Biopsychosocial Risk and Protective Factors for Depression in Adolescence

PMH1011 – Mental Health in the Community

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Mental health can be defined as an overall psychological well-being encompassing positive social and emotional functioning (Westerhof & Keyes, 2010). In contrast, mental illness relates to significant psychological and behavioural dysfunctions severely impacting an individual's life (Stein, et al., 2010). Mental illness, for example, can have detrimental consequences to the wider community regarding its cost to the healthcare system and decreased productivity in the workplace (Harvey, Modini, Christensen, & Glozier, 2013; Lépine & Briley, 2011). Depression, characterised by lowered mood or loss of interest in combination with other psychiatric symptoms (Fried, Nesse, Zivin, Guille, & Sen, 2013), is one mental illness that has been identified in the literature. It is a major concern for the adolescent population (ages 12-18 years old) with a prevalence rate of 4-5% (Thapar, Collishaw, Pine, & Thapar, 2012) and consequences damaging to all aspects of psychological functioning (Lewinsohn, et al., 1994).

What differentiates this developmental stage from other stages of life is that during adolescence the body undergoes unique biological, psychological and social changes that create certain vulnerabilities to the onset of depression (Hyde, Mezulis, & Abramson, 2008; Maxwell & Cole, 2009). This essay will address the risk and protective factors for depression in the adolescent population, with each section focusing on one element of the biopsychosocial model.

The biological development of the body during adolescence is very rapid, encompassing changes which influence the occurrence of depression, more in females than males (Maxwell & Cole, 2009). Furthermore, adolescence is of particular importance as this is when individuals undergo puberty. Puberty is characterised by the process of adrenarche (secretion of adrenal androgens stimulating growth of pubic and axillary hair), gonadarche (maturation of gonads and increase in sex hormone production), menarche (first

menstruation) in females and oigarche (first ejaculation) in males (Hyde et al., 2008). Subtypes of depression can also result during puberty such as feelings of anxiety, sleep and appetite disturbances (Andersen & Teicher, 2008). When combined with the social consequences of their physical growth, for example females developing breasts and becoming at risk for sexual objectification, stressors are created which make the adolescent population vulnerable to depression (Hyde et al., 2008).

In addition to puberty is brain maturation, particularly in the prefrontal cortex, which is fundamental to adolescent development. During this period there is a decrease in dopaminergic activity in the mesocorticolimbic pathway, implicated in reward-processing, and an increase in activity in the prefrontal cortex, relating to the adolescent's response to stressful events (Andersen & Teicher, 2008; Stairs & Bardo, 2009). These changes relate back to low positive affectivity, the primary symptoms of depression. Moreover, these rapid alterations in the prefrontal cortex that create susceptibility to heightened stress responses are usually what precede the onset of depression, highlighting the unique vulnerabilities of the adolescent developmental stage (Lupien, McEwen, Gunnar, & Heim, 2009).

Furthermore, vulnerability for developing depression can be other pre-existing mental illnesses, such as social anxiety disorder, which further highlight the importance of identifying the risk factors of mental illness in the adolescent population. This relationship between depression and social anxiety has been attributed to an over-activation of the brain's amygdala, implicated in fear-related stimuli and negative affectivity, that can be particularly problematic during the rapid development of the adolescent brain (Andersen & Teicher, 2008).

Contrastingly, normal physical development is a protective factor against depression. Hyde et al. (2008) noted that females who experienced early puberty, and males who experienced early or late puberty, were more susceptible to the onset of depression than those

who experienced an 'on-time' pubertal schedule. Regarding hormonal activity, Hyde et al. (2008) found that moderate levels of dehydroepiandrosterone (DHEA), an adrenal androgen released during adrenarche, can protect against depression by raising serotonin levels (thus elevating mood) and combating the negative effects of cortisol (which at abnormal levels has been implicated in depression).

Interestingly, whilst physical exercise has been demonstrated as a therapeutic intervention and a protective factor against the onset of depression, evidence to support this theory in adolescence is either lacking (Birkeland, Torsheim, & Wold, 2009; Salmon, 2001) or weak (Biddle & Asare, 2011). However, adolescents that suffer from a chronic physical illness are more likely to experience depression than their healthy counterparts (Pinquart & Shen, 2011), suggesting there is an element to positive physical health that protects against the onset of depression.

In conjunction to physical development, adolescents are susceptible to the onset of depression through a combination of poor coping skills and low affective regulation including irritability, anxiety and mood swings. These risk factors interact with environmental stressors typically experienced in teenage years (Hyde et al., 2008) and pose a risk for increased depressed mood (Van Voorhees, et al., 2008). As adolescence is a period of growth and socialisation, entering into this developmental stage with the aforementioned vulnerabilities can cause difficulties for trying to integrate into peer groups. Therefore these social obstacles can evoke negative reactions, such as depressive symptoms (Sontag, Graber, Brooks-Gunn, & Warren, 2008).

According to the diathesis-stress model, individuals with biological or psychological depressive predispositions are more susceptible to the onset of depression when exposed to additional environmental stressors, exceeding a threshold beyond their coping abilities (Belsky & Pluess, 2009). Coping strategies, being the ability to manage the demands that

exceed available resources, can either be voluntary or involuntary, depending on what risk factors they possess. Involuntary responses are a risk factor which can result when the adolescent has certain depressive predispositions. Usually these responses are beyond the individual's control and result in heighted physiological arousal and rumination, being a focus on negative thoughts and emotions (Sontag, et al., 2008).

Active coping skills, high self-esteem and problem solving abilities, however, have been viewed as protective factors against the onset of depression in adolescents (Costello, Swendsen, Rose, & Dierker, 2008; Van Voorhees, et al., 2008). In contrast to involuntary responses to stress are voluntary coping strategies which can be further subdivided into primary control, maintaining or enhancing one's personal ability, and secondary control, an indirect approach through accommodation and adaption to the environment (Sontag, et al., 2008).

Additionally, positive self-esteem has been linked to a greater ability to cope with daily stressors and protect against depressive symptoms (Dixon & Kurpius, 2008). In some cases, high self-esteem can combat cognitive vulnerabilities and environmental triggers, which poses an alternative theory to the diathesis-stress model (Abela & Hankin, 2008). Regarding self-image, females have been identified as having lowered self and body esteem compared to males, which has been linked to the clear gender difference in depression rates. However, some studies, such as Hyde et al. (2008) have demonstrated when controlling for body image and self-esteem in adolescent samples, gender differences were eliminated. This supports the link between these factors and subsequent depressive symptoms.

Moreover, the practice of effective problem solving strategies such as comparing alternatives, brainstorming solutions and analysing consequences, has been seen as a protective factor for adolescents against depression, equipping them with the necessary skills required to cope with stressors faced in their development (Van Voorhees, et al., 2008).

Established services such as beyondblue, aiming to raise awareness about the risk and protective factors of depression, demonstrate how important adapting these strategies are for the adolescent population, giving them the necessary resources required to combat the onset of depression (Burns, Andrews, & Szabo, 2002).

The beyondblue organisation also recognises environmental risk factors for the onset of depression in adolescents. This can include social isolation in the form of peer rejection and disruptive family environments (Belsky & Pluess, 2009; Burns et al., 2002). When young people are victimised by their fellow classmates and social groups, this creates a stressful environment and can trigger depressive episodes, particularly for females who are heavily dependent on their friendship groups for emotional support (Sontag et al., 2008).

Risk of stress is particularly emphasised during this developmental period due to the dramatic life changes experienced in an adolescent's environment. These changes can include moving schools, forming new peer groups and developing an overall sense of identity (Maxwell & Cole, 2009). Erikson's stages of psychosocial development first described adolescence as the period of identity versus identity confusion. For those who were unable to establish their identity successfully, difficulties in adjusting were subsequently experienced later in life (Rosenthal, Gurney, & Moore, 1981). This may provide support for why depression or depressive symptoms in adolescence are a risk factor for episodes of depression in adulthood (Pelkonen, Marttunen, Kaprio, Huurre, & Aro, 2008). Therefore the interaction between these important life events and any additional depressive predispositions can cause susceptibility for depression in the adolescent population (Hyde et al., 2008).

In contrast, when an adolescent is provided with social support from their peers and family members, this acts as a protective factor against the onset of depression (Costello et al., 2008). Family in particular has been identified as both a risk and protective factor for depression, depending on the environment in which the adolescent is raised. When provided

with a positive, loving environment in which the teenager feels understood and cared for, a substantial reduction in depressive episodes were identified (Van Voorhees, et al., 2008). Additional protective factors identified in the familial setting included a two-parent family structure and connectedness to parents (Costello et al., 2008). Conversely, when there is familial conflict and negative parent-child relationships, risk for depression is increased (Abela & Hankin, 2008). Similarly, adolescents identified as living in a household with guardians that are not their biological parents are also more at risk of depression than those who have both biological parents (Tandon & Solomon, 2009). Therefore it is important to acknowledge that there are several factors that can act as both risk and protective, especially in the context of an adolescent's social environment (Van Voorhees, et al., 2008).

Social environments outside of the familial structure which have been identified as risk factors, such as an adolescent's peer group, can also be protective when positively experienced (Pelkonen et al., 2008). Those that feel connected to their peers, community and school, or identify as having high self-perceived social competence, are more likely to experience a positive emotional environment and thus a reduced risk of depression during adolescent development (Burns et al., 2002; Sontag et al., 2008).

Therefore, when considering which environments would be most beneficial to the recovery and treatment of an individual diagnosed with depression, or experiencing depressive symptoms, a positive social environment should be highly encouraged. This not only protects against onset of depression but can combat depressive symptoms currently being experienced in individuals (Costello et al., 2008; Sawyer, Pfeiffer, & Spence, 2009).

This essay has clearly demonstrated how risk and protective factors, whether biological (Hyde et al., 2008), psychological (Van Voorhees, et al., 2008), or socially founded (Costello et al., 2008) are multifaceted and in some cases bidirectional in the context of depression in adolescent samples (Van Voorhees, et al., 2008). Furthermore, it is

unrealistic to expect these facets of life to be influencial in isolation from one another, thus support is provided for an all encompassing biopsychosocial model to explain how depression occurs in adolescence (Maxwell & Cole, 2009). Therefore it is important to acknowledge these factors do not exist in isolation, rather they coincide with one another throughout the lifespan, continuously interacting and creating the potential for an individual to be either mentally healthy or mentally ill (Stein, et al., 2010; Westerhof & Keyes, 2010). Every person experiences a combination of vulnerabilities and protecting elements. Only when the risks and predispositions in an adolescent's life exceed their ability to cope does their negative life events and depressive symptoms reach a level considered diagnosable for depression (Belsky & Pluess, 2009; Fried et al., 2013).

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