A Call for Research on the Development of MDD with Psychotic Features

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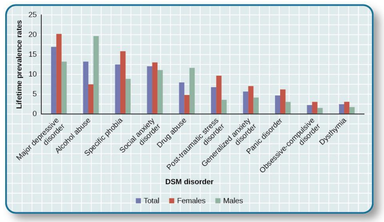
Part 1: Background



Intro and Occurrence Stats

In recent years, Major Depressive Disorder (MDD) is becoming more normalized considering medication for it appears in commercials and other media on a regular basis. Psychotic symptoms, an often-misunderstood specifier for this disorder, are occurring more frequently while being discussed less often[1]. However, MDD continues to affect:

- more than 8% of young adults 18 to 22
- just under 7% of the United States general population
- 20% of those affected eventually develop psychotic symptoms

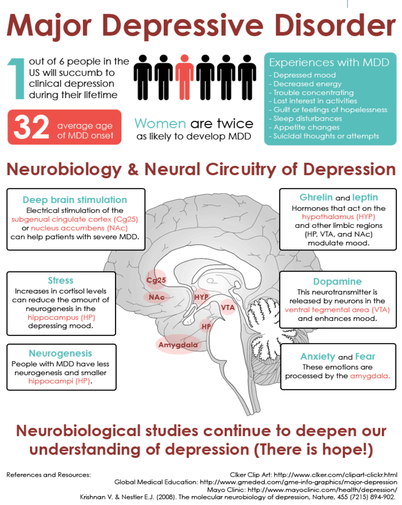
According to the DSM 5, a psychotic disorder/symptom is a thought disorder in which a person will experience “gross deficits in reality testing”, usually involving hallucinations, delusions, disorganized speech, and perhaps disorganized/catatonic movements[2]. While at first it seems that there is a clear division between MDD and such deficits, research shows psychotic comorbidity is not only revealed to be quite common, but also shown to be a significantly pertinent factor to the causes of MDD[3]. This confirms that “psychopathology is represented by a network of overlapping and reciprocally impacting dimensional liabilities”.

Current Research/Methods of Treatment

How can MDD develop psychotic features? Some answers have be found in genetics[4], neurochemicals[5], and childhood trauma[6].

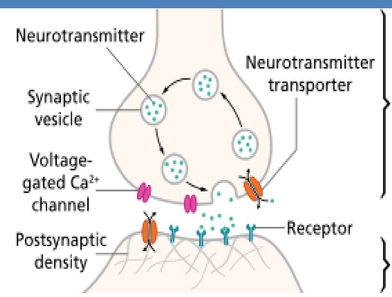
Psychosis-specific treatment, such as Cognitive Behavioral Therapy (CBT), are now emerging as extremely effective in treating MDD[7].

There is a gap in the literature. Psycho-social developmental aspects need to be researched more thoroughly as they relate to the onset and development of MDD.



Part 2: Literature Review

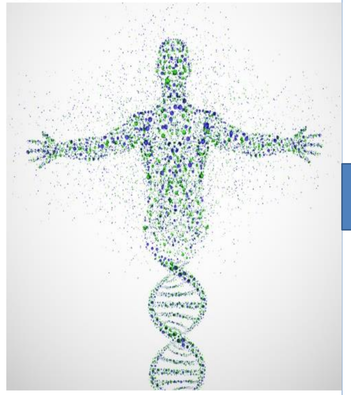
Neurochemistry



- The Dopamine Hypothesis states that symptoms of psychosis (particularly as seen in schizophrenia, which MDD with psychotic features can mimic or even develop into) can be attributed to a disturbed dopaminergic signal transduction[8]
- Bupropion, better known as Wellbutrin, is currently one of the more prescribed anti-depressants, and according to Moreira[9] extremely effective in the regulation of clinical depression; specifically, as it inhibits the reuptake of dopamine through the dopamine and norepinephrine transporters[10]. It must be noted that this is an unusual function for an anti-depressant, although in this case it allows it to work in tandem with anti-psychotics such as Aripiprazole[11].
- Despite proven success with some of the above mentioned medicative methods, the fact remains that many adults struggling with MDD are not, in fact, able to achieve full or sustainable remission with one or even multiple attempts to find a strictly pharmacological solution[12]

Genetics

Family members of those with major depressive disorder have a risk 2-4 times greater than the general population; heritability is approximately 40%; and personality trait neuroticism accounts for a large part of this particular genetic liability[13]. However, a list of innumerous limitations for choosing and testing candidate genes is headed by the fact that a single candidate gene has yet to reach genome-wide significance[14].



Childhood Trauma and Psychosis

One study utilized a strict definition of bullying encompassing a myriad of actions connected by an intention to overtly cause harm and found this type of bullying to be associated with reported psychotic symptoms, especially early in life[15]. Further research acknowledges that “real world” bullying is not limited to a strict definition and still found bullying, under a broader definition, and other types of childhood adversity to be strongly associated with an increased risk for developing psychosis of some kind[16]

Part 3: Psychosocial Development

Erikson’s Psychosocial Development

- Considering Erikson's psychosocial stage theory[17], MDD w/ psychotic features onset seems to increase with ego development between adolescence & later life[18].
- When the fidelity of adolescence falls to the converse of identity, that is, identity confusion[19], it throws a normative experience into a storm of insecurity, which easily can start and lead to a core disturbance.
- Young adulthood then begins as a search for intimacy, as those at this stage begin to turn outward in an attempt to share their newfound identity. The antithesis of isolation enters, as those who failed to reconcile the preceding identity conflict feel either that they are psychologically misshapen or have no identity at all; ergo, when this person tries to share their sense of identity with a fully formed identity, often feel rejected and turn their anger, shame, and blaming behavior inward.
- Generativity vs stagnation is a stage where there is a final rejection of certain psychosocial values, which can lead to self-rejection when the identity is not functionally developed, intimacy was not properly shared, or with a conflict between self and one’s own held values.

Part 4: Future Research

Psychotic symptoms, in relation to MDD, are becoming a more prevalent issue. While research exploring Tx beyond strictly medical solutions[20] lends hope to the mental health field, more research needs to occur. Upon examination of the current exploration and implications of the literature review, aspects of psycho-social development stages should also be researched to determine what, if any, relationship they have to the development of psychotic features of MDD.

This research would inform mental health professionals in making treatment decisions. It may also increase the amount of psychoeducation available to those experiencing MDD and the development of psychosis.

References

Pietrangelo, A. (2015, January 28). Depression and Mental Health by the Numbers: Facts, Statistics, and You. Retrieved June 1, 2018, from http://www.healthline.com/health/depression/facts-statistics-infographic

Diagnostic and statistical manual of mental disorders: DSM-5. (2013). Arlington, VA: American Psychiatric Association

Wigman, J. T., Nierop, M. V., Vollebergh, W. A., Lieb, R., Beesdo-Baum, K., Wittchen, H., & Os, J. V. (2012). Evidence That Psychotic Symptoms Are Prevalent in Disorders of Anxiety and Depression, Impacting on Illness Onset, Risk, and Severity--Implications for Diagnosis and Ultra-High Risk Research. Schizophrenia Bulletin, 38(2), 247-257. doi:10.1093/schbul/sbr196

Burns, A. M., Erickson, D. H., & Brenner, C. A. (2014). Cognitive-Behavioral Therapy for medication-resistant psychosis: A meta-analytic review. *Psychiatric Services, 65*(7), 874-880. doi:10.1176/appi.ps.201300213

Zhang, Z., Zhang, L., Zhang, G., Jin, J., & Zheng, Z. (2018). The effect of CBT and its modifications for relapse prevention in major depressive disorder: a systematic review and meta-analysis. *BMC Psychiatry, 18*(1), 50. https://doi.org/10.1186/s12888-018-1610-5

Stahl, S. M. (2017). *Prescriber's Guide: Stahl's Essential Psychopharmacology* (6th ed.). Cambridge, UK: Cambridge University Press.

Minelli, A., Magri, C., Giacopuzzi, E., & Gennarelli, M. (n.d.). The effect of childhood trauma on blood transcriptome expression in major depressive disorder. *Journal of Psychiatric Research, 104*, 50–54. https://doi.org/10.1016/j.jpsychires.2018.06.014

Vitriol, V., Cancino, A., Leiva-Bianchi, M., Serrano, C., Ballesteros, S., Asenjo, A., … Ormazábal, M. (2017). Childhood trauma and psychiatric comorbidities in patients with depressive disorder in primary care in Chile. *Journal Of Trauma & Dissociation: The Official Journal Of The International Society For The Study Of Dissociation (ISSD), 18*(2), 189–205. https://doi.org/10.1080/15299732.2016.1212449

Bajbouj, M., Aust, S., Spies, J., Herrera-Melendez, A.-L., Mayer, S. V., Peters, M., … Padberg, F. (2018). PsychotherapyPlus: augmentation of cognitive behavioral therapy (CBT) with prefrontal transcranial direct current stimulation (tDCS) in major depressive disorder-study design and methodology of a multicenter double-blind randomized placebo-controlled trial. *European Archives Of Psychiatry And Clinical Neuroscience, 268*(8), 797–808. https://doi.org/10.1007/s00406-017-0859-x

Vazquez, C., Duque, A., Blanco, I., Pascual, T., Poyato, N., Lopez-Gomez, I., & Chaves, C. (2018). CBT and positive psychology interventions for clinical depression promote healthy attentional biases: An eye-tracking study. *Depression And Anxiety, 35*(10), 966–973. https://doi.org/10.1002/da.22786

Howes, O. D., & Kapur, S. (2009). The Dopamine Hypothesis of Schizophrenia: Version III--The Final Common Pathway. *Schizophrenia Bulletin, 35*(3), 549-562. doi:10.1093/schbul/sbp006

Moreira, R. (2011). The Efficacy and Tolerability of Bupropion in the Treatment of Major Depressive Disorder. *Clinical Drug Investigation, 31*, 5-17. doi:10.2165/1159616-s0-000000000-00000

Pietrangelo, A. (2015, January 28). Depression and Mental Health by the Numbers: Facts, Statistics, and You. Retrieved June 1, 2018, from http://www.healthline.com/health/depression/facts-statistics-infographic

Clayton, A. H., Baker, R. A., Sheehan, J. J., Cain, Z. J., Forbes, R. A., Marler, S., . . . Thase, M. E. (2014). Comparison of adjunctive use of aripiprazole with bupropion or selective serotonin reuptake inhibitors/serotonin–norepinephrine reuptake inhibitors: Analysis of patients beginning adjunctive treatment in a 52-week, open-label study. *BMC Research Notes, 7*(1), 459. doi:10.1186/1756-0500-7-459

McIntyre, R. S., Filteau, M., Martin, L., Patry, S., Carvalho, A., Cha, D. S., . . . Miguelez, M. (2014). Treatment-resistant depression: Definitions, review of the evidence, and algorithmic approach. *Journal of Affective Disorders*, *156*, 1-7. doi:10.1016/j.jad.2013.10.043

Diagnostic and statistical manual of mental disorders: DSM-5. (2013). Arlington, VA: American Psychiatric Association

Charney, D. S., Sklar, P., Buxbaum, J. D., & Nestler, E. J. (Eds.). (2018). Charney & Nestlers Neurobiology of Mental Illness (5th ed.). New York, NY: Oxford University Press.

Arseneault, L., Cannon, M., Fisher, H. L., Polanczyk, G., Moffitt, T. E., & Caspi, A. (2011). Childhood Trauma and Childrens Emerging Psychotic Symptoms: A Genetically Sensitive Longitudinal Cohort Study. American Journal of Psychiatry, 168(1), 65-72. doi:10.1176/appi.ajp.2010.10040567

Varese, F., Smeets, F., Drukker, M., Lieverse, R., Lataster, T., Viechtbauer, W., . . . Bentall, R. P. (2012). Childhood Adversities Increase the Risk of Psychosis: A Meta-analysis of Patient-Control, Prospective- and Cross-sectional Cohort Studies. Schizophrenia Bulletin, 38(4), 661-671. doi:10.1093/schbul/sbs050

Cherry, K. (2017). Erik Erikson's Stages of Psychosocial Development. Psychology. Psychosocial Theories. Päivitetty, 14, 2017.

Diagnostic and statistical manual of mental disorders: DSM-5. (2013). Arlington, VA: American Psychiatric Association

Cherry, K. (2017). Erik Erikson's Stages of Psychosocial Development. Psychology. Psychosocial Theories. Päivitetty, 14, 2017.

Burns, A. M., Erickson, D. H., & Brenner, C. A. (2014). Cognitive-Behavioral Therapy for medication-resistant psychosis: A meta-analytic review. *Psychiatric Services*, *65*(7), 874-880. doi:10.1176/appi.ps.201300213

Caldieraro, M. A., & Cassano, P. (2019). Transcranial and systemic photobiomodulation for major depressive disorder: A systematic review of efficacy, tolerability and biological mechanisms. *Journal Of Affective Disorders, 243*, 262–273. https://doi.org/10.1016/j.jad.2018.09.048