Winter 12-13-2014

Trends in Prescribing Antidepressants: A Case Study on the Increase in Antidepressant Prescriptions

Martha Tews

Trends in Prescribing Antidepressants: A Case Study on The Increase in Antidepressant Prescriptions

Submitted by

Martha Tews

For

EMPA 396

Graduate Research Project in Public Management

Golden Gate University

San Francisco, California

Faculty Advisors:

Joaquin Gonzalez III, Ph.D.

Mick McGee, DPA

December 13, 2014

Table of Contents

Abstract

One in five Americans takes at least one psychotropic drug. Antidepressants are one of the three most prescribed psychotropics. Americans spent $11 Billion on antidepressants in 2010 (Smith, 2012). There are a few issues that are possibility contributing to the rise in antidepressant prescriptions and use. One possible reason there is an increase in antidepressants is because primary care physicians prescribe antidepressants. Primary care physicians usually are not as informed as psychiatrists about mental illness and they do not know about other evidence-based treatment options that can help the patient (Tami, Levit, Buck, 2009). There are NQF endorsed measures explaining how often a patient should be seen when they are taken antidepressant. Insufficient monitoring of patients can lead to renewal of prescriptions that are unnecessary (Practice Guidelines, 2010). Another possibility for the rise in antidepressant use is that there is more focus on medication and less emphasis on alternative treatments such as psychotherapy (Pies, 2010). This study was conducted to determine whether or not inadequacies in prescribing methods are resulting in over-prescribing of antidepressants. The results revealed that psychiatrists prescribe more antidepressants than primary care physicians; however primary care physicians do play a large role in the treatment of mental health. Participants had better outcomes when they were seen by their health care provider between four to eight times a year. In the study, 27% of participants did not receive any other form of treatment and a majority of them were seen by a primary care physician. It is recommended to improve the treatment of depression and improve prescribing practices of antidepressants.

Chapter 1 – Introduction

There are staggering statistics on the use of antidepressants in the United States. The use of antidepressants in the United States is quickly increasing. It is estimated that between eight to ten percent of the population takes antidepressants; which is about one out of ten Americans. The use of antidepressants by adults in the US has increased 400% since the 1990s. Not all antidepressants are prescribed to treat depression. It is estimated that between 25% and 60% of prescribed antidepressants are used for non-psychological conditions (Insel, 2011). According to data provided by the CDC, 11% of Americans over twelve years old report taking an antidepressant (Pratt, Brody, & Gu, 2011). Approximately 254 million prescriptions were written for antidepressants and the annual cost is nearly $10 Billion dollars (Insel, 2011). An increase in prescriptions does not mean that people are being properly treated for depression. With psychotropic drugs, there is both an over use and an underuse occurring (Insel, 2011).

Depression is both a debilitating and costly illness (An Estimated, 2011). According to the National Institute of Mental Health, depression can be caused by genetic, biological, environmental, psychological, or a combination of factors. Common symptoms of depression are

> Persistent sad, anxious, or "empty: feelings; feelings of hopelessness and pessimism; feelings of guilt, worthlessness, or helplessness; loss of interest in activities or hobbies once pleasurable; difficulty concentrating, remembering details, and making decisions, thoughts of suicide, suicide attempts (What is Depression, N.D.).

Research Hypothesis

The hypothesis of this study is that inadequacies in prescribing methods are resulting in over-prescribing of antidepressants. The sub-hypothesis' are: 1) prescribing of antidepressants by primary care physicians without the consolation of a psychiatrist is resulting in over-prescribing of antidepressants; 2) a bigger emphasis on drugs is resulting in over-prescribing of antidepressants; and 3) less time spent by the health care provider with the patient is resulting in over-prescribing of antidepressants.

Purpose of this Study

The purpose of this study is to examine the differences in prescribing practices between primary care physicians and psychiatrists. The number of antidepressants being prescribed has increased, and one of the causes of the increase is primary care physicians prescribing antidepressants. The study will reveal the trends in prescribing antidepressants. The data will help answer the question of antidepressants are being over-prescribed or not and if patients are improving or not. Individuals with depression can get better, if they receive the proper treatment. This study will examine whether or not the patients are benefiting from the antidepressants or if the antidepressants are being over-prescribed. It will also show how often health care providers are offering non-medication treatment options to patients.

Background and History

Depression has many effects on the individual, the individual's family, and society. Suicide is a risk of untreated depression and it is the eleventh leading cause of death in the United States (The Impact, N.D.). Depression affects the quality of the individual's life. Depression costs the workplace over $34 billion dollars a year in direct and indirect costs. More

sick days are taken for major depression than any other illness and it has a higher rate of short-term disability than other chronic illnesses. Depression also causes people to be less productive at work. Family members and care takers can feel a burden from caring for their family member, and it can affect their workplace performance as well. Children whose mothers suffer from depression can exhibit behavioral problems at school (The Impact, N.D.). Depression is an issue that affects not just the person suffering from it, but also other aspects of society. This is why it is important that it is treated properly.

Antidepressants can help patients only if they are prescribed correctly and monitored properly. Medications that are used now to treat depression are not guaranteed to work for everyone. If you are depressed and take an antidepressant, it does not mean you will get better (Pies, 2012). Antidepressants are only one part of treating depression. The patient's response to the antidepressant is a huge factor in his or her treatment. Usually, a combination of antidepressants and cognitive behavior therapy can help the patient recover faster. Patients need a quality treatment plan that is tailored to his or her needs. It is also important that the patient has frequent follow ups with his or her health care provider to monitor treatment (Insel, 2011). Appropriate treatment can help the patient recover and resume his or her normal life (Understanding Antidepressant, 2009).

Medication is the most common treatment of depression. Antidepressants work by altering brain chemicals, such as Serotonin and Norepinephrine. Scientists know that these chemicals affect mood, but they are unsure how they work (What is Depression, N.D.). The newer antidepressants are Selective Serotonin Reuptake Inhibitors (SSRIs) and Serotonin and Norepinephrine Reuptake Inhibitors (SNRIs). The newer antidepressants have fewer side effects. Tricyclics and Monoamine Oxidase Inhibitors (MAOIs) are older antidepressants

(Understanding Antidepressant, 2009). Antidepressants have a 70% response rate for those with mild depression; the response rate is lower for those with severe depression. During the acute phase of treatment, it's important that the patient is seen every one or two weeks to monitor for symptoms of side effects, adjust dosage if necessary, and offer support. After the acute phase, the patient should continue with the treatment for six months and been seen once a month. This is called the continuation phase, and its purpose is to decrease the chance of relapse. The goal of treatment is for the patient to recover (Mental Health, 2001).

Antidepressants have many side effects, which is one of the reasons why there needs to be caution when prescribing them to patients. People who take antidepressants usually have at least one side effect. Most common side effects are "headache, night sweats, nausea, agitation, sexual problems, dry mouth, and constipation" (Understanding Antidepressant, 2009). The number one reason that people stop taking antidepressants is because of the side effects that they experience. It can be dangerous for the patient to stop taking antidepressants on his or her own and it's important that he or she discuss it with his or her health care provider. Antidepressants also have some serious risks such as suicide, mania, birth defects, and high blood pressure (Understanding Antidepressant, 2009). The FDA has issued a warning for antidepressants, so they feature a "black box" warning because they can increase chances of suicide. Clinical trials revealed that 4% of those taking antidepressants thought or attempted suicide, and only 2% taking placebos thought or attempted suicide (What is Depression, N.D.).

Chapter 2 - Literature Review

This literature review consists of three areas: 1) The differences between primary care physicians and psychiatrists and their prescribing of antidepressants, 2) the types of treatment plans for depression and the importance of follow ups with patients, and 3) the use of antidepressants for the treatment of depression.

Antidepressants Prescribed by Primary Care Physicians or Psychiatrist

Studies have shown that the rate of prescriptions for antidepressants by primary care physicians has increased. In 2011, 7% of primary care physician visits ended with a prescription of antidepressants (Shute, 2011). Between 2006 and 2007, 21% of antidepressant prescriptions were written by psychiatrists and other specialists. During that same time period, 62% of prescriptions were written by general practitioners, obstetrician, gynecologists, and pediatricians; 6% were written by physician assistants and nurse practitioners; and 11% was prescribed by all other specialists and psychologists (Tami, Levit, Buck, 2009). Primary care physicians are becoming more active in prescribing antidepressants, which is why the quality of treatment in general practice settings should be the same quality as a mental health professional (Tami, Levit, Buck, 2009).

A study done at the Rennes University Hospital compared the antidepressant prescribing practices among psychiatrists and non-psychiatrists and they found it was different. Americans are able to visit their primary care physician and leave with a prescription for an antidepressant. A primary care physician may not be aware of the other evidence-based treatments that the patient can benefit from without side effects (Smith, 2012). Access to medication is easier for

patients when they visit a primary care physician, but many of these patients would benefit from being evaluated by a mental health professional.

Although the increase in primary care physicians prescribing antidepressants does not mean that the prescriptions are inappropriate, it does mean that this is an area that should be looked at. There is concern that primary care physicians are not as educated in treating depression (Shute, 2011). It's important that prescribing practices are looked at and that there is a communication between primary care providers and mental health specialists (Mojtabai & Olfson, 2011). General practitioners need to know that there are alternatives to antidepressants that can also benefit patients, especially mildly depressed patients (Hyde et al., 2005). A psychiatrist has had extensive training in mental illness and the variety of treatments that they can use on patients (What is a Psychiatrist, N.D.). A study conducted by Hyde et al. from London looked at the prescribing methods of general practitioners. They found that general practitioners do not take the easy route when it comes to prescribing antidepressants, but that they do follow guidelines. However, they also found that alternatives to antidepressants, such as cognitive therapy, were not as easily accessible to the general practitioners (Hyde et al, 2005).

Treatment Plans for Depression and Importance of o Follow-up

Currently in the United States there are several guidelines that can be followed for treating depression and prescribing antidepressants. The Agency for Healthcare Research and Quality has guidelines for treating patients with major depression. After the patient is evaluated they can have the following treatments: pharmacotherapy, somatic therapy, psychotherapy, combination therapy, and/or complementary and alternative therapy (Practice Guideline, 2010). The treatment is based on the patients' clinical features, such as the severity of their depression.

It is recommended that patients with mild or moderate depression are given psychotherapy as the first treatment option. Kaiser Permanente has its own guidelines for treating depression for its physicians. There guidelines begin with a screening and diagnosis of depression and follow with a list of treatment options (Diagnosis and Treatment, 2012).

A successful treatment plan according to the Agency for Healthcare Research and Quality consists of, "an acute phase, during which remission is induced; a continuation phase, during which remission is preserved; and a maintenance phase, during which the susceptible patient is protected against the recurrence of a subsequent major depressive episode" (Practice Guidelines, 2010). It is important for patients who take antidepressants to be monitored and constantly assessed. Antidepressants can have side effects and they can also not work for some patients (Practice Guidelines, 2010). The amount of monitoring can vary for each patient; once a week to multiple times per week (Practice Guidelines, 2010). Shultz and Malone have additional recommendations for primary care physicians; such has becoming familiar with one drug from every class of antidepressants. They also recommend that clinicians perform baseline testing on patients to determine that their depression is not due to an underlying condition, and that they do not have any conditions that could be aggravated by an antidepressant. The dose should be started as low as possible and slowly increased every two weeks. The health care provider must anticipate side effects and after four to six weeks, they should reassess the patient. If necessary they should refer patients to a psychiatrist (Shultz & Malone, 2013).

It is important that the dosage and duration of the antidepressant is adequate for patients. It is also just as important that the primary care physician or physiatrist follows up with patient. An adequate follow up for depression care by the National Committee for Quality Assurance/Health Plan Employer Data and Information Set is at least three visits in ninety days.

The adequate number of follow ups does not happen often. Large health care systems only meet this standard less than 25% of the time. It is important that there is a follow up to make sure that patients are properly taking their antidepressants and that the antidepressants are working well (Pomerantz, N.D.). For many patients their first antidepressant may not be the one that works best for them because of either a lack of results or side effects. This is why it's important for patients to be seen often when they first begin treatment (Wick, 2011).

The quality of care when treating depression is important for the treatment to be successful. One of the issues is that it is difficult for many patients to have access to a mental health professional. It is easier for patients to have a primary care physician prescribe an antidepressant (Shute, 2011). The CDC conducted a study between the years 2005-2008 on overprescribing of antidepressants in the United States. The study revealed that less than one third of Americans who are taking one antidepressant and less than half of those who are taking multiple antidepressants have seen a mental health professional in the past year (Pratt, Brody, & Gu, 2011). HEDIS has a list of measures for Management and Treatment with Antidepressants. Health care plans have not been followed by health care providers and many of them have low scores in regards to following HEDIS measures (Anderson, 2007).

In 2005 the FDA issued new warnings about an increase in suicidal thinking and actions in young adults who are taking antidepressants. The study compared suicidal thinking against a placebo and found that it was increased in patients taking antidepressants (FDA Proposes, 2007). This increased risk in suicidal thoughts and actions shows the importance in patients being seen by their health care provider while they are taking antidepressants. It is dangerous for patients to have little or no contact with their healthcare providers.

The Use of Antidepressants for the Treatment of Depression

In 2010, Americans spent $11 Billion on antidepressants and some mental health professionals are worried about the rapid growth in the number of prescriptions. Psychotropics can be used to treat mental illness, but they can also cause harm if not prescribed appropriately (Smith, 2012). Antidepressants are not guaranteed to work for everyone. There is no 100% efficiency for treating depression. Antidepressants as a treatment for depression have been oversold in terms of its efficiency. If you are depressed and take an antidepressant, it does not mean you will get better (Pies, 2010).

According to the FDA, the first antidepressants the patients try have a 60% to 70% chance of being effective. Patients need to take the antidepressants for at least three to four weeks to begin to experience the effects of the antidepressant. It is also recommended that the patient take the antidepressant for six to twelve months or longer if necessary. Approximately 10% of patients with depression will not respond to the antidepressant (Understanding Antidepressant, 2009). Sanjay and Dennis said that more studies need to be done to assess the long term safety and benefits of antidepressants, but these studies are costly and require funding. They recommend better approaches for studying depression and discovering better antidepressants as well as understanding the mechanisms that are associated with short term and long term effects (Sanjay & Dennis, 2009).

There have been studies done comparing the effectiveness of antidepressants to placebos. Some evidence shows that antidepressants are much more effective than placebos in treating depression. Other analyses show that there is little efficacy for antidepressants (Pies, 2010). The placebo effect can be powerful in the treatment of depression; the patient may not be getting

better because of a pharmacological action by the drug they are taking. Thomas Insel, the Director for the National Institute of Mental Health, also states that for mild depression the difference between placebo and antidepressants is very small and more apparent in severe depression (Insel, 2011).

H.E. Pigott and his colleagues conducted a meta-analysis of the trials on the effectiveness of antidepressants that were submitted to the FDA, and they analyzed the Sequences Treatment Alternative to Relieve Depression (STAR*D) and found that antidepressants are only marginally more effective than placebos. They also found a bias in the report of effectiveness of antidepressants where studies that showed positive results were more often reported (Pigott, 2010). The effectiveness of antidepressants has been debated for a long time. Wick from the Pharmacy Times explains that one of the problems is that there is not enough information about what causes depression; until more is known doctors must do their best to prescribe medication to patients (Wick, 2011).

Many of the antidepressants are harmful and some of the side effects are serious. Some of the side effects of SSRIs are headache, nausea, tremors, hallucinations, confusion, blurred vision, hair loss, pain in joints, and rashes. The potential of these side effects make psychotherapy a better option for patients with mild or moderate depression (Kirsch, 2010). The risk-benefit ratio for treating depression with antidepressant may be more in individuals with mild depression symptoms (Depression, 2009). According to the FDA, patients will have at least one side effect when taking antidepressants (Understanding Antidepressant, 2009).

Many patients receive prescriptions for antidepressants without knowing that there are other options for them, options without side effects (Smith, 2012). Studies show that short term

psychotherapy works as well as medication. Studies also show that formerly depressed patients have a higher chance of relapsing into depression after treatment with antidepressants than psychotherapy. Cognitive Behavior Therapy is the most popular psychotherapy for depression; interpersonal psychotherapy, short-term psychodynamic therapy, and non-directive supportive therapy are other forms of psychotherapy that can be used (Kirsch, 2010). For some patients, psychotherapy may work best; for others they may need antidepressants.

Chapter 3: Research Methodology

Research Design

Qualitative case study research design was used to observe the trends in prescribing antidepressants. A case study is a method to gather information on situations that are not understood well (Leedy & Ormrod, 2013). The research methodology used to gather data was the survey approach. The survey approach is the best way to quickly reach the intended population and receive the necessary results to support or not support the hypothesis.

The objective of this study is to identify, examine, and analyze problems associated with prescribing methods of antidepressants that could potentially lead to overprescribing or ineffective prescribing of antidepressants. The hypothesis of this research is that inadequacies in prescribing methods are resulting in over-prescribing of antidepressants. The hypothesis of this research suggests that an increase in antidepressant prescriptions does not correlate with an increase in the number of patients receiving beneficial treatment for their depression. Writing a prescription to treat depression may be a quicker and easier method to treat it, but not the best or safest option for the patient (Smith, 2012). There are three additional sub-hypothesis that the study will examine.

The first sub-hypothesis is that prescribing of antidepressants by primary care physicians without the consultation of a mental health specialist is resulting in over-prescribing of antidepressants. There is a chance that the primary care provider does not know about all the other evidence-based treatments of depression and the sub-hypothesis will examine this idea (Smith, 2012). This leads to the second sub-hypothesis that a bigger emphasis on drugs is resulting in over-prescribing of antidepressants. Health care providers may provide medication

and before any other treatment because they put more value on the medication. Data from the Agency for Healthcare Research and Quality's (AHRQ's) Medical Expenditure Panel Surveys study revealed a trend in an increase of antidepressant use and a decrease in psychotherapy use. The sub-hypothesis will examine if the trend of increased antidepressant use and decreased psychotherapy use still exists and if it is contributing to the rise in the number of antidepressant prescriptions or not (Antidepressant Use Rises, 2010). The third sub-hypothesis is that less time spent with patients is resulting in inadequate prescribing and over-prescribing of antidepressants. The hypothesis will reveal if there is a difference in the level of care given by primary care physicians and psychiatrists. The sub-hypothesis will reveal if both primary care physicians and psychiatrists spend the same amount of time with patients or not and if time spent with patients correlates with the patient's recovery.

Data Collection Overview

Primary Data

The initial plan was to contact psychiatrists and primary care physicians directly through hospitals and clinics. However, due to time constraints and ethical issues surrounding the topic, it was too difficult a task to accomplish. As there are only eight weeks available in the class to complete all aspects of the capstone research, there is only a limited time to collect data. Due to time constraints a faster method to gather data had to be used. Information was collected through webpage forums and social media. HIPPA Privacy Rule protects patients' information and it allows for a disclosure of information for patient care (Understanding Health, N.D.). Conducting research at a health care entity would require Documented Institutional Review Board or Privacy

Board approval (Research, 2013). For that reason, I did not contact health care entities for my research, but focused on Plan B.

Plan B was to gather data via posting the survey on social media networks and forums for depression. I posted a survey on Facebook and it received a few responses as well as feedback. A few individuals were not well informed on the medication that they were taking and they did not know how to answer question four (see appendix). I decided to edit the question and include the brand name of medications in parenthesis next to the different classes of medications I had already listed. I also had found several forums dealing with depression. However, all the forums have specific rules about posting and I had to eliminate the ones that did not allow research posts on the forum. The survey was posted on five different forums: The Healing Well Forum, About.com, eHealth Forum, WebMD Forum, and Surviving Antidepressants forum. The survey was also posted in the Facebook groups: Anxiety, Depression, Bipolar, Etc with Laughs and The Peace, Love and Retreat Group. To gather more data, I looked for groups dedicated to depression on Facebook. I contacted several moderators and with permission, I posted a survey to those groups. I also posted a survey on Facebook pages that were dedicated to depression and other mental illnesses. Antidepressants can be prescribed for conditions other than depressants, so I reached out to a variety of forums dedicated to mental illness.

Survey

The survey (see Appendix i) asks specific questions to show insight on prescribing methods and answer the question if antidepressants are being properly prescribed or not. The questions in the survey were developed after a review of secondary sources. The data presented in those sources raised important issues and questions to look at. The questions provide data to

analyze prescribing practices between primary care physicians and psychiatrists. The data from the surveys also shows trends in prescribing of antidepressants and if patients are benefiting from taking antidepressants or not.

The survey included questions regarding participants' gender, age, and identity of who prescribed the antidepressant. Cross tabulations were completed comparing the data in these different groups. The survey also asks if the participant has started taking antidepressants in the last year or if they have been taking them for over a year. This is an important question because a patient who has just started taking an antidepressant should be seen more often than a patient who has been taking antidepressants for over a year. The survey also asks how many times the patient has seen their health care provider. The survey asks if the patient was prescribed antidepressants for depression or a different ailment. Studies show that antidepressants are also being prescribed for other reasons (Calderone, 2014). This could be one of the reasons why antidepressant use is on the rise.

Survey respondents were also asked questions concerning their treatment. One question focused on the type of antidepressant take and its effectiveness. Another question relates to different forms of treatment and effectiveness. These questions reveal trends in prescribing practices of antidepressants. The results also either support or do not support the hypothesis that there is an overemphasis on medication. The differences between psychiatrists and primary care physicians were examined when it comes to prescribing medication and offering other forms of treatment. The effect of the treatment on the patients also was examined to see if other treatments are efficient and if they should be offered before or with medication.

Secondary Data

The secondary data was collected from other studies done on the topic. For example, the study from Shute shows that the rate of primary care physicians prescribing antidepressants has increased. There is a concern that primary care physicians are not educated in treating depression. This can lead to primary care physicians prescribing antidepressants without considering other treatment options (Shute, 2011). A study by Olfson and Marcus showed trends in the rate of prescription of antidepressants increasing and a decline in psychotherapy (Antidepressant Use Rises, 2010). It is also important that patients who take antidepressants are monitored by the health care provider (AHRQ). The FDA proposed warnings about an increase in suicide thinking for young adults and recommends they are properly monitored (FDA Proposes, 2007). The primary data will be compared to the secondary data to see if there is a difference in antidepressant prescribing practices between primary care physicians and psychiatrists. The amount of time that each provider sees the patient in a year and the type of treatment that they offer will be looked at.

Dependent and Independent Variables

The independent variables are 1) who prescribes the antidepressant, 2) how often the patient sees his or her physician in a year after taking the antidepressant, 3) and the type of treatment the patient receives for his or her depression. The dependent variable is the effect the independent variable has on patients; if they have improved or not after the treatment by their health care provider. The collection of data determines whether or not there is a relationship between the independent variables and the dependent variable. The data shows the strength or weakness that the independent variable has on the treatment of patients' depression and their

overall health. The data reveals if there is a difference in the patients' outcome if a primary care physician or psychiatrist prescribes the medication. It also reveals if the amount of time patients see his or her health care provider has an effect on his or her mental health. The data shows if there is a difference in the patients' outcome if they take medication, other evidence-based treatments, or both.

Controlling for Internal and External Validity

The study is internally valid if the participants disclosed the correct information and if the information from the surveys was managed properly. However, internal validity can be affected if I ask for patients' outcomes because of design contamination. Patients may have responded about how they think they should have responded instead of responding honestly. Internal validity is also at risk because by posting onto social media and online forums I have no control over who answers the questions and the honesty of the participants answering the questions. To ensure external validity, the representative sample was individuals who take antidepressants. The study can be replicated in a different context under similar circumstances. Bias was controlled for by phrasing the survey questions in a non-bias manner.

Limitations of the Study

The study had several limitations. The time constraint is one limitation. The study had to be feasible in the short amount of time given. It would have been preferable to conduct the study directly with primary care physicians and psychiatrists at a hospital setting, but with the time constraint and ethical issues it will not be possible. This limitation left forums and social media as the best options to gather data. The research was limited to the small population that was reachable at the moment and in the amount of time given.

There were several limitations with the forums and Facebook pages. Posting a survey on these sites does not guarantee that someone will take the survey. Forum rules are a limitation because there are many forums that are not accessible for me to conduct my research. Given more time it would have been an advantage to create my own Facebook page dedicated to individuals dealing with depression. This would have allowed me to access more individuals. Posting on Facebook pages is a limitation because the post does not stay on the top of the page for long. It makes it difficult to reach all the people who belong to that Facebook group or who are fans of the Facebook page.

Operational Terms and Definitions

Over-prescribing: In this paper, over-prescribing is referring to medication that is not properly prescribed to the patient, leading to the patient having too many or unnecessary prescriptions.

Who is prescribing the medication/: Data will be gathered on which professional is prescribing antidepressants to patients. This information will allow me to understand if primary care physicians or psychiatrists are prescribing the most antidepressants.

Psychotropic: A Prescription Drug that is classified by Cerner Multum's Lexicon. The three types are: antidepressants, antipsychotics, and ASH. Each of these has subcategories of different drugs (Bruce, 2013). All these drugs that are prescribed to treat mental illness will be considered.

Condition of the patients: Asking if a patient is very good, good, no change, poor, or very poor will help understand if the prescribed medication is benefiting the patient or not.

Psychotherapy: It is the treatment of mental disorders such as depression using non medication psychological techniques. The goal is for behavior modification that will improve the patient's

depression. Cognitive Behavioral Therapy is the most popular psychotherapy. (What is Psychotherapy, N.D.).

Electroconvulsive Therapy: This is a possible treatment option for depression. It is formerly referred to as “shock therapy.” The person is treated with electrical impulses while under anesthesia. It has a few side effects, but they are usually short-term (What is Depression, N.D.)

Chapter 4- Results and Findings

Primary data was collected via surveys posted on Facebook Groups and online forums dedicated to depression. The following are the results and data obtained from the surveys. The results are focused on the specific sub-hypothesis that were investigated in the study. Some participants skipped one or a few of the questions in the survey. It is unknown why they did not complete the survey. For this reason, not all the questions below have the same number of responses.

Sub-hypothesis 1: Prescribing of antidepressants by primary care physicians is resulting in over prescribing of antidepressants.

Table 1: Antidepressant Prescriptions Written by Specialists
Question 7: Who prescribed you the antidepressant?

Primary Care Physician	Psychiatrist	Other Health Care Professional
44	56	7

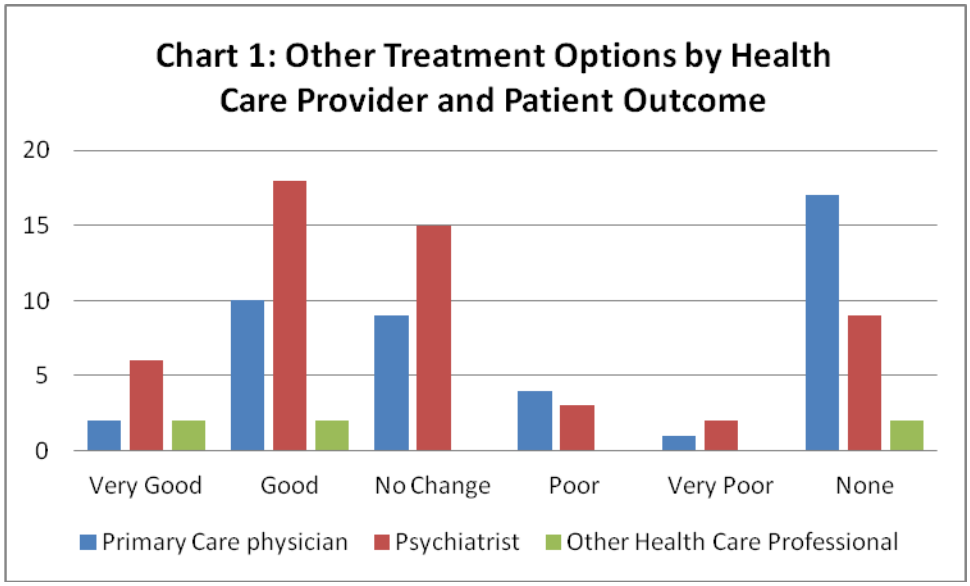
N= 107

In this study, forty four (41%) of the participants were prescribed antidepressants by their primary care physician, fifty six (52%) participants were prescribed antidepressants by psychiatrists, and the remaining seven (7%) were prescribed antidepressants by other health care professionals (psychologist, nurse practitioner, neurologist, and OBGYN). The data from this study reveals that psychiatrists prescribed more antidepressants than primary care physicians. However, the number of primary care physicians who have prescribed antidepressants is still high. Primary care physicians do play a big role in mental health and prescribing antidepressants.

Table 2: Other Treatment Options and Patient Outcome by Specialist
Question 9: Which treatment option listed below, if any, have you tried?
Question 10: How effective has this treatment been for you?

	Primary Care physician	Psychiatrist	Other Health Care Professional
Very Good	2	6	2
Good	10	18	2
No Change	9	16	
Poor	4	3	
Very Poor	1	2	
None	17	9	2

N= 103



This chart shows that seventeen (40%) participants who were seen by a primary care physician did not receive any non-medication treatment. Only nine (17%) participants who were seen by a psychiatrist did not receive any non-medication treatment. This indicates that there is a difference between primary care physicians and psychiatrists when it comes to treating depression with non-medication options.

Analysis

Primary care physicians may not be as aware of other evidence-based treatment options for depression (Smith, 2012). Americans have easy access to their primary care physicians and a visit can result in a prescription of antidepressants (Smith, 2012). The data from this study supports the theory that primary care physicians may not be as aware of other evidence-based treatment options. Primary care physicians did not provide other treatment options as often as psychiatrists did. The data offers some support for the hypothesis. Although primary care physicians are not prescribing more antidepressants than psychiatrists, primary care physicians are focusing more on medication and less on other treatment options. This could potentially lead to an increase in antidepressant prescriptions. Some of these patients may also benefit from other treatment options and may be unnecessarily taking medication.

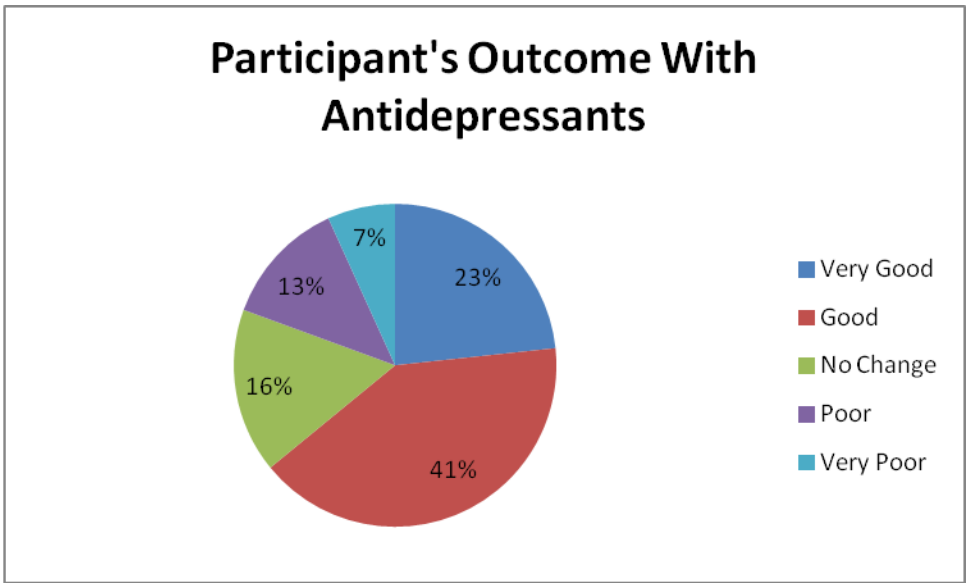
In her article, Shute mentioned that the rate of antidepressants written by primary care physicians has increased since the 1990s (Shute, 2011). Primary care physicians may not be aware of other evidence-based treatments for the patient other than medication (Smith, 2012). Tami, Levit, and Buck collected information on prescriptions written by medical specialties and found that 21% of antidepressants were written by psychiatrists and 62% were written by general practitioners and other specialists (Tami, Levit, Buck, 2009). The data from this study does not match the study done by Tami, Levit, and Buck. In this study, psychiatrists prescribed more antidepressants for participants than any other health care provider.

Sub-Hypothesis 2: A bigger emphasis on drugs is resulting in over prescribing of antidepressants

Table 3: Antidepressant Outcome by Specialist
Question 10: How effective has this treatment been for you?

	Primary Care Physician	Psychiatrists	Other
Very Good	10	11	3
Good	19	23	
No Change	5	10	2
Poor	7	5	1
Very Poor	2	5	

N= 103



Out of all the participants, sixty six (64%) had good or very good outcomes with the antidepressant, twenty (19%) had poor or very poor outcomes, and seventeen (17%) had no change. Out of the participants who tried other treatment options, forty (53%) had good or very good outcomes, seven (9%) had poor or very poor outcomes, and twenty five (38%) had no change. A total of fifty nine (82%) participants, who tried other forms of treatment, tried psychotherapy. Out of all the participants who tried psychotherapy, thirty three (56%) participants benefited from the psychotherapy. In this study, psychotherapy had a little over 50% success rate in treating patients.

Analysis

Data from the Agency for Healthcare Research and Quality's Medical Expenditure Panel Survey showed an increase in the use of antidepressants and a decline in psychotherapy between the years 1996 and 2005 (Antidepressant Use Rises, 2010). Over a quarter of participants only received medication, supporting the hypothesis that there is a large emphasis on medication. Primary care physicians gave the most emphasis to medication over other treatment options. The data offers some support to the hypothesis that there is a bigger emphasis on medication than other evidence-based treatment options.

Antidepressants had a 17% higher success rate in a good or very good outcome for participants than other treatment options. Although antidepressants had a higher success rate, psychotherapy has been proven to help treat depression (Psychotherapies, N.D.). The results from this study revealed that all patients do not receive psychotherapy as a treatment option. The study did not ask patients for the severity of their depression, so it is unknown if they should have had a psychotherapy treatment before medication. Some individuals who have taken

antidepressants have the opinion that the side effects to not always outweigh the benefits and other forms of evidence-based treatment may be the best option for them.

In this study, thirty (28%) participants taking both antidepressants and a different treatment did good or very good. Out of all the participants, thirteen (11%) did good or very good with antidepressants and had no change with other treatment. Seven (5%) participants did good or very good with antidepressants and poor or very poor with other treatment. Out of all the participants, eighteen (17%) did good or very good and did not try any other treatment options.

Six (6%) participants had no change with antidepressants, but did good or very good with other treatment. Seven (7%) participants had no change with both antidepressants and other treatments. Five (5%) participants who had no change with antidepressants also did not have another treatment option.

Four (4%) participants did poor or very poor with antidepressants and good or very good with other treatment. Eight (7%) participants did poor or very poor with antidepressants and had no change with other treatment. Three (3%) participants did poorly with antidepressants and other treatment options. Six (7%) participants did poor or very poor with antidepressants and had tried no other treatment option.

Although a majority of participants did good or very good with their treatment, there is concern about the small percentage that did poor or very poor and continued to take antidepressants. Twelve (67%) of the participants who did poor with antidepressants were seen one to three times by their health care provider. Over half of participants who did poor or very poor may not have enough visits in a year with their health care provider about their depression

and antidepressant use. The next hypothesis looks at the length of time a participant spends with their healthcare and the outcome of their treatment.

Sub-Hypothesis 3: Less time spent with patients is resulting in inadequate and over prescribing of antidepressants

Table 4: Length of Time Patient Spends with Primary Care Physician and the Patients Outcome on Antidepressants
Question 6: How effective has/have the antidepressant(s) been for you?
Question 8: How many times have you seen the health care provider who prescribed you the antidepressant in the last year?

	1 to 3	4 to 8	9 to 12	13 and more
Very Good	8	1		1
Good	6	10	2	1
No Change	2	2		1
Poor	4	2		1
Very Poor	1	1		

N=43

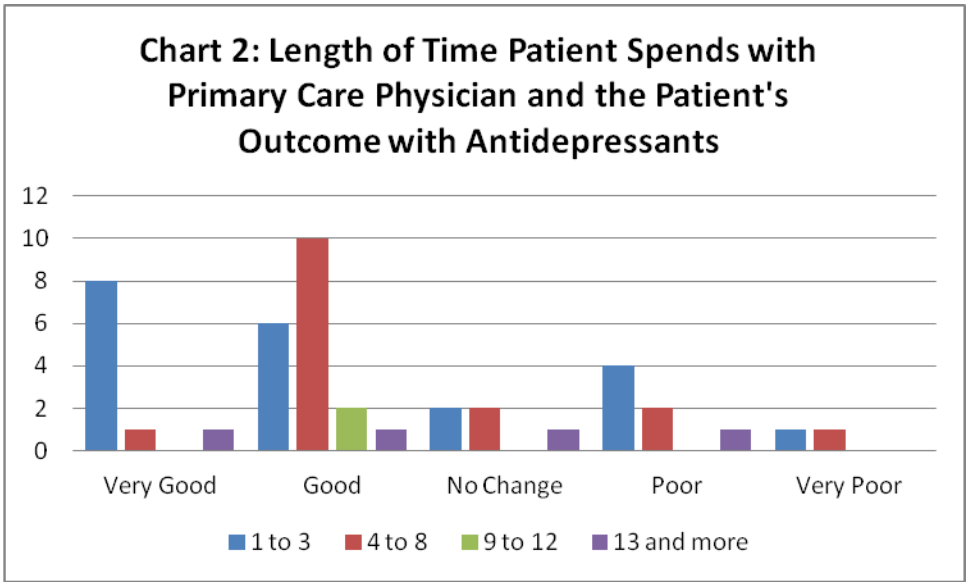


Table 5: Length of Time Patient Spends with Psychiatrist and the Patients Outcome on Antidepressants
Question 6: How effective has/have the antidepressant(s) been for you?
Question 8: How many times have you seen the health care provider who prescribed you the antidepressant in the last year?

	1 to 3	4 to 8	9 to 12	13 or more
Very Good	3	7	1	
Good	6	8	6	2
No Change	4	2	3	2
Poor	3	1	1	
Very Poor	4			

N= 53

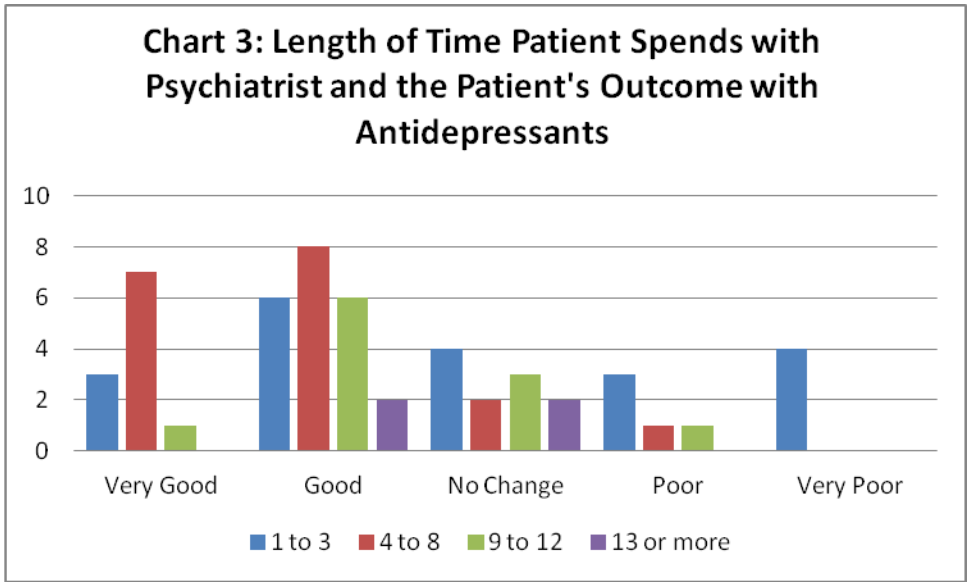


Table 6: Length of Time Patient Spends with Primary Care Provider and the Patients Outcome with Other Treatment
Question 9: Which treatment option listed below, if any, have you tried?
Question 10: How effective has this treatment been for you?

	1 to 3	4 to 8	9 to 12	13 or more
Very Good	1	1		1
Good	4	4		2
No Change	5	5		
Poor	2	2		
Very Poor	1			
None	8	5	2	1

N=44

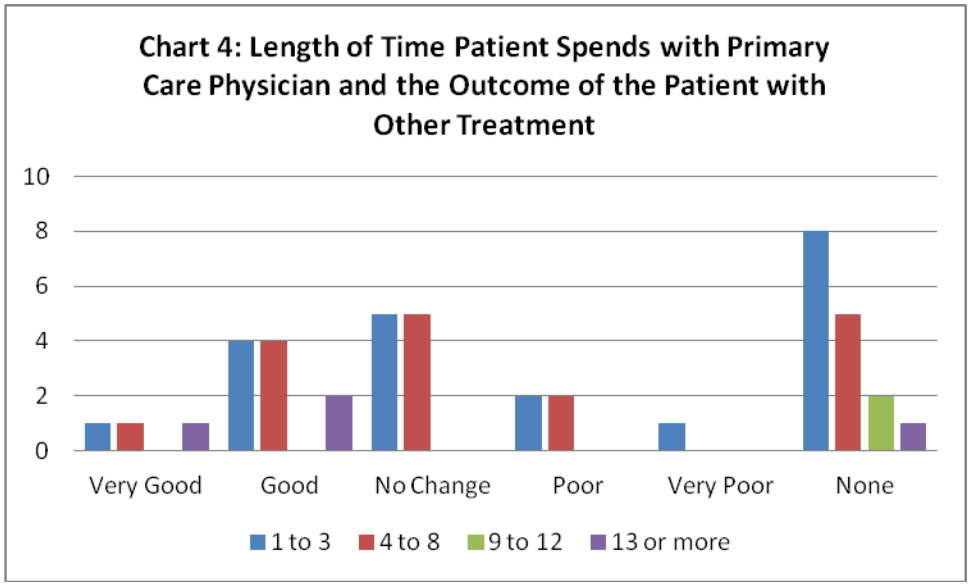
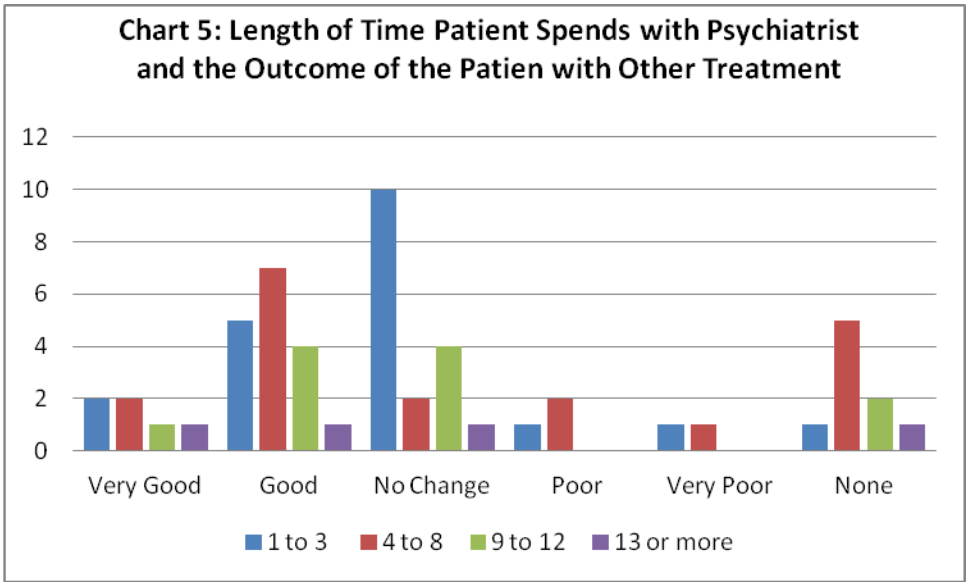


Table 7: Length of Time Patient Spends with Psychiatrist and the Patients Outcome on Other Treatment
Question 9: Which treatment option listed below, if any, have you tried?
Question 10: How effective has this treatment been for you?

	1 to 3	4 to 8	9 to 12	13 or more
Very Good	2	2	1	1
Good	5	7	4	1
No Change	10	2	4	1
Poor	1	2		
Very Poor	1	1		
None	1	5	2	1

N=54



Overall, forty four (43%) participants surveyed were seen by their health care provider one to three times a year, thirty six (37%) were seen four to eight times a year, thirteen (13%) were seen nine to twelve times, and eight (7%) were seen thirteen or more times a year.

Twenty one (51%) participants saw their primary care physicians one to three times in the last year and psychiatrists saw twenty (33%) of the participants one to three times a year. Fourteen (67%) participants seen one to three times by a primary care physician did good or very good on medication, two (9%) had no change, and five (24%) did poor or very poor. Nine (47%)

participants who saw a psychiatrist one to three times in a year did good or very good, four (13%) had no change, and seven (40%) did poor or very poor on the medication.

Primary care physicians saw sixteen (37%) participants four to eight times a year. Eleven (69%) of the primary care physicians' participants reported as doing good or very good on medication, two (13%) had no change, and three (18%) did poor or very poor. Psychiatrists saw eighteen of the participants four to eight times a year. Fifteen (83%) of the participants did good or very good, two (11%) had no change, and one (6%) did poor or very poor. One (5%) participant seen by a primary care physician did good or very good, one (25%) did poor or very poor and one (25%) had no change. Psychiatrists saw four (8%) of the participants thirteen or more times and two (50%) did good or very good and two (50%) had no change.

Primary care physicians offered thirteen (57%) of the participants they saw one to three times a year other treatment options. Out of those participants, five (33%) did good or very good on other treatment, five (42%) had no change, and three (25%) did poorly. Primary care physicians offered alternative treatment to twelve (80%) participants who they saw four to eight times a year and five (42%) did good or very good, five (42%) had no change, and two (16%) did poor or very poor. None of the participants seen nine to twelve times tried any other treatment options. Three out of four participants who were seen thirteen or more times received other treatment options and they did good or very good.

Psychiatrists offered nineteen (93%) participants who they saw one to three times a year other treatment options. Seven (43%) of those participants did good or very good, ten (43%) of participants had no change and two (14%) did poor or very poor. Psychiatrists offered the fourteen (72%) participants they saw four to eight times other treatment options. Out of those

participants, nine (69%) did good or very good, two (15%) had no change and three (16%) did poor or very poor. Nine (82%) participants who saw their psychiatrist nine to twelve times were given other treatment options. Out of those participants, five (55%) did good or very good and four (45%) had no change; none of the patients did poorly. Psychiatrists offered three out of four participants seen thirteen or more times in a year other treatment options and two participants had a good or very good outcome and one participant had no change.

Table 8: Number of Visits to Health Care Provider by Patients Who Began Taking Antidepressants in the Last Year and Their Outcome
Question 3: Have you started taking antidepressants in the last year?
Question 6: How effective has/have the antidepressant(s) been for you?

	1 to 3	4 to 8	9 to 12	13 and more
Very Good	4	2		1
Good	2	9	4	1
No Change	4	2	1	1
Poor	2	2		1
Very Poor	1	1		

N:=38

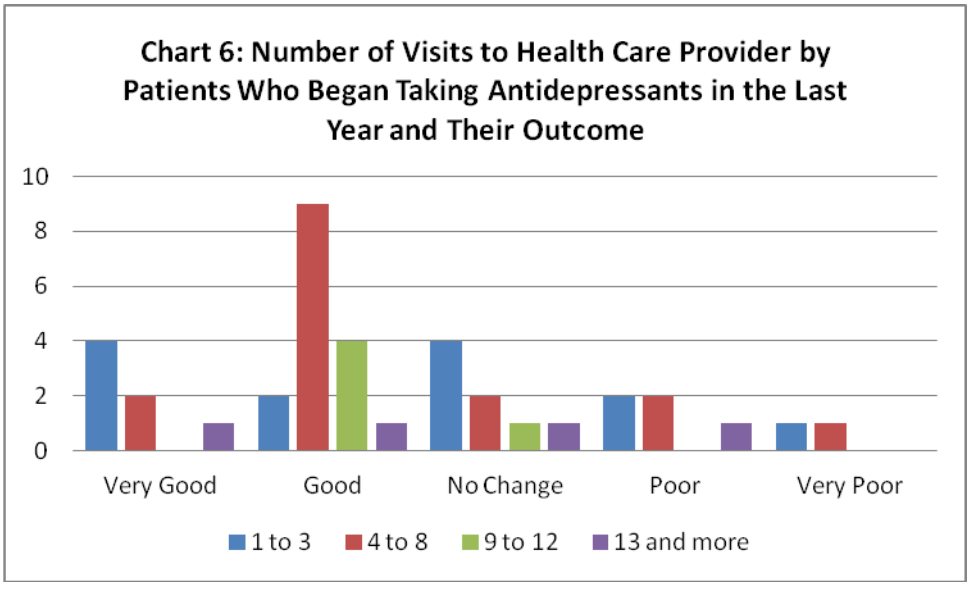


Table 9: Length of time patient age 18 to 24 spends with primary care physician and their outcome
Question 1: What is your age?
Question 6: How effective has/have the antidepressant(s) been for you?
Question 8: How many times have you seen the health care provider who prescribed you the antidepressant in the last year?

	1 to 3	4 to 8	9 to 12	13 or more
Very Good				
Good	1	1		
No Change				
Poor	2			
Very Poor				

N= 4

Table 10: Length of time patient age 18 to 24 spends with psychiatrist and their outcome
Question 1: What is your age?
Question 6: How effective has/have the antidepressant(s) been for you?
Question 8: How many times have you seen the health care provider who prescribed you the antidepressant in the last year?

	1 to 3	4 to 8	9 to 12	13 or more
Very Good				
Good	1		1	
No Change				1
Poor				
Very Poor	2			

N=5

Patients between the ages of eighteen and twenty four should be seen more often by their healthcare provider because of the black box warning. Only a small percentage of participants in this study were between the ages of eighteen and twenty four. Four of the participants were prescribed antidepressants by their primary care physician and two out of four were seen only one to three times in a year and they both had poor outcomes. Five participants between the ages eighteen and twenty four were seen by psychiatrists. Three of those participants were seen only one to three times in a year and two out of three had a very poor outcome.

Patients who have begun taking antidepressants should be seen two to four weeks in the first three months and at longer intervals if they have a good response to the antidepressant (Depression 2009). Thirteen (34%) participants who began taking antidepressants in the last year saw their health care provider one to three times in the last year and six (46%) did good or very good, four (31%) had no change and three (23%) did poor or very poor. Fifteen (42%) participants had four to eight visits with their health care provider and eleven (69%) did good or very good, two (13%) had no change and three (18%) did poor or very poorly. Five participants were seen nine to twelve times and four out of five reported that their outcome was good and one had no change. Four participants were seen thirteen or more times. One participant reported that their outcome was very good, one was good, one had no change, and one was poor.

Analysis

Follow ups with a health care provider are important when someone is taking antidepressants to monitor the effectiveness of the antidepressant and any side effects. In a study done by the CDC, less than one third of Americans taking antidepressants had seen a mental health professional within a year of taking antidepressants (Pratt, Brody, Gu, 2011). Patients should be seen about four times a year; however, the data shows that many patients were seen only one to three times a year while taking antidepressants. It is difficult to compare the effect that one to three visits with a psychiatrist and primary care physician had on the patients because primary care physicians saw over half of their patients only one to three times, and psychiatrists saw a third of the participants one to three times. Although fewer of the psychiatrists' participants did good or very good, psychiatrists also spent more time with their patients and those participants did well with medication.

A little over half of participants seen by primary care physicians were only seen one to three times in a year, and a quarter of those did not do well with antidepressants. Patients who are only seen one to three times a year are not evaluated as often and they may be unnecessarily taking antidepressants if they are not benefiting from them. The data from the study shows that there is a huge variety among patients and how they respond to treatments. Some patients can see their health care provider one to three times and do well with their treatment and others need to see their health care provider over thirteen times a year for their treatment. The data shows that patients who are seen four to eight times a year have the best results with their medication. Participants did better with their medication and other treatment options when they saw their health care provider four to eight times a year. The data does support the hypothesis that there is a difference in the outcome of the patients' mental health when they are seen a certain number of times in a year by their health care provider.

The results show that patients have better outcomes with their antidepressants when they have more visits with their health care provider. This is particularly true for patients who begin using antidepressants. Patients who have only a few visits with their health care provider do not benefit as often from the antidepressant and may be unnecessarily taking the antidepressant.

Additional Results

Table 4: Reason for Prescription by Specialists
Question 4: Was the antidepressant prescribed for depression? If not, what was it prescribed for?

	Primary Care Physician	Psychiatrists	Other Specialist
Depression	24	29	1
Depression and other	11	12	2
Anxiety	6	6	
Bipolar Disorder	1	6	1
Other	1	1	2

N= 103

Eighty three (77%) of the participants in this study were female and twenty five (33%) were male. Ten (9%) participants were between the ages of eighteen and twenty four, twenty nine (26%) were between the ages twenty five and thirty four, twenty four (22%) were between the ages thirty five and forty four, twenty six (24%) were between the ages forty five and fifty four, eighteen (16%) were between the ages fifty five and sixty four and, three (3%) were between the ages sixty five and seventy four.

The most common reason for an antidepressant prescription was depression with forty five (52%) participants taking antidepressants for depression. Twenty six (23%) of the prescriptions were for both depression and another illness. Fourteen (12%) participants took antidepressants for anxiety; seven (7%) took it for bipolar disorder, and four (6%) took it for other reasons. Fifty eight (55%) of patients took an SSRI, twenty one (20%) took an SNRI, and twenty seven (25%) took another antidepressant.

Feedback from Participants

There was some unsolicited feedback received by participants about their antidepressant use. Some individuals responded on the survey post that they could not take the survey because they were no longer taking antidepressants. The individuals expressed dissatisfaction towards the effects that the antidepressant had on their health and wellbeing and they were relieved to not be taking them anymore. This was a sentiment shared by a few participants and important to mention in this study. Some participants held the belief that their health care provider was not helping them effectively and that they were taking too many medications.

One participant left a comment to survey question number four, which was unrelated to the question. The participant stated that she was waiting to see a psychiatrist for an issue that

primary care physicians did not want to deal with and the participant's appointment was delayed due to issues with insurance. This comment shines light on another issue regarding health care in the United States and how that is having an effect on mental health and treatment of mental health.

Overall, the comments left by participants and individuals who take or have taken antidepressants were negative. 64% of participants who take antidepressants indicated that they did either good or very good; however, no one had any positive comments about their experiences with antidepressants. The comments and concerns by participants exemplify why the increase of antidepressant prescriptions is an issue that needs to be examined.

Significant Findings

One of the significant findings in the study is that over twice as many participants seen by primary care physicians than psychiatrists did not try any other treatment option other than antidepressants. Another significant finding is that antidepressants only had a 64% rate of giving participants a good or very good outcome. This percentage was similar to FDA reports, however, participant voiced concern over side effects they had while taking antidepressants that may not make the 64% as successful as the FDA claims it to be (Understanding Antidepressant, 2009) The final key finding is that a little over half of participants seen by primary care physicians were seen one to three times a year. Only 33% of participants seen by psychiatrists had one to three visits.

Chapter 5: Conclusions and Recommendations

Conclusions

The study does not support the hypothesis that inadequacies in prescribing have resulted in over-prescribing of antidepressants, as the data collected indicated that 64% of the respondents reported that the use of antidepressant medications were effective and resulted in very good or good outcomes. However, based on additional key informant information collected by the researcher, current trends in prescribing methods that can result in an increase of antidepressant prescriptions. In this study, 20% of participants rated the effectiveness of their outcomes as poor or very poor on antidepressants, and 16% rated no change. No improvement or a poor outcome may indicate that these participants were taking antidepressants unnecessarily. Prescribing antidepressants that are not benefiting patients can be a cause for higher number of antidepressant prescriptions. Some of the participants who did not benefit from antidepressants only saw their health care provider one to three times in the last year. Low frequency of visits with health care providers may also contribute to an increase in antidepressant prescriptions because patients are not evaluated frequently to determine whether or not the antidepressant works for them before they are given another prescription. These trends are not the specific causes of a rise in antidepressant prescriptions, but they may be contributing to an increase in antidepressant prescriptions.

The results from the study do not completely support the sub-hypothesis that prescribing antidepressants by primary care physicians is resulting in over-prescribing of antidepressants. The study showed that a majority of antidepressant prescriptions were written by psychiatrists. Primary care physicians were not the main sources for antidepressant prescriptions. However, the

study also showed that participants who were treated by a primary care physician received other forms of treatment less often than participants who were seen by a psychiatrist. This data supports the sub-hypothesis, although not strongly, that prescribing of antidepressants by primary care physicians is resulting in over prescribing of antidepressants.

Data from the study weakly supports the sub-hypothesis that a bigger emphasis on drugs than other evidence-based treatment options may be resulting in over-prescribing of antidepressants. Approximately 25% of participants did not try any other form of treatment option. The data reveals that there is a slightly bigger emphasis on drugs than other evidence-based treatment options. However, the numbers in the study are not high enough to strongly support the sub-hypothesis that there is a bigger emphasis on drugs than other evidence-based treatment options. This may be a possibility for an increase in antidepressants because some of the participants who did not try other treatment options may benefit from them without taking medication. Offering patients other treatment forms before medication may decrease the number of antidepressant prescriptions.

Data from the study supports the sub-hypothesis that less time spent by healthcare providers is resulting in over-prescribing of antidepressants. Data shows that participants had the best outcomes when they were seen at least four to eight times a year by their healthcare provider. Approximately, 30% of participants who were seen one to three times in the last year by their health care provider had either a poor or very poor outcome and 15% had no change. This suggests that they may have been taking the antidepressants unnecessarily. This data suggest that when patients are seen by their health care provider more often, they are prescribed the antidepressant because it has a good or very good outcome for them. Patients who are not seen often by their health care provider may be receiving refills on their prescriptions even

though it is not benefiting them, which may be a cause for the rise of antidepressant use in the United States.

The first conclusion that can be made from this study is that antidepressants have the same effectiveness rate as the FDA reports. The FDA reports patients have a positive response to the first antidepressant they take effective 60 % to 70% of the time (Understanding Antidepressant, 2009). Although respondents examined in this study indicated that antidepressants have a 64% rate of a good or very good outcome, patients who take antidepressants do not all have a positive opinion on the effectiveness of antidepressants. For some patients, the 64% rate of a good or very good outcome may not be worth the risk of side effects that come with taking antidepressants.

The second conclusion that has been made from this study is that not every individual who takes an antidepressant has tried other treatment options. For some individuals, the antidepressant worked well, and they did not need another treatment option. However, it is unknown if another treatment options would have worked well for them. The Agency for Healthcare Research and Quality recommends that patients with mild to moderate depression be treated with psychotherapy before medication (Practice Guideline, 2010). It is unknown if the participants who did not receive other forms of treatment had mild to moderate or severe depression. There is a possibility that these participants could have benefited from other forms of treatment and it is a possible area for further study.

It is also concluded from this study that primary care physicians play a role in prescribing antidepressants and the treatment of mental illness. Although psychiatrists prescribed the majority of antidepressants in the study, a large percentage were also prescribed by primary care

physicians. The results show that primary care physicians are important in the treatment of mental health.

The final conclusion that can be made from the study is that the amount of visits a patient has with his or her health care provider can have an effect on their overall outcome. There is a huge variety among patients and how they respond to treatments. Some patients can see his or her health care provider one to three times and do well with their treatment. Other patients need to see their health care provider over thirteen times a year for a positive outcome.

Recommendations

The recommendations made from this study are to improve the treatment of depression and to improve prescribing practices of antidepressants.

Recommendation 1:

The first recommendation is for health care providers to use the best treatment option for the individual to treat his or her depression or other mental illness. The study revealed that each individual is unique and one specific treatment option does not work for everyone. Treatment options that work for an individual are: psychotherapy, antidepressants, other treatment options, or a combination of these. Finding the best treatment option may take several visits with the patient. The first form of treatment is not always the treatment that will work best for the patient. Health care providers can discuss treatment options with the patient to find a treatment option that works best for the patient. The study showed that although a majority of patients were happy with their treatment, a few were also dissatisfied. Health care providers can work with the patient to find the best form of treatment for them.

Recommendation 2:

The second recommendation is for primary care physicians to offer patients with mild to moderate depression psychotherapy before antidepressant medication. This study revealed that patients who see a primary care physician received fewer alternative treatment options. Primary care physicians should be aware of other evidence-based treatment options if they are treating a patient with depression. In this study 20% of participants reported a poor or very poor outcome on antidepressants and 16% reported no change. Although the results from this study concerning effectiveness outcomes are similar to the FDA reports, participants voiced their concern that the side effects that they had while on antidepressants may not make the 64% as successful as the FDA claims it to be (Understanding Antidepressant, 2009). Patients can benefit from other evidence-based treatment options that do not have the same side effects antidepressants have. The small percentage of individuals who do not benefit from antidepressants should also be treated with other evidence-based treatment options. It is recommended that patients with mild to moderate depression be offered psychotherapy as a treatment option before medication.

Recommendation 3:

Another recommendation is for health care providers to increase how often they see and examine a patient who is not benefiting from the antidepressant before refilling a prescription. This would decrease the number of unnecessary antidepressant prescriptions. Examining a patient who is doing poorly on antidepressants before refilling his or her prescription will also improve the safety of prescribing antidepressants, and it would decrease the amount of unnecessary antidepressant prescriptions. Health care providers should schedule as many visits as necessary when a patient is taking an antidepressant for the treatment of depression. Patients

should be seen adequate amount of times to ensure that they are benefiting from their treatment. In this study, 13% of participants did poor or very poor on antidepressants, and they only saw their health care provider one to three times in a year. This may seem like a small percentage, but if the national statistics were similar it would be mean that many Americans were taking antidepressants that are not benefiting them. Increased visits with health care providers would increase the amount of times that patients were evaluated while on the antidepressant, and it would give the health care provider more opportunities to discuss other treatment options with the patient.

Recommendation 4:

It is recommended that a health care provider recommend a patient who is not benefiting from treatment during the continuation phase to another physician. There were a few participants who were not benefiting from any form of treatment and were still taking antidepressants. Referring patients to other health care providers and collaborating to assist patients with their treatment may help the patient receive a treatment that works for them. Some patients who did poorly were also seen only one to three times a year. Referring those patients to another health care provider can benefit the patient because it can increase how often he or she is evaluated by a health care provider. Primary care physicians should also refer patients who are not benefiting from treatment to a mental health specialist. Mental health specialist may know more about other evidence-based treatment options to offer the patient.

Recommendation 5:

The final recommendation is for the medical health profession to continue to improve the treatment of depression for their patients by fostering the study of depression and

antidepressants. This study showed that although antidepressants worked for 64% of the participants, they do not work for everyone. A small percentage of participants did not receive any help from either antidepressants or other forms of treatment. Better medication and treatments can improve the lives of everyone who suffers from depression. Increasing government funding for research efforts on antidepressants can potentially lead to the discovery of a medication that can be beneficial to more individuals. Many individuals fall into a gap and do not benefit from antidepressants. Better treatment options can improve their life and it will also benefit society. Depression is the reason for the most sick days requested at work, and it costs the workplace over $34 billion a year in both direct and indirect costs (The Impact, N.D.). Increasing research efforts would benefit the individuals in the study who reported doing poorly on antidepressants and it would be beneficial to society as well.

Future Research

An area for future research would be to determine if patients are well informed about antidepressants before taking them. In this study, participants were unsure of the type of antidepressant that they were taking. Most participants only knew their antidepressant by the brand name. The survey question in this study's questionnaire had to be changed to include the brand name in parenthesis. It's important for patients to be well informed about the risks of benefits of the medication that they take. Antidepressants can have serious side effects and it can be difficult to stop taking antidepressants. Stopping antidepressants can cause symptoms such as flu like symptoms, dizziness, fatigue, anxiety, and sadness. There are websites dedicated to individuals dealing with antidepressant withdrawals because symptoms can be more severe. Individuals must follow a tapering off plan created by their health care provider when they wanted to stop taking antidepressants (Duenwald, 2004). Patients should be well informed before

making a decision to take antidepressants. A future study could look further into this issue to see how much patients are told about the medication that they take.

Another possible further study is to compare the effectiveness of antidepressants and other treatment options in patients who suffer from mild, moderate, and severe depression. This study did not take that variable into consideration. Examining difference among the different levels of depression can reveal if one treatment option is preferable to the other to treat that level of depression. The Agency for Healthcare Research and Quality states that patients with mild to moderate depression should have psychotherapy as their first level of treatment (Practice Guidelines, 2010). A further study could be done to see how often this occurs and the outcome for patients at different levels of depression with psychotherapy and medication vary.

References

An Estimated 1 in 10 U.S. Adults Reports Depression. (2011). Center for Disease Control and Prevention. Retrieved from: http://www.cdc.gov/features/dsdepression/

Anderson, Bill. (2007). HEDIS Antidepressant Medication Management Measures and Performance-based Measures: An Opportunity for Improvement in Depression Care. *AJMC*. Retrieved from: http://www.ajmc.com/publications/supplement/2007/2007-11-vol13-n4Suppl/Nov07-2639pS098-S102

Antidepressant use rises while psychotherapy declines: Research Activities, (2010) No. 353.. Agency for Healthcare Research and Quality, Rockville, MD. Retrieved from: http://archive.ahrq.gov/news/newsletters/research-activities/jan10/0110RA14.html

Bruce S. Jonas, Qiuping, Gu, Albertorio-Diaz, Juan. (2013). Psychotropic Medication use Among Adolescents: United States, 2005-2010. NCHS Data Brief. No. 135. Retrieved from: http://www.cdc.gov/nchs/data/databriefs/db135.pdf

Calderone, Julia. (2014). The Rise of All-Purpose Antidepressants. *Scientific American. Volume 24, Issue 6*. Retrieved from: http://www.scientificamerican.com/article/the-rise-of-all-purpose-antidepressants/

Depression. The treatment and management of depression in adults. (2009) National Collaborating Centre for Mental Health. London (UK): National Institute for Health and Clinical Excellence (NICE); *Clinical guideline, no. 90*. Retrieved from: http://www.guideline.gov/content.aspx?id=15521&search=depression

Diagnosis and treatment of depression in adults: 2012 clinical practice guideline.Kaiser Permanente Care Management Institute. Oakland (CA): Kaiser Permanente Care Management Institute; 2012 Jun. 73 p. [32 references]. Retrieved from: http://www.guideline.gov/content.aspx?id=39432&search=depression+treatment

Duenwald, Mary. (2004). The Consumer; How to Stop Depression Medications: Very Slowly. *The New York Times*. Retrieved from: http://www.nytimes.com/2004/05/25/health/the-consumer-how-to-stop-depression-medications-very-slowly.html

FDA Proposes New Warnings about Suicidal Thinking, Behavior in Young Adults Who Take Antidepressant Medications. (2007). FDA News Release. Retrieved from: http://www.fda.gov/newsevents/newsroom/pressannouncements/2007/ucm108905.htm

Hyde, J., Calnan, M., Prior, L., Lewis, G., Kessler, D., Sharp, D. (2005). A qualitative study exploring how GPs decide to prescribe antidepressants. British Journal of General Practice, 55(519), 755-762. Retrieved from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1562347/

Insel, T. (2011). Director's Blog: Antidepressants: A complicated picture. National Institute of Mental Health. Retrieved from: http://www.nimh.nih.gov/about/director/2011/antidepressants-a-complicated-picture.shtml

Kirsch, Irving. (2010)Emperor's New Drugs: Exploding the Antidepressant Myth. New York, NY, USA: Basic Books. ProQuest ebrary. Web. 19 November 2014. Retrieved from: http://0-site.ebrary.com.library.ggu.edu/lib/gguu/detail.action?docID=10363354

Leedy, P., Ormrod, J.E. (2013). Practical Research: Planning and Design. 10 edition. Pearson.

Mental Health: New Understanding, New Hope. (2001). The World Health Report. Retrieved from: http://www.who.int/whr/2001/en/

Mojtabai, R., & Olfson, M. (2011). Proportion of antidepressants prescribed without A psychiatric diagnosis is growing. Health Affairs, 30(8), 1434-42. Retrieved from http://search.proquest.com/docview/887281500?accountid=25283

Pies, R. (2012). Are Antidepressants Effective in Acute and Long-term Treatment of Depression? Sic et Non. Innovations in Clinical Neuroscience, 9(5-6). 31-40. Retrieved from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3398684/

Pigott, H.E., Leventhal, A.M., Alter, G.S., Boren, J.J. (2010). Efficacy and effectiveness of antidepressants: current status of research. *Psychotherapy and Psychosomatics; 79((5):267-79.* Retrieved from: http://www.ncbi.nlm.nih.gov/pubmed/20616621

Practice guideline for the treatment of patients with major depressive disorder. 3rd ed. Arlington (VA): American Psychiatric Association American Psychiatric Association. (APA); 2010 Oct. 152. Retrieved from: http://www.guideline.gov/content.aspx?id=24158&search=depression

Psychotherapies. (N.D.) National Institute of Mental Health. Retrieved from: http://www.nimh.nih.gov/health/topics/psychotherapies/index.shtml

Pomerantz, Jay. (N.D.) Screening for Depression in Primary Care. *Medscape*. Retrieved from: http://www.medscape.com/viewarticle/511167

Pratt, L.A., Brody, D.J., Gu, Q. (2011). Antidepressant Use in Persons Aged 12 and Over: United States, 2005-2008. NCHS Data Brief. No 76. Retrieved from: http://www.cdc.gov/nchs/data/databriefs/db76.pdf

Research. (N.D). U.S. Department of Health and Human Services. Retrieved from: http://www.hhs.gov/ocr/privacy/hipaa/understanding/index.html

Sanjay, Mathew, Dennis, Charney. (2009). Publication Bias and the Efficacy of Antidepressants. *The American Journal of Psychiatry 166.2*. pg 140-5 Retrieved from: http://0-search.proquest.com.library.ggu.edu/docview/220481327?pq-origsite=summon

Shultz, Elizabeth., Malone, D.A. (2013). A practical approach to prescribing antidepressants. *Cleveland Clinic Journal of Medicine. Vol 80, No 10.* Retrieved from: http://www.ccjm.org/content/80/10/625.full.pdf

Shute, Nancy. (2011). Antidepressant Use Climbs, As Primary Care Doctors Do the Prescribing. NPR. Retrieved from: http://www.npr.org/blogs/health/2011/08/06/138987152/antidepressant-use-climbs-as-primary-care-doctors-do-the-prescribing

Smith, B.L. (2010). Inappropriate prescribing. Monitor on Psychology, Vol 43, No. 6. Retrieved from: http://www.apa.org/monitor/2012/06/prescribing.aspx

Tami L,PhD., M.B.A., Levit, K. R., & Buck, J. A., PhD. (2009). Datapoints: Psychotropic drug prescriptions by medical specialty. Psychiatric Services, 60(9), 1167. Retrieved from http://search.proquest.com/docview/213073074?accountid=25283

The Impact and Cost of Mental Illness: The Case of Depression. (N.D.). National Alliance on Mental Illness. Retrieved from: http://www.nami.org/Template.cfm?Section=Policymakers_Toolkit&Template=/ContentManagement/ContentDisplay.cfm&ContentID=19043

Understanding Antidepressant Medications. (2009). FDA Consumer Health Information. U.S. Food and Drug Administration. Retrieved from: http://www.fda.gov/downloads/forconsumers/consumerupdates/ucm095990.pdf

Understanding Health Information. (N.D.) U.S. Department of Health and Human Services. Retrieved from: http://www.hhs.gov/ocr/privacy/hipaa/understanding/special/research/index.html

What is a Psychiatrist? (2014). American Psychiatric Association. Retrieved from: http://www.psychiatry.org/medical-students/what-is-a-psychiatrist

What is Depression? (N.D.). National Institute of Mental Health. Retrieved from: http://www.nimh.nih.gov/health/topics/depression/index.shtml

Appendix

Survey

Hello, my name is Martha and I am conducting a survey for my Graduate School Capstone Project. My Capstone is about the treatment of depression with antidepressants. I am inviting you to participate in the survey to obtain information on some of the prescribing practices with treating depression.

The survey should take you approximately 5 minutes to complete. The survey is short with a few questions for those who take antidepressants. The survey is anonymous and your name is not required. The survey will be used by me for the purpose of completing my Capstone project.

I hope that you will take the time to complete the survey. The responses are important to me and for my research. Thank you in advance for participating and helping me complete my research study on antidepressants.

1. What is your age?

a) 18 t0 24

b) 25 to 34

c) 35 to 44

d) 45 to 54

e) 55 to 64

f) 65 to 74

g) 75 or older

2. What is your gender?

a) Male

b) Female

3. Have you started taking an antidepressant in the last year?

a) Yes, I started taking this past year.

b) No, I have been taking an antidepressant for over a year.

4. Was the antidepressant prescribed for depression? If not, what was it prescribed for?

5. Which antidepressant do you take?

a) Selective serotonin reuptake inhibitors (SSRI)

b) Serotonin-norepinephrine reuptake inhibitors (SNRI)

c) Tricyclic antidepressants

d) Monoamine oxidase inhibitors (MAOI)

e) Other, please list here _____.

6. How effective has/have the antidepressant(s) been for you?

a) Very Good

b) Good

c) No Change

e) Poor

f) Very Poor

7. Who prescribed you antidepressant(s)?

a) Primary Care Physician

b) Psychiatrist

c) Other Medical Specialist (Please Specify)

8. How many times have you seen the health care provider who prescribed you the antidepressant in the last year?

a) 1-3

b) 4-8

c) 9-12

d) 12+

9. Which treatment options listed below, if any, have you tried?

a) Psychotherapy

b) Electroconvulsive Therapy

c) Alternative and complementary treatment

d) Other (please specify)

10. How effective has this treatment been for you?

a) Very good

b) Good

c) No Change

d) Poor

e) Very Poor

Revised Survey Question # 5

5. Which antidepressant do you take?

a) SSRI: Selective serotonin reuptake inhibitors (e.g. Celexa, Lexapro, Prozac, Paxil, Pexeva, Zoloft)

b) SNRI: Serotonin-norepinephrine reuptake inhibitors (e.g. Cymbalta, Effexor XR, Pristiq)

c) Tricyclic antidepressants (e.g. Norpramin, Tofranil, Pamelor, Vivactil, Surmontil)

d) MAOI: Monoamine oxidase inhibitors (e.g. Marplan, Parnate, Nardil, Emsam)