**Colleague Gregory R response to week 8 discussion post**

Medication for the treatment of psychological disorders is a commonly practiced modality in many regions of the world. Pharmacological drugs can help stabilize individuals, reduce symptoms, and produce more favorable outcomes. Theories of psychiatric disorders propound neurochemical irregularities as a contributing factor that can be mitigated by specific medications. For example, (a) fluoxetine blocking the reuptake of serotonin into presynaptic serotonin neurons in individuals with depression; (b) lithium's manifold mechanisms of action on proteins and neurotransmitters in afflicted bipolar populations; (c) methylphenidate blocking dopamine and subsequently increasing levels in the striatum of ADHD-diagnosed individuals (Kodama et al., 2017; Won & Kim, 2017; Sohel et al., 2020).

Ethical concerns of these medications include age, side effects, and negative outcomes associated with long-term usage. Contention exists around medication management, especially in younger populations such as starting a child on ADHD medication at an early age. The process of medication management can also be disconcerting for many people. Although a medical provider evaluates the individual and prescribes the most felicitous medication based on their medical and mental health assessments, severely adverse side effects can occur, and close monitoring is difficult to adhere to at all times. Physical decompensation is more likely to occur in individuals who administer psychotropic medications for extended periods of time. For example, long-term lithium use increases the likelihood of renal and urinary issues, and prolonged antipsychotic regimens have a myriad of concomitant health issues  (Albert et al., 2014; Correll et al., 2018).

However, studies have revealed irrefutable proof of medication's amelioration in individuals with ADHD, bipolar, depression, and schizophrenia (Tighe et al., 2011; Shaw et al., 2012; Correll et al., 2017). Additionally, the advancement in technology, research methods, and medicine progresses medication therapy. An indication of this is biomarker studies to predict responses to certain medications. Also, more conclusive scans such as SPECT scan to discern specific brain structures and neural pathways. Thus, individualized risk-benefit analyses should be conducted for each case. But in most cases, the benefits outweigh the risks. Future challenges include stigmatization, resistance to medication management especially with newly pioneered medications, and accessibility of advanced technologies in public health care settings.

References

Albert, U., De Cori, D., Blengino, G., Bogetto F., & Maina, G. (2014). Lithium treatment and potential long-term side effects: a systematic review of the literature. Riv Psychiatry, 49(1), 12-21. doi: 10.1708/1407.15620. PMID: 24572579.

Correll, C. U., Rubio, J. M., & Kane, J. M. (2018). What is the risk-benefit ratio of long-term antipsychotic treatment in people with schizophrenia?. *World Psychiatry: Official Journal of the World Psychiatric Association (WPA)*, *17*(2), 149–160. [https://doi.org/10.1002/wps.20516 (Links to an external site.)](https://doi.org/10.1002/wps.20516)

Kodama, T., Kojima, T., Honda, Y., Hosokawa, T., Tsutsui, K., & Watanabe, M. (2017). Oral administration of methylphenidate (Ritalin) affects dopamine release differentially between the prefrontal cortex and striatum: A microdialysis study in the monkey. Journal of Neuroscience, 37(9), 2387-2394. doi: 10.1523/jneurosci.2155-16.2017

Shaw, M., Hodgkins, P., Caci, H., Young, S., Kahle, J., Woods, A. G., & Arnold, L. E. (2012). A systematic review and analysis of long-term outcomes in attention deficit hyperactivity disorder: effects of treatment and non-treatment. *BMC Medicine*, *10*, 99. [https://doi.org/10.1186/1741-7015-10-99 (Links to an external site.)](https://doi.org/10.1186/1741-7015-10-99)

Sohel A.J., Shutter M.C., & Molla, M. Fluoxetine. [Updated 2020 Jun 27]. In: StatPearls [Internet]. Treasure Island, FL: StatPearls Publishing. Available from: [https://www.ncbi.nlm.nih.gov/books/NBK459223/ (Links to an external site.)](https://www.ncbi.nlm.nih.gov/books/NBK459223/)

Tighe, S. K., Mahon, P. B., & Potash, J. B. (2011). Predictors of lithium response in bipolar disorder. *Therapeutic advances in chronic disease*, *2*(3), 209–226. [https://doi.org/10.1177/2040622311399173 (Links to an external site.)](https://doi.org/10.1177/2040622311399173)

Won, E., & Kim, Y. K. (2017). An oldie but goodie: Lithium in the treatment of bipolar disorder through neuroprotective and neurotrophic mechanisms. International journal of molecular sciences, 18(12), 2679. <https://doi.org/10.3390/ijms18122679>