Proximal Influences on the Trajectory of Suicidal Behaviors and Suicide during the Transition from Adolescence to Young Adulthood

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KEYWORDS

• Adolescence • Suicide • Youth brain development • Public health approach

KEY POINTS

- Transitional age youth (TAY) are at a unique risk for self-harm.
- Factors that increase risk for suicide in TAY are developmental tasks of transitioning from adolescence to adulthood, brain development, reactivity to stressors, and prior mental disorder.
- Institutions of higher learning, high schools, and employers should use a public health approach to reduce the incidence and prevalence of suicidal behavior in this age group.

INTRODUCTION

Adolescence is a bridge between childhood and adulthood beginning with the onset of sexual maturation and ending with the acquisition of adult responsibilities and roles.[1] It is characterized by a period of intense developmental changes in the body (hormones, secondary sexual characteristics), the negotiation of certain psychological and emotional tasks (delinking from parents, forming stronger peer relationships), intense brain architecture changes, increased independent decision making, and the launching of the independent self into the adult world. Because of the wide range in the chronologic age of physical changes, cultural differences in gaining psychological independence, and the effect of nutrition on the onset of puberty, adolescence is considered a long stage of transition that is intense, and is often a stressful period for individuals preparing for adulthood.[2] For this

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reason, the term transitional age youth (TAY) acknowledges this bridge age between childhood and adulthood[3] that is typically considered to be between 16 and 26 years.

Second only to early childhood, adolescence is a time of major central nervous system reconstruction characterized by reduction in gray matter and increases in white matter[4] and myelination of the axons in the brain. The active reconstruction of neuronal connections, pruning of excitatory synapses, and removal of unused synapses and connections fits with an evolutionary model for the goal of more efficient communication[5] and eventually a less reactionary and impulsive quality to thought and action processing for the individual. Although the visual cortex develops earlier in life, the frontal, parietal, and temporal areas go through active sculpting during adolescence and, along with the prefrontal cortex, are responsible for executive functioning of the brain; that is, the capacity to respond thoughtfully to stimuli with a well-integrated understanding of sensory input consistent with past experiences.[6] This capacity matures by the end of adolescence and is reflected in pragmatic rather than impulsive decision making.[7,8] All the structural changes in the brain coupled with hormonal changes are thus mirrored as emotional reactivity and behavioral changes. Various areas of the brain mature and reach their adult state in stages and so maturation does not occur in synchrony. As an example, the amygdala, the seat of emotional processing, matures much later than the prefrontal cortex, which is the place of organization and planning.[9] This discrepancy leads to poorly thought through decisions in any perceived crisis that may appear impulsive. In addition, the changes in the type and quantity of hormones released during puberty occur in waves and therefore these factors combine to make this period of development potentially a phase of behavioral turmoil.[10] Early adolescence is characterized by a lack of emotional control and the later period of adolescence by increasing emotional stability. As TAY move into the adult world, temperamental differences, social supports, biologic changes, and life events may affect the way they handle mental health challenges. Presence of previous vulnerabilities may put them at risk for difficulty negotiating the challenges that the adult world and adult responsibilities pose for them, whether it is within institutions of higher education (IHE) or in the employment arena. Suicidal ideations are common in TAY; however, ideations do not always translate into actions.[11]

SUICIDE AND TRANSITIONAL AGE YOUTH

Definitions

Any discussion to reduce the incidence of suicide should be informed by knowledge of the correct definitions of suicide, and associated risk and protective factors, so that interventions can reduce risk and bolster protective factors.[12] The definition of suicide and suicidal behaviors has been complicated by the number of terms used in relation to the phenomenon, such as deliberate self-harm, self-injurious behavior (SIB), self-mutilation, and parasuicidal behavior. The National Center for Injury Prevention and Control of the Centers for Disease Control and Prevention[12] provides the following definitions, which are widely accepted:

1. Suicidal ideations: thinking about or considering or planning suicide.
2. Suicide attempt: a nonfatal, self-directed, potentially injurious behavior with an intent to die as a result of the behavior; might not result in injury.
3. Suicide: death caused by self-directed SIB with an intent to die as a result of that behavior.