

USE OF ANTIPSYCHOTICS AND BODY MASS INDEX OF SCHIZOPHRENIC PATIENTS IN INDONESIA

Hayatul Maulida¹, Cut Husna², Marthoenis³

^{1,2,3}Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh-Indonesia

Corresponding Email: mollyarmia18@gmail.com

Abstract

The use of antipsychotics in schizophrenic patients has side effects during their use; changes that occur in people with mental disorders while taking drugs will certainly be related to the part and structure of the body's metabolism that is affected by the drug, causing changes in body weight of schizophrenic patients. This study aimed to identify the relationship between antipsychotic use and body mass index in schizophrenic patients. This *cross-sectional* study was conducted among patients with schizophrenia under antipsychotic medication. The research instruments used in the study are sociodemographic instruments and types of drug use. It was found that most of the patients were overweight (39%) and obese (38%), the majority of patients took second-class antipsychotic drugs (81%), and only some of them received first-class antipsychotics (19%). The increased use of second-generation antipsychotics and increased rate of overweight and obesity among patients with schizophrenia should receive special attention.

Keywords: *body mass index, schizophrenia, antipsychotics*

1. INTRODUCTION

Schizophrenia is defined as a disease process syndrome with varied symptoms of psychosis, such as delusions and hallucinations; at the chronic level, there are delusional disorders, but no conditions are found that lead to hallucinations or other symptoms typical of schizophrenia (Videbeck, 2020). The assessment of the main symptoms of mental disorders is to assess positive (productive) symptoms, including delusions and hallucinations, and negative symptoms, including flattened or dull effects, poor speech or speech content, blocking, lack of self-care, lack of motivation, anhedonia, and withdrawal (Sadock, 2014; Stuart, 2016). The prevalence of schizophrenia in Indonesia is 1.7 per 1000 (per mile) population. Bali Province has the highest proportion of households that have families with schizophrenia, and Aceh Province ranks 4th as the province with the most who have people with schizophrenia in the household (Riskasdas, 2018). The burden of mental disorders in Aceh is among the highest.

The administration of drugs affects mental activity and behaviour. There are many types of special drugs in controlling and controlling the behaviour of people with a mental health conditions; based on clinical effects, psychotropic drugs are divided into antipsychotics, antidepressants, anti-anxiety, and mood stabilizers (Yusuf, A.H &, R & Nihayati, 2015). Research results from Some continuous use of antipsychotic drugs can cause side effects such as weight gain followed by an increase in Body Mass Index (BMI) (Mukti, 2014). Research Dreimüller et al. (2019); Haroon et al. (2018) mentioned that the use of antidepressant drugs significantly impacts the body mass index of schizophrenic patients. Research Freeman et al. (2018) Found an association of second-generation antipsychotics in patients who experience major depression during pregnancy. Research Nasution, (2013) It was found that there was a significant relationship between the administration of antipsychotic drugs and body mass index in schizophrenic patients,

The use of anti-psychosis and anti-Parkinson's drugs for schizophrenia clients can improve the quality of life of clients (Hendra et al., 2022), while Hashimoto et al. (2022) also state that anti-psychosis and anti-Parkinson's have a good relationship to ongoing treatment in people with schizophrenia. This study aims to investigate the use of antipsychotics and the rate of overweight and obesity among patients with schizophrenia.

2.METHODE

This *cross-sectional* study was conducted among patients with schizophrenia in Aceh Mental Hospital in Indonesia. Data collection using demographic data instruments, which include Age, Weight, Height, and the type of antipsychotics used. The ethics committee of a local university approved the study, and the participants participated in the study voluntarily.

3.RESULTS AND DISCUSSION

Of the 197 patients, the average age of respondents was found to be in the age range of 40 to 41 years (SD = 9.01). The youngest was 22 years, and the oldest age was 67 years. The average weight of patients was in the range of 63.7 kg (SD = 9.25). The smallest body weight was 38.2 kg, and the largest was 103.1 kg. The average height of the patient was 2.61 cm (SD 0.23), the shortest was 146 cm, and the tallest was 192 cm. The average body mass index of the patient was 25 (SD = 3.48). Most patients were overweight (39%) and obese (38%). Most patients took second-class antipsychotic drugs (81%), and only a small percentage received first-class antipsychotics (19%). Details on responder demography data can be seen in Table 1.

Table 1. Average Age, Weight, Height, And Body Mass Index of Respondents

Variable	Mean	SD	Minimum-Maximum
Age	40,06	9.01	22.00-67.00
Weight	63.70	9.25	38.2-103.1
Height	2,61	0,23	1,46-1,92
Body Mass Index	24.49	3,48	14,2-40,9
Total	197	100%	

3.1.Discussion

The use of psychopharmaceuticals, especially antipsychotic drugs, has the aim of suppressing psychic functions and does not affect other functions; the use of this medication is to win emotions and reduce the aggressiveness of schizophrenia patients and is often used to treat mental disorders such as hallucinations, therefore, antipsychotics, especially for psychosis, severe mental illness without infant pain such as schizophrenia, haloperidol, risperidone, and olanzapine are commonly used for pediatric treatment patients (Johansen et al., 2022). Research by Marthoenis et al. (2022) mentions that the incidence of underweight in schizophrenia patients despite having a lower rate than in previous cases; Research (Saraswati & Diniarti, 2019) showed that there were schizophrenics who experienced obsessiveness after taking atypical antipsychotics, patients also experienced obesity due to the highest length of use of antipsychotic drugs at >12 months, There was a difference in the average body mass index in male schizophrenics given olanzapine and risperidone (Lestari, 2018). Antipsychotic drugs have the same mode of action as the mechanism of action of dopamine antagonists, although they have significant variations in receptor binding among agents because some also act as partial dopamine agonists; dopaminergic antagonisms are important in treating symptoms but also contribute to some side effects caused by drugs (Burns et al., 2022). The body Mass Index of Schizophrenic patients with combination antibiotic therapy

states that the prevalence of increasing body weight of patients with schizophrenia who are obese is quite high, especially in outpatient patients. Gender is a factor that gives patients a great risk of increasing body mass index (Susilowati et al., 2020).

Antipsychotics are a class of drugs to control and reduce psychosis symptoms such as hallucinations and delusions, Patients will generally get this medication if the patient is diagnosed with schizophrenia, major depression, manic episodes, bipolar disorder and anxiety disorders, Antipsychotic drugs have an effect by suppressing areas that are in the mesolimbic pathway and inhibit psychotic symptoms by activating hyperdopaminergic, The first class of antipsychotic drugs FGAs: First-generation antipsychotics and second, Antipsychotics themselves have 2 (two) groups that are often given to patients, such as typical antipsychotics classified with first-generation antipsychotics, This medication is able to inhibit dopamine strongly and is more dominantly used in overcoming "active symptoms", such as delusions and hallucinations experienced by patients, The use of antipsychotic drugs must also pay attention to drug resistance given to patients so that the role of nurses It must be optimal in carrying out its duties so that the use of drugs is felt effectively for patients to reduce active symptoms in patients.

4.CONCLUSION

Based on the interview results, it was also found that many factors influence the increase or decrease in the body mass index of schizophrenic patients, such as adherence to patient treatment. The compliance in question is that patients at the beginning of admission to RSJ will obey taking drugs, but after the third month, patients will slowly begin to drop out of drugs. The role of nurses in providing medication, especially antipsychotics for schizophrenia patients, is needed because it can affect the patient's body mass index; nursing care in patients can run well when nurses can pay attention to patients holistically.

REFERENCES

- Burns, M. A. C., Schwinghammer, T. L., Malone, P. M., Kolesar, J. M., Lee, K. C., & Bookstaver, P. B. (2022). Pharmacotherapy Principles And Practice. In *Syria Studies* (6th ed., Vol. 7, Issue 1). McGraw Hill.
- Dreimüller, N., Lieb, K., Tadić, A., Engelmann, J., Wollschläger, D., & Wagner, S. (2019). Body mass index (BMI) in major depressive disorder and its effects on depressive symptomatology and antidepressant response. *Journal of Affective Disorders*, 256(June), 524–531. <https://doi.org/10.1016/j.jad.2019.06.067>
- Freeman, M. P., Sosinsky, A. Z., Goez-Mogollon, L., Savella, G. M., Moustafa, D., Viguera, A. C., & Cohen, L. S. (2018). Gestational Weight Gain and Pre-pregnancy Body Mass Index Associated With Second-Generation Antipsychotic Drug Use During Pregnancy. *Psychosomatics*, 59(2), 125–134. <https://doi.org/10.1016/j.psym.2017.09.002>
- Haroon, E., Daguanno, A. W., Woolwine, B. J., Goldsmith, D. R., Baer, W. M., Wommack, E. C., Felger, J. C., & Miller, A. H. (2018). Antidepressant treatment resistance is associated with increased inflammatory markers in patients with major depressive disorder. *Psychoneuroendocrinology*, 95, 43–49. <https://doi.org/10.1016/j.psyneuen.2018.05.026>
- Hendra, G. A., Aditya, M., & Hastati, W. I. (2022). Analysis of the Relationship of Quality of Life

- to the Use of Combination Antipsychotic Drugs in Schizophrenic Patients. *Dr. Soebandi's Health Journal*, 8(2), 128–134. <https://doi.org/10.36858/jkds.v8i2.229>
- Hishimoto, A., Yasui-Furukori, N., Sekine, D., Matsukawa, M., & Yamada, S. (2022). Treatment Discontinuation Among Patients with Schizophrenia Treated with Brexpiprazole and Other Oral Atypical Antipsychotics in Japan: A Retrospective Observational Study. *Advances in Therapy*, 39(9), 4299–4314. <https://doi.org/10.1007/s12325-022-02252-9>
- Johansen, I. T., Steen, N. E., Haram, M., Rødevand, L., Werner, M. C. F., Lunding, S. H., Hjell, G., Agartz, I., Melle, I., Lagerberg, T. V., Nerhus, M., & Andreassen, O. A. (2022). Sex differences in antipsychotic-related triglyceride levels are associated with metabolic hormone differences in patients with severe mental disorders. *Schizophrenia Research*, 243(February), 55–63. <https://doi.org/10.1016/j.schres.2022.02.015>
- Marthoenis, M., Martina, M., Alfiandi, R., Dahniar, D., Asnurianti, R., Sari, H., Nassimbwa, J., & Arafat, S. M. Y. (2022). Investigating Body Mass Index and Body Composition in Patients with Schizophrenia: A Case-Control Study. *Schizophrenia Research and Treatment*, 2022. <https://doi.org/10.1155/2022/1381542>
- Mukti, N. N. (2014). *Differences in Increase in Body Mass Index in Schizophrenic Patients Treated with Standard Drugs Plus Clozapine at RSJD Surakarta*.
- Nasution, N. M. (2013). *Body mass index in schizophrenic patients*. University of North Sumatra.
- Riskesdas, K. (2018). Main Results of Basic Health Research (RISKESDAS). *Journal of Physics A: Mathematical and Theoretical*, 44(8), 1–200. <https://doi.org/10.1088/1751-8113/44/8/085201>
- Sadock, B. J., & Sadock, V. A. (2014). *Textbook of Clinical Psychiatry* (2nd ed.). EGC.
- Saraswati, I., & Diniarti, S. (2019). Prevalence of Obesity in Schizophrenic Patients Receiving Atypical Antipsychotic Therapy at Bali Provincial Mental Hospital. *E-Journal of Medicine*, 8(5), 84–93.
- Stuart, G. W. (2016). *Principles and Practice of PSYCHIATRIC NURSING*. Elsevier.
- Susilowati, N., Hanim, D., & Dewi, Y. L. R. (2020). Body Mass Index of Schizophrenic Patients with Combined Antipsychotic Therapy. *International Journal of Nutrition Sciences*, 5(1), 7–12. <https://doi.org/10.30476/IJNS.2020.84313.1045>.Introduction
- Yusuf, A.H, F., & , R & Nihayati, H. . (2015). *Textbook of Mental Health Nursing*. In *Mental Health Nursing Textbook*. Salemba Medika. <https://doi.org/ISBN 978-xxx-xxx-xx-x>