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The Association Between Antipsychotic Medication and Weight Gain

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Abstract

- Antipsychotic medications are utilized for patients with many mental health problems including schizophrenia, attention deficit hyperactivity disorder, autism, bipolar mania, and psychotic depression. The antipsychotic medications treat the symptoms associated with these mental health disorders.
- Antipsychotic medications, while being efficacious to these symptoms, can have unwanted side effects, including weight gain. The purpose of this study was to determine if there is a strong relationship with antipsychotic medication use and weight gain.
- The review of literature was conducted with an online search of Cochrane, PubMed, and PsycInfo for journal articles, research studies, and other scholarly reviews. Articles included in the search described the proposed mechanisms of how antipsychotic medications can result in weight gain.
- The literature review indicated antipsychotics contribute to increased weight gain with second generation antipsychotic medication use resulting in more weight gain than the use of first generation antipsychotic medications.

Introduction

- There are different types of antipsychotic medications including first and second generation antipsychotics. The first generation antipsychotics have been prescribed for mental health problems since the 1950s. The second generation antipsychotics, also known as atypical antipsychotics, are relatively newer medications with their development in the 1980s
- According to the IMS Health Vector One National database, there were over 6.8 million antipsychotic medications prescribed in the United States in 2014.
- This increase of individuals accessing mental health treatment, combined with the shortage of mental health professionals, means that primary care providers will likely take on the responsibility of managing a patient’s mental health medications.

Statement of the Problem

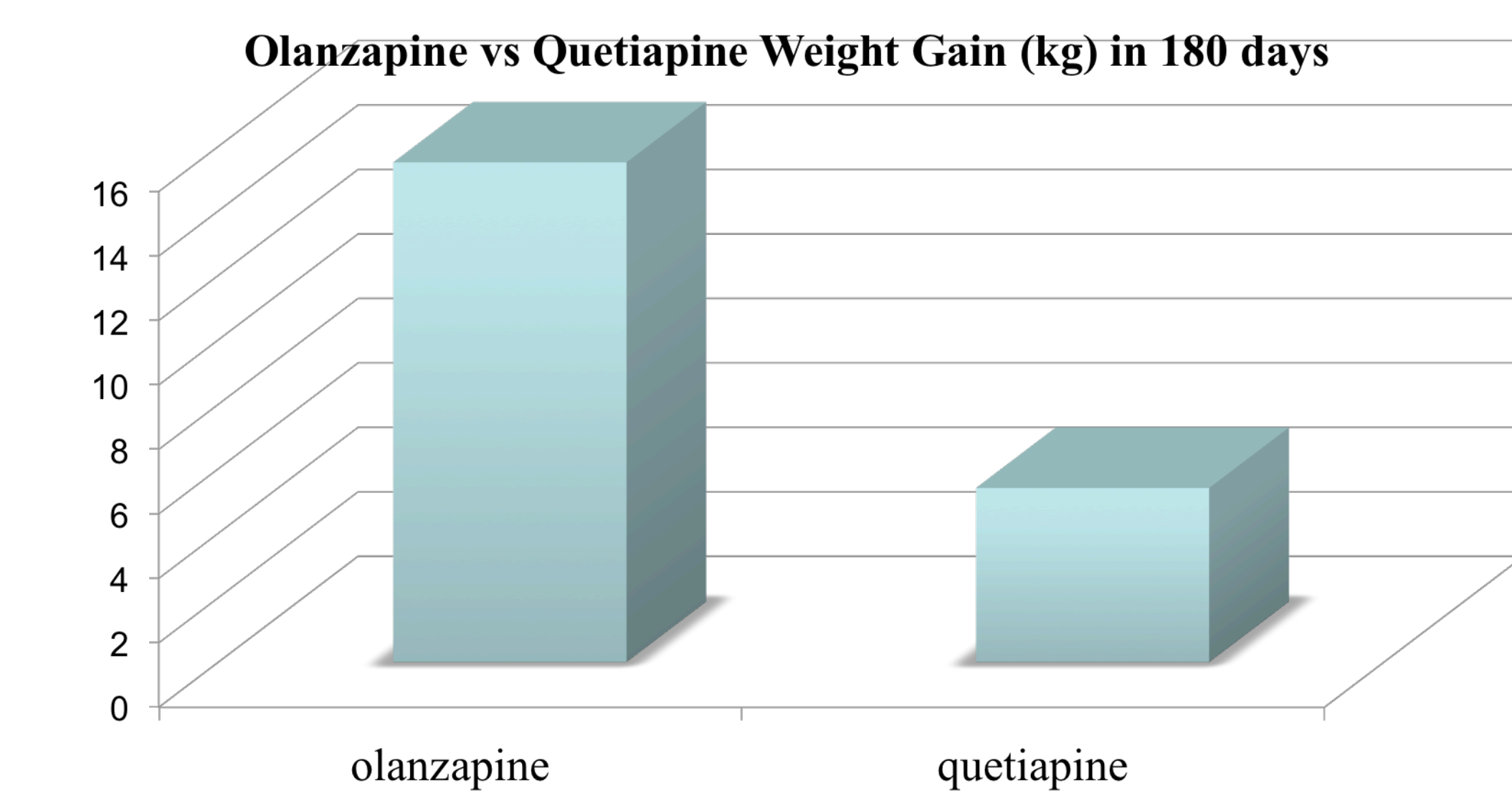
- In primary care, many patients will have mental health problems. Primary care providers might not prescribe certain antipsychotics, but they need to oversee the comprehensive health of the patients on these medications, including the patients’ mental health. However, due to a shortage of mental health professionals, many primary health care providers also need to supervise the antipsychotic medications.
- If antipsychotic medications cause weight gain, it can result in non-compliance or increased risk of other comorbidities that medical health professionals will need to manage as the primary care providers.

Research Questions

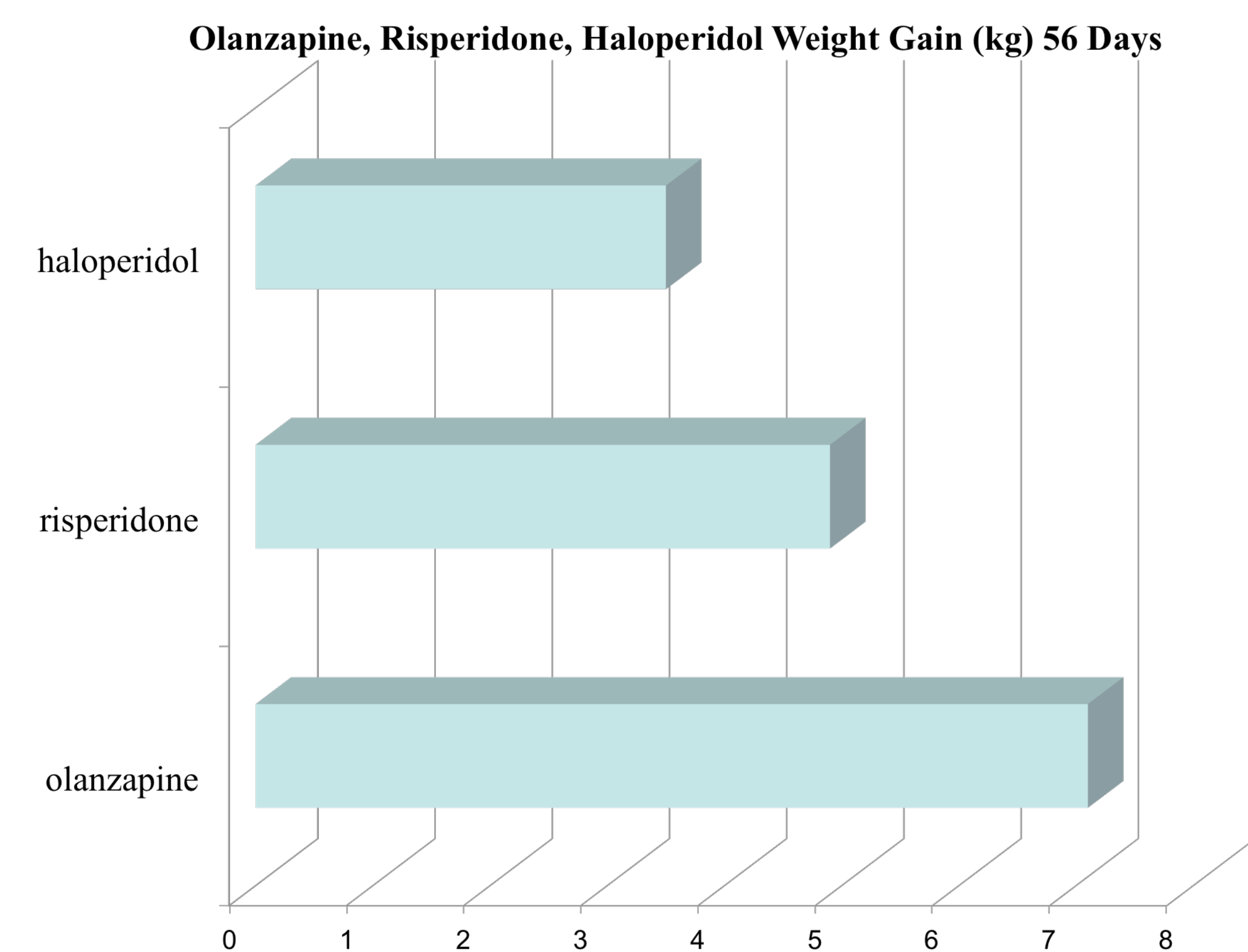
- In treating patients with mental health disorders, is there an association between the use of antipsychotic medications and weight gain?
- In mental health patients prescribed antipsychotics, what are the proposed mechanisms of antipsychotic induced weight gain?
- This scholarly project focused on the association between weight gain and the use of antipsychotic medications. Additionally, the project used research to investigate mechanisms by which antipsychotic medication use can lead to weight gain.

Literature Review

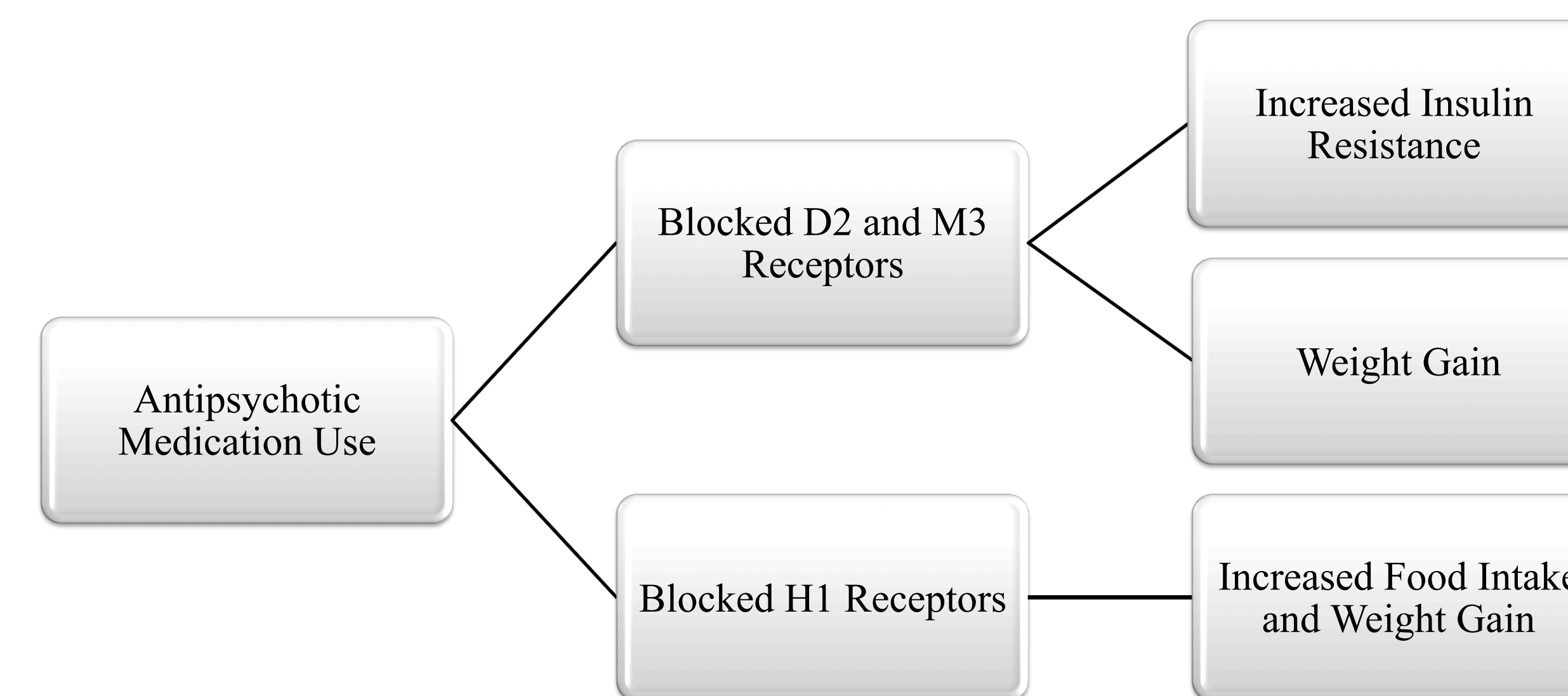
- Arrango et al. (2009) conducted a clinical trial, which compared two second generation antipsychotic medications, olanzapine and quetiapine, for their side effects and efficacy over a 180-day period. The olanzapine group gained more weight at 15.5 kg ($p < 0.001$), than the quetiapine group at 5.4 kg ($p = 0.004$).



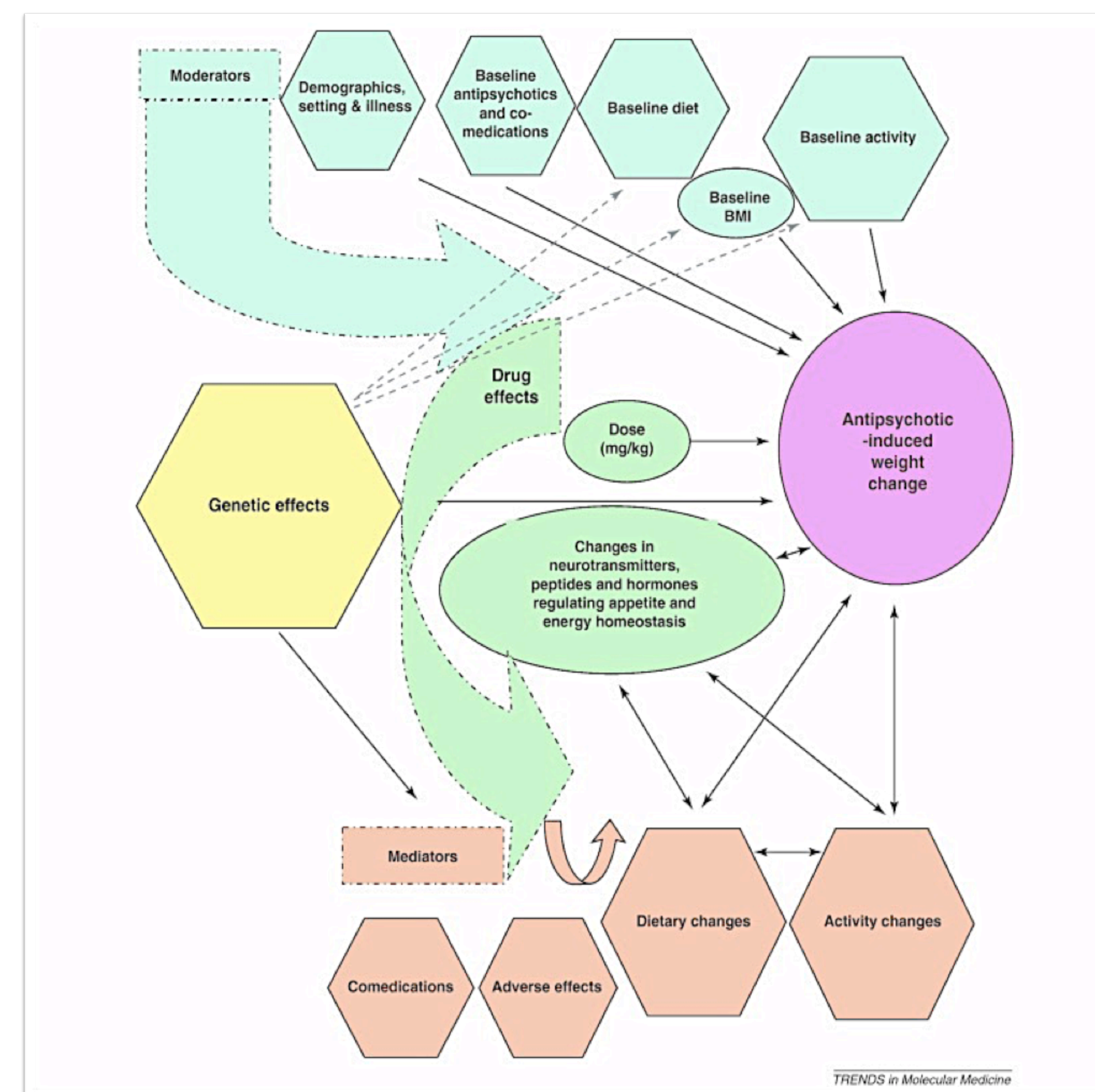
- Martinez-Ortega et al. (2013) demonstrated that the second generation antipsychotics were associated with more weight gain than the first generation antipsychotics. One of the studies analyzed showed a significantly higher ($p < 0.05$) mean weight gain for olanzapine compared to risperidone and haloperidol.



Discussion



- Scigliano and Ronchetti (2013) found that antipsychotic medications were linked to an increase in insulin resistance. Insulin resistance is a contributing factor to weight gain. The authors proposed this mechanism works by increasing sympathetic tone with the blocking of dopamine D2 receptors. Blocking the muscarinic M3 receptors inhibits parasympathetic activity as well. The combination of increased sympathetic tone and decreased parasympathetic activity on the pancreatic islets can increase insulin resistance
- Tek, Ratliff, Reutenauer, Ganguli, and O’malley (2014) described on how antipsychotic induced weight gain is due to the blocking of dopamine D2 receptors. These receptors are involved in the food reward system. When the receptors are blocked, there can be an increase in overeating, resulting in weight gain.
- Volpato, Zugno, and Quevedo (2013) proposed histamine H1 receptors regulate appetite. Antipsychotic medications block histamine H1 receptors, leading to increased food consumption and weight gain.



Applicability to Clinical Practice

- The increase of individuals accessing mental health treatment, combined with the shortage of mental health professionals, means that primary care providers will likely take on the responsibility of managing a patient’s mental health medications.
- Due to this increased prescribing responsibility, primary care providers need to be aware of the antipsychotic medications and the side effects to provide effective mental and physical health plans. There is a strong likelihood of non-compliance and discontinuation of antipsychotic medications due to the increase in weight gain.
- Health care providers need to encourage a healthy diet and exercise for their patients, especially those on antipsychotic medications. Regular exercise could help reduce with weight gain associated with the antipsychotic medication.
- The weight of each patient should be monitored and recorded every visit. This weight monitoring can show results of how well patients are adhering to their diet and exercise plans.
- Outside contributing factors such as lack of access to transportation, inadequate healthy food choices, and financial limitations can affect the patients’ ability to adhere to their treatment plans. The cost of healthy food choices can result in worse eating habits, adding to the weight gain side effects of antipsychotic medications. Prescribing the appropriate generic medications can help reduce the financial burden of patients.

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