Medication Analysis: Schizophrenia

Introduction

In mental health, social workers serve on an interdisciplinary team of professionals that aim to meet the needs and goals of clients. When collaborating with other professionals and intervening with clients, social workers must be familiar with clients and the treatment modalities being implemented with them. This, importantly, includes psychopharmacology or medications, as they are widely used for treatment of mental health disorders. Having knowledge on clients and medications, will allow social workers to monitor the benefits and challenges of the intervention, as well, as advocate for the client's health and best interest. With any medication, there are benefits, challenges, and side effects. These aspects may impact a client's desire to comply with medication and therefore, social worker's must thoughtfully and strategically implement techniques to promote medication compliance. This medication analysis will focus on literature discussing Schizophrenia and commonly utilized antipsychotics used to treat the disorder. Additionally, this medication analysis will call attention to factors facilitating non-compliance and strategies to promote medication compliance.

Diagnosis

Schizophrenia is a complex, serious mental health disorder that is recognized by the DSM-5 and presents with a range of issues in areas such as cognitive, behavioral, and emotional functioning. There are two categories of symptoms of Schizophrenia which include positive symptoms and negative symptoms. Positive symptoms are typically apparent, making them easy to detect (Dziegielewski & Jacinto, 2016). These symptoms involve the alteration of perception and the loss of reality. For example, symptoms of hallucinations, delusions, or unusual thoughts

may be present. Types of hallucinations entail auditory, visual, olfactory, gustatory, and tactile (Casarella, 2020). This means clients may hear, see, smell, or feel things no one else does. Types of delusions consist of persecutory, referential**,** somatic, erotomanic, religious, and grandiose (Casarella, 2020). These types of delusions include beliefs that may seem odd to others. Clients may often display excitement, grandiosity, or hostility. Other positive symptoms include difficulty processing information and trouble focusing or paying attention. Negative symptoms are harder to detect but are often more common than positive symptoms (Dziegielewski & Jacinto, 2016). These symptoms include but are not limited to decreased motivation, lack of goal directed behavior, inability to feel pleasure in everyday life, emotional withdraw, social withdraw, and inability to express emotions through facial movement or tone of voice (Dziegielewski & Jacinto, 2016). The time of onset is different for males and females. Males are typically diagnosed within their late adolescents to early twenties, while females are typically diagnosed between their early twenties to early thirties. While Schizophrenia is not as common as other mental health disorders, according to the World Health Organization (2019), it affects 20 million people worldwide. There are several interventions to help reduce symptoms and enhance the quality of life for clients that are diagnosed with Schizophrenia. A multifaceted approach is recommended and may include a combination of medication, therapy, support, and other resources.

Medications

Using a multifaceted approach, medications can play a large role when treating clients with psychotic disorders, such as Schizophrenia. In fact, Tiihonen (2016) concluded that antipsychotic medications are highly effective in reducing the symptoms associated with Schizophrenia. There are a wide variety of medications that are utilized to intervene with this

disorder and have been used as early as the 1950s (Dziegielewski & Jacinto, 2016). When treating Schizophrenia, antipsychotic medications can be used to target symptoms associated with the disorder when used in compliance. Understanding each medication and its benefits, challenges, and side effects is important while promoting medication compliance in clients.

Antipsychotic medications can be categorized in two areas including typical (first generation) and atypical (second generation). Typical antipsychotics are dopamine inhibitors, which means they block certain dopamine receptors and other neurotransmitters such as histamine and norepinephrine in the brain (Dziegielewski & Jacinto, 2016). Medications that fit in this category often facilitate extrapyramidal symptoms also known as movement disorders. Atypical medications originated in the 1990s and are often used as a first choice of method when referring to antipsychotic medication (Dziegielewski & Jacinto, 2016). Atypical antipsychotic medications work by blocking serotonin receptors in the brain (Ananth et. al. 2001). Medications that fit in this category have a decreased risk of facilitating extrapyramidal symptoms. Three, specific antipsychotic medications used for Schizophrenia include Chlorpromazine, Risperdal, and Clozapine.

Chlorpromazine or Thorazine (brand name) is categorized as a typical or first-generation medication, created in 1951 as the first medication of its kind (Ban, 2007). This medication is typically used to treat Schizophrenia, but it can also be utilized in treating nausea and vomiting, anxiety associated with surgery, chronic hiccups, acute intermittent porphyria, and tetanus (University of Michigan, 2020). In children, Chlorpromazine may be used to treat those ages 1 to 12 years of age that experience severe behavioral problems or hyperactivity (University of Michigan., 2020). This medication is typically administered by injection; however, it may also be taken as an oral tablet. According to the National Center for Biotechnology Information

(2021), to treat symptoms associated with Schizophrenia this medication works by reducing dopamine in the brain. Specifically, by blocking postsynaptic dopamine receptors in the cortical and limbic parts of the brain (National Center for Biotechnology Information, 2021). There are many benefits associated with the use of Chlorpromazine such as helping clients think more clearly and reduces feelings of nervousness, which enhances the ability to participate in everyday life. It is also known to reduce aggressive behavior and the desire to self-harm or harm others. Lastly, Chlorpromazine decreases hallucinations. Being classified as a typical antipsychotic medication, Chlorpromazine has the possibility to create a long list of side effects including those classified as extrapyramidal symptoms. Extrapyramidal symptoms refer to symptoms that affect the motor system such as dystonia, akathisia, tardive dyskinesia, and neuroleptic malignant syndrome. Other side effects of Chlorpromazine include high sedation, dizziness, feeling unsteady, difficulty balancing, blank facial expression, restlessness, agitation, nervousness, difficulty sleeping, increased appetite, weight gain, breast milk production, breast enlargement, missed menstrual periods, decreased sexual ability, changes in skin color, dry mouth, stuffed nose, difficulty urinating, confusion, seizures, blisters, rash, hives, itching, swelling, vision loss, and etcetera (The American Society of Health-System Pharmacists, 2021). When utilizing this medication to intervene with clients, it is critical to monitor side effects and the medications effectiveness.

Another medication commonly used to treat Schizophrenia is Risperidone or Risperdal (brand name), which was the first atypical antipsychotic medication created in 1992 (Dziegielewski & Jacinto, 2016). Risperidone is administered once or twice a day, orally by tablet or liquid. It may also be injected once every two weeks, if appropriate. This medication is effective in decreasing positive and negative symptoms by antagonizing serotonin receptors and

competing with dopamine at the limbic dopamine D2 receptor (National Center for Biotechnology Information, 2021). Risperidone is beneficial as it improves mood, the ability to think, and the ability to participate in everyday life. This makes the medication effective in additionally treating manic or mixed episodes of bipolar disorder and irritability commonly associated with autistic disorders (National Alliance on Mental Illness, 2020). Being classified as an atypical antipsychotic, the medication appears to have lower extrapyramidal symptoms and side effects than those in the typical classification. Risperidone may have side effects that include the following: nausea, vomiting, diarrhea, constipation, heartburn, dry mouth, increased saliva, increased appetite, weight gain, stomach pain, anxiety, agitation, restlessness, dreaming more than usual, difficulty falling asleep or staying asleep, breast enlargement or discharge, late or missed menstrual periods, decreased sexual ability, vision problems, muscle or joint pain, dry or discolored skin, difficulty urinating, dizziness, feeling unsteady, or trouble balancing. Clients should also be aware and report side effects that consist of fever, muscle stiffness, falling, confusion, fast or irregular pulse, sweating, unusual movements and uncontrollable movements, faintness, seizures, slow movements or shuffling walk, rash, hives, itching, difficulty breathing or swallowing, and painful erection of the penis that lasts for hours (National Center for Biotechnology Information, 2021). As with other medications, it is important to monitor any strengths and challenges experienced.

Clozapine or Clozaril (brand name) is often used to effectively decrease positive and negative symptoms experiences with Schizophrenia. This medication was originally created in 1957 and can be considered both typical and an atypical medication (Dziegielewski & Jacinto, 2016). According to Patel (2014), this is the most effective medication in controlling symptoms of Schizophrenia. This medication can also be used in treating schizoaffective disorder,

according to the National Alliance on Mental Illness (2020). Clozapine is typically administered once or twice a day, orally by a dissolvable tablet or liquid. Less frequently, the medication can be administered by injection. Clozapine works by blocking neurotransmitter receptors in the brain such as dopamine, serotonin, norepinephrine, acetylcholine, and histamine receptors. Because of this, benefits include improved mood, ability to think, and participate in everyday life. Clozapine requires strict monitoring due to potential issues experiences during its use. For example, studies show that Clozapine may facilitate Clozapine-induced agranulocytosis, causing a decrease in white blood cells (Dziegielewski & Jacinto, 2016). The decrease in while blood cells make it difficult for the body to fight infections, leading to life-threatening effects. Because of this, Clozapine is to be administered once a week and requires the client to have a blood count every week. Agranulocytosis affects approximately 1-2% of clients utilizing the medication (Rajagopal, 2005). The more common side effects related to the use of Clozapine include the following: blurred vision, confusion, constipation, dizziness, faintness, fainting, irregular heartbeat or pulse, fever, nausea, shakiness, sleepiness or unusual drowsiness, sweating, trembling, shaking, unusual tiredness or weakness, and vomiting (Mayo Foundation for Medical Education and Research, 2021). As mentioned, with close monitoring, Clozapine is a highly effective medication for Schizophrenia.

Interference with Compliance

To receive the full benefits of antipsychotics or any medication, medication compliance must occur. This means that a client must follow the recommendations of the prescribing physician and multidisciplinary team. Medication compliance is not only important to receive maximum efficacy, but it is also important in reducing relapse, hospital admission and having persistent symptoms associated with Schizophrenia. Many factors must be considered when

discussing medication compliance, especially with antipsychotic medications. Factors that may cause an interference with medication compliance includes side effects, accessibility, cost, dosage, and administration.

Side effects associated with medications, specifically antipsychotic medications, may deter clients from complying with appropriate use. Antipsychotics are accompanied by a wide range of side effects, some being extremely unpleasant. Some common side effects that may interfere with compliance includes decreased sexual ability, extrapyramidal symptoms, shorter life expectancy, and even life-threatening symptoms. Any of these side effects or ones mentioned above, can decrease a client's daily functioning and quality of life.

Accessibility and cost of medication is another consideration when discussing medication compliance. Clients must have the capacity to locate pharmacies, understand circumstances surrounding refills, and etcetera. The cost of the medication is dependent on the dosage, duration of treatment, and insurance (Zhu, et. al., 2008). If the client is unable to afford the medication or does not have insurance for the medication, medication compliance will be affected. Other factors that contribute to the interference of medication compliance includes dosage and administration. Clients may not agree to a dosage or administration technique due to past issues or fear. Another consideration is that the client may not understand the medication instructions or may be forgetful in taking medications. All off these barriers may be addressed through various strategies.

Strategies for Compliance

To promote compliance, social workers can educate, support, and promote autonomy with clients. Providing psychoeducation is an important strategy to promote medication

compliance. Researching and becoming aware of the medication, instructions, administration, duration, dosage, benefits, and side effects will help clients determine if the intervention is right for them. Additionally, this provides the client with the ability to outweigh the benefits and challenges of the medication. Next, social workers can be supportive and encourage clients. Dealing with the side effects and challenges of a medication can be difficult. Providing clients with support and encouragement can help them understand that the challenges may be temporary, and that relief will come. Providing support and encouragement may include exhibiting empathy, universality, and connecting the client to resources. This may be further demonstrated by giving clients tips on taking medications such as keeping a medication log, using a daily/weekly medication container, or using timer pill bottle caps (Center for Drug Evaluation and Research, 2016). Another strategy to promote compliance is to exercise client autonomy. Overall, clients are their own experts. They know themselves better than anyone and know what is feasible. Clients have the ability to make their own decisions, even with medications. This demonstrates the importance of psychoeducation and providing the client with all of the needed information to make an informed decision. Utilizing all of these strategies has the ability to increase medication compliance in clients, especially those taking antipsychotic medications.

Conclusion

Through this medication analysis, it is apparent that having knowledge on psychopharmacology is critical to social work professionals and the clients served by the professionals. With a multifaceted approach, clients with mental health disorders are likely to utilize medications to decrease presenting symptoms. Medications can have strengths and limitations. Because of this, social workers must be familiar of medications, dosage routines,

side-effects, and the potential for non-compliance. When working with clients, it is the duty of social workers to educate, support, and promote autonomy. These duties can be used as strategies to promote medication compliance. Social workers have the ability to make positive impacts on clients suffering from mental health disorders such as Schizophrenia and the client's overall success.

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