

Anti-depressants and heart disease

Introduction

The topic I choice was anti-depressants and heart disease. I choice this topic as the topic for my fact sheet because my brother has recently started taking anti-depressants and I want to know if there are any health risks I should warn him about. Especially since his heart has had problems before. Also I have always been curious about the side effects of medications that they do not really make public knowledge. If they are negatively affecting people's hearts this is something that people need to know. I know several people who are close to me who are or have been on anti-depressants at one point or another. I'm sure there are many others who are in similar situations.

Anti-depressants are mainly used to treat depression and bi-polar disorders. However, they are also used to treat Seasonal Affective Disorder, some Panic Disorders and Post Partum Depression. Since there are different disorders and everyone reacts differently there are a variety of medications. Some people have to try several medications before they find one that works. Some people are able to go off of medication after a certain amount of time while others have to stay on it forever. Since there are so many variables it is hard to generalize too much about anti-depressants.

Section 1: Background and Problem Statement

- **Web site #1 Name:** Healthy People 2020
- **Web address:**
<http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=21>
- <http://healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicId=28>
- **Background Information:**
 - Healthy People 2020 states that heart disease is the leading cause of death in the United States. Healthy People 2020 goes on to talk about how it is preventable if the correct measures are taken. Some causes are high blood pressure, high cholesterol, and diabetes. Also some unhealthy habits such as smoking and have a poor diet contribute. The recommendations for preventing heart disease are aspirin regimens, behavioral changes and various screening processes.
 - Healthy People 2020 puts all mental health and mental disorders together. So there was not a real definition of depression. However it did discuss what methods there are to treat mental health and mental disorders. One of which was antidepressants.
 - The fact that antidepressants may be linked to heart disease should be considered a public health problem because health disease can kill people and does so often and there are a lot of people on antidepressants. More research may need to be done on ways to prevent or change the link between these two.
- **Web site #2 Name:** Medline Plus
- **Web address:** <http://www.nlm.nih.gov/medlineplus/antidepressants.html>
 - <http://www.nlm.nih.gov/medlineplus/heartdiseases.html>

- **Background Information:**
 - Medline Plus says that antidepressants are used to treat depression. Antidepressants have positive results such as improving mood and concentration. It also says that the antidepressants may take a few weeks of taking them before the patient feels the effects. The web site goes on to explain that there are side effects such as feeling tired, feeling nauseas and having trouble sleeping. These side effects should go away after some time. Medline Plus warns that one should not stop taking the antidepressants without consulting their doctor, it is best to slowly wean off of them. However there is no mention of heart disease as a possible side effect.
 - Medline Plus says that heart disease is the number one killer in the United States and that it leads to disability. It gives a very brief overview of heart disease. It just says that there are different kinds and they are caused by different things. Some are caused by blocking of coronary arteries which leads to coronary artery disease. Others are caused by valve problems. Medline Plus suggests that one can reduce their risk of heart disease by controlling blood pressure and cholesterol and by not smoking and exercising.

- **Web site #3 Name:** The Mayo Clinic
- **Web address:** <http://www.mayoclinic.com/health/heart-disease/DS01120/DSECTION=causes>
 - <http://www.mayoclinic.com/health/depression/DS00175/DSECTION=treatments-and-drugs>
- **Background Information:**
 - The Mayo Clinic provides a lot of information on heart disease. It starts off by describing how the heart works in order to explain what goes wrong when a person develops a heart disease. It breaks down heart disease into specific heart diseases. The only disease that mentions prescription drugs is heart arrhythmias. However there are other types of heart diseases as well. There is cardiovascular disease, heart defects, cardiomyopathy, and vascular heart disease. The Mayo Clinic goes on to list the risk factors that lead to heart disease. They are things such as smoking, age, gender, poor diet, high blood pressure etc. It does not say anything about medications.
 - The Mayo Clinic provides quite a bit of information about antidepressants as well. It states that antidepressants are divided into categories depending on how they affect the chemicals in the brain. The categories of antidepressants are Selective Serotonin Reuptake Inhibitors (SSRIs), Serotonin and Norepinephrine Reuptake Inhibitors (SNRIs), Norepinephrine and Dopamine Reuptake Inhibitors (NDRIs), Atypical Antidepressants, Tricyclic Antidepressants, and Monoamine oxidase inhibitors (MAOIs). Each of these categories has their own side effects however, none state that they are related to heart disease.

Section 2: Research

Web site #1 Name: PubMed

- **Web address:** <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC55927/?tool=pubmed>

- **Summary of the research:**
 - The research conducted was to see if antidepressants are a risk factor for ischemic heart disease. There were 933 participants, both men and women. The article stated some facts that are already known about the relation of antidepressants and heart disease. It stated that depression was already a risk factor for increased mortality and morbidity after myocardial infarction. The article begins by talking a little bit about depression. It then discusses how other studies have been done, but none have been focused on antidepressants as risk factors for ischemic heart disease. The article then discusses how they went about the study. The results were that patients who had been coded as having depression but had never taken antidepressants didn't have an increased ratio of ischemic heart disease. However, patients that have taken selective serotonin reuptake inhibitors had an increased chance of having ischemic heart disease. There was not a significant increase when patients were taking tricyclic antidepressants. However, patients whose doses were over 50mg of tricyclic antidepressants did show an increase in ischemic heart disease than those with lower doses. The overall conclusion was that the higher the dosage of medication the higher risk of ischemic heart disease.

- **Web site #2 Name:** Journal of Biobehavioral Medicine.
- **Web address:** http://www.psychosomaticmedicine.org/content/67/Supplement_1/S54.full
- **Summary of the research:**
 - This article is aimed at discovering whether there is a safe way to treat patients with depression that also have heart disease. In a study done with patients who have no history of heart disease showed that tricyclic antidepressants caused an increase in heart rate. This increase in heart rate can have negative health effects if continues for a long period of time. Tricyclic antidepressants significantly affect heart rate variability and QT variability has been associated with ventricular fibrillation and sudden cardiac death. SSRIs don't slow cardiac conduction. However, it does decrease heart rate slightly. Also tricyclic antidepressants increase the risk of cardiac morbidity in those with ischemic heart disease. However selective serotonin reuptake inhibitors appeared to be safer to use with those who had ischemic heart disease.

- **Web site #3 Name:** MedicineNet
- **Web address:** <http://www.medicinenet.com/script/main/art.asp?articlekey=122802>
- **Summary of the research:**
 - This article is about a study done in Scotland to see how tricyclic antidepressants are related to heart disease. The article discusses how the older antidepressants have been linked to an increased chance of heart disease whereas, the newer ones (SSRIs) have not been linked to an increase in risk. The study dealt with people without a history of cardiovascular disease. Lifestyle factors such as alcohol consumption and smoking were taken into account as well. The article concluded that tricyclic antidepressants had a much higher chance of causing cardiovascular disease than selective serotonin reuptake inhibitors. A 35% increased chance of cardiovascular disease was associated with tricyclic antidepressants. The selective

serotonin reuptake inhibitors were not associated with a higher risk. The study goes on to say that people should not just stop taking their medication. People need to talk to their doctor before making that decision.

Section 3: Statistics

- **Web site #1 Name:** Healthy People 2020
- **Web address:** <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=21>
- **Summary of the statistics:**
 - Healthy People 2020 stated that 1 in 3 adults have some type of cardiovascular disease. It also stated that heart disease is the first leading cause of death, which we also learned from our wellness textbook. This is telling us that heart disease is a very serious problem. However, we have to keep in mind that there are various types of heart disease and various factors that cause heart disease. This is not a statistic of how many people taking antidepressants have heart disease. This web site did not have any statistics that talked about the relation of the two. This web site did give some suggestions as to how to lower one's risk for heart disease by controlling life factors. Healthy People 2020 did say that heart disease was disproportionately distributed across populations but it did not go into very much detail about it.

- **Web site #2 Name:** National Center for Health Statistics
- **Web address:** [http://www.cdc.gov/nchs/data/10.pdf#030](http://www.cdc.gov/nchs/data/hus/10.pdf#030)
- **Summary of the statistics:**
 - This web site is from the National Center for Health Statistics. It is showing the number of people with heart disease across several years and across certain criteria. The charts are showing the number of deaths caused by heart disease out of 100,000. Each chart is depicting a different population. For example, the first chart overall is showing the death rates of all populations from heart disease from the 1950s to 2007. The chart concludes that more deaths occurred from heart disease in the 1950s than they do now. This is a positive thing, unfortunately the number of deaths from this disease is still high. This chart also shows that the older a person is the more likely they are to develop heart disease. When comparing other charts it can be concluded that women are more likely than men to develop heart disease. It can also be concluded that white males develop heart disease more than males from other ethnicities. The same conclusion can be made for white women.

- **Web site #3:** Medical Expenditure Panel Survey
- **Web address:** http://www.meps.ahrq.gov/mepsweb/data_files/publications/st77/stat77.pdf
- **Summary of the statistics:**
 - This survey is focusing on the percentage of non-institutionalized people who have used antidepressants in 2002. The survey concluded that in 2002 8.5% of the non-institutionalized population had bought some kind of antidepressant. There

were a higher percentage of elderly (13.3%) using antidepressants than those under 64 years old (10.3%). The web site also shows that whites were more likely to be using antidepressants than other ethnicities. 10.6% for whites but only 4% for blacks and 3.6% for Hispanics. It also shows that there were more women (11.4%) using antidepressants than men (5.4%). The survey also goes on to compare people of different socioeconomic status and the types of health insurance people have. These findings have a positive correlation with the findings of the National Center for Health Statistics. However, just because they are correlated to one another does not mean that antidepressants do in fact cause heart disease. There was no statistics found from credible sources to make that conclusion.

Section 4: Consumer Information

- **Web site #1 Name:** Food and Drug Administration
- **Web address:**
<http://www.fda.gov/ForConsumers/ByAudience/ForWomen/ucm118473.htm>
- **Summary of the information:**
 - The FDA provides several tips that are useful for consumers to know. They are that: one in five women suffers from depression, certain antidepressants shouldn't be used with other meds, and there are other serious side effects such as liver disease, stroke, seizures etc. when taking antidepressants.
These facts are important for consumers to know because they are stating facts that are not common knowledge. The fact that one in five women suffers from depression is important because that means more women are likely to take antidepressants. It is important for women to know the risks of taking antidepressants and how they can affect their hearts. This is important because women who are taking antidepressants should take more preventative measures to reduce their risk of heart disease. Heart disease is one of the leading causes of death in the United States, the more people are aware of their risk, the better.

The fact that certain antidepressants should not be used with other medications is important for anyone using antidepressants or thinking about using antidepressants and is taking other medications. Clinicians should be informing patients of these problems; however people should inform themselves as well. By being aware that other medications should not be combined with antidepressants may prevent people from getting ill. The fact that antidepressants are linked to other serious health problems such as liver disease and stroke is important for people to know because those are serious health problems. Therefore people taking antidepressants should keep an eye on these possible problems so they do not get really sick.

- **Web site #2 Name:** Medpage Today
- **Web address:** <http://www.medpagetoday.com/Cardiology/Strokes/28012>
- **Summary of the information:**
 - Selective serotonin reuptake inhibitors increase risk of heart problems by 40%

- This fact is important for consumers to know because selective serotonin reuptake inhibitors are the most common form of antidepressants. All those people who get prescribed SSRIs need to be aware of the increased risk of heart problems. Those who already have a history of heart issues should be especially careful.
- **Web site #3 Name:** Mayo Clinic
- **Web address:** <http://www.mayoclinic.org/cardiovascular-disease-rst/cardioheartclinic.html>
- **Summary of the information:**
 - This site lists preventative measures for reducing ones risk for heart disease. This information is useful for anyone, not just consumers of antidepressants. This is because heart disease is one of the leading causes of death in the United States. These preventative measures include physical activity, the reduction of smoking, behavioral and life style changes, stress management training and prevention medications if recommended. Preventative measures are important for those who are risk of heart disease, those taking antidepressants that may increase the risk of heart disease and for all other populations as well.

Section 5: Solutions to the Problem (or Issue)

- **Web site #1 Name:** Community Partners in Care
- **Web address:** <http://www.communitypartnersincare.org/depression/preventing-depression/>
- **Summary of the information:**
 - Community Partners in Care is a research group trying to end how much depression is affecting the community. It is funded by the National Institute of Mental Health (NIMH). They are trying to put an end to depression by really involving communities and providing information on their web site about preventative measures such as: preparing for major life events, participating in social activities to combat loneliness, spending time with friends, getting a hobby to keep the brain active, regular exercise and a good diet can all help prevent depression. This web site also lists causes and symptoms to look out for and also treatments that area available.
- **Web site #2 Name:** The Ohio State University Medical Center
- **Web address:** http://medicalcenter.osu.edu/patientcare/healthcare_services/womens_health/prevention/cadio/pages/index.aspx
- **Summary of the information:**
 - This organization is made up of hospitals and a medical college as well as research labs and specialty care practices. This web site addresses the three main causes of heart disease that are preventable. These preventative measures are to cut out all tobacco products, eating a heart healthy diet, and having an exercise program. It goes into more specific detail for each. Tobacco has no beneficial effects and should be avoided. Heart healthy diets have appropriate levels of calories, cholesterol, fat, fiber and sodium. It says to pay close attention to food

labels. As for the exercise portion it says to participate in at least 30 minutes of moderate-intensity physical activity.

- **Web site #3 Name:** WebMD
- **Web address:** <http://www.webmd.com/depression/guide/depression-overview-facts>
- **Summary of the information:**
 - WebMD is an organization of physicians aiming to provide the public with adequate health information. For depression WebMD provides a lot of information for the public to access. It breaks depression down by different age groups, then it goes on to causes, who are at risk and prevention methods. WebMD admits that not all forms of depression are preventable because some are caused by imbalances in the chemicals in the brain. For those who do not have the chemical imbalance proper diet, exercise, not being overworked and putting time aside for fun may be helpful.

Conclusions

I have learned that there is not much credible or accessible information on the correlation between antidepressants and heart disease. Some of the information I did find was contradictory of one another. However, with some of the broader statistics I was able to conclude that there is a positive correlation (not causation) between the use of antidepressants and the rate of heart disease. The populations who are more likely to use antidepressants are also more likely to have heart disease. I am concerned that there is not much research done on how antidepressants can cause heart disease, since heart disease is a serious disease and a lot of people use antidepressants. I feel that there should be more awareness on how to prevent both depression and heart disease. By preventing depression people won't have to take antidepressants, by increasing the awareness of how to prevent heart disease hopefully less people will die from it. I did learn that there are a lot of different types of antidepressants. I knew there were different brands but I was not aware that different pills affect the brain differently. I suppose I should have realized that, since not everybody is experiencing the same chemical imbalance.

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