

Knowledge of antipsychotic medication and their side effects among psychiatric nurses at a tertiary hospital in Lesotho

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Abstract

Factors that impede the physical health monitoring of patients with severe mental illness are multidimensional, and healthcare providers' knowledge and expertise regarding antipsychotic medication and side effects remain key determinants of the frequency and quality of screening a patient shall be subjected to. This challenge transcends the monitoring of patients treated with antipsychotics, where scholars have determined a lack of knowledge about screening for adverse effects, resulting in poor clinical assessments among patients prescribed antipsychotics. This study aimed to describe nurses' knowledge regarding antipsychotic medications and their side effects at the psychiatric hospital in Lesotho. To guide the research process, a quantitative, non-experimental, descriptive approach was employed with 40 nurses out of 44 nurses as respondents, who were selected using convenience sampling, and respondents rated their knowledge regarding the side effects of antipsychotic medication using a Likert scale on a structured research questionnaire. The data were collected using a self-administered questionnaire, analysed using SPSS (version 28), and displayed using tables, frequencies, standard deviations, and means. This study's female respondents comprised 30 (75.0%) and 10 (25.0%) males. The mean age was 39.05 (SD 8.9), with eight years of psychiatry experience. A total of 29 (72.0%) had sufficient antipsychotic knowledge ($t = 36.38$, $df = 39$, $p < .000$), 31 (78.3%) and had adequate knowledge of the side effects of antipsychotic drugs ($t = 34.00375$, $df = 39$, $p < .000$). In conclusion, this study reveals a positive trend in nursing knowledge about antipsychotic medications and associated side effects, highlighting the importance of ongoing professional development to maintain and enhance this expertise.

Keywords: nurses, knowledge, antipsychotics, side effects, psychiatry, Lesotho



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Introduction and Background

Antipsychotic medications are the primary treatment for people who experience psychosis and are prescribed to nearly all psychotic patients (Cooper et al., 2019). Antipsychotic medications are a class of medications that are principally used for the treatment of schizophrenia and other psychotic disorders, including bipolar affective disorder (Walsh et al., 2021). However, many people report unpleasant and debilitating effects from antipsychotics (Cooper et al., 2019). Therefore, as the backbone of mental health services, professional nurses working in psychiatry need the necessary knowledge regarding antipsychotic medication side effects (SACP-Allers, 2019).

Atypical or second-generation antipsychotic medications have been shown to compound the risk of developing metabolic syndrome primarily through weight gain and other metabolic disturbances (Ward et al., 2018). Al-Salhee and Al-Ameri (2019) stated that during antipsychotic therapy, patients experience increased body mass index, a high waist circumference, and metabolic abnormalities. Furthermore, Ward et al. (2018) asserted that the administration of antipsychotic medications also increases the risks for the development of diabetes through insulin resistance, orthostatic hypotension, Q-T interval prolongation (a risk factor for the development of serious arrhythmias), and neuroleptic malignant syndrome. Ali et al. (2020) stated that the results from a meta-analysis assessing the prevalence of metabolic abnormalities between antipsychotic naive patients and chronically treated patients found that the rate of individual metabolic abnormalities was significantly higher.

A lack of knowledge about antipsychotic medications and their side effects can lead to errors during the administration of antipsychotic medications (Begum et al., 2020). Therefore, in the study conducted in Al-Rashad Psychiatric Hospital to assess nurses' knowledge regarding the side effects of antipsychotic medications, results showed that the majority of nurses had not participated in any training course regarding the side effects of antipsychotic medications; however, there was a significant increase in knowledge level over time for the participants (Al-Salhee and Al-Ameri, 2019). In addition, in the study conducted in England to assess practising mental health nurses' knowledge of antipsychotic medication side effects, the results revealed that nurses have a suboptimal working knowledge of antipsychotic medication side effects, which has the potential to compromise care (Begum et al., 2020). A similar study in Nigeria discovered that knowledge concerning antipsychotic long-acting injectables and their side effects was fair (James et al., 2021). However, in South Africa, the results of the study conducted by Stella (2019) showed that the knowledge of the respondents regarding the use and side effects of antipsychotic medications was adequate, with more respondents scoring more than 50% on the test than less than 50%, where speciality nurses had more knowledge. In Lesotho, there is no evidence-based research regarding nurses' knowledge of antipsychotic medications and their side effects. However, according to anecdotal evidence, nurses lack knowledge of antipsychotic medications and their side effects. Hence, this present study examined nurses' knowledge level at the

psychiatric hospital in Lesotho regarding antipsychotic medications and their associated side effects.

Methodology

Study Design and Setting

A quantitative, non-experimental, descriptive, cross-sectional design was utilised in this study to obtain information that describes 'what exists' about nurses' knowledge regarding antipsychotic medications and their side effects. This research was conducted at Mohlomi Hospital in the Maseru district, near Makoanyane Barracks in Lesotho. Mohlomi Hospital is the only psychiatric hospital in Lesotho. It has a 115-bed capacity and is sectioned into female and male wards, an outpatient department, a forensic department, a geriatric ward, and a child and adolescent ward.

Population and Sampling

The population of this study consisted of 44 nurses working at Mohlomi Hospital in 2023, which comprised 18 nursing assistants, 15 registered nurses with general nursing and midwifery, and 11 registered nurses with psychiatric nursing who had experience managing psychiatric patients on antipsychotic medications. All other personnel in the health fraternity who were not nurses, as well as those who had no experience managing psychiatric patients on antipsychotic medications, were excluded from the study. Since Mohlomi Hospital is the only psychiatric hospital in the country, only a small portion of the population was available for this study; the non-probability convenience sampling method was used to select the respondents. The non-probability sampling technique is such that the researcher chooses elements of the study that are available and ready at the right place and time during the study period (Brink et al., 2018).

Data Collection Process

For two weeks of data collection, the researcher distributed questionnaires to nurses who were available and accessible in the hospital. 40 nurses out of 44 nurses employed at Mohlomi Psychiatric Hospital in 2023 who completed the questionnaire successfully were included in the study. The researcher established the questionnaire with the assistance of a research supervisor and statistician, and the literature was used to guide the development. The five responses on the Likert scale were strongly agree, agree, neutral, disagree, and strongly disagree. Face validity was established by consulting experts in the field of psychiatry, the supervisors, and the statistician to provide feedback regarding the validity of the questionnaire. To maintain the test-retest reliability of the questionnaire, it was pretested on ten respondents. This data was included in the final sample since no changes were made to the questionnaire. Using Cronbach's alpha reliability statistics, the instrument's validity (questionnaire) was grounded at a score of 0.82 (82.0%), pointing out that this study's findings would be reliable.

Following authorisation from the Mohlomi Hospital Nursing Manager and the Ministry of Health, Lesotho, the researcher distributed the questionnaires to each ward of the hospital. The researcher collected data across two weeks, day and night shifts, incorporating all nurses within different shifts. Each participant anonymously submitted their answers to the questionnaire into a box, and the researcher collected the finished forms after two weeks to include even those on the night shift who may have been absent at the time. The data was prioritised as the data file was stored on a secure server accessible only to the researcher and supervisor, and strict data protection measures were adhered to in compliance with ethical guidelines.

Data Analysis

Descriptive statistics directly address research questions in studies that are primarily descriptive and help set the stage for understanding quantitative research evidence (Polit and Beck, 2020). The completed questionnaires were counted and coded to facilitate the capture and auditing of data after collection. The scores of negative questions in the questionnaire were revised to accommodate negativity. Data were entered and subsequently analysed using the Statistical Package for Social Sciences (SPSS), version 28. Descriptive statistics were used to describe and synthesise data about the outcome variable nurses' knowledge regarding antipsychotic medications and side effects, where percentages, frequencies, means, and standard deviations (SDs) were reflected. To enhance interpretation, tables and graphs were utilised. The composite score was computed for questions with ranges.

Ethical Considerations

Grove et al. (2021) asserted that researchers must comply with three ethical principles, i.e., beneficence, respect for human dignity, and justice. The Ministry of Health in Lesotho (reference number: ID40-2023) and the Institutional Review Board (IRB) of the National University of Lesotho (protocol reference no. NUL/NUR/2023/16) both granted permission for the study to be conducted. In order to realise the participants' rights, the researcher clarified that participation in the study was voluntary and that respondents could retract their consent at any time without fear of repercussions. Moreover, the researcher explained that participating in the study would not negatively affect respondents. Those who voluntarily agreed to participate signed the informed consent form after providing the necessary information about the study. The respondents were informed that the questionnaire would take 10 to 15 minutes to complete and that the researcher would respect their anonymity and confidentiality by using codes instead of their names. The respondents were treated equally, and the data were transcribed verbatim. The data were kept in a locked area that only the researcher and supervisor could access. The researcher described that the study's findings would be helpful to nurses, including those who did not participate, as they would augment their skills and approaches towards psychiatric patients on antipsychotic medications. The study's results may be useful in informing and reviewing the institution's policies.

Results

Demographic Data

A total of 44 questionnaires were distributed to 44 eligible respondents. Out of 44 questionnaires, 40 were diligently completed and returned, resulting in a commendable response rate of 90.9%. Additionally, a greater proportion of the respondents were female 30 (75.0%), while the minority were male respondents 10 (25.0%), as shown in figure 1.

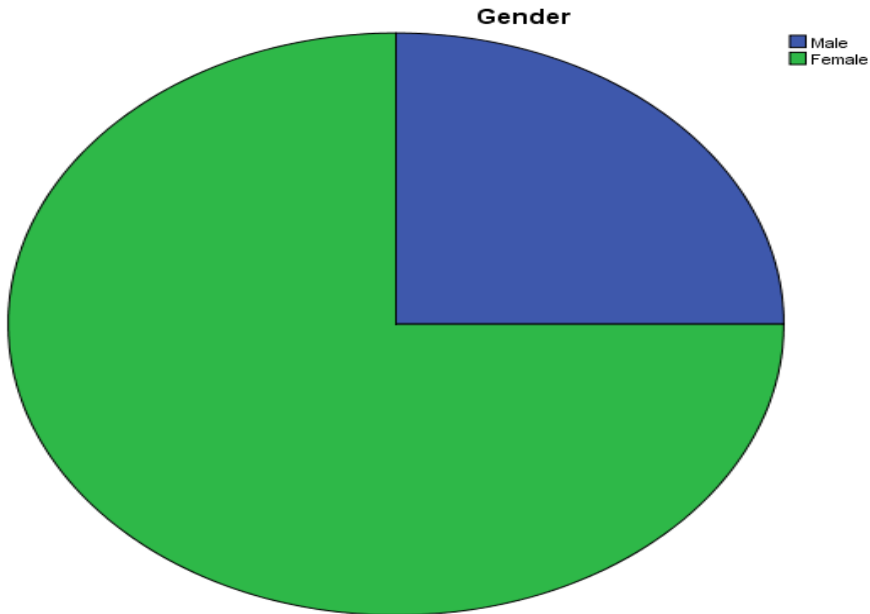


Figure 1: Gender distribution of respondents (N=40)

Regarding academic qualification, 16 (40.0%) of the respondents held a certificate in nursing assistant qualification, 13 (32.5%) had a diploma in general nursing, and 2 (5.0%) had a degree in nursing qualification. In comparison, 9 (22.5%) had an advanced diploma in nursing. The mean age of the total of the respondents was 39.05 (SD 8.9), while the mean years of experience in psychiatry were 8 (7.6).

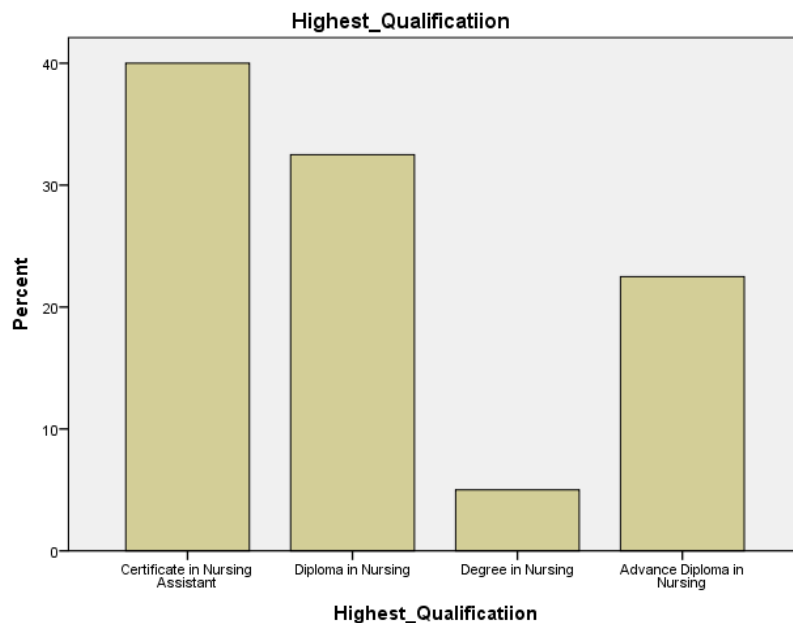


Figure 2: Respondents' distribution of qualification status (N=40)

Nurses' knowledge of antipsychotic medication

Nurses' knowledge was evaluated across a spectrum of antipsychotic medications, including typical and atypical antipsychotics. For the statement, "Haloperidol is an antipsychotic medication," 39(97.5%) of the respondents agreed with the statement, 0(0.0%) disagreed, and 1 (2.5%) were not sure regarding the statement, with a mean score of 4.7(0.5). On the notion that Levopromazine is an antipsychotic drug, 32 (80.0%) agreed to the statement, and 2(5.0%) disagreed, while 6 (15.0%) were uncertain, with a mean of 4.1 (0.9). Addressing the item "Chlorpromazine is an antipsychotic drug," 36 (90.0%) of the respondents agreed with the statement, 0 (0.0%) disagreed, while 4 (10.0%) were not sure, with a mean of 4.5 (0.7). Regarding the statement that Risperidone is an antipsychotic drug, 39 (97.5%) of the respondents agreed with the statement, 0 (0.0%) disagreed, and 1 (2.5%) were not sure, having the highest mean score of 4.6 (0.5). Concerning the statement "Zuclopenthixol is an antipsychotic drug," 25 (62.5%) of the respondents agreed to the statement, and 0 (0.0%) disagreed, while 15 (37.5%) were uncertain, with a mean score of 3.9 (0.8). Addressing the account, "Flupentixol is an antipsychotic drug," 24 (60.0%) of the respondents agreed with the statement, 3 (7.5%) disagreed, and 13 (32.5%) were not sure; the mean was 3.9 (1.0). Regarding the item that Pimozide is an antipsychotic drug, 16 (40.0%) of the respondents agreed with the statement, 0 (0.0%) disagreed, while 24 (60.0%) were uncertain, with the lowest mean score of 3.6 (0.8). For the statement "Olanzapine is an antipsychotic drug," 39 (97.5%) of the respondents agreed with the statement, 0 (0.0%) disagreed, and 1 (2.5%) were not sure, with a mean score of 3.7 (1.0). Regarding the

item that Sulpiride is an antipsychotic drug, 19 (47.5%) of the respondents agreed with the statement, 0 (0.0%) disagreed, while 24 (60.0%) were uncertain, with a mean score of 3.7 (1.0). To the statement, "Pericyazine is an antipsychotic drug," 19 (47.5%) of the respondents agreed to the statement, 2 (5.0%) disagreed, whereas 19 (47.5%) were uncertain; the mean was 3.6 (0.9).

Table 1: Knowledge of antipsychotic medications (N=40)

Knowledge about antipsychotic medications	Agree	Uncertain	Disagree	Mean (SD)
Haloperidol is an antipsychotic medication	39 (97.5%)	1 (2.5%)	0 (0.0%)	4.65 (.533)
Levopromazine is an antipsychotic drug.	32 (80.0%)	6 (15.0%)	2 (5.0%)	4.08 (.917).
Chlorpromazine is an antipsychotic medication	36 (90.0%)	4 (10.0%)	0 (0.0%)	4.50 (.679).
Risperidone is an antipsychotic drug	39 (97.5%)	1 (2.5%)	0 (0.0%)	4.63 (.540).
Zuclopenthixol is an antipsychotic Drug	25 (62.5%)	15 (37.5%)	0 (0.0%)	3.93 (.829).
Flupentixol is an antipsychotic drug	24 (60.0%)	13 (32.5%)	3 (7.5%)	3.93 (1.023)
Pimozide is an antipsychotic drug	16 (40.0%)	24 (60.0%)	0 (0.0%)	3.60 (.810).
Olanzapine is an antipsychotic drug	39 (97.5%)	1 (2.5%)	0 (0.0%)	3.65 (1.027).
Sulpiride is an antipsychotic drug	19 (47.5%)	18 (45.0%)	3 (7.5%)	3.65 (1.027)
Pericyazine is an antipsychotic drug	19 (47.5%)	19 (47.5%)	2 (5.0%)	3.60 (.928).

Results for t-Test Analysis

The results of the one-sample t-test revealed a significant difference in the mean score regarding knowledge about medications ($t = 36.38$, $df = 39$, $p < .000$). The mean difference was found to be 4.12 units. The associated p-value ($p.000$) indicates that this difference is statistically significant, highlighting that the observed outcome is unlikely to have arisen by chance. The mean difference of 4.12 units further supports the presence of a significant difference.

Nurses' Knowledge of Side Effects of Antipsychotic Medication

The assessment of respondents' knowledge concerning the side effects of antipsychotic medications encompassed potential effects arising from both conventional and non-

conventional antipsychotic medications. Regarding the statement, "dry mouth is one of the side effects of antipsychotics," 38 (95.0%) agreed, 1 (2.5%) disagreed, whereas 1 (2.5%) of the respondents were not sure, with a mean of 4.4 (0.7). On the notion that weight gain is one of the side effects of antipsychotics, 38 (95.0%) of the respondents agreed, 1 (2.5%) of the respondents disagreed, 1 (2.5%) responded that they were not sure, with a mean of 4.5 (0.7). Responding to the statement that cardiac arrhythmias are one of the side effects of antipsychotics, 32 (80.0%) of the respondents agreed, and 2 (5.0%) disagreed. However, 6 (15.0%) respondents were unsure of the statement, with a mean of 4.1 (0.8). Based on the statement, "hyperprolactinemia is one of the side effects of antipsychotics," 28 (70.0%) of the respondents agreed with the statement, and 1 (2.5%) of the respondents disagreed. In comparison, 11 (27.5%) respondents indicated they were unsure of the statement, with a mean of 4.0 (0.9). For the statement, "tremor is one of the side effects of antipsychotics," 38 (95.0%) of the respondents agreed with the statement, and 0 (0.0%) disagreed with the statement. Conversely, 2 (5.0%) respondents reported being unsure of the statement, with a mean of 4.6 (0.6). Regarding the statement, "tardive dyskinesia is one of the side effects of antipsychotics," 35 (87.5%) of the respondents agreed, 0 (0.0%) disagreed, and 5 (12.5%) of the respondents stated that they were not sure, with the highest mean score of 4.5 (0.7).

Regarding the notion that agranulocytosis is one of the side effects of antipsychotics, 23 (57.5%) of the respondents agreed, whereas 4 (10.0%) disagreed. In comparison, 13 (32.5%) respondents were unsure of the statement, with the lowest mean score of 3.6 (1.0). On the statement, "hyperglycemia is one of the side effects of antipsychotics," 26 (65.0%) agreed, and 3 (7.5%) disagreed. In comparison, 11 (27.5%) respondents indicated they were unsure about the statement, with a mean score of 3.9 (1.0). Considering the statement, "Hyperlipidemia is one of the side effects of antipsychotics," 24 (60.0%) of the respondents agreed with the statement, 3 (7.5%) disagreed, and 13 (32.5%) of the respondents reported not sure with a mean score of 3.7 (0.9).

Results for t-Test Analysis

The results of the one-sample t-test revealed a significant difference in the mean score regarding knowledge about side effects ($t = 34.00375$, $df = 39$, $p.000$). The mean difference was found to be 4.12 units. The associated p-value ($p.000$) indicates that this difference is statistically significant, highlighting that the observed outcome is unlikely to have arisen by chance.

The mean difference of 4.12 units further supports the presence of a significant difference.

Table 2: Nurses' knowledge of side effects of antipsychotic medication (N=40)

Knowledge Of Side Effects	Agree	Uncertain	Disagree	Mean (SD)
Dry mouth is one of the side effects of antipsychotics	38 (95.0%)	1 (2.5%)	1 (2.5%)	4.38 (.667)
Weight gain is one of the side effects of antipsychotics	38 (95.0%)	1 (2.5%)	1 (2.5%)	4.45 (.677)
Cardiac arrhythmias are one of the side effects of antipsychotics.	32 (80.0%)	6 (15.0%)	2 (5.0%)	4.05 (.815).
Hyperprolactinemia is one of the side effects of antipsychotics.	28 (70.0%)	11 (27.5%)	1 (2.5%)	3.98 (.920)
Tremors are one of the side effects of antipsychotics.	38 (95.0%)	2 (5.0%)	0 (0.0%)	4.60 (.591)
Tardive dyskinesia is one of the side effects of antipsychotics.	35 (87.5%)	5 (12.5%)	0 (0.0%)	4.48 (.716)
Agranulocytosis is one of the side effects of antipsychotics.	23 (57.5%)	13 (32.5%)	4 (10.0%)	3.63 (1.030)
Hyperglycemia is one of the side effects of antipsychotics.	26 (65.0%)	11 (27.5%)	3 (7.5%)	3.93 (1.047)
Hyperlipidemia is one of the side effects of antipsychotics.	24 (60.0%)	13 (32.5%)	3 (7.5%)	3.70 (.853)

Discussion of Findings

Participants' Demographic Data

In this study, most respondents were female, with males forming a minority. This is congruent with the study findings of Vincent-Hoper (2020), where most respondents were females. Regarding qualifications, most respondents in the current study held a certificate in nursing, followed by a diploma, with a minority possessing an advanced diploma in nursing. Conversely, half of Al-Salhee et al.'s (2019) respondents held a diploma in nursing. Additionally, the mean age of respondents in the current study was 39 years. However, the study conducted by Rathobei et al. (2021) computed the mean age of the respondents to be 29.8 years (± 9.2).

Nurses' Knowledge of Antipsychotic Medication

A significant proportion of the respondents in the current study showed that they generally had adequate knowledge of different antipsychotic medications, such as haloperidol, olanzapine, etc. Similarly, psychiatric nurses in the study conducted by Nash et al. (2021) demonstrated a comprehensive understanding of antipsychotic medications and, consequently, their risk profiles and side effects. In contrast,

respondents in the research by Wauters et al. (2016) had a low mean knowledge of antipsychotic medications. Furthermore, the nurses studied by Begum et al. (2019) had low knowledge of antipsychotic medications and their side effects. Therefore, psychiatric nurses must have adequate knowledge regarding antipsychotic medication, as this is associated with improved adherence to monitoring guidelines.

Nurses' Knowledge of Side Effects of Antipsychotic Medication

In the current study, a significant proportion of respondents exhibited a fair knowledge of the side effects associated with antipsychotic medications, including dry mouth, weight gain, and metabolic effects. Likewise, in the research by Nash et al. (2021), nurses demonstrated a comprehensive understanding of antipsychotic risk profiles and their corresponding side effects. Conversely, participants in the study conducted by Mwebe (2017) acknowledged a dearth of knowledge regarding the physical health implications of antipsychotic use, encompassing concerns such as weight gain, diabetes, and cardiovascular diseases. Furthermore, a pronounced deficiency in fundamental knowledge concerning clozapine and its potential side effects, notably agranulocytosis, was identified in the study conducted by Sanjeevi and Cocoman (2020).

Conclusions

Current study findings showed that the nurses exhibited fairly good knowledge regarding antipsychotic drugs and their associated side effects. This is a promising outcome, as it underscores the significance of informed healthcare professionals in ensuring the well-being of individuals under antipsychotic treatment. Their substantial understanding of these medications and the potential adverse effects can be seen as a contributing factor to the heightened quality of physical health monitoring that individuals using antipsychotics are likely to receive.

Recommendations for psychiatric nursing practice

Notably, the nurses' proficient knowledge in this area can be attributed to their comprehensive familiarity with the subject matter. However, it is crucial to recognise that medical knowledge is an evolving field, with new developments and insights emerging regularly. To ensure that the current level of expertise remains sustained and up-to-date, it is recommended that a structured program of periodic in-service training be implemented. This training can serve as a platform for nurses to stay abreast of the latest advancements, research findings, and changes in guidelines related to antipsychotic medications and their potential adverse effects.

Furthermore, by continuously enhancing their understanding of antipsychotic drugs and their side effects, nurses can play an instrumental role in optimising patient care outcomes. Regular in-service training sessions allow nurses to reinforce their existing knowledge and address any knowledge gaps that may arise due to emerging trends or

updates in the field. Such training initiatives can foster a culture of continuous learning and improvement within the nursing staff, ultimately providing safer and more effective care to patients receiving antipsychotic treatment.

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