

5-14-2015

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Medicated Youth: Problem or Solution?

A Senior Honors Thesis

Submitted in Partial Fulfillment of the Requirements
for Graduation in the Honors College

By

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May 14, 2015

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Abstract

For years medication has become a normalized part of American Culture. Americans have begun to take medications for many different ailments, simultaneously even at times. The youth of our society have been of no exception to this shift in culture. With the idea of mental illness becoming less and less taboo, children are diagnosed with many mental illnesses and are often treated with medication. While some have grown accustomed to this idea of treating our youth with medication, many have become alarmed by it. The threat of unknown lasting consequences and harsh side effects have begun to instill fear in parents and professionals alike. So much so that countries such as Canada and Great Britain have begun to pass laws preventing children from being able to be prescribed certain more serious medications. Despite this fact there are many who stand by the effectiveness and safety of medication in treating mental illness in children claiming that it is unethical to deny children a treatment that is known to ease their suffering. However, there is much work being done to come up with a possibly even more effective form of treatment that combines medication with less invasive treatment options.

The Issue

Treating mental illness is not a new concept for the United States. Throughout the years we as a society have evolved in order to better treat those suffering from various mental illnesses. Mental illness is so widely accepted now that it has become part of the mainstream in our culture. There is significantly less judgment today from society upon those who are being medicated for mental illness than there was many years ago. But has this gone too far? Many are starting to believe that we as a society have swung too far in the opposite direction. These people believe that mental illness medication has become such of the norm that it is often overused. This idea becomes particularly alarming when you look at the increasing amount of children that have been placed on medication for some sort of mental illness.

When it comes to the issue of over medicating children for mental illness, there are many different things to consider. Firstly, what are the actual numbers of children being medicated? The number has certainly increased over the years, but by how much is an important question when looking at this topic. It is also important to look at the effects that long term medication may have on children. Additionally many question the necessity of medicating children. Other possible solutions besides medication must also be looked at in order to determine the amount of need there is for such medication. The Diagnostic Statistical Manual is of great importance to this topic as well. This manual serves as the main guideline for the diagnosis and treatment for mental illnesses and is used in a wide range of professions such as psychologists and psychiatrists. There is a significant amount of research that has been completed in regards to this topic. I intend to look at this research in order to come up with the

answers to many of the above questions. I also hope to come up with a general idea of society's feelings on this topic.

Rising Trends

When examining this topic there is one thing that cannot be disputed with and that is the number of children, both past and present, being treated for mental illnesses and disorders through medication. There have been a slew of recent studies detecting the rise of this trend and their results can be surprising. Perhaps the most astonishing of these numbers come from those of children who are being medicated and diagnosed with ADHD. According to a Mayo Clinic study, children between the ages of 5 and 19 have at least a 7.5% chance of being found to have ADHD. This statistic amounts to nearly 5 million kids (Kluger, 2008). A similar study with data collected between 2005 and 2011 found likewise results. This data showed that 6.8% of children ages 1-17 were currently diagnosed with ADHD. It was determined that ADHD was the most prevalent current diagnosis among children of ages 13-17 years. It was also determined that boys are more likely than girls to be diagnosed with ADHD, behavior problems, autism spectrum disorders and Tourette syndrome (Zuvekas, 2006).

Another common diagnosis received by children is for depression, anxiety and behavioral or conduct problems. Up until recent years many psychologists weren't even certain of rather or not children could suffer from mental illnesses the way adults do. Today, it is discovered that up to 10% of all American children suffer from some mental illness (Kluger, 2008). The Center for Disease Control and Prevention (Center for Disease Control and Prevention, 2014) published an article containing information from a report by the National

Research Council and Institute of medicine titled *Preventing mental, emotional and behavioral disorders among young people: Progress and possibilities* (2009).

The information from this article showed there are an estimated 13-20 percent of children living in the United States experience a mental disorder in any given year. This roughly equates out to 1 out of 5 children each year. An additional finding shows that in any given year there is an estimated \$247 billion spent on childhood mental disorders. The CDC concluded its article on the subject by stating “children’s mental disorders are an important public health issue for the United States (Center for Disease Control and Prevention, 2014).

Another recent report featured on the CDC’s website stated that as many as 10,000 toddlers may be receiving psychostimulant medication such as methylphenidate or more commonly known as Ritalin. The National Center for Health and Statistics reports from data collected between 2011-2012 that 7.5% of U.S. children between the ages of 6 and 17 were taking medication for “emotional or behavioral difficulties.” (Zito, 2000).

Conduct/Behavioral problem, anxiety and depression are the other most common illnesses diagnosed in children in the United States other than ADHD. One study shows that adolescent girls are more likely than boys to be diagnosed with depression or an alcohol use disorder. The data collected from this study determined that 3% of children ages 13-17 years currently were diagnosed with anxiety and 2.1% of children ages 13-17 years were currently diagnosed with depression. Additionally it was shown that 3.5% of children between those same ages were currently diagnosed with behavioral or conduct problems (National Institute of Mental Health, 2014).

Many of the numbers shown throughout the studies are certainly staggering. However, they become even more intriguing when compared to the numbers from the past. For example, the CDC reports a five-fold increase in the number of children under 18 on psychostimulants from the years 1988-1994 to 2007-2010. The most recent rate of this being 4.2%. In addition to this, the rate of antipsychotic prescriptions for children has increased six-fold over this same time period according to a study of office visits within the National Ambulatory Medical Care Survey (Leibert, 2013).

The report goes on to estimate that 1.3% of children are on antidepressants. There are some numbers that have been decreasing ever so slightly. For example, in children under the age of 5, psychotropic prescription rates had reached their peak at 1.45% in the years 2002-2005 and then declined to 1.00% in the years 2006-2009. One study raised the question of possible under treatment for ADHD stating "Hearing that 7.5% of children are on medication (4.2% being on psychostimulants) seems stunning, but knowing that 11% of children have a diagnosis of ADHD raises a possibility of under-treatment (Leibert, 2013).

The CDC has been very hands-on when it comes to this topic as they have completed their own study regarding to continuous rise of diagnosis and treatment for ADHD. The results of this study concluded that over an 8 year period (2003-2004 to 2011-2012) two million more children in the United States have been diagnosed with ADHD and one million more children in the United States were taking medication for ADHD over this time period. The CDC remains concerned with the younger and younger children who are taking medication for ADHD. According to their study the CDC determined that half of all children diagnosed with ADHD are diagnosed by age 6. Additionally, children with more severe ADHD tend to be diagnosed even

earlier with nearly half of them being diagnosed by age 4 based on parent reports (Center for Disease Control and Prevention, 2014).

When viewed in percentages, the amount of children diagnosed and taking medication can seem small. However, the CDC equated the percentages to numbers which gives the average person a better idea of how many children in the United States this issue is affecting. According to the CDC's study 6.4 million children ages 4-17 had been diagnosed with ADHD by a health care provider from 2011-2012 with 3.4 million of these children taking medication for their ADHD. This is a 42% increase from 2003-2011 (Center for Disease Control and Prevention, 2014).

This issue has caught the attention of many different groups across the United States. National Public Radio posted their own article up on their website with statistics given on the increase in medication if children. The article stated that families are increasingly opting for medication as the form of treating their kids when diagnosed with a mental illness. The article goes on to say that two-thirds of children with a current mental illness diagnosis are being medicated. This statistic shows a 28% increase from 2007 to 2011 (npr).

State by State Comparison

Many of these studies examine the United States data as a whole. However, it is also important to examine these statistics on a state by state basis. A study titled *State-based Prevalence Data of Parent Reported ADHD Medication Treatment* sheds much light on this. This article displays two color coded maps of the United States as well as each state's data from both the years 2007 and 2011. One map and data set include the percentages of children being

medicated for ADHD and the other depicts the percentages of children diagnosed and being medicated for ADHD.

The states with the highest percentage of children being medicated (9% and up) includes Arkansas, North Carolina, Indiana, Iowa, Kentucky and Louisiana with Kentucky and Louisiana being the highest at 10.1 (Kentucky) and 10.4 percent (Louisiana). The states with the lowest percentages (between 3 and 5 percent) include Alaska, California, Hawaii, Utah and Nevada with Nevada being the lowest with 2% in 2011. Most states experienced an increase in prevalence of ADHD medication from 2007-2011. Although no states experienced a significant decrease in prevalence between there were a few states that experienced a dramatic increase. Montana, Iowa and Texas almost doubled in their percentages within the 4 year time frame (State-based, 2014).

The next data set and map examines the amount of children who are being treated with medication of those who are diagnosed with ADHD on a state by state basis. This data set also examines this information from the years 2007 and 2011. The States that medicate most of their diagnosed children include Alabama, Nebraska, North Carolina, North Dakota, Indiana, Iowa, Kansas, Louisiana, Missouri, Texas, Tennessee and Wisconsin (State-based, 2014).

While some states in this data set saw an increase in medication of their diagnosed children between 2007 to 2011 there were also many states that saw a decrease in the medicating of diagnosed children within the time frame. Some of those states include Rhode Island, South Carolina, Georgia and Illinois. The states that had the least amount of diagnosed and medicated children included Alaska, Colorado, Nevada, Washington D.C., Hawaii, Illinois, Oregon, South Carolina and Utah. All of those states had a percentage of less than 65% of their

diagnosed ADHD children being medicated. The states with the least included Hawaii at 53.1% and Washington D.C. at 53.2% (Center for Disease Control and Prevention, 2014)

The article posted on the National Public Radio website also took note of the significant difference in regional ADHD diagnosis in the United States. For example, 15% of kids in Arkansas have had an ADHD diagnosis. This differs substantially from the 9% diagnosed in Maryland and 5% diagnosed in Nevada (Npr).

Process of Diagnosis

An important question to ask after examining these growing numbers is “who is prescribing the medication?” and “How is this happening?” According to a diagnosis guide for parents of children with bipolar disorder, a specialist is not always needed to diagnose and prescribe medication for children. Often times a diagnosis and treatment can be completed by the child’s primary care physician or pediatrician. However, it is strongly recommended that the parents seek a second opinion from a trained psychiatrist before placing a child on any medication (Parents’ Medguide, 2013).

In another article posted on the National Institute of Mental Health’s website, it is recommended that parents who are concerned that their child may be showing symptoms of a mental illness, talk to the child’s pediatrician. Furthermore, the article recommends that the child is evaluated by a specialist if that is what the child’s primary care physician feels is best. Specialists can include anyone from psychiatrists, psychologists, social workers, psychiatric nurses and behavioral therapists (Hirsch, 2013.)

The National Institute of Mental Health also describes the usual process that a psychiatrist will go through in order to diagnose a child. First the signs and symptoms of the

child are carefully examined and observed. Often times a doctor will try and rule out other possible causes for the symptoms before diagnosing them with a specific mental illness (National Institute of Mental Health, 2014). This is usually where the Diagnostic Statistical Manual (DSM) comes into play. Each mental illness described in this manual has specific guidelines for specialists to follow when making a diagnosis. For example, a specific amount of symptoms may need to be present or the illness has to have presented itself before or after a certain age in order for that diagnosis to be considered plausible (Diagnostic Statistical Manual, 2014).

Although the DSM serves as a guideline for diagnosis, there is no one specific test to determine if a child has a mental illness. This is especially true for the diagnosis of ADHD. Determining if a child has ADHD is a several-step process. Diagnosis can also be difficult when many mental illnesses display overlapping symptoms (CDC symp and diag).

The Dangers of Medication

Upon looking at the available facts it is easy to see that the amount of youth that is taking medication is abundant. But these numbers still leave a question as to why do some people believe these large numbers are such an issue. For starters, the article titled *Medicating Young Minds* asks “Are we adults raising Generation Rx?” The numbers of children taking medication for some sort of mental disorder would certainly support this. However the real question is “How necessary is medication in cases of mental disorders in children? And what problems could over-medicating the youth of our country cause?”

Many have begun to wonder how safe it is to treat children with psychotropic drugs. Although a few of the newer drugs have been developed and approved specifically for youth,

the majority of drugs used on children have only been approved by the FDA for adults. Doctors are able to get away with using these drugs on children because they are using them as what's called "off label." This practice is becoming more and more common with younger and younger patients. One example of this is a study completed in Canada that showed in results that Canadian doctors made 141,000 recommendations for Paxil to patients under 19 for which the FDA has not approved the drug for. Although the practice of "off label" prescribing is common and completely legal, many still view it as risky. Remi Quirion, the director of the Institute of Neuroscience in Canada stated "For kids, we don't know as much about what dose we should use and what could be the long-term impact of the treatment we're giving" (Kluger, 2008).

The reason why many of these medications that are approved for adults cannot be approved for is because of the differences between young brains and adult brains. The brains of young children change and develop at rapid speed. Many studies have shown that young brains that are still developing can be very sensitive to medications. Young brains also have developmental differences in the way that they metabolize or in other words, how their bodies process such medications. A childhood mental health fact sheet displayed on NIMH warns that doctors should "carefully consider the dosage of these medications to each child." The article goes on to say that more research is needed on the effects of these medications on the brains of children. Due to the fact that many psychotropic medications have not been studied in their use with children they have continued to not be approved by the FDA for children (National Institute of Mental Health, 2014).

Some countries are beginning to question the practice of "off label" prescribing. British drug regulators have recently recommended against the use of Paxil, Zoloft and three other

common SSRI's (Selective Serotonin Reuptake Inhibitor) for children. The drug regulators cited their main reason for this as the links that these medications have to suicidal thoughts and self-harm when used by children. Since this, Canada has begun to examine their use of these medications on children as well. Health Canada has warned health-care professionals against prescribing Paxil to anyone under 18. It has also begun to warn against the use of Effexor with pediatrics which is a Selective serotonin and norepinephrine reuptake inhibitor (SNRI) (Kluger, 2008).

This reinforces the fact that the medical community has a growing concern about what psychotropic drugs can do to still developing brains. The fact that the United States has not begun to question its drug use on children could be chalked up to the fact that Western culture is a quick-fix culture. Many people in the United States will try and find the simplest solution to any problem they have regardless of what the long-term consequences may be. Dr. Glen Elliot is director of the Langley Porter Psychiatric Institute's Children's Center at the University of California in San Francisco. He believes that "The problem is that our usage has outstripped our knowledge base...we're experimenting on these kids without tracking the results." (Kluger, 2008).

Many people have also begun to wonder if all of this medicating of our youth is interfering with a child's normal development. This is particularly the case when symptoms of a disorder may be very mild. For example, a child who is somber but not depressed or a child who is antsy but not clinically hyperactive may not truly require medication. Stephan Hinshaw, the chairman of psychology at the University of California in Berkley, believes that if we do not start assessing each case carefully we may start to medicated and try and change normal variations

in behavior. If all eccentric kids were medicated to be “normal” the world would be “a far less interesting place” he continues. Some doctors also worry that by medicating a child’s developing brain, you may be ruining the very thing that could save it. For example, if a child with anxiety is prescribed antianxiety medication at a young age they may never have the chance to develop normal coping skills to manage stress on their own without drugs (Kluger, 2008).

The Diagnostic and Statistical Manual currently in its fifth edition (DSM-5) is designed to help clinicians diagnose and treat various mental illnesses. The DSM-5 states under its section on ADHD that 6 symptoms must be present in order for a child to be diagnosed with ADHD. However, many doctors may use their own discretion when it comes to the amount of symptoms present. Therefore, it can be easy for the medicating of what is simply a normal variation in behavior where another treatment option could be used that doesn’t involve medication (Diagnostic Statistical Manual, 2013).

The DSM-5 has also added many extras in its newest addition specifically for children due to the increasing number of them being diagnosed with disorders and treated with medication. The DSM-5 also changed its requirement for symptoms present from prior to 7 years of age to prior to 12 years of age. However, the DSM-5 also states that some conditions found in children are in need of more research and clinical experience before being considered a main disorder in children such as non-suicidal self-injury (Diagnostic Statistical Manual, 2013).

The Issue of Side Effects

One obvious issue that comes along with medicating youth is the side effects to these medications. One of the major side effects that is feared are the suicidal thoughts and actions

that can accompany antidepressant medication when taken by children. There have been several studies whose data supports this claim but there are also several that dismiss it. The FDA has developed a ‘black box’ warning label on antidepressants that indicates they may cause suicidal thoughts when taken by children or adolescents. This type of warning label is the most serious type when it comes to prescription drug labeling (Antidepressants, 2013).

Most children who are diagnosed with bipolar disorder are prescribed a mood stabilizer. These drugs have their fair share of side effects as well. Mild side effects of these medications include weight gain, nausea, blurred vision, slurred speech and hair loss. These types of medications also come with long term concerns such as decreased thyroid function and hyperparathyroidism which can cause kidney stones (bipolar). Due to the fact that many of these medications come with such side effects, many doctors recommended only using medication as a treatment option when the benefits outweigh the risks (National Institute of Mental Health, 2013).

The Benefits of Medication

Although there are many reasons for why children should not be placed on psychotropic medication for mental illness, the numbers are clearly showing that a staggering amount of children continue to be medicated. This is most likely due to the amount of research being completed that proves and discusses the many benefits of medicating children for such illnesses. Research supporting this fact has been increasing and many experts and doctors are working hard to clear the bad reputation that many medications have when used with children.

One article states that some children truly need medication in order to manage the severe and difficult problems that their mental illness causes them. The article goes on to say

that without such medication being used, these children suffer very serious and possibly even dangerous consequences (National Institute of Mental Health, 2013). The CDC published a similar article discussing treatment options for ADHD specifically. This article stated that receiving the proper treatment for ADHD is very important and children who do not receive adequate treatment via medication for their ADHD may suffer from serious negative consequences. These consequences can include things like low self-esteem, social failure, academic failure, substance abuse and an increase in the risk of antisocial and criminal behavior (Center for Disease Control and Prevention, 2013). When depression is left untreated it has a lifetime suicide rate of 15%. Statistics such as these lead many to believe that medication is the answer for those with mental illness regardless of their age (Huefner, 2014).

Many parents are often concerned that the treatment of mental illness with medication could cause drug dependence later in life when used by their children. However, multiple studies have shown that this is not the case. These studies followed children with ADHD for ten years or more and support the conclusion that the clinical use of psychostimulant medications does not increase the risk of substance abuse later in life. Additionally, many studies have further shown that those with ADHD who are not effectively treated with medication during childhood and adolescence have a greatly increased risk of developing a significant alcohol or drug abuse problem later on in their life. Furthermore, when children with ADHD are treated with medication, this study proved that the risk of drug or alcohol abuse later on in life is reduced to the same of individuals who do not have ADHD (Children and Adults with ADHD, 2013).

An article posted on a website that solely discusses mental health in children acknowledges the fact that many parents want to avoid medication or are scared to use medication as a treatment option. However, the prognosis of a child's illness is proven to be brighter and more optimistic with proper treatment that often includes medication. Additionally, if a child does not receive the proper care for their mental illness, the illness may continue on into adulthood. When this occurs it creates a very high risk for further issues such as substance abuse, antisocial behavior or even suicide. Giving the correct diagnosis and most effective treatment option (including medication) is linked to an outlook for a healthy and positive life as an adult (Antidepressants, 2013). Many experts are actually more concerned with the idea of under medicating children with mental illnesses rather than over medicating them and feel it is of a bigger risk. The belief that treating more kids for mental illness could reduce the prevalence of mental illness in adults also favors in the side of medication intervention (Kluger, 2008).

One expert that strongly believes in the use of medication for resting mental illness in children is Dr. Kiki Chang from Stanford University. Dr. Chang recently published an article in the Journal of Clinical Psychiatry regarding a study that he conducted involving kids from bipolar families. In this study, Dr. Chang took children from families that had a genetic predisposition and history of bipolar disorder, who had early signs and symptoms of the disorder. Each child was then given preemptive doses of a drug typically used to treat bipolar disorder called Depakote. The results of this study found that in 78% percent of the cases of this study, the children's early symptoms were eased before the illness had ever even had a chance to take full effect (Kluger, 2008).

Dr. Chang states “you can sit and watch it (mental illness) develop or intervene and possibly prevent the disorder.” Although Dr. Chang remains extremely excited about the results of this study, he will also admit that the idea behind it is controversial. Many feel that it is ethically wrong to treat kids with medication who are not yet truly sick. Dr. Chang states “There’s a chance that some of the kids (in the study) might not develop bipolar (disorder) at all.” However he still feels more research is needed. He states “We need to have more genetics, more brain imaging, more biological markers in order to know which direction the kids are going.” (Kluger, 2008).

Proving Their Case

Much of society is also concerned with the effects that medication can have on a young brain. However, there is research that is beginning to shed light on that as well. Researchers and investigators have been looking more and more at different brain scans and using MRIs in order to determine the effects that medications have on a young brain.

Previous research has shown that the brain volumes of children with ADHD are 3% smaller than those of children who do not have ADHD. This fact is initially very concerning because nearly all of the children involved in those scans had been taking medication for their ADHD. This leaves many to wonder if the decreased brain volume is a result of the the ADHD disorder itself or if it is a result of the medication the children had been taking for their ADHD (Kluger, 2008).

One person attempting to answer this question is Dr. F. Xavier Castellanos of the New York University Child Studies Center. Dr. Castellanos decided to take his own scans and perform, his own study. In this study the children were separated into two groups. The first

group of children had ADHD and were not being treated for the disorder. The second group of children also had ADHD but were being treated with medication for their disorder. The results of this study found that both groups shared the same anatomical brain structure and therefore was able to determine that drugs were not the cause of a decrease in brain volume in the case of children with ADHD (Kluger, 2008).

Dr. Steven Pliszka, Chief of Child Psychiatry at the University of Texas' Health Center located in San Antonio, Texas decided to conduct his own study as well. Dr. Pliszka's study was very similar in method to Dr. Castellanos' study, however here were some minor differences. Like Dr. Castellanos' study, Dr. Pliszka's study included two groups of children. One group of children were diagnosed with ADHD but were not being treated for their disorder. The other group of children were also diagnosed with ADHD but had been taking medication as a form, of treatment for one year or longer (Kluger, 2008).

The scans used in the conduction of this study not only picked up the anatomic structure of the children's brains but examined their brain activity as well by means of blood flow. The results of this study were also very encouraging. Data showed that the group of children being treated for their ADHD with medication had no deficits regarding their brain structure or function in comparison to the group of children not being medicated. Additionally, Dr. Pliszka states that "we saw hints of improvement towards normal" in the brains of the children being medicated for ADHD (Kluger, 2008).

Despite these promising results, the conduction of these types of studies discussed are often very controversial. This is mostly due to the fact that within these studies one group of children that is known to have ADHD is not receiving treatment for it. Many feel that this is a

breach of ethical issues and standards. The doctors conducting these studies know that medication would help these children but withhold it from them possibly causing the children stress and harm. Experts and parents alike feel that it is wrong to withhold medication from a child who clearly needs it regardless of the situation (Kluger, 2008).

Patient's Thoughts

Much of society often looks towards the opinions of experts and doctors to determine what will benefit their children most. However, perhaps the most telling opinion comes from the children who grew up taking medication for their mental illness. One case study involving a girl named Andrea, certainly displays the positive effects that medication can have on a mentally ill child's life. When Andrea was in 8th grade she was diagnosed with generalized anxiety, obsessive-compulsive disorder (OCD) and ADHD. All three disorders slowly began to take over Andrea's life. Her school work suffered, her social life suffered and her family life suffered all due to mental illness (Kluger, 2008).

Today Andrea is a successful college freshman excited about her major of fashion merchandising. This is all thanks to the medication that she began taking for her illnesses. Andrea was placed on a pair of chemical stabilizing pills. The first medication is a drug called Lexapro which is an antidepressant and the second medication is a relatively new anti-ADHD drug called Adderall. Andrea states that it is due to these medications that she feels "excited about things." Andrea goes on to say "I feel like I got me back." (Kluger, 2008).

Although this would sound like an easy fix and a story with a happy ending, there is still more to it. The antidepressant drug that Andrea has been taking called Lexapro, works by artificially manipulating and changing the chemicals of the brain that are responsible for feeling

and thought. The long term consequences that staying on a drug like this could cause are still unknown. Additionally, the drug Adderall has left Andrea with side effects of weight loss and sleeplessness. But the real question is, how does Andrea feel about her situation knowing what her treatment has caused? Andrea says

“I’m just glad there were things that could be done.” (Kluger, 2008).

Another case study of a young girl named Monica discusses her experience with medication as a child. Monica was raised by her grandmother due to the fact that her mother had bipolar disorder. At the age of 6, it was clear that Monica had developed the disorder as well. Initially, doctors prescribed 6 year old Monica a combination of Ritalin and Prozac. When it became clear that this drug combination was not working, doctors switched her to Zyprexa which is an antipsychotic, at the age of 8. Unfortunately this medication led to a side effect of serious weight gain. By the time Monica was 12 she had stretch marks from the excessive weight her body was now suddenly taking on. So her doctors switched her medication regimen once again (Kluger, 2008).

Today Monica is taking a combination of four different drugs. This combination includes Tegretol, which is an anticonvulsant and Abilify which is an antipsychotic. Luckily for Monica and her grandmother, this combination of medications seems to be helping Monica tremendously. Monica’s grandmother says “She’s the best I’ve ever seen her. She’s smiling, her moods are consistent. I’m cautiously optimistic. Monica seems to agree with her grandmother that this medication has helped her immensely. Now 13, Monica states “I’m in a better mood.” (Kluger, 2008).

The case study of Jonathan, who is now 18, is also a case for medication. Jonathan described his experience with mental illness prior to medication as such; “I knew that something was wrong, but I didn’t know what. I felt like there was this big black fog in my brain that I couldn’t fix.” As an adolescent, Jonathan received the diagnosis of major depression. The treatment for this disorder in his case was a drug called Zoloft. Today, Jonathan feels much differently. He feels that he has much more energy and focus. He has also experienced an improvement in his grades and is taking better care of himself. Jonathan’s mother sees the change as well. She says “He has the look of someone who has come back to life.” (Kluger, 2008).

Implications for Social Workers

Many of the professionals working with medicated youth such as doctors and psychiatrists, have been discussed thus far. However, it is social workers that provide the largest proportion of mental health services in the United States. Additionally, many studies have shown that nearly every social worker practicing with youths has worked with a medicated child or adolescent (Moses & Kirk, 2006). In a recent survey of social workers, only 6% of survey respondents reported that none of their clients used psychotropic medication. This means that nearly all social workers will encounter client taking psychotropic medication at some point during their career (Farmer, Bentley & Walsh, 2006). Therefore, it is safe to say that these increases and changes within the mental health community have had and will have a great effect on the social work profession.

These statistics, including the statistics on the increase of medication use in children, could potentially mean many things for the future of social work professionals. For example, we

know that the number of children on medication is growing. Therefore the demand of social workers in the mental health field will also increase. There may also be an increase of social workers needed to work with children in the future due to these changes. But, perhaps the largest effect that this increase is having and will continue to have on the social work profession is adding teachings on the use of medications in clients to the social work curriculum (Farmer, Bentley & Walsh, 2006).

Some changes that have already begun and are able to be seen is the sheer number of social work clients that are on psychotropic medications. Nowadays, social workers often times work with clients who are currently being prescribed several medications. This has a great effect on a social workers intervention strategy with that clients and often times makes it much more complex. It is with these changes that the role of a social worker has begun to change and expand in order to meet the demands of clients. Today, social workers are expected to do more and more of which they were not in previous years. Although the expectations of what a social worker is equipped to handle has changed, the curriculum of a social work student has not yet changed to meet this demand (Farmer, Bentley & Walsh, 2006).

As stated previously, social workers are the largest group of professionals that work in the mental health field and seldom have a client that is not on a type of psychotropic medication. However, when examining the typical social work curriculum there are no such classes on psychotropic medication to be found. In a study performed by the Council on Social Work Education it was found that only 44% of social work programs included "some content on psychopharmacology." However, it appeared that most of this content was taught in elective courses and the extent of this content varied upon individual faculty interest. Additionally, 54%

of social work programs reported having “no classroom content on psychopharmacology.” Of all the social work programs surveyed, 55% stated that all schools of social work should include content on psychopharmacology in their curricula and that all students should be exposed to it (Farmer, Bentley & Walsh, 2006).

Although many schools do not include this type of teachings or course into their curricula, there are a few that have begun to make changes and add it in. Virginia Commonwealth University has offered an elective in psychopharmacology for the last 8 years. Additionally, the university has added in a unit on psychopharmacology to its Human Behavior in the Social Environment course for the last 2 years. Since Human Behavior is a required course for social work students, all students in the social work program, and not just those taking the elective, were exposed to this type of content (Farmer, Bentley & Walsh, 2006).

Virginia Commonwealth University has stated that this type of content has been very well received by the students. Many social work students at the university had already had a previous interest in the topic of psychopharmacology either professionally or personally. This information fits along with a recent study which found that depression and anxiety were extremely common among social work students. This type of interest really enhanced the learning experience at Virginia Commonwealth. It was reported that students actively participated in class lectures and discussions. AT the end of the course, students reported feeling much more confident in working with clients who use psychotropic medications (Farmer, Bentley & Walsh, 2006).

Due to the fact that social workers have been experiencing an increased demand as professionals to understand psychotropic medications and yet, there has been little attempt to

add teachings regarding these medications into social work curricula, it is important to ask; where have social workers been getting the knowledge to handle these clients? A 2001 national survey of clinical social workers determined that more than 95% of social workers cited their top sources of knowledge on psychopharmacology as collaboration with physicians, interactions with clients, conversations with peers and professional workshops. Much lower down the list of responses as a source of knowledge was an MSW program at 71% and a BSW program at only 16% (Farmer, Bentley & Walsh, 2006).

These social workers were then asked about the quality of knowledge that they felt they had received in their program. Of those in an MSW program only 21% of respondents stated that their program was a “good” or “excellent” source of knowledge. Of those in a BSW program, only 2% of respondents stated that their program was a “good” or “excellent” source of knowledge (Farmer, Bentley & Walsh, 2006). According to an article published in the *Journal of Social Work Education*, it is common for social workers to have learned about psychiatric medications from their field placements during baccalaureate or master of social work programs or from employment experiences. In a different study performed by the Council on Social Work Education that surveyed 994 clinical social workers, it was found that a majority of social work professionals learn about psychiatric medications mainly from collaborations with physicians (Farmer, Bentley & Walsh, 2006).

This lack of a structured and streamlined education on the subject of psychopharmacology among social work students could lead to many problems in the future. For example, if a social worker is unaware of certain medications and the effects that they may have on a client, they are less likely to make the best judgement calls for interventions. With

the curriculum that is currently in place where psychopharmacology is not a required course, the amount on the subject that social workers know and what was covered on the subject varies from each individual based on the school they attended. This could potentially cause problems in the workplace if a majority of the workers at that agency have all received very little formal education on the subject (Farmer, Bentley & Walsh, 2006).

Due to the fact that it is well agreed upon that in order to practice competently and effectively, social workers must be exposed to knowledge on psychopharmacology. Therefore the Journal of Social Work Education has created a seven module curriculum proposal to use in social work education. These modules provide specific content that can be integrated into almost any pre-existing social work course and does not require an entire course to cover all of the topic areas included. The modules are titled as follows: Module 1: The social worker's role in psychopharmacology, Module 2: Principles of Drug Action, Module 3: Classes and Types of Psychotropic Medication, Module 4: Psychopharmacology with Special Populations, Module 5: Ethical and Legal Issues with Psychopharmacology, Module 6: Medication Management Techniques and Module 7: Interdisciplinary Collaboration. Each module includes goals and objectives for students by the end of each module and is designed to give social workers knowledge on psychopharmacology that is relative to their future work (Farmer, Bentley & Walsh, 2006).

Additionally, the Journal of Social Work education suggests that the seven modules previously mentioned are used in application to field work courses. Since it is already proven that a majority of social workers come in contact with clients who are taking psychotropic medications, field placements are an opportune time to put the modules into effect. By giving

students the opportunity to then apply the knowledge that they have gained in their psychopharmacology lessons, they are further learning how to apply and use the knowledge in professional and real life situations (Farmer, Bentley & Walsh, 2006).

The increase of children and youth being medicated is causing the values and therefore, the practices of professional social workers to change as well. A social worker's attitude on drug treatment is very important because it can likely affect their behavior and communication style with parents (Moses & Kirk, 2006). According to a recent study, the majority of social workers had a very validating attitude about towards children and the parents of children taking medication for mental disabilities. Only a very small amount had a parent-blaming view towards the children and their parents (Johnson, 1998).

However, this was not always the case. In years past, social workers tended to have an anti-medication practice belief. Much of the social work literature from the 1970's and 1980's depicts the professions view of psychotropic medications as "suspicious and negative." Much of this literature focused on things such as overmedication, inadequate screening, infringement of patient rights and side effects. Today, social work literature in fact suggests that professionals subscribe to the medical model and support as well as facilitate the use of drug treatment for those with mental illness. Several other studies have concluded that today's social workers are more positive about drug treatment than other mental health professionals (Moses & Kirk, 2006). This is most likely due to the increase of clients and thus, experience, that social workers have had with drug treatment in regards to mental illness.

This increase in social worker's positive attitudes regarding drug treatment can also be seen in a 1998 study completed by Johnson and Associates. This study concluded that the

majority of those with a positive attitude regarding drug use were from a more recent younger generation and those with a negative attitude were older social workers who had been working for longer and therefore would have been studying social work at a much earlier time. These social workers' attitudes likely stem from what they were taught in school and the clients that they had been exposed to throughout their career (Moses & Kirk, 2006).

Another study specifically asked social workers to identify their feelings towards the use of psychopharmacology with youth. The results of this study concluded that respondents tended to disagree with the idea that psychopharmacology is generally harmful for youths. Therefore, social workers are becoming increasingly accepting of medicating clients that are younger. However, many social workers in the study agreed that medication is often times used as a substitute in which other treatments could be used (Moses & Kirk, 2006).

Solution of Combination

There are many studies that point to such other treatment options as being more effective in treating patients with mental illness. However, many patients and doctors will shy away from these other treatment options as they take more time for results to be seen. Still, many argue that these other forms of treatment are better for patients in the long run due to their less invasive nature to the body and proof of extreme success. These other types of therapies are referred to as psychosocial therapies, also known as talk or behavioral therapies. These types of therapies work on changing the behavior of an individual and teaching coping strategies for an individual's mental illness (National Institute of Mental Health, 2013).

Cognitive behavioral therapy is another is another type of psychotherapy that is extremely effective when working with children. This form of treatment has been studied

numerous times has proven to be effective in treating a number of conditions in children such as depression, obsessive-compulsive disorder and social anxiety. Cognitive behavioral therapy works with children to change their distorted thinking patterns and unhealthy behaviors associated with their illness. Cognitive Behavioral Therapy goes along with the idea that many professionals have which is that medication should be used with other treatments and should not be the only treatment (National Institute of Mental Health, 2013).

There are also many effective psychosocial therapies for children suffering from ADHD. Two of these include behavioral parent training and behavioral classroom management. These psychosocial therapies as well as the ones previously mentioned, can be utilized in combination with each other in order to achieve optimal results. For example, a child with ADHD could receive both behavioral classroom management and cognitive behavioral therapy simultaneously. Psychosocial therapies work by providing children with new skills while also increasing overall mental health (National Institute of Mental Health, 2013).

Although medication alone is a proven treatment for ADHD, a 14 month study conducted by the National Institute of Mental Health concluded that combining behavioral treatment with medication was more effective in other areas. Some of these areas include the improvement of families, teachers and children in their ability to modify the behaviors associated with ADHD that cause problems and home and at school. Additionally, some of the children receiving both medication along with behavioral treatment were able to take lower doses of the medicine than children receiving the medicine as the sole treatment. The behavioral treatments utilized in this study were parent training, child-focused treatment and school-based interventions. The study also concluded that the combined treatment of

medication and behavioral therapy was especially effective in treating children with ADHD and other combining disorders such as depression or anxiety (Children, 2013).

Other professionals in the field strongly suggest that children with other mental illnesses try and receive psychotherapy as a treatment option. Many of these professionals suggest psychotherapy as the initial treatment option for children and adolescents with major depressive disorder, especially those with milder cases. This is often the suggestion due to the fact that psychotherapy is also an effective way to determine the severity and persistence of the individual's depression and can help in the decision of if medication is warranted. Cognitive behavioral therapy is a very effective psychotherapy when working with those suffering from depression. Interpersonal therapy is another very effective form of treatment when working with those suffering from depression. Interpersonal therapy helps individuals understand and work through any troubled personal relationships that they may have as these can often times be the cause of or adding to the individual's depressive state (Children, 2013).

The National Institute of Mental Health performed another study to determine the best treatment options for adolescents with depression. This major clinical trial was titled the Treatment for Adolescents with Depression Study. This study used 439 adolescents ages 12-17 all suffering from major depressive disorder. The adolescents were then separated into four treatment groups. One group received a combination of fluoxetine (Prozac), a common SSRI used to treat depression and cognitive behavioral therapy. The second group received fluoxetine only. The third group received cognitive behavioral therapy only and the fourth group received a placebo only. After 12 weeks, 71% of the individuals responded best to the combination of fluoxetine and cognitive behavioral therapy. Additionally, 61% responded to the

fluoxetine only treatment, 43% responded to the cognitive behavioral therapy only treatment and 35% responded to the placebo only treatment. The results of this study have indicated that a combination of medication and psychotherapy is the most effective form of treatment for adolescents with depression. The study also concluded that of all four groups, those receiving medication along with psychotherapy, showed the greatest reduction in suicidal thinking (Antidepressants, 2013).

Many groups are also trying to educate parents about the psychotherapy treatment options that are available for their children to be either used along with or in place of medication. For example, a guide for parents with children suffering from bipolar disorder explains that there are many different treatment options available for their children, all of which are proven to be effective. This guide for parents stresses that psychotherapy is equally as important as medication in helping a child manage their illness. The same section of this guide also explains the objectives of such psychotherapy treatment options and what they can provide. The guide stresses that the education of family and behavioral management techniques that are gained throughout psychotherapy are crucial in helping a child stay on the treatment program and helping to prevent relapse. The guide also cited a recent two year long study that concluded psychotherapy that focused on interpersonal coping strategies of children with bipolar disorder, greatly helped in controlling the symptoms of the disorder and allowing the children to function better in society (Parents' Medguide, 2013).

Projections

After taking the findings of this research into account, it is fairly easy to see where the trends of this topic will go in the future. Many of the articles and journals involved in this

research have projected that the amount of children being diagnosed with mental illnesses will continue to rise. Specifically, the number of those diagnosed with ADHD will continue to rise even further. Along with these increases will be a similar increase in the amount of children on medication for these illnesses. Due to these increases, the amount of professional social workers collaborating with psychiatrists will also continue to increase. Following all of the research being done on social work curriculums it can be predicted that many social work programs will utilize the addition of a psychopharmacology course.

Conclusion

The majority of children being treated for mental illness are staggering. Unfortunately, due to limitations of what research can be performed on children, there is a significant lack of understanding regarding the effects that medication has on a young brain. More research is desperately needed in order to determine future and long term effects that these statistics may have. The social work profession will continue to be the largest group of professionals treating mental illness. Social work students need to be taught more about the medications being used by their clients in order to create better intervention strategies that will help their clients more effectively. The amount of children with mental illness is only going to rise further. It is important that parents understand the risks and rewards of medicating their children. It is also important that more parents and professionals are educated on the benefits that other psychotherapies can offer as far as treatment options.

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