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Staff Education Presentation: Addressing Polypharmacy As A Risk Factor For Falls Among Older Adults With Psychiatric Disorders

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Walden University

College of Nursing

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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
2024

Executive Summary: Staff Education Project
Staff Education on Polypharmacy and Falls in Older Adults with Psychiatric
Conditions

by

Yetunde Elizabeth Adegoroye

Executive Summary Submitted in Partial Fulfilment
of the Requirements for the Degree of
Doctor of Nursing Practice

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Summary

The focus of this doctoral project was to address the practice problem of polypharmacy and its association with falls among older adults with psychiatric conditions. The existing evidence shows that polypharmacy, which is defined as the concurrent use of five or more medications, increases the risk of falls, which leads to hospitalization, higher healthcare costs, and reduced quality of life (Varghese et al., 2024). Within the practice setting, it is crucial to manage polypharmacy to enhance patient safety.

The purpose of this project was to enhance medical staff knowledge regarding effective evidence-based strategies for reducing polypharmacy, through an educational presentation. The effectiveness of this presentation was assessed using pre/post-test knowledge tests. The findings indicated significant improvements in staff knowledge, with average post-intervention scores rising from 45% to 75%, demonstrating the educational program's effectiveness in bridging knowledge gaps. Based on the evaluated literature, key recommendations involve regular medication reviews, deprescribing protocols, and ongoing staff education. This project may contribute to positive social change by educating staff and providers on strategies to address the associated risks with polypharmacy-related falls among older psychiatric adults. This project has the potential to reduce costs associated with falls, reduce complications related to polypharmacy, and promote a safer environment for psychiatric individuals and their families.

Background

This staff education project relates to polypharmacy as a risk factor for falls among older adults. Polypharmacy is the simultaneous use of five or more prescription drugs. (Varghese et al., 2024). The prevalence of polypharmacy among older adults in the United States nearly doubled over the past 2 decades (Harris, 2024). A recent analysis of cross-sectional survey data from approximately 14,900 participants revealed that over 40% of individuals aged 65 and older reported taking five or more prescription medications in the previous 30 days between 2017 and 2020 (Harris, 2024). Harris (2024) stated that older adults with mental health disorders are more likely to engage in polypharmacy than those without. The reason for the higher usage of drugs among individuals with mental health disorders is that they often have comorbid psychiatric and medical conditions. For instance, Qiu et al. (2023) showed at least 15% of older adults with anxiety disorders also have hypertension, and this comorbidity results in the use of several prescription drugs. Unfortunately, the use of multiple medications is a major risk factor for falls among older adults. The daily use of four or more prescription medications doubles the likelihood of falls in older adults (Velde et al., 2023). Similarly, Zaninotto et al. (2020) revealed that older adults engaging in polypharmacy have a 1.8 times higher rate of fall-related hospitalizations compared to those on fewer medications. This evidence supports the understanding that polypharmacy-induced falls are a global health concern for older adults, particularly those with psychiatric conditions. Zhou et al. (2022) emphasized that polypharmacy in this population increases the risk of falls due to adverse drug reactions, interactions, and sedative effects, which impair balance, mobility, and cognitive functions.

In the study site there is currently no structured education or awareness program for staff about the particular risks that polypharmacy poses for falls in older adults with mental health

conditions. Incident report analyses consistently show a pattern of falls among residents with psychiatric disorders who are taking multiple medications. While management has expressed a willingness to address this issue, there have been no concrete training initiatives or protocols put in place to reduce these risks. Therefore, I intended to address the identified practice problem, guided by the following practice question: Among older adults (65 years and above) with psychiatric conditions, what are the most effective evidence-based strategies to address polypharmacy as a risk factor for falls?

Project Objectives

The project's main objective was to improve staff knowledge regarding effective evidence-based strategies for reducing polypharmacy through an educational presentation.

Objectives under this educational project umbrella included:

- Develop a comprehensive understanding of polypharmacy and its implications.
- Recognize the harmful consequences of polypharmacy, particularly in relation to a higher risk of falls.
- Identify evidence-based approaches for addressing polypharmacy.
- Equip healthcare providers with the identified evidence-based approaches through a staff education presentation.

Evidence Summary

In a study involving 6,220 patients aged 50 and older across multiple medical facilities in England, Zaninotto et al. (2020) found that as the number of medications taken by individuals increased, so did the rate of hospital admissions due to falls. They revealed a clear pattern in which only 1.5% of falls occurred in those not taking any medications, while this number increased to 4.8% for those taking one to four medications, 8% for those experiencing

polypharmacy, and 15% for individuals with severe polypharmacy (Zaninotto et al., 2020). This demonstrates a strong link between the number of medications used and the increased risk of falls among older adults. To mitigate this, evidence-based interventions addressing polypharmacy should be prioritized. For example, conducting drug reviews based on explicit criteria is a key strategy in medication management (Velde et al., 2023). These reviews involve systematically evaluating prescriptions to identify potentially inappropriate drugs, drug interactions, or duplicates (Velde et al., 2023). This method allows healthcare providers to assess the suitability of each medication for a patient, considering their age, coexisting conditions, and possible side effects (Velde et al., 2023). Moreover, deprescribing psychotropic medications like anxiolytics and antidepressants in older adults and replacing them with psychotherapeutic approaches like cognitive behavioral therapy may reduce the risks (Lewek et al., 2021). Deprescribing has been shown to not only improve health outcomes and reduce hospitalizations but is also a safe process (Crisafulli et al., 2022). Additionally, Rankin et al. (2019) demonstrated that using tools like the Medication Appropriateness Index enhances medication suitability and reduces the use of inappropriate drugs, prescription omissions, and hospital admissions. Similarly, Rieckert et al. (2020) found that implementing computerized decision support systems during drug reviews significantly reduces the number of medications prescribed without compromising treatment outcomes.

Strength of Evidence

I drew evidence for this project from multiple high-quality, peer-reviewed studies involving large, diverse patient populations, which increases the generalizability of the findings. For instance, studies like those by Zaninotto et al. (2020) and Rieckert et al. (2020) are based on substantial sample sizes of more than 5,000 patients from various healthcare facilities, thus,

ensuring reliable results. The evidence also incorporates a variety of research methodologies, including systematic drug reviews and randomized controlled trials, which are considered gold standards in clinical research. Furthermore, the inclusion of well-established tools, such as the Medication Appropriateness Index and computerized decision support systems, highlights the practical application of the evidence. Therefore, one can summarize that these multiple layers of strengths safeguard the overall credibility of the evidence used.

Staff Education Project Development

Participants

This project was delivered in the form of a staff education project. Nine members of the medical staff voluntarily participated. Each participant was informed about the project's objectives and methods before consenting and told of their right to withdraw from the project at any stage. The participants included nurses, medical assistants, and a nurse practitioner.

Procedures

The first step in the project involved defining the scope and objectives to ensure that the goals were clear and aligned with the identified issue of polypharmacy as a risk factor for falls among older adults with psychiatric conditions. It is important to mention that this step was crucial in setting the foundation for the project and establishing specific, measurable outcomes. After clarifying the project's scope, the next step was obtaining approval from the organizational leadership, thus, ensuring that the initiative was supported at the highest levels and had the necessary resources for success. Once approval was secured, a team was assembled to support the implementation. This team comprised healthcare professionals, a representative of the organization's leadership, and a member of the facility's research and ethics committee.

Educational Material

Since this is a staff education project, I prepared content that focused on the risks associated with polypharmacy, highlighting its link to falls, as well as effective deprescribing strategies. Furthermore, the role of various healthcare professionals in medication management was also outlined, promoting an interdisciplinary approach to care. This content was prepared from the best available literature obtained from a comprehensive literature review and evidence synthesis.

Data Collection

For this project, I collected data twice. To start with, the baseline data collection phase involved administering preintervention surveys to gather important information on the existing medication management practices and staff knowledge related to polypharmacy. These surveys, which consisted of 13 questions, were designed to evaluate the staff's understanding of polypharmacy risks, current deprescribing strategies, and their roles in managing medications for older adults. Staff members were given 15 minutes to complete the surveys, hence, ensuring they had ample time to reflect on their responses. It is important to note that the data collected at this stage provided a critical starting point to measure the effectiveness of the upcoming educational intervention and track improvements in practice. Data was again collected after the education presentation.

Staff Education Presentation

The staff education phase involved delivering comprehensive training sessions to the nine participating healthcare staff members using the pre-developed educational materials. The training was presented in the form of PowerPoint slides (see Appendix A). The staff members indicated that time constraints would be the main barrier to participating in this project. Hence,

to accommodate the participants' tight schedules and ensure maximum engagement, the educational sessions were offered in two sessions and on different days to provide flexibility for staff members with demanding responsibilities. The two sessions were designed to be highly interactive, promoting discussions that reinforced the learning material and offered opportunities to address questions and concerns from the participants.

Postintervention

In the post-intervention data collection phase, surveys were administered to evaluate changes in the staff's knowledge and attitudes concerning polypharmacy after completing the educational sessions. These surveys, consisting of 13 questions, were designed to capture the effectiveness of the training in enhancing understanding of polypharmacy risks and deprescribing strategies. Staff members were given 15 minutes to complete the surveys, which measured shifts in knowledge, awareness, and practice behaviors compared to baseline data.

Data Analysis

My process of analyzing data from pre/post-intervention surveys involved several steps. To start with, the pre-intervention data was collected and reviewed to establish a baseline of participants' knowledge, attitudes, and practices before the educational presentation. This baseline data was summarized using descriptive statistics, in the form of means and percentages, using Excel, to highlight initial trends. After the educational presentation, the post-intervention tests were administered, and the results were similarly summarized. Next, a comparative analysis was conducted between the pre- and post-test responses using paired statistical tests to identify significant changes in participants' responses. The analysis concluded by interpreting these findings in the context of the project's goals to evaluate the effectiveness of the intervention and identify any potential areas for further improvement.

Results

Tables 1-3 show the results of my data collection.

Table 1

A Comparative Analysis of The Pre and Posttest Scores

Participants	Pretest Scores	Posttest Scores
A	54%	77%
B	54%	85%
C	31%	85%
D	62%	77%
E	23%	77%
F	46%	69%
G	31%	62%
H	62%	62%
I	38%	77%

Table 2

Averages

	Pre-Test	Post Test
Lowest Score	23%	62%
Average Score	45%	75%
Highest Score	62%	85%

Table 3

<i>Healthcare Providers Mean Scores Pre and Post-and p-Value</i>			
Healthcare Providers	Pretest	Posttest	p-Value
9	45%	75%	0.00089

Discussion

The results indicate a notable improvement in participants' scores from the pretest to the posttest, as shown by a *p*-value of 0.00089, thus, demonstrating the effectiveness of the intervention ($p > 0.05$). The lowest pretest score was 23%, which increased to 62% in the posttest, and this demonstrates that even participants with the least initial knowledge showed significant improvement. Furthermore, the average score rose from 45% to 75% and this shows a general enhancement in knowledge and understanding across the group. On top of that, the highest score also improved, though less dramatically, from 62% to 85%, hence, indicating that the intervention had a positive impact even on participants who initially performed well. Therefore, overall, these results suggest that educational presentation successfully increased participants' knowledge related to the topic, with a uniform improvement observed across different levels of pre-existing knowledge. However, based on an analysis of the performance of individual questions, it is clear that the participants require further education in the area of factors to consider when deprescribing antipsychotics in older adults. This is because, in both the pre- and post-intervention surveys, only one participant provided an accurate response in question 8, which related to considerations to make when deprescribing antipsychotics. Therefore, there is a need to provide tailored education to improve this area, especially considering that the evidence provided by Dong et al. (2024), shows that antipsychotic

medications like Quetiapine are the psychotropic medications with the highest risk of falls and fractures.

Recommendations Based on the Findings:

- Based on these results, I recommend continuing the educational intervention as it clearly demonstrates effectiveness in improving knowledge or attitudes among the participants. Continued education should be delivered in the form of refresher sessions that will help reinforce the learned material and maintain the knowledge gain over time. It will also be beneficial in the future to educate the participants according to roles, job descriptions, and scope of practice.
- It will be useful to tailor future sessions to address areas where participants had lower scores in the pretest and/or the posttest, thus ensuring a more targeted approach to further enhance understanding and proficiency. Furthermore, there is also a need to evaluate the long-term impact of this intervention on actual practice and patient outcomes. For instance, this evaluation should be done in the form of reviewing prescription records.

Limitations

Though this project has been established to be effective in improving the staff members' knowledge and attitudes regarding polypharmacy as a risk factor for falls, it was also characterized by several limitations. To start with, one of the main limitations is that the project involved only nine participants. According to Andrade (2020), such a small number of participants may not provide a comprehensive view of the effectiveness of the intervention across a larger population, hence, limiting the generalizability of the findings. In addition, another limitation was that the pre-and post-test scores relied on self-reported data, which might

have been influenced by participants' willingness to accurately report their knowledge or by their desire to show improvement. Likewise, yet another limitation is that immediate post-test scores do not account for the long-term retention of knowledge or the impact on actual practice, thus making it difficult to assess sustained effectiveness. Lastly, the short intervention period may have been too limited to capture more comprehensive changes in knowledge or behavior, which means that a longer duration might have provided a more accurate reflection of its impact.

Conclusion

This educational project has had a significant impact on the organization by raising awareness about the risks of polypharmacy among older adults with psychiatric conditions and providing staff with the knowledge to improve medication management practices. Going by the results discussed earlier, the educational presentation resulted in significant improvements in staff knowledge, which is expected to result in safer prescribing practices, thus, having a positive impact on the rates of falls. Going forward, further recommendations include implementing routine medication reviews, establishing deprescribing protocols, and incorporating computerized decision support systems to assist healthcare providers in making safer medication choices. Additionally, ongoing education programs for staff should be a priority to ensure that best practices in polypharmacy management are consistently applied. Through this project, I highlighted the importance of evidence-based approaches in medication management, fostering a culture of safety and continuous learning. Furthermore, from a broader perspective, this project contributes to positive social change by improving the safety outcomes of vulnerable older adults. A reduction in the rates of falls can decrease the cost burden that characterizes falls-related hospitalizations (Dykes., 2023).

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Appendix A

Staff Education Presentation: Addressing Polypharmacy As A Risk Factor For Falls Among Older Adults With Psychiatric Disorders



Name: Yetunde Elizabeth Adegoroye

Objectives

- The primary objectives of this staff education presentation are to;
 - Gain a comprehensive understanding of what polypharmacy is.
 - Identify the negative outcomes associated with polypharmacy, including increased risk of falls, adverse drug reactions, and higher healthcare costs.
 - Familiarize with evidence -based strategies for managing polypharmacy, including structured medication reviews and deprescribing protocols.
 - Understand the role and benefits of computerized decision support tools in improving medication management.

- Learn the steps and processes for implementing effective polypharmacy management within the practice setting.
- Identify common barriers to implementation and develop strategies to overcome these challenges.
- Establish methods for monitoring and evaluating the effectiveness of polypharmacy management interventions.
- Encourage teamwork and collaboration among healthcare providers to ensure a holistic and patient -centered approach to medication management.

Background

- Polypharmacy refers to the regular use of at least five medications.
- Polypharmacy is a prevalent issue among older adults in the country.
- It is estimated that between 23.5% to 44.1% of older adults in the US have multimorbidity and use more than five prescription medications regularly.

Vulnerability of Older Adults With Psychiatric Conditions

- Older adults with psychiatric comorbidities are particularly vulnerable to polypharmacy and adverse outcomes.
- The average rate of polypharmacy in the general older adult population is about 33.8% and the rate for those with psychiatric disorders is about 52%.
- The higher rate is attributed to the fact that older adults with psychiatric disorders not only use psychotropic medications but also use prescriptions for comorbid medical issues like diabetes and hypertension.

Polypharmacy as a Risk Factor for Falls

- Polypharmacy is a major risk factor for falls among older adults with psychiatric disorders.
- Polypharmacy increases the risk of falls in older adults by twice.
- A study by Zaninotto et al. (2020), shows that the rate of falls - caused hospitalizations is 1.8 higher in older adults indulging in polypharmacy compared to those taking fewer medications.
- Hence, there is enough evidence to support the fact that polypharmacy-induced falls is a global health issue among older adults with psychiatric conditions.

How Polypharmacy Contributes to Falls

- Here are the ways in which polypharmacy contributes to falls among older adults with mental health issues;
 - Multiple medications can interact negatively, leading to side effects such as dizziness, confusion, and hypotension, which increase fall risk.
 - Certain medications, especially psychotropics and sedatives, can impair cognitive function, leading to poor judgment and coordination.
 - Such medications include benzodiazepines, antipsychotics, and certain antidepressants.

Polypharmacy And The Risk Of Medication Non-compliance

- Polypharmacy is a major risk factor for medication non-compliance.
- As the number of prescribed medications increases, the complexity of the medication regimen also increases, making it challenging for patients to comply with their prescribed treatments. While the non-compliance rate is 30% for older adults taking less than 5 medications, it is about 52% for those taking 5 or more medications.
- This non-compliance results in suboptimal management of chronic conditions which increases the risk of frailty and falls.

Impact of falls among older adults

- Falls lead to;
 - Fractures that lead to long-term mobility issues.
 - Loss of mobility leads to increased reliance on caregivers or long-term care facilities.
 - Fear of falling again may lead to decreased physical activity, resulting in muscle weakness and further mobility limitations.
 - Falls lead to increased healthcare costs, including emergency room visits, hospital stays, and rehabilitation. Falls are a leading cause of injury-related deaths in older adults, particularly due to complications from hip fractures and head injuries.

Current Practice

- Physicians often prescribe separate medications for each diagnosed condition without considering the cumulative effect on the patient.
- There is often a lack of regular, systematic review of all medications a patient is taking, leading to the continuation of unnecessary or redundant prescriptions.
- Patients seeing multiple specialists may receive prescriptions from each without proper coordination among healthcare providers.

Current Practice

- Medications are sometimes prescribed to counteract the side effects of other medications, leading to a cycle of increasing prescriptions.
- Patients sometimes expect and request medications for every ailment, putting pressure on physicians to prescribe.
- There is often a reliance on medication over alternative treatments like lifestyle changes, physical therapy, or counseling.

Regular Medication Reviews

- This is one of the identified evidence -based strategies for addressing polypharmacy.
- Regular medication reviews involve systematically evaluating a patient's complete medication regimen. The aim is to identify and resolve issues such as drug interactions, duplications, and inappropriate medications.
- The recommended frequency for reviews is between 6 to 12 months.

Factors to Consider When Deprescribing a Medication

- **Patient's Overall Health Status:** Assess the patient's current health conditions, including comorbidities and life expectancy, to determine if the medication is still necessary or beneficial.
- **Current Medication List:** Review all current medications to identify those that may be unnecessary, redundant, or harmful.
- **Medication Efficacy:** Consider whether the medication is still providing the intended therapeutic benefit. Medications that are no longer effective should be prioritized for deprescribing.

- Other factors that should be considered are;
 - **Duration of Medication Use:** Assess how long the patient has been on the medication and whether it is appropriate to continue for long-term use.
 - **Risk of Withdrawal Symptoms:** Identify medications that may cause withdrawal symptoms and plan a gradual tapering process to minimize these effects.
 - **Patient Preferences and Values:** Engage the patient in discussions about their treatment goals, preferences, and concerns regarding their medications.

Stepwise Approach Of Deprescribing

- Deprescribing is best thought of as a multistage process, rather than simply the concrete action of stopping a medication.
- Multiple steps are necessary to ensure that the process is patient-centered and achieves the best possible outcomes.
 - For example, inadequate documentation and/or communication at the end of the process can result in inappropriate medications being restarted.

Phase One Deprescribing

- The first step is to engage the patient and gather relevant information.
 - Before considering which medications to start, stop, or change, it is critical to know what a patient is actually taking, if they are having problems with any of their medications, and how medication use fits into the larger picture of their health status, goals, and preferences.

Phase One Deprescribing cont.

- After gathering the relevant information, concerning the patient, one should then compile a list of all the medications, including over-the-counter medications and supplements. Include the following information:
 - Dose and frequency of each medication
 - Duration of use
 - Indication
 - Patient's experience of each medication (i.e., are they effective, difficult to take, or do they cause any adverse effects?)
 - Compliance

PHASE 2

- After compiling the relevant information concerning the prescriptions, one should then;
 - Review patient goals of care, preferences, and values.
 - Consider the patient's overall tendency to drug-induced harms, for example, frailty, cognitive impairment, or other geriatric syndromes such as falls.
 - Engage the patient (and caregivers/family where appropriate) in a discussion of the deprescribing process.
 - Connect with other health care professionals who may need to be consulted or could assist with the process.

PHASE 2 cont.

- The following medications should be prioritized for deprescribing ;
 - Have no valid or current indication (e.g, the condition has resolved, or the indication doesn't require long -term treatment).
 - Are causing or contributing to a known or suspected adverse drug reaction, including geriatric syndromes which may be unrecognized adverse drug reactions.
 - Were started as a result of a prescribing cascade, a situation in which one medication is started to treat a side effect of another medication.

PHASE 2 cont.

- Other medications that should be prioritized for deprescribing are ;
 - Anticholinergics in older adults or medications that can contribute to a risk that would be more worrisome (e.g. drugs that may increase the risk of falls in someone with osteoporosis).
 - Are ineffective.
 - Are used for a preventative indication in a patient with a life -limiting illness (e.g. bisphosphonates in people near the end of life).

Phase Three

- This final step will involve planning, implementation, monitoring, and follow -up.
- The following schedule should be followed;
 - Prioritize drugs for discontinuation and plan the order of discontinuation. Medications that are causing (or have a high risk of causing) harm, and those that are of greatest concern to the patient, should be stopped first.
 - Stopping one drug at a time is usually recommended.

DEPRESCRIBING SPECIFIC MEDICATIONS

Antipsychotics For Behavioral And Psychological Symptoms Of Dementia Or For Insomnia

- Antipsychotics confer an increased risk of mortality in older adults with dementia, trials of discontinuation are warranted.
- This should be done among patients whose behavioral and psychological symptoms have stabilized or who did not improve on antipsychotic therapy.
- Schedule;
 - Reduce the dose by 25 percent, then 50 percent, then 75 percent every one to two weeks, then stop.

Antipsychotics For Behavioral And Psychological Symptoms Of Dementia Or For Insomnia cont.

- There should be close monitoring and regular follow-up for potential adverse drug withdrawal events such as worsening psychosis, aggression, or hallucinations.
- Behavioral and environmental strategies for symptom control, the mainstay of treatment, should be continued throughout.
- Relapse of symptoms may be managed by nonpharmacologic means or restarting drug therapy at the lowest possible dose with regular review and consideration for a retrial of deprescribing.

Antidepressants

- Withdrawal symptoms from antidepressant discontinuation are common and include insomnia, increased anxiety, and flu-like symptoms.
- Although withdrawal symptoms often resolve within one to two weeks, they can persist for weeks to months.
 - Care should be taken to distinguish between withdrawal symptoms and relapse of the underlying condition the antidepressants were used to treat.
- The incidence of withdrawal symptoms can be reduced by tapering doses gradually over a period of weeks.

Use of Psychotherapeutic Interventions

- The use of psychotherapeutic interventions is one strategy to address polypharmacy.
- The existing evidence shows that psychotherapeutic interventions are as effective as medications in treating patients with less severe symptoms of mental health issues like depression and anxiety.
- For instance, psychiatric practitioners are encouraged to incorporate mindfulness practices to manage stress and anxiety.
- Therefore, by providing effective non-drug treatments, psychotherapy reduces the dependence on medications.

Computerized Decision Support Systems (CDSS)

- CDSS are advanced technological tools designed to aid healthcare providers in making informed decisions about patient care.
- They are particularly effective in managing complex medication regimens among older adults.
 - There is a need for integration with Electronic Health Records (EHR) for comprehensive patient data access.
 - This will provide alerts for potential drug interactions, allergies, and contraindications.

Computerized Decision Support Systems (CDSS) cont.

- Other utilizations of CDSS in medication management;
 - Recommendations for dosage adjustments and alternative therapies.
 - Streamlines the medication review process, saving time for healthcare providers.
 - Provides guidelines and protocols based on the latest clinical evidence.
 - Identifies unnecessary duplications in medication regimens.
 - Suggest optimal dosages based on patient -specific factors.
 - Identifies potentially inappropriate medications and suggests alternatives or discontinuation.

Communication and Coordination Among Healthcare Providers

- Effective communication and coordination among healthcare providers are crucial in managing polypharmacy and ensuring patient safety.
- Clear communication prevents drug interactions, duplications, and incorrect dosages.
- It also ensures that all providers are informed about the patient's complete medication regimen and health status.

Common Barriers

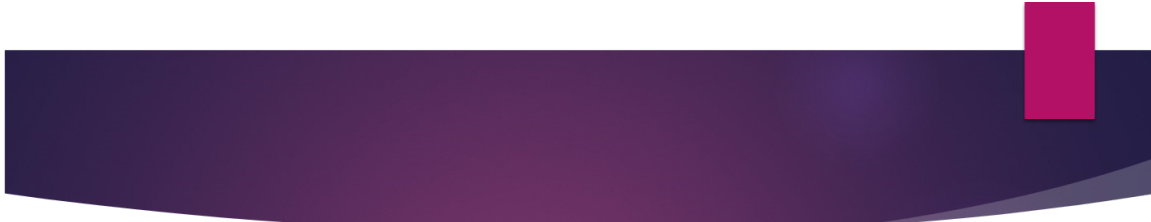
- Care shared among multiple providers: When medications are prescribed or recommended by another clinician such as a specialist, primary care clinicians often feel like it is not their role to manage the medications or may not wish to make changes due to professional hierarchies.
- Additionally, they may be concerned about damaging the patient's relationship with this other professional by providing contradictory advice.
- However, it is helpful to not assume that specialists are resistant to deprescribing, and to communicate clearly.

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Appendix B

Pretest / Post-test.

Purpose: This test aims to assess your current knowledge, attitudes, and practices related to polypharmacy management among older adults with psychiatric disorders.

Instructions: Please answer the following questions honestly. Your responses will be kept confidential and will only be used for the purpose of this educational initiative.

Multiple-Choice Questions

1. Which pharmacokinetic mechanism is primarily involved in the drug interaction between warfarin and certain Selective serotonin reuptake inhibitors (SSRIs)?
 - A) Absorption
 - B) Distribution
 - C) Metabolism
 - D) Excretion

2. When initiating a deprescribing process, which clinical tool is most appropriate to evaluate the overall medication burden and identify potentially inappropriate medications?
 - A) Mini-Mental State Examination (MMSE)
 - B) Beers Criteria
 - C) Montreal Cognitive Assessment (MoCA)
 - D) Geriatric Depression Scale (GDS)

3. Which of the following medication classes is most associated with increased fall risk due to its pharmacodynamic properties in older adults?
 - A) Beta-blockers
 - B) Anticholinergics
 - C) Statins
 - D) Antihistamines

4. Which ethical principle is most directly challenged when considering deprescribing a potentially life-sustaining medication in an older adult with diminished decision-making capacity?
 - A) Autonomy
 - B) Beneficence
 - C) Nonmaleficence
 - D) Justice

5. In managing a 75-year-old patient with multiple comorbidities including dementia, diabetes, and hypertension, which approach is best to minimize polypharmacy and adverse drug reactions?
 - A) Single-disease management approach

- B) Comprehensive geriatric assessment
 - C) Disease-specific clinical guidelines
 - D) Polypharmacy is unavoidable in such cases
6. Which of the following monitoring strategies is most appropriate for detecting early signs of adverse drug reactions in older adults with polypharmacy?
- A) Annual medication review
 - B) Symptom-triggered review
 - C) Regular comprehensive medication review (e.g., every 3-6 months)
 - D) Monitoring only when new symptoms arise
7. Which non-pharmacological intervention has been shown to be most effective in reducing falls among older adults with psychiatric disorders?
- A) Cognitive Behavioral Therapy (CBT)
 - B) Physical exercise programs
 - C) Art therapy
 - D) Social skills training
8. When considering deprescribing antipsychotics in older adults, which clinical factor is the most important to assess?
- A) Duration of antipsychotic use
 - B) Severity of psychiatric symptoms
 - C) Patient's age
 - D) Cost of medication
9. Studies have shown that polypharmacy in older adults is associated with:
- A) Decreased hospitalization rates
 - B) Increased hospitalization rates
 - C) No change in hospitalization rates
 - D) Decreased healthcare costs
10. Which of the following medication classes is least likely to be associated with an increased risk of falls in older adults?
- A) Benzodiazepines
 - B) Opioids
 - C) Antipsychotics
 - D) Selective serotonin reuptake inhibitors (SSRIs)
11. Which medication class requires the most careful management of withdrawal symptoms during deprescribing in older adults?
- A) Serotonin and norepinephrine reuptake inhibitors (SNRIs).
 - B) Stimulants

- C) Benzodiazepines
- D) Selective serotonin reuptake inhibitors (SSRIs).

12. Which component is not typically included in a comprehensive geriatric assessment?

- A) Functional status evaluation
- B) Nutritional assessment
- C) Genetic testing
- D) Cognitive evaluation

13. Which pharmacokinetic change is commonly seen with aging and can affect drug therapy in older adults?

- A) Increased renal clearance
- B) Decreased body fat
- C) Decreased hepatic metabolism
- D) Increased gastric motility.