CNS 709 Final
Spring 2014
30 points total

NAME _____

**This exam is open book and note – *make sure you pay attention to the short answer questions* (they are bolded)**

**NAME_____**
***For the following items, select the one best answer by circling the corresponding letter. All items worth .5 points***

1. Assume you had a 74-year-old client who was suffering from early stage Alzheimer's symptoms. Very likely the first choice medication for this person will be

a. An NMDA receptor antagonist
**b. An Acetylcholinesterase Inhibitor**
c. A Psychostimulant
d. A low dose of L-Dopa

**2. Why is the answer you chose in #1 the correct answer?**

***Right now acetylcholinesterase inhibitors are the first tx of choice by prescribers. As Namenda is researched that may change but Namenda is usually given if the person does not respond to the ACHase inhibitor***

3. The second most common form of dementia comes from

a. Alcohol
b. Cortical sclerosis
**c. Parkinson's Disease**
d. HIV induced dementia

4. **How would the type of dementia you chose in item #3 likely be treated pharmacologically?**

***With a DA precursor like L-Dopa***

5. Which of the following shows the **least** efficacy in treating cortical dementias?

a. Nicotine
b. Anti-inflammatory agents
c. **Vitamin e**
d. Aricept

**6. How does memantine/Namenda differ from other treatments for cortical dementia?**
***Namenda targets NMDA receptors (antagonist). This is a novel and promising approach which still needs more research.***

7. The herbaceutical with the most efficacy would likely be

a. **St John's Wort**
b. Ginkgo Biloba
c. Valerian Root
d. Hops

**8. What are three reasons people site for preferring herbaceuticals over psychotropic medications?**

***They think "natural" agents are safer (they are not), mistrust of allopathic medicine and drug companies, and being able to titrate the dose oneself (self-medication).***

9. MDMA is most accurately classed as a (n)
a. hallucinogen
b. stimulant
**c. empathogen**

d. entheogen
e. Schedule I substance

**10. What seems to be the therapeutic mechanism in treating trauma with MDMA?**

***How the drug helps people feel trust, safety and compassion and how these emotional experiences lower defenses and allow traumatic memories to be processed therapeutically***

11. The first atypical anti-psychotic (Clozaril) had a particularly dangerous side effect called agranulocytosis which is

a. A hepatic disorder
b. Similar to Tardive dyskinesia
c. **A drop in the white blood cell count**
d. A sharp increase in the white blood cell count

**12. What is another problematic side effect for all atypical antipsychotics? Why is it so problematic?**

***Hyperglycemia because it causes inordinate weight gain and can lead to Type II Diabetes.***

13. Which of the following are mechanisms of action in lithium?

a. Enhanced release of 5-HT
b. Postsynaptic blocking of DA

c. Increased synthesis of NE
d. Enhanced adrenergic transmission
**e. All of the above**

**14. What is the black box warning on antidepressants and when do you think a doctor should consider over-riding it?**

***The warning states that the drugs are correlated with an increase in suicidal and aggressive ideation in some children and adolescents. When a child or adolescent has a preponderance of vegetative symptoms and therapy has not helped (4-5 sessions) it may be time for the doctor to consider a medication.***

15. The most common medicine used to treat ADHD with the most efficacy is

**a. L-amphetamine compounds**
b. D-amphetamine compounds
c. Noradrenergic compounds
d. Cholinergic compounds

**16. What is the difference between "L" and "D" amphetamine isomers?**

***The "L" isomers (e.g. methylphenidate/Ritalin) are more subtle in their effects and the "D" isomers more "aggressive" in stimulant properties. The most common drug for ADHD that includes "L" and "D" isomers is Adderall.***

17. All but which of the following are major differences between prescription drugs and herbs

a. formulation standards
b. dosing guidelines
c. purity of substance
**d. possible placebo effect**

**18. Suppose that you have a 23-year-old client suffering from mild to moderate depression who wants to take St. John's Wort. He insists he does not want to take antidepressants and asks you what you think about him taking SJW. What is an ethically informed response you can make?**

***You can say that the studies you learned about supported the use of St John's Wort for mild to moderate depression BUT, it has to be the St. John's Wort produced in Germany because it is regulated there. It is not regulated in the U.S. As always encourage the person to speak to their physician about this.***

19. The site of anti-psychotic action in neuroleptics seems to be

a. **the mesolimbic pathway**
b. the nigra-striatal pathway
c. the locus coeruleus
d. the tuberoinfundibular pathway

**20. Assume you have a client on neuroleptics who is experiencing amenorrhea. She is not pregnant and her mother asks you if this is a side effect of the medication and if so, why would it cause this. How would you respond assuming you have a release to talk to the mother?**

***You can tell her "yes" it is a side effect. The drugs block DA receptors in all parts of the brain. The DA receptors in the hypothalamic pathway are affected by pregnancy. Artificially blocking them "tricks" the body into thinking it has conceived.***

21. The SDAs typically

a. block as many DA receptors as the Haldol
**b. work as well as Haldol**
c. work as well as Clozapine
d. work better than Haldol

**22. What are the most important advocacy questions to ask regarding a child on psychotropic medication?**

***1) What are the top symptoms being medicated?***
***2) Which drugs are supposed to treat which symptoms***
***3) Has they been an improvement in the targeted symptoms since the child started taking the drug?***
***4) If not, why continue the child on the drug?***

23. In medicating ADHD Focalin and Concerta both

a. are extended release formulations

b. are classed as amphetamines
c. act on DA
**d. all of the above**
e. all but letter "c"

**24. What is the "fruits not roots" approach to gauging the effectiveness of stimulants on children who meet criteria for ADHD?**

***Judging the intervention by the "fruits" or outcome. If a child feels she does better in school on stimulants and is not bothered by side effects that is a therapeutic "fruit" of the intervention. It IN NO WAY tells what causes the disorder or the "roots" of the disorder.***

25. A promising new approach for treating PTSD is

a. using hallucinogens like psilocybin
b. EMDR combined with sertraline
**c. methylenedioxymethamphetamine**
d. Marijuana

26. Probably the least effective medication for ADHD is

a. Focalin
b. Ritalin
**c. Strattera**
d. Conc*erta*

27. Overall the efficacy of all antidepressants is approximately

a. 65%
**b. 50%**
c. 60%
d. 45%

**28. What is the difference between a disorder like Major Depressive Disorder and something like Schizophrenia? How might this difference figure into the radically different placebo responses for antidepressants and antipsychotics? (1.5 points)**

***Depression appears to be much more "overdetermined" than psychosis. Meaning, there are many psychological, interpersonal and existential theories about why people get depressed. Psychosis appears to be rooted in the nervous system, genes, brain circuits – somewhere in the body – we just don't know where yet. We have no evidence of "psychogenic" Schizophrenia.***

**29. (2 points) you are working with a family who has 3 foster children ages 3, 6, and 9. The 3-year-old was recently diagnosed with Bipolar I Disorder despite no history of euphoria or grandiosity. How can you advocate for this child and what type of assessment would you recommend?**

***You can remind the family that early onset for Bipolar I Disorder is age 13 and that we cannot diagnose younger people with BPI unless they show inappropriate grandiosity and euphoria. You can then aim at getting the child re-evaluated.***

**30. (2 points) The National Institute of Mental Health last year pulled support for DSM-5 criteria suggesting they wanted to focus on Research Domain Criteria like genetic vulnerability and brain circuitry. What are the pros and cons of this development?**

***The DSM disorders may not exist at all. The categorical approach relies heavily on factor analyses (and other stats) to support the idea of a diagnosis. The RDoC focus more on symptoms that may occur ACROSS disorders and thus be more likely to get to the etiology. The cons are we don't want to "toss" all DSM or ICD categories. Some like Major Depressive Disorder hold up well over time.***

**31. Answer this question from the perspective of your professional identity (e.g. Clinical Counseling, School Psychology, Clinical Psychology).**

**Assume you are working in a setting where medications are distributed to students/clients. What are important considerations to reduce liability in such situations and what are proactive things you can advocate for in your setting? (3 points)**

*Answer depends on student's setting*

**32. Describe the Cellular/Molecular theory of antidepressant action and 1) what the primary mechanism is in the chain of mechanisms that seems to be the therapeutic one and 2) How this relates to non-pharmacological interventions for Major Depressive Disorder (3 points)**

***This is the Cellular/Molecular theory posited in 1998. The theory notes that antidepressants when taken will elevate the targeted neurotransmitter in 20-30 minutes causing increases in that transmitter. It also causes increases in cyclic AMP. Over 4-6 weeks, the increase in NT levels causes downregulation in post-synaptic receptors. At the same time it appears that the increases in cyclic AMP, though they decrease, remain elevated compared to no treatment. The cyclic AMP elevation is thought to cause more brain derived neurotropic factor to be available to the brain so it can more effectively repair neurons and grow new neurons. This is thought to be the therapeutic mechanism.***

***This has import for lifestyle changes because things like exercise are also correlated with increases in BDNF.***

**33. What is the origin of the phrase "mood stabilizer?" Criticisms aside of the phrase, what are the 4 qualities of a "good" mood stabilizer? (2 points)**

***It was developed by the marketing division of Abbott pharmaceuticals to sell divalproex. It may not be at all accurate. That said a good "mood stabilizer"***

1) ***Treats depression***
2) ***Treats mania***
3) ***Treats each without exacerbating the other***
4) ***Acts as a prophylactic***

**34. What are the most important take-aways for you from this course? How do you plan to continue keeping updated on psychopharmacology? (3 points)**