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# DMDD the diagnosis meant to decrease BPD diagnoses and decrease prescription medication

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## Abstract

Disruptive mood dysregulation disorder, also known as DMDD, was introduced in 2013 to help decrease the number of diagnoses of bipolar disorder (BPD) while also hoping to help reduce the amount of prescription medication that was being prescribed to young children and adolescents that were diagnosed with pediatric bipolar disorder. Instead, there seems to be an increase in prescription medications as first-line treatment, specifically antipsychotics (as well as other psychiatric drugs). The hope of this paper is to showcase how disruptive mood dysregulation disorder diagnoses did not accomplish what it set out to do. Rather than decrease the number of prescriptions being prescribed to young children and adolescents, it actually increased the number of prescriptions being prescribed, which include six reasons as to why prescribing medications to children with DMDD happened, including more acceptance of psychiatric drugs, with an increase in awareness comes an increase in knowledge, non-pharmacological treatments not being offered, non-pharmacological treatments too lengthy for families & clinicians, and prescription drugs are a quick and easy fix. There are even adverse effects that could happen if children and adolescents are prescribed prescription medication in terms of their endocrine and cardiovascular health.

Keywords: Disruptive Mood Dysregulation Disorder, Bipolar Disorder, Antipsychotics, Pediatric Bipolar Disorder, Children, Adolescents

In 2013, a new diagnosis would be introduced into the DSM-5 to lessen the number of children being diagnosed with Bipolar Disorder (Findling et al., 2022). That new diagnosis is now known as disruptive mood dysregulation disorder. The new diagnosis would decrease the amount of prescription medications being prescribed to young children. However, recent studies show that not to be the case. In actuality, children are being prescribed medication more than ever. Proving the new diagnosis to not have been the solution to stopping the prescribing of medication to young children.

The DSM-5 describes bipolar one disorder as "characterized by a clinical course of recurring mood episodes (manic, depressive, and hypomanic), but the occurrence of at least one manic episode (American Psychiatric Association, 2022, pg. 144)." As long as this diagnosis has been in the DSM, a complication arose. At first, there seemed to be no age limit in terms of who could be diagnosed with bipolar disorder, though there ended up being a diagnosis for children called pediatric bipolar disorder (Tapia & John, 2018), which ended up with many young children being diagnosed with bipolar disorder. Pediatric bipolar disorder (PBD) was described as seemingly altering a child's cognitive as well as emotional functioning, which could affect their academic and social life (Hours 2023). PBD also seemed to overlap with a lot of other diagnoses given to young children as well such as attention deficit hyperactivity disorder (ADHD), as mentioned by Hours (2023). That, along with its comorbidity with other disorders, would end up causing an overdiagnosis of pediatric bipolar disorder (Hours 2023). The increase in bipolar disorder being diagnosed in young children as well as in adolescents started to cause some concern,

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especially with the rise in the diagnosis, leading to more medication being prescribed as a treatment. This concern would eventually lead to a new diagnosis to try and lessen the rise in diagnosis: disruptive mood dysregulation disorder.

Researchers found that disruptive mood dysregulation (or DMDD), was first created to reduce the number of young children being diagnosed with bipolar disorder (Tapia & John, 2018). For example, research by Stringaris et al. (2017) showed instead of manic episodes seen in adult bipolar disorder, children who were diagnosed with pediatric bipolar disorder (which would later become DMDD) showed signs of "nonepisodic irritability" and small outbursts. As the years went on, the problem seemed to increase and become of great concern. So much so that something needed to be done. Disruptive mood dysregulation ended up being added to the DSM-5, the work done by Dr. Ellen Leibenluft (Tapia & John, 2018). Children who showed symptoms of "chronic irritability with explosive tantrums (Tapia & John, 2018)," were to be diagnosed with DMDD, and not only was this supposed to reduce the amount young children being diagnosed with bipolar disorder, but it supposedly meant to create interventions targeted towards this group (Tapia & John, 2018). Not only that but also discussed in Tapia & John (2018), a study by Stringaris (2011) showed that children diagnosed with bipolar disorder did not end up having symptoms that correlated with bipolar disorder as adults. In hindsight, this diagnosis should have been the end of over-diagnosing young children with bipolar disorder, as well as stopping the over-prescribing of these children with medication. However, that ended up not being the case, and problems did arise.

The criteria for DMDD consists of "intense and prolonged outbursts that occur three times a week in at least two different settings and lasts for more than a year (American Psychiatric Association, 2013)." The diagnosis relies on history, in which the child should be between the ages of 6 and 18, and the onset should occur at least by age 10 (American Psychiatric Association, 2013). However, how does one define irritability? When are the irritability or outbursts considered a functional impairment? Studies show that there is difficulty in diagnosing disruptive mood dysregulation disorder, especially since it can be hard to distinguish the difference between "normal" childhood development and impairment in behavior (Tapia & John, 2018). Another problem arises when there seems to be a high comorbidity with DMDD and other diagnoses that young children can be diagnosed with, such as oppositional defiant disorder (ODD) and attention-deficit/hyperactivity disorder (ADHD) (Johnson & McGuinness, 2014). In other words, the child's diagnosis would depend on the clinician, and some clinicians might have a different opinion. This shows that disruptive mood dysregulation disorder might not be able to stand on its own as a diagnosis. In contrast, other studies show support for disruptive mood dysregulation disorder as a diagnosis (Tapia & John, 2018). For instance, a study done by Copeland et al. (2013) showed that even with the high comorbidity of DMDD with other diagnoses, there are characteristics of DMDD that cannot be explained by other diagnoses (such as ODD or ADHD). Parents with children who have been diagnosed with DMDD have spoken about how their children are "more oppositional, hyperactive, impulsive, emotionally labile, and having social problems (Uran & Kılıç, 2015)." There also seems to be a connection between children who are diagnosed with DMDD and having a higher risk for functional impairment (Uran & Kılıç, 2015). All in all, there are many challenges surrounding DMDD, yet there is also research that shows support for disruptive mood dysregulation disorder. Some challenges can range from the absence of standardized screening to scales that are too broad or narrow or some scales not having the scale items not measuring irritability (a symptom found in DMDD) because it is not very specific and could be related to other disorders (Tapia & John, 2018). The support, as mentioned before, in relation to DMDD as a diagnosis is research pertaining to studies finding some symptoms of DMDD that cannot be accounted for by other psychiatric disorders.

The overall goal with disruptive mood dysregulation disorder is to decrease the number of children getting diagnosed with bipolar disorder (in this instance, pediatric bipolar disorder). Most of the treatments that are prescribed for children who have DMDD are not necessarily prescription medication but rather techniques that aim to help reinforce and redirect more positive behavior (Tapia & John, 2018). For example, some methods involve positive reinforcement; psychoeducation can help educate parents on some of the concerns, answer some of the questions that they might have about their child's new diagnosis, or recommend cognitive behavioral therapy (CBT) (Tapia & John, 2018).

Aside from disruptive mood dysregulation disorder being added to the DSM-5 to combat the rise of bipolar disorder diagnoses in children, this new diagnosis may have been added to also decrease the increase in medication being prescribed for young children and adolescents being diagnosed with bipolar disorder. Research shows that the opposite might be occurring. Rather than a decrease in the prescription of drugs with DMDD treatment, there seems to be an increase instead. There are some possible reasons as to why this could happen; however, with the increase in overmedicating of young children and adolescents, this could affect not just mental health, but physical health as well.

## Article Reviews

Findling et al. (2022) found from research done by Harrison et al. 2012, Mayes et al. (2016), and Olfson et al. (2015) that potential adverse effects from antipsychotics became more of a concern, especially with the long-term impact on children and adolescents. Children and adolescents were being prescribed antipsychotics at alarming rates, which in part could have been

caused by the misdiagnosis of bipolar disorder in the younger demographic. For this study, Findling et al. (2022) wanted to assess the different treatments for the diagnosis of bipolar disorder and disruptive mood dysregulation disorder through a longitudinal dataset. The goal of the study also included a description of the demographics as well as the clinical characteristics of the two different groups (either BPD or DMDD) (Findling et al., 2022).

The method included a retrospective cohort, in which the period started from January 1st, 2008, to December 31st, 2018, where a demographic consisted of ages from 10 years old to 18 years old (Findling et al., 2022). They gathered the youth demographic through a health record known as Optum (electronic health records) (Findling et al., 2022). The study primarily focused on two groups: those diagnosed with bipolar disorder and those diagnosed with disruptive mood dysregulation disorder) (Findling et al., 2022). Youths that had been diagnosed with both or had been diagnosed with either/or diagnoses for a temporary amount of time (Findling et al., 2022). As for the demographic characteristics, age, gender, race, ethnicity, and regional distribution of cases involving bipolar disorder and disruptive mood dysregulation disorder (Findling et al., 2022). For clinical characteristics, items such as the psychiatric diagnosis, the mental health services used, and the prescription records were summarized (Findling et al., 2022).

Rather than a study guided by a hypothesis or inferential testing, Findling et al. (2022) decided instead to conduct an exploratory descriptive study. Two goals arose for this study: for the first goal, the authors hoped to describe the number of clinical diagnoses of bipolar disorder and disruptive mood dysregulation over time, and for the second goal, the authors wanted to assess the type of medication being prescribed to both groups as well (Findling et al., 2022).

Before 2013, about 11,475 young children and adolescents were diagnosed with bipolar disorder; after 2013, about 6,480 young children and adolescents were diagnosed with bipolar disorder, while 7,677 were diagnosed with disruptive mood dysregulation disorder (Findling et al., 2022). The results found by Findling et al. (2022) found that along with a diagnosis of either bipolar disorder or disruptive mood dysregulation disorder, about 89.8% of young people diagnosed with bipolar also had another disruptive behavioral disorder, and about 97.3% of young people who were diagnosed with disruptive mood dysregulation disorder had another disruptive behavioral disorder as well (ADHD or ODD) (Findling et al., 2022). Along with another disruptive behavioral disorder being found, a large portion of young people diagnosed with disruptive mood dysregulation disorder had also been hospitalized before (inpatient) for their mental health disorder (Findling et al., 2022).

In terms of medication, out of the two groups, young children and adolescents diagnosed with disruptive mood dysregulation disorder were not only more likely to be prescribed medication than children and adolescents diagnosed with bipolar disorder, but children and adolescents diagnosed with DMDD were more likely to be prescribed two or three different medications (Findling et al., 2022). The prescription medications used were ADHD medications, antidepressants, and antipsychotics, which again had been used at a higher rate in the disruptive mood dysregulation disorder group than the bipolar disorder group (Findling et al., 2022). Interestingly, the article by Findling et al. (2022) talks about how twice as many youths with disruptive mood dysregulation were prescribed ADHD medication than youths who were diagnosed with bipolar disorder, as well as nearly 60% of young children and adolescents diagnosed with disruptive mood dysregulation disorder being prescribed with antipsychotics in comparison with the 51% of young children and adolescents diagnosed with bipolar disorder (Findling et al., 2022). However, there seems to be a large portion of youths diagnosed with bipolar disorder who are being prescribed mood stabilizers or anxiolytics (Findling et al., 2022). The research showed a significant increase in both groups in terms of prescription drugs being used as a treatment, with the prescription of antipsychotics being observed with a massive increase for the first treatment episode of disruptive mood dysregulation (Findling et al., 2022). In comparison, mood stabilizer prescriptions rose in bipolar disorder (somewhat) following the first treatment episode (Findling et al., 2022). Before the first treatment episode, mood stabilizers had been prescribed slightly more in the disruptive mood dysregulation cohort than in the bipolar disorder cohort (Findling et al., 2022).

A significant amount of youth who in the past would have been diagnosed with bipolar disorder before 2013 are now being diagnosed with disruptive mood dysregulation disorder. The reason for the introduction of disruptive mood dysregulation was supposedly created to address and provide treatment for children who were presented with "chronic, persistent irritability (American Psychiatric Association, 2013)," which seemed quite similar to a classic bipolar disorder (Findling et al., 2022). As the study points out, the goal is to decrease the number of young children and adolescents being diagnosed with bipolar disorder while also trying to reduce the number of prescription medications being used as treatment (an unspoken goal), specifically the reduction of antipsychotics. It seems that though the goal of reducing the number of young children and adolescents being diagnosed with bipolar disorder has succeeded, the decrease in prescribing medications such as antipsychotics (as well as other medications: mood stabilizers, anxiolytics, and antidepressants) on the other hand has not succeeded in the way many would have hoped (Findling et al., 2022). Instead, young children and adolescents who were diagnosed with disruptive mood dysregulation disorder were at a higher chance of being prescribed any ADHD and antidepressant drugs as a treatment and sometimes given multiple prescriptions at the same time (including antipsychotics) (Findling et al., 2022).

Though there are several medications that have been given approval by the U.S. Food and Drug Administration and plenty of evidence to showcase the support of psychopharmacological towards the treatment of bipolar disorder, there is very little empirical evidence to showcase the role that pharmacotherapy can play in the treatment of disruptive mood dysregulation disorder (Findling et al., 2018; Stringaris et al., 2017). If not careful, as the increase in prescription medications for young children and adolescents who have been diagnosed with disruptive mood dysregulation continues to happen, more young children and adolescents could end up having higher rates of hospitalization and comorbidity than in comparison with young children or adolescents who had been diagnosed with bipolar disorder in the past (Findling et al., 2022).

A study discussed by Findling et al. 2022 looked into whether or not disruptive mood dysregulation disorder had an effect on the rates of bipolar disorder in young children and adolescents. This study conducted by Faheem et al. (2017) did that by calculating patients with bipolar disorder who were being admitted to a pediatric hospital before and after the introduction to disruptive mood dysregulation disorder in the DSM-5. The authors have said in the article that the diagnosis of bipolar disorder in young children became a concern when there seemed to be a rise in the prescribing of psychotropic medications that had very harmful effects on these individuals (Faheem et al., 2017). The results of the study found that even though the diagnoses of bipolar disorder in children decreased (with significant results), children were still prescribed medications, more specifically antipsychotics (Faheem et al., 2017). When looking at discharge instructions, when medication was prescribed, about 4 out of 46 patients would be prescribed one medication, while the other 37 patients would be prescribed two or more medications (Faheem et al., 2017).

Another article written by Havens et al. (2022) talks about, just like the Findling et al. (2022) article, how the authors are not at all shocked with how the use of prescription medications as a treatment for disruptive mood dysregulation disorder has increased. Unlike Findling et al. (2022) however, this article found that despite trauma being significant in terms of the relationship between young children and adolescents and functional impairment (such as anxiety, depression, PTSD, and ADHD), clinicians today are still unwilling or failing to incorporate this concept on the effects on early development of young children (Havens et al., 2022). Especially as these adverse experiences play a role well into adulthood and can lead to anxiety, depression, substance abuse, and even thoughts of suicide (Felitti et al., 1998). There seems to be a problem where irregularities in childhood development can oftentimes lead to diagnoses rather than something that could be considered normal. In some instances, other things can lead to emotional and behavioral dysregulation, such as traumatic experiences, especially in child welfare, inpatient adolescent psychiatric, and juvenile justice institutions (F. Havens et al., 2012). Often, traumatic experiences in a young child or adolescent development can lead to irritability, increased stress reactivity, altered cognitive processing, and even questioning of oneself, others, and the world around them (Havens et al., 2022).

Havens et al. (2022) have found that there seems to be a disconnect between children and adolescent psychiatry that refuses to bridge a gap between improving more specific types of treatment and improving diagnostics and wanting to prescribe medication instead (Havens et al., 2022). Being exposed to trauma had not been discussed when the time young children and adolescents were being diagnosed with (pediatric) bipolar disorder (Leibenluft et al., 2003), nor was the pattern of symptoms that make up ADHD discussed either (Havens et al., 2022). Instead, the diagnostic criteria took a broader approach and only looked at irritability as the primary symptom, replacing mood symptoms with mood lability, as stated by Biederman et al. (1996) & Biederman et al. (2000). Leading to the overuse of diagnosing young children and adolescents with bipolar disorder and a significant increase in the use of prescription medication (such as mood stabilizers and antipsychotics) (Havens et al., 2012). In some cases, it seems that prescribing young children and adolescents with prescription medication could have been seen as the easier route and quickest way to combat behavior that seemed unfavorable, especially with parents not sure what to do. While there appeared to be other explanations or too many small explanations to explain the behavior for why a child is behaving the way that they are, it also seems that it would be easier to be able to diagnose a young child or adolescent so that there would be a name to that explanation rather than dealing with the unknown.

Another problem that Havens et al. (2022) discussed in their article is how, rather than using psychosocial interventions to treat a young child and adolescent with their behavioral problem/diagnosis as the first line of defense as suggested, prescription medication often gets used instead as the first line of defense in treatment for these disruptive mood dysregulation disorder. There is also a recommendation for low dosing of antipsychotics and slow reduction over time as the young child or adolescent continues to be treated (Havens et al., 2022). Yet, rather than treat young children and adolescents in this manner, those diagnosed (and who often time have aggressive behavior) will have antipsychotics used as a first-line treatment, to which there is a hope that the medication will "sedate" the aggressive behavior (Havens et al., 2022). There seems to be an increase in over-medicalizing young children and adolescents when they have been diagnosed with a "behavioral issue" such as (in this case) bipolar disorder and, in the future, disruptive mood dysregulation disorder.

Since disruptive mood dysregulation was supposedly introduced to solve the problem of over-diagnosing children with bipolar disorder and also over-prescribing medications to young children and adolescents, it seems not to have helped as much

as it should have done. The DSM-5 introduced DMDD to help with the inaccurate diagnosis of bipolar disorder in young children and adolescents by trying to show that symptoms such as "depressive/irritable and reactive and impulsive (Findling et al., 2022)" are not just symptoms that are attributed to bipolar disorder, especially in younger kids. Not taken into account is how trauma or exposure to trauma could also play a role in some of these symptoms manifesting in children's behavior (Havens et al., 2022). Rather than the disruptive mood dysregulation disorder diagnoses, trying to reduce the overuse of prescription medication and offer another explanation for why a child is behaving the way that the diagnoses has done the opposite.

It is difficult to understand why there is a reluctance to try and understand trauma as well as the exposure to trauma and try to understand how it affects how a child's behavior develops. Also, how it connects to diagnostic categorizations of diagnoses such as disruptive mood dysregulation disorder as well as bipolar disorder (Havens et al., 2022). In the article, the authors explain that rather than trying to push for possibly safer medications or trying to treat these diagnoses with effective therapies (such as cognitive behavioral therapy), the first inclination that clinicians and providers have is to prescribe pharmacologic interventions instead to treat the aggressive and volatile behavior in the hopes the medication will keep them calm (Havens et al., 2022). This could lead to some dire consequences. It could damage the young child or adolescent's development in ways that cannot be reversed, especially when there are severe side effects from these medications that can cause problems into adulthood (Havens et al., 2022). Other evidence-based treatments that work just as effectively as pharmacological interventions include psychoeducation (that are more skill-based) and psychotherapies, and yet these treatments are not as favored as the pharmacological treatments seem to be (Havens et al., 2022).

Previous articles discussed above provide research as to the diagnoses of disruptive mood dysregulation disorder, aiding in reducing the number of children being diagnosed with bipolar disorder. Also discussed was how, instead of assisting in reducing the number of prescriptions of medications being used as a first-line treatment, the opposite occurred. Prescribing young children and adolescents who were diagnosed with disruptive mood dysregulation disorder actually increased. Why? The question did not seem to be speculated upon until article two, in which Haven et al. (2022) blamed clinicians for not acknowledging other factors, such as exposure to trauma, as to why young children and adolescents behaved in such irritable and aggressive manners as well as what role trauma plays into these diagnoses. However, though the Haven et al. 2022 article starts discussing other reasons why the diagnosis of disruptive mood dysregulation disorder has increased, it does not talk about why prescribing medications has increased as well.

In the article written by Harrison et al. (2012), the authors hope to explain why prescribing medication trends in young children and adolescents, specifically in antipsychotics, have increased. About 14-20% of young children and adolescents (as of 2012) have a mental illness that they have been diagnosed with (National Research Council and Institute of Medicine, 2009). Young children and adolescents who end up with behavioral and emotional disorders have a higher proclivity for being expelled from school, needing special health care services, or becoming chronically ill as an adult, which in turn motivates parents and clinicians to try and find effective treatments to try and stop or help ease the behavioral disorders (Currie & Stabile, 2006; National Research Council and Institute of Medicine, 2009). Not only do parents and clinicians want to help the child with these diagnoses, but they also want to ensure that the young child or adolescent's actions do not harm others, as Harrison et al. (2012) mentioned in their article. On top of the fear of not knowing what these diagnoses mean, the parent, as well as the child, look to ease their anxious thoughts and feelings by taking a type of recommended treatment to help manage the young child or adolescent's symptoms (Harrison et al., 2012). Research shows that not only is the prescription for antipsychotics for young children and adolescents increasing, but that young children and adolescents are being prescribed these drugs for non-psychiatric conditions (Pathak et al., 2010; Zito et al., 2008).

Though there are antipsychotics (specifically second-general antipsychotics) that are used to treat certain types of problems young children and adolescents might have (such as Tourette's syndrome and many others), unfavorable effects are still likely to occur (Harrison et al., 2012). These effects include: "weight gain, drowsiness, hyperlipidemia, hyperprolactinemia, diabetes, can increase the risk of hyperglycemia, and reports of drooling have been found (De Hert et al., 2011; McCracken et al., 2002)." In 2012, an increase in antipsychotics in young children (less than six years old) had been reported despite, at the time, how prescribing very young children these drugs would affect their growth and development in the long haul (Harrison et al., 2012). On top of antipsychotics being prescribed to young children and adolescents, other psychiatric drugs were also being prescribed at the same time (Olfson et al., 2010)

There seemed to be several possible reasons as to why there seemed to be a significant rise in the use of prescription medications, such as antipsychotics. The article by Harrison et al. (2012) described six possible reasons for this insurgence in antipsychotic use.

As the years go by, there seems to be more acceptance of psychotropic drugs in which an environment is created that sees prescribing medication for a problem as a surefire way of "fixing" that problem (Harrison et al., 2012). It seems to be a trend only found in the United States (Harrison et al., 2012). As reported by Zito et al. (2008) in the United States, there is a 1.5 to 3

times greater use of antipsychotic medications than in European countries. Considering that in European countries, there is less of a medical model point of view on mental health and more of a mental health is a social issue type of problem. On top of being more accepting of being prescribed psychiatric medication because of its availability, families in the United States are also more likely to turn to antipsychotics to treat mental health issues with greater amounts of advertisements from pharmaceutical companies (Harrison et al., 2012).

An increase in awareness also comes with an increase in knowledge, in other words, as more peer-reviewed journals get published with results reporting that antipsychotic medications are a very effective way of lowering behaviors such as aggression and irritability in young children and adolescents with psychiatric diagnoses (Harrison et al., 2012). It's not a coincidence that when clinical trials continue to be published, the more significant the rise in the use of antipsychotic drugs, as noted by Harrison et al. (2012). People are often nervous when they do not know how to handle something, so when given information on something that is known to work, it will make that nervous feeling go away. At the end of the day, knowledge is power.

With how much antipsychotic medication seems to be recommended for one of many available treatments to help with mental health issues, one has to wonder why other non-pharmacological treatments are not being recommended as well. In 2012, about 40% of young children and adolescents (aged 2-17 years old) were not able to receive at least 12 months of needed mental health services (Centers for Disease Control and Prevention, 2007). An article written by Thomas & Holzer (2006) talked about how the limited access to mental health services had happened due to a lack of mental health professionals, which led to fewer psychiatric assessments being able to be performed. Thus, young children and adolescents not being able to get the non-pharmacological help that they need.

Even if non-pharmacological treatments were to be more accessible, many families might find the treatments to be a bit too lengthy. As Harrison et al. (2012) have pointed out, some treatments require about 12 sessions or possibly more to gain or fully see the benefits of what that treatment can offer, and some families either cannot or do not have the availability or the money to try out non-pharmacological treatments (such as cognitive-behavioral therapies). Medication might be the easiest and most effective way to go for some families.

In addition to non-pharmacological treatments taking up more time than a family can handle, clinicians, in comparison, seem to have the same problem. They do not have enough time to conduct an in-depth behavioral assessment adequately, and since these types of visits take a large portion of a clinician's time, with significantly lower reimbursement than regular medical visits, the clinician trying to help an overwhelmed family can see prescribing medication as the easiest and more viable treatment (Harrison et al., 2012). Sometimes, an "easy fix" can be seen as just as helpful as having no help or options available.

There are many young children and adolescents in the foster care and juvenile correctional systems, and one study conducted by Zito et al. (2008) found that young children and adolescents in systems with Medicaid insurance were one to three times more likely to get a prescription for psychotropic medication than young children and adolescents not in the foster care or juvenile correctional systems. This same study also found that 53% of those medications were antipsychotics (Zito et al., 2008). In terms of mental health, foster care, and juvenile correctional systems are extremely underfunded, and with adults trying to manage two facilities with many young children and adolescents with aggressive behavior, quick and easy treatments are preferable (Moore, 2009). That method just so happened to be psychiatric medications, specifically antipsychotics.

On the surface, prescribing psychiatric medications such as antipsychotics can seem to be a simple and easy fix to the problem. In actuality, prescribing psychiatric medications such as antipsychotics should be a final resort after other non-pharmacological treatments have been implemented (Gleason et al., 2007). As stated by the National Research Council and the Institute of Medicine (2009), many of the behavioral problems that young children and adolescents exhibit may be linked to their family relationships and less-than-ideal home environments. This means that addressing the underlying issue is what helps in the long run with young children and adolescents rather than taking medications (Harrison et al., 2012). Medications, in general, in these cases, are not recommended at all for young children or adolescents (Harrison et al., 2012). With this in mind, sometimes the quick and easy fix can help for a short time period; however, in order to see long-term mental health benefits, other non-pharmacological treatments should be more available to families.

As for the more significant implications of the increase in antipsychotic medications for young children and adolescents, mental health treatments should be more accessible in terms of other non-pharmacological methods, and having mental health professionals actually help with teaching parents skills-training or educating them on cognitive behavioral therapies. As well as educating parents on other non-pharmacological methods, educating parents or legal guardians on important information regarding the risks and benefits of antipsychotics (and other psychiatric medications), such as side effects, monitoring, and who to contact if side effects get too adverse (Harrison et al., 2012).

An increase in the use of prescription medication could potentially lead to other harmful effects on young children and adolescent development. In some cases, that hindrance could be biological. Which is what the last article will discuss. Along

with some of the adverse effects mentioned previously, in an article written by Olfson et al. (2015), young children and adolescents can experience detrimental effects on their metabolic and endocrine systems when taking antipsychotics as a treatment. Some animal studies, such as ones conducted by Bardgett et al. (2013) and Moran-Gates et al. (2007), showed as well that antipsychotics can cause problems in a developing mammal brain. The article mentions that children should also be given an in-depth psychiatric assessment before deciding if pharmacological treatments should precede psychosocial interventions, just as the Harrison et al. (2012) article suggested as well (Olfson et al., 2015).

## Discussion

However, there may be some gaps found in the research as well. For example, much of the research done on the increase in psychiatric medications in young children and adolescents, specifically those who have been diagnosed with disruptive mood dysregulation disorder, has been done through electronic databases. As with the case in the Findling et al. (2022) study, the authors used the databases to conduct a longitudinal exploratory study where they gathered the information they needed through the databases. No hypothesis or inferential testing occurred. The study was only descriptive in nature, and though one can get a lot of information through a database, only using one database can be seen as a confound. Possibly using another database or comparing one database to the other for future research could help with gathering more information. With the study being descriptive in nature, one would wonder what type of results could be acquired through a quantitative type of study or even a mixed-methods study. Other studies, such as Olfonson et al. (2015), are not as current and could do with a new study set around the present day, especially since it has been ten years since this study was done. A lot could have changed, and possibly new results could either confirm or contradict the original findings.

As mentioned previously, it would be interesting to see a longitudinal mixed methods type of research. Not only would this be getting the results in a nonbiased way, but there could also be a self-report to understand from a parent's perspective who has a child diagnosed with disruptive mood dysregulation disorder how they feel about their child being overmedicalized. For future research, it would also be interesting to see in what ways one could make non-pharmacological treatments/interventions more accessible to families wanting more alternatives to treating their child who has been diagnosed with disruptive mood dysregulation disorder. Especially with stories such as children as young as three and four years old dying of drug overdoses because of the multiple medications they were on (for example, ziprasidone, quetiapine, clonidine, and divalproex), as described by an article written by Parry et al. (2012). Some of the prescriptions given to these children included not just one medication that they needed to take but two at the same time (Parry et al., 2012). To prevent this from happening to more children, parents/families should be shown that there are alternative treatments for young children who are diagnosed with disruptive mood dysregulation disorder. Future research could also investigate not just young children and adolescents with disruptive dysregulation disorder being overdiagnosed and being overprescribed medication but also children who get diagnosed at a young age with other mental health disorders, such as anxiety or depression. Future research could present parents with alternative methods to treat their child when diagnosed with disruptive mood dysregulation disorder, such as therapy.

Throughout the research, it has been shown that there seems to be an increase in medication prescriptions, specifically in psychiatric medications (antipsychotics) with young children and adolescents who have been diagnosed with disruptive mood dysregulation disorder. This DSM-5 diagnosis was introduced in 2013 to try and reduce the number of young children and adolescents diagnosed with bipolar disorder and also reduce the overuse of prescription medications. However, it seems that the opposite has occurred, and there seem to be many reasons for why this has happened. From not having access to non-pharmacological treatments to these same treatments being too long to commit to and how manageable and visible pharmacological treatments seem to be, especially here in the United States. These are only some of the reasons why there could be an increase in prescription psychiatric medications. Along with the increase in prescription medications, many problems can occur if action is not taken to understand why the diagnoses of disruptive mood dysregulation disorder did not set out to do what it initially planned to do. Children and adolescents could have their health, not just mental but physical health, be hindered. Which could eventually one day cause problems in adulthood as well. The question of whether disruptive mood dysregulation disorder helped with decreasing bipolar disorder diagnoses in children and adolescents remains yes. However, if the overprescribing of medications will one day decline is, another question that only time will tell.

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