well as self-motivation. Several principles that must always be considered in planning a child psychiatric therapy program are the main goal in every therapy plan, namely, apart from eliminating disturbing symptoms, it is also to facilitate the child's development, regardless of what therapy modality is used (14).

Psychotherapists working with schizophrenic children must take into account the child's developmental level. They must continually support the child's good reality testing and have sensitivity to the child's sense of self. Long-term supportive and intensive psychotherapy along with pharmacotherapy is the most effective approach for this disorder. Therapy is also accompanied by psychoeducation for both of the patient's parents. In psychoeducation, the patient's parents are given an understanding that the patient must continue to regularly take the medication given by the psychiatrist. Apart from that, the patient's parents were given the understanding that support from the family is an important factor in helping the patient recover. These two things are important factors in preventing patient recurrence (15)

All approaches and treatments for schizophrenia depend on the patient's needs because there are different treatments according to the type of schizophrenia they suffer from (16). Appropriate treatment for people with schizophrenia can make the recovery rate better and faster (17). (18) wrote that schizophrenia sufferers need help from the environment and family as those closest to them apart from medical care. Resilience is important for families of schizophrenia patients as caregivers because it will determine their success in living their lives in the future. (19) explained that with the right treatment,

schizophrenia sufferers can be cured and can return to their normal activities, through the right approach and support from family and those closest to them to support and restore the self-confidence of schizophrenia patients. The role of the family is very important for schizophrenia sufferers because if the sufferer experiences problems with personal hygiene, they are at high risk of experiencing oral health problems due to a decrease in the sufferer's ability to self-medicate (20)

CONCLUSION

The diagnosis of schizophrenia patients must include at least one main symptom or at least two additional symptoms. These symptoms must last for at least one month. Schizophrenia is a disease caused by hyperactivity of the hormone dopamine in the mesolimbic system. The criteria for schizophrenia have two or more symptoms such as delusions, hallucinations, disorganized speech, catatonic behavior, negative symptoms, and decreased social and occupational functioning since the onset of the behavior. Therapeutic options for schizophrenia are chosen based on the patient's target symptoms. Patients with schizophrenia apart from needing pharmacological therapy also need psychotherapy and psychoeducation so that the patient gets support from the family and accelerates the patient's recovery. Holistic care is needed to treat patients to prevent disease recurrence, Early-onset onset schizophrenia patients must have ongoing therapeutic monitoring because they can develop worse schizophrenia in later adulthood.

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