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Staff Education to Improve Patient Medication Adherence for Schizophrenia Using Long-Acting Injectables

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Walden University

College of Nursing

This is to certify that the doctoral study by

Adela Ghogomu

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
2025

Executive Summary: Staff Education Project
Staff Education to Improve Patient Medication Adherence for Schizophrenia Using
Long-Acting Injectables

by

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Executive Summary Submitted in Partial Fulfillment
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Summary

This doctoral project was conducted as a staff education initiative based on a comprehensive literature review that emphasized the importance of staff education in improving healthcare outcomes. The practice problem identified was a lack of staff knowledge and education regarding long-acting injectables (LAIs) in clients with schizophrenia, which contributed to inconsistent support for client medication adherence. It was essential to address this issue because nurses play a crucial role in medication management, patient education, and adherence support. The practice-focused question explored was: Will staff education regarding the use of long-acting injectables in clients with schizophrenia to enhance medication adherence improve staff knowledge as compared pre- to post-education? The purpose of the doctoral project was to investigate whether targeted staff education could enhance nurses' knowledge about LAIs and improve medication adherence. The project's products included an educational PowerPoint presentation, handouts, pre- and post-assessment tools, case scenarios, and interactive learning materials. The participants consisted of five registered nurses, and the findings indicated that staff education significantly improved after the session with an average of 2.2 points and a statistically significant paired t test results ($t = 11.00$, $df = 4$, $p = 0.0004$). The project concluded that standardized staff education effectively enhanced provider knowledge, reduced knowledge gaps, and supported equitable mental healthcare. Ongoing education and nursing advocacy are recommended to address the evolving needs of mental healthcare. Strengthening provider expertise through standardized education promotes a more informed, supportive, and equitable healthcare environment, advancing diversity, equity, and inclusion in mental healthcare.

Background

In community mental health settings, medication non-adherence among individuals with schizophrenia poses a significant challenge in nursing practice, emphasizing the need for targeted educational interventions to enhance nurses' knowledge and confidence in administering long-acting injectables (LAIs) to improve adherence and patient outcomes. Medication adherence is crucial for effectively managing schizophrenia; however, various barriers contribute to non-adherence, which can result in poor symptom control, increased relapse rates, reduced functionality, and higher healthcare utilization, ultimately exacerbating individual suffering and escalating healthcare costs (Semahegn et al., 2020). Given the high prevalence of schizophrenia and its profound impact on daily life, addressing non-adherence is essential in nursing practice, both locally and globally.

Evidence suggests that up to 56% of patients fail to adhere to their treatment regimens (Semahegn et al., 2020). At the project site, approximately 55% of patients are non-adherent, often reporting missed doses or irregular medication intake that leads to persistent psychotic symptoms. These poor health outcomes significantly impair patients' quality of life, making it challenging to engage in daily activities and maintain fulfilling relationships. Furthermore, Lin et al. (2023) found that 57.6% of nurses lack confidence and knowledge regarding the proper site and technique for administering LAIs, indicating a significant gap between knowledge and practice. High readmission rates among patients with schizophrenia are often linked to medication non-adherence, leading to frequent hospitalizations.

Challenges contributing to this non-adherence include medication side effects, lack of understanding, and stigma associated with treatments like long-acting injectables (LAIs). Despite evidence that LAIs can reduce hospital readmissions and enhance patient stability, they remain underutilized. Contributing factors to medication non-adherence include limited staff knowledge, ineffective communication, stigma, medication side effects, lack of insight, limited patient support, and patient distrust in healthcare providers (Semahegn et al., 2020). Research has also shown that nurses often lack the knowledge and confidence to address medication non-adherence effectively (Hill et al., 2024). Additionally, nurses may lack an understanding of effective strategies to encourage medication adherence in patients with schizophrenia.

The doctoral project provided nursing staff with the essential knowledge and skills to effectively assist patients in adhering to their treatment regimes. Additionally, nurses may lack an understanding of effective strategies to encourage medication adherence in patients with schizophrenia. The doctoral project gave nursing staff the essential knowledge and skills to effectively assist patients in adhering to their treatment regimes. Hill et al. (2024) highlighted the effectiveness of evidence-based healthcare educational interventions in a systematic review and meta-analysis, demonstrating their impact on improving healthcare professionals' knowledge, skills, attitudes, professional practice, and healthcare outcomes. Their findings showed that strategies such as workshops, online modules, and mentorship programs significantly enhance the understanding and application of best practices, particularly in improving medication adherence among patients with schizophrenia. Similarly, Cahaya et al. (2023) found that educational interventions targeting both patients and providers—such as

psychoeducation, workshops, and informational pamphlets—play a vital role in improving adherence to medication in schizophrenia and other psychiatric disorders.

The project question was, “Will staff education regarding the use of long-acting injectables in clients with schizophrenia to enhance medication adherence improve staff knowledge as compared pre- to post-education?” The purpose of this project was to investigate the effectiveness of staff education interventions aimed at improving medication adherence among individuals with schizophrenia using long-acting injectables to increase medication adherence and provide evidence to support the implementation of educational interventions as a viable approach to improving staff knowledge in schizophrenia management. The evidence supporting the change was based on research on psychotropic medication adherence, highlighting multiple factors influencing patient compliance and effective interventions to improve outcomes. Barriers to adherence were identified as stigma, medication side effects, lack of insight, and healthcare provider-related issues as key barriers to adherence, underscoring the need for targeted interventions addressing both patient and systemic challenges (Semahegn et al., 2020). Vonderhaar et al. (2019) demonstrated that nursing advocacy programs significantly improve adherence to long-acting injectables (LAIs) and reduce readmission rates, while Hsieh et al. (2022) emphasized the importance of a strong therapeutic alliance in mediating the relationship between medication attitudes and adherence. These findings suggest that fostering positive patient-provider relationships and structured support programs can enhance medication adherence and treatment engagement.

Evidence indicates that educational interventions play a crucial role in improving adherence. Hill et al. (2024) found that evidence-based training, including workshops and mentorship programs, enhances healthcare professionals' knowledge and application of best practices in managing medication adherence. Similarly, Cahaya et al. (2023) highlighted the effectiveness of psychoeducation, workshops, and informational pamphlets in improving the understanding of schizophrenia and its treatment among both patients and providers. Loots et al. (2021) further reinforced the value of psychoeducation and motivational interviewing in improving adherence among individuals with schizophrenia and bipolar disorder.

A total of 20 peer-reviewed scholarly articles guided the development, implementation, and evaluation of the educational project using the Johns Hopkins Evidence-Based Practice model. The evidence included four Level I (systematic reviews and meta-analyses), seven Level II (Randomized Controlled Trials (RCTs), four Level III (quasi-experimental), three Level IV (cohort or case-control), and two Level V (qualitative or expert opinion) articles. This mix of high- and moderate-level evidence ensured a well-rounded, evidence-informed approach to the project, demonstrating that the educational project was firmly grounded in best practices to enhance nursing knowledge and promote medication adherence among patients with schizophrenia.

Staff Education Project Development

Participants in the project included five registered nurses who attended and completed the educational sessions and the pre-and post-tests administered before and after the sessions. The project site is an outpatient mental health rehabilitation facility in Washington, D.C. The nurses had been working at this site for an average of 3-5 and

were responsible for administering LAIs at the project site. Furthermore, the three nurse educators comprised two nurse practitioners and one registered nurse. These nurses were selected based on their direct involvement in patient care, medication administration, patient education, and patient follow-up.

The content experts were chosen based on their expertise in mental health, experience working with patients with schizophrenia, and hands-on experience in administering LAIs. They all hold certifications in psychiatric nursing and are familiar with current research and evidence-based practices in nursing, including best practices and medication adherence. The content experts played a crucial role in evaluating the educational program by evaluating the designed educational curriculum and providing evidence-based resources to facilitate the project. They evaluated educational effectiveness by providing feedback through a review of the educational PowerPoint content, pre-and post-tests to measure knowledge gains, and mentoring and coaching to plan the educational project.

The project development procedures followed a structured approach, beginning with the design phase, during which a needs assessment was conducted after reviewing data from the project site to identify gaps in practice. Thereafter, the project question and purpose were established. A literature review was conducted to analyze organizational readiness, identify stakeholders, and obtain approval for the project site. The next step was planning for the project, which involved assessing the educational needs and developing course content or curriculum. During this phase, the staff members who would participate in the project were identified, and PowerPoint presentations, handouts, and other educational resources were created. These resources were reviewed and

finalized with input from content experts (See Table 1). A project action plan and timeline were established to monitor and evaluate the effectiveness of the educational program. The implementation phase involved an in-person session, during which a pre-test was administered to assess the baseline knowledge of the nurses, following a review of the educational materials by content experts to evaluate their effectiveness. The next step was an interactive educational session using case scenario-based learning and a post-test to evaluate knowledge improvement (See Appendix A and B). Follow-up support was provided through additional resources and mentorship to reinforce learning.

After completing the ethics pledge, the next step was for the content reviewers to validate the educational materials, including test questions and PowerPoint presentations, for usability and content validity. The Likert scale, in which each response is assigned a numerical value (e.g., 1 for “strongly disagree,” 5 for “strongly agree”), was used to quantify the degree of agreement or disagreement with the question among the three content experts. According to expert evaluations, the experts had a mean score of 4.728 (on a scale of 5), which suggests that the content is highly relevant and appropriate. A standard deviation of 0.136 suggests that the reviewers scored similarly, indicating consistency and agreement on the relevance of the content, as shown in Table 1 below. The analysis suggests that the educational content was highly valid and well-aligned with expert expectations. This supports the conclusion that the material was effective and suitable for improving medication adherence in schizophrenia through nursing education.

Table 1*Content Validity and Usability Analysis for Education Program*

Content	Content reviewers	Range	<i>M</i>	<i>SD</i>
Validity and usability	3	(24-25) =1	4.728	0.136

A multiple-choice test with a 4-option format, ranging from A to D, was used to select the correct answer to each question. The expert ratings of the pre-and post-test tools demonstrated strong content validity, with an overall mean score of 3.77, indicating high relevance across items. The narrow range of 1.00 and low standard deviation of 0.43 reflect consistent agreement among the three experts, with all ratings falling within the acceptable range of 3 or 4. These results suggested that the tool's items were relevant and appropriate for evaluating the intended questions (See Table 2).

Table 2*Content Validity and Usability Analysis for Pre- and Post-test Tool*

Pre- & post-tool content	Content reviewers	Mean	Range	Standard deviation
Validity and Usability	3	3.77	1.00	0.43

The educational project utilized multiple methods to gather and analyze evidence, including pre-and post-training assessments. A pre-test was conducted prior to the educational session to assess the baseline knowledge of LAI administration and understanding of adherence strategies. After the educational intervention, a post-test was administered to measure improvements in nursing knowledge. Staff observation provided further insights into the program's effectiveness. Descriptive statistics (mean, median, mode, range, and standard deviation) and a sample t-test were used to evaluate score

differences, while a paired t-test determined whether there were any gains in knowledge. The evaluation process helped to determine whether educational intervention achieved its intended outcomes of improving staff knowledge.

Results

The project results indicated that targeted staff education significantly enhanced nurses' knowledge, as reflected by improved post-test scores following the educational intervention.

Table 3

Pre- and Post-test Scores

Participants	Pre-test scores	Post-test scores
Nurse A	8	10
Nurse B	6	9
Nurse C	8	10
Nurse B	6	8
Nurse E	7	9
<i>M</i>	7.0	9.2

Given the pre- and post-data presented in Table 2, a paired-sample *t* test was used to analyze the results. Table 3 shows that the average scores increased by 2.2 points after the intervention, and the median score shifted upward from 7 to 9, reflecting overall improvement in knowledge. The post-test, with a standard deviation (*SD*) of 0.84, shows that the scores are slightly more consistent. The paired samples *t* test showed this improvement was statistically significant ($t = 11.00, df = 4, p = 0.0004$), with an average increase of 2.2 points. The statistically significant result ($p < 0.001$) indicates that the staff education intervention had a positive and meaningful impact on staff knowledge, as reflected in the improved test scores. In summary, the data demonstrate that the educational intervention was adequate, with consistently improved scores and statistically

significant results confirming that the knowledge gains were directly linked to the program. Table 4 show the analysis of the outcomes following the project's implementation.

Table 4

Nurses' Pre- and Post-implementation Scores

Exam	Range	<i>M</i>	<i>SD</i>	<i>p</i> Value	Paired <i>t</i> test
Pretest scores	2	7	1	0.001	11.0
Posttest scores	2	9.2	0.84		

Note. $N = 5$; $pr = 1$; $po = 0.84$

The program's impact may extend to organizational benefits, including enhanced staff skills, improved patient care, and increased operational efficiency. Nurses may feel more confident administering LAIs, reducing errors, and enhancing treatment safety. Patients could benefit from improved education and support, resulting in fewer relapses and hospital readmissions, ultimately leading to lower healthcare costs. The initiative also aims to standardize best practices, streamline workflows, and promote culturally competent care to support diversity, equity, and inclusion. The program may enhance evidence-based nursing, improve patient outcomes, and support sustainable mental health treatment, ultimately leading to a healthier community and a reduction in mental health crises. Despite positive outcomes, the program faced limitations, including a small and less diverse sample, a focus on short-term knowledge gains, and institutional barriers to implementing LAI administration. Further research with a broader sample and long-term follow-up is needed.

This nursing education program has relevance beyond the local site, as it addresses widespread challenges in mental healthcare, medication adherence, and nursing

competency. Globally, poor adherence to antipsychotic medications contributes to relapses, hospitalizations, and rising healthcare costs (Lin et al., 2021). By demonstrating that a structured educational program enhances nursing proficiency and improves patient outcomes, this initiative underscores the importance of ongoing professional development in healthcare. By demonstrating the effectiveness of nurse-led educational programs in promoting adherence to long-acting injectable medications, the results can be applied to various chronic mental health and medical conditions where treatment adherence is crucial for achieving improved patient outcomes. This project serves as a scalable model that can be applied across various healthcare settings to ensure standardized best practices in LAI administration.

Conclusions

The impact of the project on the organization is that it may strengthen both operational success and patient outcomes. Addressing challenges related to medication nonadherence with LAIs among individuals with schizophrenia can lead to increased healthcare provider knowledge, improved symptom management, reduced relapse rates, and enhanced quality of life (Lin et al., 2021). These outcomes contribute to fewer emergency department visits and hospitalizations, resulting in lower healthcare costs and more efficient use of resources (Pietrini et al., 2019). It reinforces evidence-based nursing practices while contributing to better resource utilization and long-term sustainability in mental health treatment.

Additional recommendations include implementing comprehensive education programs, utilizing technology such as e-learning and simulations, and fostering multidisciplinary collaboration. Education should focus on patient-centered approaches,

including motivational interviewing and cultural competency. Real-world simulations and feedback systems can improve practical skills and program effectiveness.

Encouraging evidence-based research, integrating reward systems, and promoting staff recognition will boost engagement and motivation. These strategies will ensure sustainable learning, improved patient outcomes, and increased organizational efficiency.

The potential implications for nursing practice are enhanced nursing knowledge and reinforced evidence-based practices in mental healthcare by addressing medication adherence through a holistic educational framework. The project can promote standardized protocols for long-acting injectable (LAI) administration, ensuring consistent and efficient care across the organization. Improved adherence leads to fewer relapses, reduced hospitalizations, and better resource utilization, making mental health treatment more sustainable. Additionally, enhancing staff knowledge and communication skills promotes more effective patient engagement, ultimately improving long-term mental health outcomes. This project contributes to positive social change by addressing barriers to mental health care and enhancing long-term patient stability. Educating nurses on effective communication and culturally competent care helps bridge gaps in healthcare access, ensuring that patients receive the support and guidance they need to maintain medication adherence. This initiative also works to reduce the stigma surrounding mental illness by fostering compassionate, patient-centered care, thereby strengthening trust between providers and patients. The project is crucial in enhancing community mental health and overall well-being by equipping healthcare professionals with specialized knowledge and skills. This educational initiative may actively promote diversity, equity, and inclusion (DEI) in psychiatric care by incorporating culturally competent training

that recognizes the unique challenges faced by diverse patient populations. It ensures that equitable care and support are available to all individuals, regardless of their background, socioeconomic status, or cultural identity. By fostering inclusive mental healthcare practices, the project strengthens accessibility, quality, and long-term sustainability in psychiatric treatment. Ultimately, advancing practice through delivery of evidence-based nursing education helps create a more just and compassionate healthcare system that effectively serves all communities.

References

- Badawy, S. M., Shah, R., Beg, U., & Heneghan, M. B. (2024). Correction: Habit strength, medication adherence, and habit-based mobile health interventions across chronic medical conditions: Systematic review (Preprint). <https://doi.org/10.2196/preprints.63980>
- Cahaya, N., Kristina, S. A., Widayanti, A. W., & Green, J. A. (2023). Effectiveness of educational interventions to improve knowledge and medication adherence for people with schizophrenia: A systematic review. *Indonesian Journal of Pharmacy*, 34(4), 555-565. <https://doi.org/10.22146/ijp.4768>
- Chang, H., Vaughn, L. M., & Liu, D. (2024). Rural ambulatory care pharmacists providing in-clinic and home visit services improve adherence to long-acting injectable antipsychotics. *Mental Health Clinician*, 14(3), 229–232. <https://doi.org/10.9740/mhc.2024.06.229>
- Chen, C. J., & Hilliard, W. (2023). Text message reminders for long-acting injectable antipsychotics in patients with schizophrenia spectrum disorders. *Journal of the American Psychiatric Nurses Association*, 30(4), 828–833. <https://doi.org/10.1177/10783903231183918>
- Ghosh, P., Balasundaram, S., Sankaran, A., Chandrasekaran, V., Sarkar, S., & Choudhury, S. (2022). Factors associated with medication non-adherence among patients with severe mental disorder - A cross-sectional study in a tertiary care center. *Exploratory Research in Clinical and Social Pharmacy*, 7, 100178. <https://doi.org/10.1016/j.rcsop.2022.100178>

- Hill, J., Gratton, N., Kulkarni, A., Hamer, O., Harrison, J., Harris, C., Chesters, J., Duddy, E., Collins, L., & Clegg, A. (2024). The effectiveness of evidence-based healthcare educational interventions on healthcare professionals' knowledge, skills, attitudes, professional practice, and healthcare outcomes: A systematic review and meta-analysis. *Journal of Evaluation in Clinical Practice*, 30(6), 909–935. <https://doi.org/10.1111/jep.14001>
- Hsieh, W. L., Yeh, S. T., Liu, W. I., Li, I. H., Lee, S. K., & Chien, W. T. (2022). Improving medication adherence in community-dwelling patients with schizophrenia through therapeutic alliance and medication attitude: A serial multiple mediation model. *Patient Preference and Adherence*, 16, 1017–1026. <https://doi.org/10.2147/ppa.s351848>
- Insiyah, I., Abdul Karim, S., & Othman, Z. (2024). Effectiveness of Psychoeducation and assertive training (PEAT) combined for improving medication adherence in patients with schizophrenia. *JKG (JURNAL KEPERAWATAN GLOBAL)*, 1–9. <https://doi.org/10.37341/jkg.v9i1.914>
- Kanofsky, J. D., Viswanathan, S., & Wylie-Rosett, J. (2022). Lifestyle coaching may be an effective treatment for schizophrenia. *American Journal of Lifestyle Medicine*, 18(2), 156–161. <https://doi.org/10.1177/15598276221142307>
- Konstantinou, P., Kasinopoulos, O., Karashiali, C., Georgiou, G., Panayides, A., Papageorgiou, A., Wozniak, G., Kassianos, A. P., & Karekla, M. (2021). A scoping review of methods used to assess medication adherence in patients with chronic conditions. *Annals of Behavioral Medicine*, 56(12), 1201–1217. <https://doi.org/10.1093/abm/kaab080>

- Lin, D., Thompson-Leduc, P., Ghelerter, I., Nguyen, H., Lafeuille, M., Benson, C., Mavros, P., & Lefebvre, P. (2021). Real-world evidence of the clinical and economic impact of long-acting injectable versus oral antipsychotics among patients with schizophrenia in the United States: A systematic review and meta-analysis. *CNS Drugs*, 35(5), 469–481. <https://doi.org/10.1007/s40263-021-00815-y>
- Lin, Y., Hou, W., & Lin, M. (2023). Psychiatric nurses' knowledge and practice barriers to administering long-acting injectable (LAI) antipsychotics in Taiwan: A mixed-methods study: *healthcare*, 11(12), 1670. <https://doi.org/10.3390/healthcare11121670>
- Loots, E., Goossens, E., Vanwesemael, T., Morrens, M., Van Rompaey, B., & Dilles, T. (2021). Interventions to improve medication adherence in patients with schizophrenia or bipolar disorders: A systematic review and meta-analysis. *International Journal of Environmental Research and Public Health*, 18(19), 10213. <https://doi.org/10.3390/ijerph181910213>
- Meric, M., & Ergun, G. (2022). The determination of factors affecting medication adherence in patients with schizophrenia: A qualitative study. *GOBEKLİTEPE Sağlık Bilimleri Dergisi*, 5(8), 98–104. <https://doi.org/10.55433/gsb.211>
- Okada, Y., Inada, K., & Akazawa, M. (2023). Comparative effectiveness of long-acting injectable antipsychotics in patients with schizophrenia in Japan. *Schizophrenia Research*, 252, 300–308. <https://doi.org/10.1016/j.schres.2023.01.019>

- Pardede, J. A. (2020). Compliance and commitment to clients with schizophrenia increased after given acceptance and commitment therapy and education health medication adherence. <https://doi.org/10.31219/osf.io/4ns6d>
- Pietrini, F., Albert, U., Ballerini, A., Calò, P., Maina, G., Pinna, F., Vaggi, M., Boggian, I., Fontana, M., Moro, C. G., & Carpiello, B. (2019). <p>The modern perspective for long-acting injectables antipsychotics in the patient-centered care of schizophrenia</p>. *Neuropsychiatric Disease and Treatment*, 15, 1045–1060. <https://doi.org/10.2147/ndt.s199048>
- Semahegn, A., Torpey, K., Manu, A., Assefa, N., Tesfaye, G., & Ankomah, A. (2020). Psychotropic medication non-adherence and its associated factors among patients with major psychiatric disorders: A systematic review and meta-analysis. *Systematic Reviews*, 9(1). <https://doi.org/10.1186/s13643-020-1274-3>
- Vonderhaar, B., & Snyder, M. (2019). Nursing advocacy and long-acting injectables to reduce high readmission rates: A quality initiative. *Journal of the American Psychiatric Nurses Association*, 26(4), 389–393. <https://doi.org/10.1177/1078390319865333>
- Weiden, P., Turkington, D., Beaumont, J., & Mihailovic, M. (2019). S98. Can CBT-based interventions address medication adherence in the early phases of schizophrenia? Results from a pilot RCT comparing a CBT-based vs. psychoeducation-based intervention. *Schizophrenia Bulletin*, 45(Supplement_2), S343–S344. <https://doi.org/10.1093/schbul/sbz020.643>

Appendix A: Pre-Post-Test Questionnaire Used to Measure Knowledge Gain

STAFF EDUCATION PROGRAM QUIZ

Instructions: Please indicate the Quiz you are taking with a tick.

ID#:

Pre-Quiz:

Post-Quiz:

Date:.....

Please answer all the following questions by circling the correct answers.

1. What is the primary advantage of long-acting injectables (LAIs) for patients with schizophrenia?

Case Scenario:

David, a 36-year-old patient with schizophrenia, has struggled with remembering to take his daily oral medications. After switching to long-acting injectables (LAIs), he begins to experience more consistent symptom control and fewer relapses.

Question:

What is the primary advantage of long-acting injectables (LAIs) for patients with schizophrenia?

- A) They are less expensive than oral medications.
- B) They provide a consistent level of medication over time.
- C) They do not require any follow-up visits.
- D) They can be taken with food.

2. Which of the following is a long-acting injectable antipsychotic?

Case Scenario:

Sarah, a 42-year-old patient, has been prescribed a long-acting injectable antipsychotic to help manage her schizophrenia symptoms. Her psychiatrist explains that this medication will provide steady medication levels over time, requiring fewer visits for administration.

Question:

Which of the following is a long-acting injectable antipsychotic?

- A) Aripiprazole (Abilify Maintena)
- B) Fluoxetine (Prozac)

C) Amitriptyline (Elavil)

D) All of the above

3. What is the typical dosing schedule for LAIs?

Case Scenario:

Tom, a 33-year-old patient, is transitioning from daily oral antipsychotics to long-acting injectables. He is curious about how often he will need to come in for the injections, as he is used to taking daily medications.

Question:

What is the typical dosing schedule for LAIs?

A) Every day

B) Every week

C) Every month or longer, depending on the medication

D) As needed

4. What is a common misconception about LAIs?

Case Scenario:

John, a 28-year-old patient with schizophrenia, is hesitant to try long-acting injectables because he believes they require hospitalization for each injection, which would disrupt his work schedule.

Question:

What is a common misconception about LAIs?

A) They are more effective than oral medications.

B) They require hospitalization for administration.

C) They improve patient adherence.

D) They can help prevent relapses.

5. Which side effect is most associated with LAIs?

Case Scenario:

Julia, a 30-year-old patient, starts receiving long-acting injectables for her schizophrenia. After a few months, she notices that she has gained weight, and she is concerned about this side effect.

Question:

Which side effect is most associated with LAIs?

- A) Increased energy
- B) Decreased appetite
- C) Weight gain
- D) Improved sleep

6. Which of the following strategies can improve patient adherence to LAIs?

Case Scenario:

Carlos, a 40-year-old patient, has been prescribed long-acting injectables for his schizophrenia treatment. The healthcare team involves him in decisions about his treatment plan, provides clear information on potential side effects, and offers follow-up support.

Question:

Which of the following strategies can improve patient adherence to LAIs?

- A) Involving patients in treatment decisions
- B) Providing clear information about side effects
- C) Offering support and follow-up care
- D) All of the above

7. Monitoring patients after the administration of LAIs is important because:

Case Scenario:

Maria, a 45-year-old patient, receives her first long-acting injectable. Afterward, the nurse monitors her for 30 minutes to observe any potential side effects or adverse reactions.

Question:

Monitoring patients after the administration of LAIs is important because:

- A) They do not require monitoring.
- B) Adverse reactions can occur.
- C) They will always be effective.
- D) None of the above.

8. Patients receiving LAIs should be educated about the medication's side effects and how to manage side effects.

Case Scenario:

Michael, a 37-year-old patient, is receiving his first long-acting injectable. The nurse takes time to educate him about potential side effects and provides strategies for managing them, ensuring he feels more confident in his treatment plan.

Question:

What is the primary purpose of the nurse educating Michael about potential side effects of his long-acting injectable?

- A) To inform Michael of the treatment's cost
- B) To ensure Michael is aware of and can manage any side effects
- C) To prepare Michael for future oral medication therapy Tuva yay
- D) To encourage Michael to stop taking the injectable if side effects occur.

9. What is a recommended follow-up action after a patient receives an LAI?

Case Scenario:

Jessica, a 34-year-old patient, has received her first long-acting injectable. Her healthcare provider schedules a follow-up visit to monitor her adherence, check for side effects, and assess her progress.

Question:

What is a recommended follow-up action after a patient receives an LAI?

- A) No follow-up is necessary.
- B) Schedule a follow-up appointment to monitor adherence and side effects.
- C) Discontinue medication immediately.
- D) Provide more medication without monitoring.

10. Effective communication with patients regarding LAIs can lead to:

Case Scenario:

Mark, a 29-year-old patient, has questions about his new long-acting injectable treatment. The healthcare provider explains the treatment clearly, addressing his concerns and providing detailed information about the medication's effects.

Question:

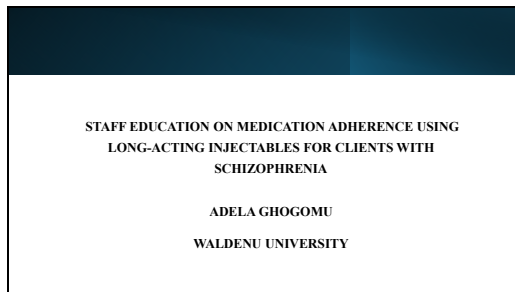
Effective communication with patients regarding LAIs can lead to:

- A) Increased misunderstanding of the treatment.
- B) Improved adherence and better health outcomes.

- C) Higher rates of hospitalization.
- D) None of the above.

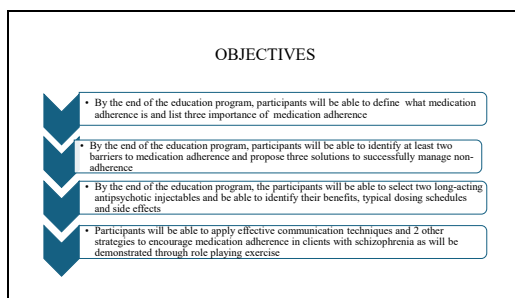
Appendix B: Slides from Educational PowerPoint on Staff education and enhancing medication adherence Using Long-Acting Injectables in Schizophrenia.

Slide 1

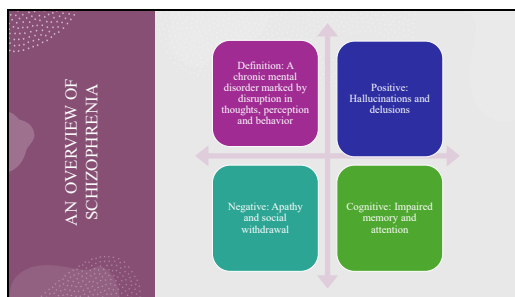


The presentation highlights the relevance of facilitating health literacy to staff on medication adherence using long-acting antipsychotic injectables in clients diagnosed with schizophrenia to increase staff knowledge.

Slide 2



Slide 3



Positive symptoms of schizophrenia are those that represent an excess or distortion of normal mental functioning. These include hallucinations (perceptions without external stimuli, such as hearing voices or seeing things), delusions (false beliefs, such as paranoia or grandiosity), disorganized thinking (incoherent speech or thought patterns), and disorganized or abnormal motor behavior (e.g., catatonia or unpredictable actions). These symptoms are typically more evident during episodes of acute illness and can significantly impair a person's ability to function in daily life. Negative symptoms of schizophrenia involve a reduction or loss of normal functioning, such as lack of motivation (avolition), inability to experience pleasure (anhedonia), limited speech (alogia), reduced emotional expression (affective flattening), social withdrawal, and impaired attention. These symptoms often hinder daily activities, social interactions, and overall functioning.

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UNDERSTANDING MEDICATION ADHERENCE

Definition: The extent to which patients take their medications as prescribed

Statistics: Non-adherence in schizophrenia patients is high, with significant impact on treatment

Medication adherence in patients with schizophrenia is influenced by several cognitive factors. Impaired insight can lead to a lack of understanding about the necessity of medication, resulting in non-adherence. Cognitive deficits, such as difficulties with memory and attention, can also hinder patients' ability to remember their medication schedules. Additionally, negative beliefs about the efficacy and side effects of medications may further discourage adherence, especially if patients perceive their symptoms as manageable without treatment.

Emotional factors play a significant role in medication adherence as well. Symptoms such as depression and anxiety can diminish motivation and the ability to engage in daily activities, including taking medications. Stigma and feelings of shame associated with having a mental illness may lead patients to avoid their treatment to conceal it from others. High emotional distress can also result in impulsive decisions to skip doses, complicating adherence efforts.

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BARRIERS TO MEDICATION ADHERENCE

- Side effects of medications
- Stigma
- Cognitive symptoms
- Lack of insight
- Emotional issues
- Social support system
- Socio economic status

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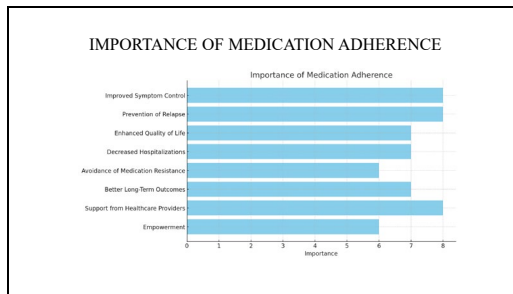
Social factors are equally critical in determining medication adherence. The presence of a supportive social network, including family and friends, can positively influence adherence by providing reminders and encouragement. Conversely, socioeconomic status can create barriers, as financial constraints may limit access to medications and healthcare services. Additionally, strong relationships with healthcare providers that foster trust and effective communication can empower patients to engage more actively in their treatment, improving adherence outcomes.

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ENHANCING STAFF COMMUNICATION SKILLS TO IMPROVE ADHERENCE TO MEDICATION.

Build	Use	Engage	Address
<ul style="list-style-type: none"> Build trust through active listening and empathetic responses 	<ul style="list-style-type: none"> Use motivational interviewing techniques to address patient concerns 	<ul style="list-style-type: none"> Engage patients in discussions about their treatment options 	<ul style="list-style-type: none"> Address misconceptions and fears about LAIs and discuss their side effects

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Articles such as *Impact of Educational Interventions on Improving Medication Adherence in Patients with Schizophrenia* (Wilson & Reid, 2019) highlight the relationship between adherence and symptom management, quality of life, and reduced hospitalizations.

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BENEFITS OF LAIs

Improved Adherence:	Stable Medication Levels:	Reduced Risk of Relapse:	Convenience:
<ul style="list-style-type: none"> Reduces the need for daily pill-taking, making it easier for patients to stay on their medication 	<ul style="list-style-type: none"> Provides a consistent level of medication in the bloodstream, which can help stabilize mood and reduce symptoms 	<ul style="list-style-type: none"> Regular administration can lower the likelihood of relapse and subsequent hospitalizations 	<ul style="list-style-type: none"> Dosing schedules may be less frequent, enhancing convenience for patients

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LONG-ACTING INJECTABLES FOR SCHIZOPHRENIA

Definition: Injectable antipsychotic medications that provide sustained effects over weeks or months.

Examples:

- Risperdal Consta (Risperidone) – Every 2 weeks
- Invega Sustenna (Paliperidone palmitate) – Once a month
- Abilify Maintena (Aripiprazole) – Once a month

These medications are designed to provide stable, prolonged release of the active drug, helping improve medication adherence in individuals with schizophrenia

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LONG-ACTING INJECTABLES FOR SCHIZOPHRENIA

Haldol Decanoate (Haloperidol decanoate) – Every 4 weeks	
Fluphenazine Decanoate – Every 2 to 4 weeks	
Aristada (Aripiprazole lauroxil) – Every 4 to 6 weeks	
Clozapine Depot – Every 2 weeks	

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**USE AND SIDE EFFECTS OF RISPERIDONE
(RISPERDAL CONSTA)**

Use: An atypical antipsychotic acting as an antagonist at dopamine D2 and serotonin 5-HT2A receptors in the brain to manage both positive and negative symptoms of schizophrenia

Duration to be effective: It is rapidly absorbed after injecting, with peak plasma concentrations occurring 3–5 days after administration, and a half-life of approximately 20 days, allowing for biweekly administration

Side effects: weight gain, metabolic changes (e.g., hyperglycemia, hyperlipidemia), elevated prolactin levels, and extrapyramidal symptoms (EPS) such as tremors or rigidity

- The long-acting injectable forms, such as Risperdal Consta, provide a slow and sustained release of the medication over time, allowing for less frequent dosing, typically every two weeks or monthly. This extended release helps maintain therapeutic drug levels and improves medication adherence in patients who have difficulty taking daily oral medication. Neuroleptic Malignant Syndrome (NMS):
- A rare but life-threatening condition characterized by severe muscle rigidity, fever, autonomic instability, and altered mental status. Immediate medical attention is required. Metabolic Syndrome: Increased risk of diabetes and cardiovascular issues. Regular monitoring of weight, blood sugar, and lipid levels is recommended.

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**USE AND SIDE EFFECTS OF FLUPHENAZINE
DECANOATE (PROLIXIN DECANOATE)**

Use: Fluphenazine is a first-generation (typical) antipsychotic that blocks dopamine D2 receptors, which are involved in the management of the symptoms of schizophrenia

Duration of effect: Its effects are typically noticed within 1–2 weeks of administration, and it has a half-life of 14–26 days, which supports its typical 2–4 weeks injection schedule

Side effects: Extrapyramidal symptoms (EPS), such as akathisia, parkinsonism, and tardive dyskinesia. Common side effects: Sedation, hypotension, and anticholinergic effects

Extrapyramidal symptoms (EPS), include akathisia, parkinsonism, and tardive dyskinesia. Tardive dyskinesia (TD) is characterized by involuntary, repetitive movements, especially in the face and mouth, often developing after long-term use of antipsychotics. It is a late-onset condition and can be irreversible, leading to jerky, twisting motions of the limbs and torso in severe cases. Tremors, particularly resting tremors, are rhythmic shakes that occur when a body part is at rest, commonly seen in Parkinson's disease and drug-induced parkinsonism, caused by dopamine imbalance in the brain.

Akathisia is marked by an overwhelming urge to move, resulting in restlessness, pacing, or fidgeting. This condition causes severe discomfort and anxiety, making it difficult for the individual to sit still. It is most commonly induced by antipsychotics and involves disruption in dopamine regulation. Parkinsonism, or drug-induced parkinsonism, involves symptoms similar to Parkinson's disease, including slowness of movement (bradykinesia), muscle rigidity, and resting tremors, caused by reduced dopamine activity in the brain's motor centers.

These movement disorders are primarily caused by the effects of antipsychotic medications on dopamine receptors, leading to motor dysfunction. Managing EPS requires careful monitoring of patients on antipsychotic treatments, as these symptoms can significantly impact on daily activities and quality of life. Timely intervention, such as medication adjustments or adding other treatments, is essential to reduce the severity of symptoms and improve patient well-being.

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USE AND SIDE EFFECTS OF HALOPERIDOL DECANOATE.

Use: It is a first-generation, typical antipsychotic that exerts its effects by blocking dopamine D2 receptors, a mechanism associated with a higher risk of extrapyramidal symptoms (EPS), including tardive dyskinesia

Duration to be effective: Administered as Haloperidol Decanoate, its effects begin within 24-72 hours of the first injection, with a long half-life of approximately 21 days, allowing for convenient monthly dosing

Side effects: Common side effects include EPS, sedation, weight gain, hyperprolactinemia, and, with long-term use, an increased risk of tardive dyskinesia

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USE AND SIDE EFFECTS OF PALIPERIDONE PALMITATE(INVENGA SUSTENNA, INVENGA TRINZA)

Use: It functions by blocking dopamine D2 and serotonin 5-HT2A receptors, with additional antagonistic effects on alpha-1 adrenergic and histamine receptors, contributing to its antipsychotic properties

Duration to be effective: It begins to take effect within a few days after administration. Paliperidone has a prolonged half-life of 25-49 days, allowing for its monthly or quarterly dosing schedules, such as Invega Trinza

Side effects: Extrapyramidal symptoms (EPS), sedation, weight gain, metabolic changes, increased prolactin levels, and drowsiness

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USE AND SIDE EFFECTS OF ARIPIPRAZOLE

Use: Aripiprazole Lauroxil (Aristada) is an atypical antipsychotic that functions as a partial agonist at dopamine D2 and serotonin 5-HT1A receptors, and as an antagonist at serotonin 5-HT2A receptors, which helps stabilize dopamine levels in the brain by stimulating and blocking receptors in different regions

Duration to be effective: It provides steady plasma concentrations, with therapeutic effects occurring within 3-5 days and has a long half-life of 75-146 hours allowing for extended dosing intervals of 4 to 8 weeks

Side effects: Insomnia, akathisia (restlessness), nausea, and dizziness, but aripiprazole is generally associated with a lower risk of sedation and weight gain compared to other antipsychotics

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USE AND SIDE EFFECTS OF ZUCLOPENTHIXOL DECANOATE

Use: Zuclopenthixol Decanoate (Clopixol Depot) : Zuclopenthixol is a typical antipsychotic that blocks dopamine D2 receptors

Duration to be effective: The Clopixol Depot formulation has a relatively rapid onset of action, with therapeutic effects seen within 2-4 weeks, and has a half-life of 24 days, which supports its typical two-week dosing schedule.

Side effects: Common side effects include EPS, sedation, hypotension, weight gain, and, with long-term use, the risk of tardive dyskinesia

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ADMINISTRATION OF LONG -ACTING INJECTABLE.

Administering Long-Acting Injectables, LAIs: A Step-Step Guide

1. PRE-INJECTION CHECKS

1. Verify the patient's identity and medical history.
2. Check the medication name, concentration, and expiration date.
3. Confirm the correct dose and dosing schedule.
4. Review the patient's current medications and allergies.
5. Obtain informed consent from the patient.

2. PREPARE INJECTION SITE

1. Prepare the injection site by cleaning with an antiseptic.
2. Prepare the injection syringe and needle.
3. Draw the medication into the syringe.
4. Inject the medication into the muscle.
5. Dispose of the syringe and needle safely.

3. POST-INJECTION CARE

1. Monitor the patient for any adverse reactions.
2. Provide patient education on side effects and when to seek medical attention.
3. Document the injection and patient response.

WARNING: ADMINISTERING THIS DRUG WITH INTRAVENOUS ANESTHESIA OR OTHER DRUGS MAY INCREASE THE RISK OF TARDIVE DYSKINESIA.

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ADMINISTRATION OF LAIs

Preparation:

- Verify the client's identity and medication order
- Gather necessary materials (syringe, needle, alcohol swabs, gloves)

Injection Sites:

- Common sites include the deltoid (upper arm) and gluteal (buttocks) muscles.
- Rotate injection sites to prevent tissue irritation

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CONCLUSION

Long acting injectables are a valuable option for individuals with schizophrenia, offering several benefits in terms of adherence and stability. Understanding proper administration techniques and being aware of potential side effects can help improve treatment outcomes and enhance the quality of life for clients

