

Introduction

Depression is one of the leading causes of suicides among children and adolescents, accounting for approximately 40% for completed suicides and up to 80% for suicidal attempts, and there are also growing concerns towards the increase of annual depression rate in children and adolescents. While there is about 8% of adolescents reported to have major depression in the past year, little is still known about the prevalence of major depressive disorders (MDD) in children (Siu, 2016). Although children might experience mild to moderate depressive symptoms (also known as irritable moods), such symptoms can become chronic and develop major depressive episodes. They might cause long-term psychological and functional impairments in children at school, as well as their interactions with their families or peers, and become associated with continuous depression in adolescent or adulthood (Siu, 2016). Suicidal ideation, attempts and completion, and other mental disorders are the major consequences of depression in early milestones of children.

As mentioned above, children with depression have higher risks of impairments towards their academics and their social relationships. Students with depression frequently face difficulties in academic performance with a recurrent suffering towards motivations, initiatives and persistence (Desrochers & Houck, 2013). This can lead to teachers misperceiving the students as lazy or not caring about their responsibilities as a student, which can worsen the teacher-student relationship and increase depressive symptoms (Desrochers & Houck, 2013). Also, according to Desrochers & Houck (2013), these students often face failures or plummeted educational or occupational accomplishments. Thus, school psychologists and child clinicians should be highly concerned about their young students' or patients' psychological well-being to

avoid the chronology of their depression until adulthood, which also means to avoid making later treatment lengthy and costly or placing greater burdens on family, healthcare, welfare and other aspects of the society (National Institute of Mental Health, 2004). Since there are provenly benefits in early detection, intervention and treatment of MDD children and adolescents (Siu, 2016), school psychologists and child clinicians need to seriously concern about child depression and promote means for such benefits, such as screening.

Discussion

Contemporary Developmental Perspective

A developmental approach, in general, is “targeting a particular psychological or psychobiological mechanism known to occur in a disorder in order to discern the possible operation of this process throughout the course of ontogenesis” (Cicchetti, Nurcombe & Garber, 1992). In other words, it implies the developmental perspective for understanding the affective disorders (in this case, depressive disorders) under domains of development such as socioemotional, cognitive, linguistic, neurobiological and neurochemical. A developmental perspective generally involves comprehensively evaluating biological, psychological, environmental, social and intrafamilial factors that could influence the differences of developmental nature among individuals, the continuity of adaptive or maladaptive behavioral patterns, and different pathways in which same outcomes of development might be contemplated (Cicchetti, Nurcombe & Garber, 1992).

Such a general definition of developmental approach can be applied to the topic of child depression. There are several mechanisms (or models) to evaluate the long-term impact of early

depressive experiences in children such as the experience-adaptive model and the cumulative-effect model. Experience-adaptive model is applied to explore the biological adaptive systems of individuals to environmental inputs or experiences, while cumulative-effect model is used to measure the reinforcement level of the impacts of such depressive experiences in later ages. In addition to the two models, the “stress sensitization” model is highly supported by several studies, which suggests that children with early adversity are more likely to develop depression than those with no history of adversity (parental abuse, forms of family disruption, etc.). Biological and psychological risk pathways are also studied in child depression, as exposure to early adversity can cause dysregulation of the HPA axis (Cicchetti & Rogosch, 2012), atypical patterns of frontal lobe activity (Dawson et al., 2003) or other brain issues, and compromised immune functioning (Shirtcliff, Cole & Pollak, 2009). Such exposure might also cause maladaptive emotional socialization and relationships, more hostile emotions and social-behavioral deficits (Abaied & Rudolph, 2014) and so on, in psychological risk pathways.

By applying the field of developmental psychopathology, it is useful for researchers and psychologists to better understand the developmental factors in children in order to well-understand recurrence of depression in adolescence or adulthood; in other words, a reversal of the downward extension model applied from adults to children. It is also suggested that from the field, three methodological goals for future studies can be raised to better understand child depression such as greater refinements of “depression” definition and its challenges in terms of heterogeneity and comorbidity, greater emphasis on longitudinal designs of research to more precisely evaluate vulnerabilities and changes in mechanisms of child depression, and also further studies of multiple developmental domains at once.

Contemporary Epidemiological Information

Twenty-eight surveys across the U.S. and international countries have indicated 2-13% in 6- or 12- month prevalence of MDD among adolescents with age ranging from 13 to 18 years, and approximately 1-3% among children from 7 to 12 years old (Avenevoli et al., 2008).

According to the National Comorbidity Survey Replication - Adolescent Supplement, or NCS-A (the largest and most nationally representative diagnosis based survey of the U.S.), about one-third of adolescents were categorized to have severe depressive symptoms (Kessler et al., 2012). Many epidemiological samples also report remarkably higher elevated depression rates among children from 11 to 15, accounting for 18% of national youths (in which 10% are males and 25% are females) (Saluja et al., 2004).

To the aspect of age of onset, according to Burke et al. (1990), middle to late adolescence is the most common age of onset for MDD or significant symptoms. Specifically, Lewinsohn et al. (2003) found that fourteen is the average age for MDD in both boys and girls. It is believed that “age of onset appears to be an important potential marker for the course of a depressive disorder”. They also believe that childhood onset is usually associated with heterotypic continuity of depression, while adolescence onset is correlational with homotypic one. Therefore, across the studies of Weissman et al. (1999) and Harrington et al. (1990), childhood onset may predict significant depressive disorder, but not its recurrence, and hence adolescence onset has higher heritability than childhood onset.

Gender is also a factor distributing epidemiological issues. Although girls and boys have a similar rate of depression in early childhood, girls tend to develop twice of the rate in early adolescence and adulthood. Several perspectives claim that it might be due to sex-linked

differences in hormonal and biological functioning, stress-related processes and sex differences emerged during puberty, such as hormones and brain neurotransmitters (Cyranowski, Frank, Young, & Shear, 2000).

Contemporary Understanding of Etiology

The question of the causation of genetic effects to depression and how such effects differ in children, adolescents and adults have been highly concerning. Twins have been a great source in studies of genetic effects towards depression as well as environmental variances. When applied to children, twin studies of Rice (2010) have provided more valid variables of heritability of depression, and more significant estimates can be seen in adolescents. Such finding is consistent with several follow-up studies of child depression to adulthood. While the questions about the age differences in genetic effects towards depression still remain, it seems to have little evidence of gender differences. Although females have a higher rate of depression in adolescence than males, the differences in genetic effects towards both sexes seem to be invisible (Francic et al., 2010).

Importance of genetics towards the development of depression rate is also highlighted in longitudinal twin studies. In their study of three depressive experiences from twins' adolescence to adulthood, Lau and Eley (2006) found that twins who experienced different environments also shared mutual influences on their depression. This aligns with the study of Kendler, Garner and Lichtenstein (2008), who examined changes in genetic and environmental risk factors of Swedish twins of age 8-20, and found that there was strong evidence of genetic changes and influences. They conclude that genetics perform a dynamic course over the development of depression and low continuity of childhood to adolescence. Same results are yielded from

Silberg et al. (2010) when they found children of twin parents from different environments can experience depression raised by genetic factors.

Several specific genes might contribute to depression in children. 5-HTTLPR is found to be associated with children or adolescents (Gibbs et al., 2009; Hayden et al., 2008, Eley et al., 2004) and increase high-risk depression in stressful life events (Starr et al., 2012), alongside with BDNF (Goodyer et al., 2010, Lau et al., 2010), dopamine D2 receptor gene (Hayden et al., 2010). Environmental factors can also influence changes in gene expressions (Lau et al., 2010); hence, further studies can also focus on such environmental influences in genes and depression.

Optimal Assessment Strategy

Researchers have been applying an increasing number of prospective designs to evaluate cognitive vulnerability in children with depression or to test the vulnerability-stress interactions, and self-report questionnaires show compelling evidence to capably examine dysfunctional attitudes, negative automatic thoughts, self-critical thoughts, low perceived control and ruminative response styles to predict depression. Self-reported cognitive vulnerability or vulnerability-stress interactions are also evident to contribute to depressive symptoms or disorders in children and adolescents. Several empirical studies based on self-report methods have partially or fully supported the idea that dysfunctional attitudes possibly interact with stress to predict depressive symptoms (Abela & Skitch, 2007; Lewinsohn et al., 2001), and that self depressive attributes or self-implications/inferences to stressful events' causes and their consequences can predict depressive symptoms (Abela et al., 2011; Bohon et al., 2008; Hankin, 2008). Furthermore, self-reported ruminative response styles alone or that interact with stress can

also predict subsequent depressive symptoms in youths (Nolen-Hoeksema et al., 2007; Abela & Hankin, 2011).

Hence, self-report questionnaires have so far been one of the most optimal assessment strategies in evaluating child depression, compared to approaches of information-processing biases that show limitations in determining the accuracy of depressogenic cognitive styles, and in showing the relationship between negative cognitive thoughts and depressive symptoms.

Optimal Treatment

The American Psychiatric Association (APA) and the American Academy of Child and Adolescent Psychiatry (AACAP) highly recommend that the practice of psychotherapy should always be an essential part of treatment for children and adolescents with depression (AACAP, 2007). There are two common types of psychotherapy: cognitive behavior therapy (CBT) and interpersonal therapy, which have been proved to be effective for treating adolescent depression (Clark, Jansen & Cloy, 2012). CBT helps children and adolescents with depression to increase their coping skills, communication skills, and problem-solving skills, to combat negative thoughts and to regulate emotions (Richardson & Katzenellenbogen, 2005; Fu et al., 2008). Also, interpersonal therapy helps depressed children and adolescents to adapt to changes in relationships, personal roles and to form new interpersonal relationships (Richardson & Katzenellenbogen, 2005; David-Ferdon & Kaslow, 2008).

CBT and interpersonal therapy, however, have been proved to have several limitations in treating children and adolescents with moderate to severe acute depression compared to placebo (Clark, Jansen & Cloy, 2012). Therefore, a combination of CBT and medication is recommended to enhance the successful rate of depression treatment, since it is proved to be more effective

than medication alone (Brent et al., 2008) and antidepressants are proved not to be effective in children and adolescents with depression (Hazell et al., 2002). Interpersonal therapy, while having not been compared with medication, has been shown to have the same if not more effects than CBT (Rossello & Bernal, 1999). Therefore, future studies can aim to explore the importance of the combination between interpersonal therapy and medication.

Conclusion

Depression in children and adolescents is one of the most significant concerns in the field of child psychopathology and among school psychologists and child clinicians, since there have been approximately 60 percent of adolescents diagnosed with depression nowadays that will be recurrent during adulthood (Weissman et al., 1999). Depression is the main cause that leads to suicidal thoughts, ideation, attempts and completed suicides; therefore, exploring effective ways to early detect and prevent depression in children and adolescents should be regarded as an immediate action.

This paper has focused on exploring the epidemiological information and etiology of child depression. It is shown that fourteen is the common age of major depressive disorders that are visible among children and adolescents, and gender differences also play an important role in ways that girls and boys cope with depression. There are mixed findings about the effects of race/ethnicity, socioeconomics and birth cohort effects on depression of children. Genetics is one of the etiological perspectives that this paper mentions, in which twin studies have provided concrete evidence for the genetic effects on depression in children and adolescents. In the aspects of optimal assessment approach and treatment, self-reported questionnaires have been highly

recommended by researchers for several essential benefits compared to other approaches; in addition, psychotherapy (with the combination of cognitive behavior therapy and medication) is the most recommended for higher successful rate of depression treatment in children and adolescents. Therefore, future studies can aim to explore a better understanding in other epidemiological effects on depression as well as the etiological contributions to depression besides genetics or other genes within the genetic field. Future research should also focus on finding other effective treatments and compare them with the current CBT-medication combination that can support children and adolescents from remote distances or with better early detection and prevention.

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