

LITERATURE REVIEW OF ADOLESCENT SUICIDE

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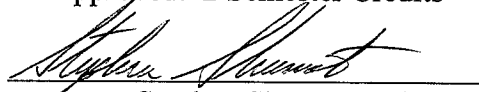
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ABSTRACT

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This review of literature investigates the theories of adolescent suicide, adolescent suicide risk factors, adolescent suicide prevention, and intervention strategies for prevention of adolescent suicide. It identifies several hypotheses regarding the underlying causes of adolescent suicide. Theories from a biological, psychological, cognitive psychological, sociological, social psychological, social learning, and human ecological approach are discussed in detail. This review also includes research that supports identification of the general risk factors and warning signs associated with youth suicide. Risk factors researched extensively include the role of prior suicide attempts, psychiatric disorders, family dysfunction, and gender differences. The increased ability to recognize risk factors and warning signs provide a better chance to decrease youth suicide.

The suicide prevention and intervention strategies are examined from a community-based and a school-based perspective. Several prevention strategies and intervention approaches

are identified using specific examples. The implementation and evaluation of these strategies are key areas in the success of the prevention and intervention programs. Finally, a summary of findings and conclusions are presented. A discussion of implications and recommendations for youth suicide are reviewed.

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CHAPTER 1

INTRODUCTION

Even with all the research, education, and mental health resources available, youth continue to contemplate or complete suicide at disturbing rates. Each year, one in five teenagers in the United States seriously consider suicide; 5%-8% or about one million adolescents attempt suicide (Grunbaum, Kann, & Kinchen, 2002). Of the one million teenagers who attempt suicide, approximately 700,000 receive medical attention for their attempt (Grunbaum et al., 2002). Furthermore, about 1,600 teenagers die from suicide (Anderson, 2002).

Nationwide, suicide among young people increased dramatically in the past decade. According to the Center for Disease Control and Prevention (CDC), between 1980 and 1992, 67,369 individuals under the age of 25 committed suicide (1995). From 1992 to 1995, the incidence of suicide among adolescents and young adults nearly tripled. This disturbing increase in the numbers was alarming and, yet, seemed to go unnoticed in our society. To put this epidemic in perspective, the National Institute of Mental Health (NIMH) reported in 1999 that suicide was the third leading cause of death among young people 15 to 24 years of age and the sixth leading cause of death for 5 to 14 year olds. More teenagers and young adults died from suicide than from cancer, heart disease, AIDS, birth defects, stroke, pneumonia, influenza and lung disease combined.

Other major concerns go beyond completed suicides, such as suicidal ideation and suicidal attempts. The CDC Youth Risk Behavior Survey (YRBS) (2002) reported that in past year, 19% of high school students had seriously considered attempting suicide, 15% had made a plan to attempt suicide, 8.8% had made an actual suicide attempt, and 2.6% made a serious

suicide attempt that required medical attention. Clearly, this problem has the potential for prevention given the high number of adolescent suicidal thoughts, threats, and attempts.

In order to understand this complex epidemic, it is necessary to make a distinction between suicidal ideation, suicidal attempt and suicide completion. Suicidal ideation consists of thoughts about suicide, a suicide attempt is the unsuccessful act with the intention of death, and a suicide completion is the death of the individual by a means they executed. If an adolescent experiences suicidal behavior (thoughts, possible plan, intense painful emotions) it does not indicate a less serious threat than an actual suicide attempt or completion. Youth exhibiting suicidal behavior are in severe pain and desperately need help to prevent a suicide attempt or completion. When an adolescent's behavior escalates to a suicidal attempt and that attempt fails, it can be construed as an attempt to receive "attention", which sometimes achieves a reversed reaction. It can often take a great deal of suffering and contemplation for an individual to follow through with the act of suicide. These individuals are not generally looking for notoriety. Conversely, they are in need of attention received through support and treatment.

Several studies have examined youth suicide and suicidal behavior from different perspectives (Brown, Beck, Steer, & Grisham, 1995; Ayyash-Abdo, 2002; Gould, Greenberg, Velting, & Shaffer, 2003). The areas of research examined in this paper are the theories of adolescent, suicide risk factors, and the prevention of, and intervention strategies for, adolescent suicide and suicidal behavior. There are several theories for the underlying cause of adolescent suicide and suicidal behavior. However, it is difficult to determine which one is most prominent given the varied research. There are specified risk factors that emerge from the research as well, which greatly increase an individual's risk for suicide and suicidal behavior. These risk factors include strong clinical and epidemiological evidence that support their influence on adolescent

suicide. Based on suicide theories and the risk factors derived from research, there have been several attempts for prevention and intervention programs for adolescent suicide. These will be further discussed in the paper.

Although there is more research and greater understanding now than in the past regarding adolescent suicide, there is still a high rate of suicidal behavior, attempts, and completions. This presents a major concern for society and requires a multifaceted approach to treat youth suicide and to provide optimal prevention and intervention strategies.

Statement of the Problem

The purpose of this literature review is to examine literature about adolescent suicide and suicidal behavior.

Research Objectives

There are three research objectives this paper will attempt to answer. This paper will attempt to answer the following three research questions:

1. What theories of adolescent suicide exist?
2. What risk factors/warning signs are present in adolescent suicide and suicide behavior?
3. What prevention and intervention strategies are effective for adolescent suicide and suicidal behavior?

Definition of Terms

For clarity of understanding, the following terms need to be defined.

Adolescent Suicide: Completion of suicide by an individual between ages 11 and 18.

Attempted Suicide: Unsuccessful, potentially lethal effort to complete suicide.

Comorbidity: Concurrence of two or more conditions or disorders.

Suicidal Ideation: Thoughts about completing suicide.

Suicide Cluster: Suicidal threats, attempts or completions following a recent suicide.

Limitations of the Research

It is assumed that the participants and researchers of the published and peer reviewed studies were honest and unbiased, the research designs and procedures of the studies were developmentally appropriate, and the studies intervention strategies were designed to fit the needs of the adolescent population. It is assumed the literature used definitions and terms of suicide and suicidal behavior consistently and accurately. It is also assumed that the validity and reliability of the instrumentation, risk factors, and sample representation were appropriate for this area of research.

A number of possible limitations were the honesty and biased findings from the participants and researchers, as well as inappropriate developmental or problem-specific research designs and procedures for the adolescent population. Other limitations were the accuracy of the validity and reliability of the instrumentation, the risk factors, and the sample representation.

CHAPTER II

LITERATURE REVIEW

Introduction

An examination of the research on adolescent suicide reveals studies that focused from specific to multiple aspects of suicide. This chapter reviews research regarding the multitude of theories used to understand adolescent suicide, past research related to the suicide risk factors and warning signs, and prevention and intervention strategies of youth suicide.

Theories of Adolescent Suicide

To understand suicide prevention and intervention, it is important to have a basic foundation in the various theories of adolescent suicide. These theories can provide a way to view the phenomena and offer basic points of reference. The following theories provide insight into the underlying causes or triggers of adolescent suicide.

The first theory is the concept that suicidal behavior has a biological basis. This implies that there is an organic or chemical disparity in the individual's genetic or biological make-up, entailing psychiatric disorders such as schizophrenia and bipolar disorder. According to the *Journal of the American Medical Association (JAMA)*, "Adolescents who kill themselves invariably have an underlying psychiatric disorder" (Zametkin, Alter, & Yemini, 2001, p. 3120). Furthermore, findings from Brent, et al. (2002) found that 82% of youth suicide attempts happened in the context of a mood disorder, and the youth had a 6-fold increase risk of suicide attempts compared to youth of nonattempters. Results from Brent et al.'s study also show a high prevalence of mood disorders associated with suicide attempts passed from the parent-child in the family. From this research, there appears to be a strong link between the biology of the adolescent and the psychology of suicidal behavior via family relationships. Zametkin, et al.

(2001) found that biological conditions and biochemical changes during the adolescent years may cause more affective disorders, like depression. These biochemical changes may also be associated with the presence of an illness during the mother's pregnancy and/or the adolescent's experience of a difficult birth. Depressive disorders have been found to be the most common disorders among adolescent suicide victims, ranging from 49% to 64% (Beautrais, 2001). The risk of suicide is increased for those who have an affective disorder. Female victims were found to be more likely to suffer from affective disorders than male victims (Brent, Baugher, Chen, & Chiapetta, 1999). Approximately one-third of male suicide victims had a conduct disorder, often comorbid with anxiety, substance abuse or mood disorder (Brent, Perper, Moritz, Baugher, Schweers, & Roth, 1993).

Other biological studies support the finding of a reduced serotonin metabolite (5-HIAA) in the cerebrospinal fluid of suicide attempters and completers (Zametkin et al., 2001). There has been a considerable amount of research indicating abnormalities of serotonin function in suicidal and in impulsive, aggressive individuals despite their psychiatric diagnosis. The data displayed lower levels of serotonin and 5-HIAA in the brain stems of suicide attempters.

Zametkin et al. (2001) stated that

Genetic studies have suggested that suicidal acts and low CSF 5-HIAA levels are related to a polymorphism in the TPH gene, which codes for tryptophan hydroxylase, the rate-limiting enzyme in the synthesis of serotonin. These studies suggest that low CSF 5-HIAA levels are due to low central serotonin turnover, which is caused by a reduced capacity to hydroxylate tryptophan in the synthesis of serotonin. The authors speculate that the presence of a certain allele of the TPH gene might lead to this reduced capacity.

(p. 3122)

The irregularity in the serotonin levels suggests a biological trait that predisposes individuals to suicide, otherwise known as a stress-diathesis model (Gould et al., 2003). As a result, a mentally ill individual may be more likely to respond to a stressful situation in an impulsive manner, such as suicide.

Suicide and severe psychiatric problems such as schizophrenia and bipolar disorder have shown inconsistent results. Brent et al. (1993) reported high rates of suicide among individuals with bipolar disorder; However, Shaffer et al., (1996) reported few bipolar disorder related suicides. Schizophrenic youth showed a low rate of suicide, even though there is usually a high risk among individuals with schizophrenia (Shaffer et al., 1996). In recent research, there was an association between posttraumatic stress disorder and suicidal behavior among youth (Mazza, 2000). However, more research with a larger sample needs to assess for comorbidity of posttraumatic stress disorder with other psychiatric disorders. Panic attacks have also been reported to have a correlation with an increased risk of suicidal behavior among adolescents (Gould, Fisher, Parides, Flory, & Shaffer, 1996). Research investigating the biological theory has improved significantly and is continuing to make great strides in understanding adolescent suicide.

Other potential explanations of adolescent suicide come from psychological theories. Using a psychoanalytic model, the belief is that the adolescent portrays an external cause for their suicidal attempt, masking their internal struggle to deal with rejection and deprivation which resulted from the loss of love and support (Henry & Stephenson, 1993). A further psychoanalytical explanation addresses the developmental aspects of adolescence and the relationship of a self-destructive drive during puberty. To clarify, the lack of sufficient ego development during this stage of life may lead to suicidal behavior. This perspective also

suggests that self-destructive behavior, such as suicidal behavior, transpires from an unconscious death wish, which is due to anger toward oneself.

A cognitive psychological approach derives from the adolescent's inability to cope and/or adapt to stress. Characteristics such as hopelessness and despair are identified as predictors of adolescent suicide. According to Morano, Cisler, and Lemerond (1993), the variables of hopelessness, loss, and social support were associated with adolescent suicidal behavior and attempts. The sense of hopelessness was more significant than the presence of depression in Morano et al.'s study, which added more empirical evidence for Beck's theory, that hopelessness is a stronger predictor of suicide than is depression. This implies that certain feelings or thoughts are more strongly linked to suicidality than a biological root. The predictive nature of hopelessness, in part, may be due to the relationship between hopelessness and depression. Among adult outpatients, hopelessness was not found to be as strong of a predictor for suicidal behavior when controlling for depression (Brown et al., 2000). It is also possible that youth who have attempted suicide have a stronger disposition than other youth, and when coupled with hopelessness or other risk factors, it creates a higher risk of a suicide.

A sociological theory has been another underlying cause applied to adolescent suicide. The level of adolescent involvement in social institutions such as family, church, and a political system may predict suicide. A common sociological explanation of suicidal behavior by Ayyash-Abdo (2002) stated, "cultural differences in suicide completions, attempts, and ideations may be a reflection of variations in the level of social support, belonging, and community support" (p. 467). The belief is that the adolescent who has a low level of connection with their social institution may perhaps feel isolated and therefore more likely to engage in suicidal behavior (Henry & Stephenson, 1993). On the other hand, the adolescent may be over involved in the

social institution and engage in suicidal behavior for the “benefit” of the society or a religious or political group. The most recent example of this type of suicidal behavior is with the terrorists in the United States and the Middle East.

In addition, cultural differences have shown differing suicide rates from county to country. Countries with low rates of suicide include Egypt, Philippines, Panama, China, Mexico, and Paraguay, and countries with high rates include Austria, Denmark, Finland, Sweden, and Hungary (Maris, Berman, & Silverman, 2000). A difference between individualistic cultures verse collectivist cultures emerges in the research. In individualistic cultures, self-reliance, competition, and emotional detachment are valued where in collectivist cultures interdependence, interconnectedness, and family integrity are respected (Ayyach-Abdo, 2001). Research among Chinese and Ghanian or collectivist cultures consistently found lower levels of suicide attempts and completions than in an American or other individualistic cultures (Eshun, 2000). This research suggests that more individualistic societies have higher rates of suicide attempts or completions.

The social psychological approach is another premise for suicide behavior that focuses on circumstantial factors of adolescent suicide. Examples of circumstantial factors include the adolescent’s family condition, environmental changes, childhood abuse, relationship issues, and other external factors. The dynamics of the suicidal adolescent and their family processes have been examined primarily in marriage and family research.

The family systems model views the suicidal behavior as a symptom of family dysfunction rather than an individual problem (Richman, 1986). Richman suggests that adolescents who attempt suicide may inadvertently help the family avoid painful issues or family conflicts. Suicidal youth keep other family member’s issues intact while their problems become

the main focus of the family. A family systems approach includes changing the whole family system instead of concentrating only on the adolescent's suicidal symptoms.

Social learning theory is a model that supports behavior imitated from other family members or friends within the social group (Henry & Stephenson, 1993). This model asserts that adolescents who experience suicide as a coping model in other family members, or who are raised in an environment where depressive symptoms are exhibited, have more likelihood of repeating the same behaviors, thoughts, and interactions. They may view suicide as a means of coping or receiving attention.

Finally, one of the most recent theoretical models of suicide is the human ecological theory. This includes a multidimensional approach that incorporates individual, environmental, and sociocultural factors. It views suicidal behavior from a multilevel, broad, systematic context, as opposed to identifying specific risk or isolated factors. The ecological perspective examines adolescent suicide using a succession of complex systems: the ontogenic, microsystem, exosystem, and macrosystem, "all in concentric circles" (Ayyash-Abdo, 2002, p. 460). Belsky (1980) created the ontoegenic system or person-oriented system including the psychological traits and demographics of the adolescent that increase the risk for suicide. Examples of some of the psychological traits are hopelessness, depression, and substance abuse. The ontogenic development is a highly interactive system that influences or is influenced by the microsystem, exosystem, and the macrosystem. The next classification, the microsystem, is comprised of the immediate environment of the individual such as family interactions, friendships, religious affiliation, and neighbors. This system is ingrained within the exosystem creating an indirect affect on the individual's suicidal behavior. The exosystem indicates the

“social structures (e.g., work places, neighborhood, residential setting) that do not themselves contain the developing person but impinge upon or encompass the immediate settings in which that person is found, and thereby influence, delimit, or even determine what goes on there” (Bronfenbrenner, 1977, p. 515).

The exosystem is enclosed within a larger system, the macrosystem. The macrosystem consists of the outer circle including cultural, ethnic, and religious differences. The application of the human ecological model for adolescent suicide combines the major theories of adolescent suicide and defines suicidal thoughts and behaviors through all-encompassing, interactive dimensions. The developmental stage of the adolescent, the number of risk factors, how timely they are, community and family influences, and the biological disposition of the individual are all considered within the context of the four systems.

Risk Factors and Warning Signs

A considerable amount of research has identified suicidal risk factors. Much of this research appears to have focused on the role of psychiatric disorders, prior suicide attempts, family dysfunction, and gender differences. It is known that there are multiple risk factors for suicidal behavior among adolescents. Improved methods for assessing the level of adolescent suicide risk are imperative for successful prevention. Suicidal risk is a serious concern, but also a complicated topic. Our ability to decrease the risks and behaviors appears to be inadequate. Research on risk factors and warning signs focuses on identifying high-risk youth in order to prevent a suicidal act. Popenhagen and Qualley (1998) summarized many of the known risk factors:

Adolescents are more likely to commit suicide immediately following a loss, such as the loss of a significant other, death of a family member, unemployment, or a

loss of face. A previous suicide attempt constitutes a key risk factor. Other risk factors include drugs/alcohol use, lack of family cohesion, family history of psychiatric problems, childhood abuse, and membership in a gang. (p. 33)

Other risk factors noted by the American Academy of Pediatrics (2000) included struggles with school, difficulties with parents, legal troubles, social isolation, physical ailments, and relationship break-ups. Additional risk factors are associated with each gender as well. When compared to males, females, on average, have a lower success rate in completed suicides yet have a higher rate of attempted suicide. Perkins and Hartless (2002) stated the following particular risks:

For males, mood disorder, substance abuse, conduct disorder, gun in the home, family history of psychopathology, and past attempt were risk factors for completed suicide For females, mood disorder, substance abuse, and handgun in the home was significant risk factors for completed suicide (p. 805)

A study conducted by Potter, Powell, & Karchur (1995) similarly found that males tend to have a higher risk of suicide when there is a family history of psychopathology and gun availability in the home. This study found factors of increasing risk of suicide for females to be mood disorders, gun availability in the home, and past attempts of suicide. Research has shown that males usually choose more violent and lethal means of suicide such as using firearms or hanging themselves, and are more successful in the completion of suicide. Females tend to use less severe means of suicide such as overdoses of medication and carbon monoxide poisoning, and they have a higher rate of attempted suicide. Females also present higher levels of depressive symptomatology than males, which are consistent with previous research (Allison, Roeger, Martin & Keeves, 2001).

Other high risk factors found in adolescents are a history of depression, chronic psychiatric or physical conditions and psychosocial problems (American Academy of Pediatrics, 2000). These risk factors correlate strongly with the biological hypothesis of suicide and have been found to be strong predictors of suicide. A major study by Brent et al. (1993) of youth suicide attempters taken from a community sample had high rates of psychopathology. A study by Zametkin et al., (2001) also showed a strong association between suicide and psychopathology identifying the main risk factor for adolescent suicide is depression with substance abuse and a family history of depression.

Other studies explore the possibility of how childhood hardships, negative life events and interpersonal difficulties play a role in suicidal behavior. Some research has pointed to sexual and physical abuse as being strongly linked with suicide attempts (Dube et al., 2001). Brent et al. (2002) stated that:

Sexual abuse in both parent and child played an important role in transmission of suicidal behavior. A history of reported parental sexual abuse increased the risk of attempt in offspring, regardless of the offspring's reported status. In addition, a history of sexual abuse in the proband (the abuser) increased the likelihood that their offspring would be sexually abused, which in turn was also associated with increased likelihood of offspring attempt. (p. 805)

There may be a significant relationship between adverse childhood experiences, such as emotional, sexual, physical abuse, mental illness, incarceration, parental domestic violence, separation, divorce and substance abuse within the home, and the risk of attempted suicide (Dube et al., 2001). Longitudinal research conducted by Johnson et al. (2002) indicated that

... low family cohesion, low family expressiveness and high family conflict may

play a role between a mother's depression and adolescent suicidality, that adolescents' relationships with their parents may moderate the association between stressful life events and depressive symptoms, and that stressful life events may mediate the association between certain types of childhood adversity and risk for suicidal behavior during adolescence or early adulthood. (p. 744)

These findings indicate that interpersonal relationship difficulties can be identified as a high risk factor for adolescent suicide. Johnson et al. (2002) also stated that "maladaptive parenting and childhood maltreatment" was correlated with a higher risk of interpersonal difficulties in middle adolescence and for suicide attempts during late adolescence or early adulthood (p. 741). These key problematic parental characteristics associated with high risk factors for suicide are described as overprotective or neglectful and affectionless behaviors. However, the majority of the research supports the notion that adolescent behavior is influenced by many different factors and individuals who experience many difficulties during their youth are at a cumulative increased risk for suicide.

Other family dynamics linked to the elevated risk of adolescent suicide included ineffective family communication and interaction patterns (Henry & Stephensen, 1993). Richman (1986) found a correlation between suicidal adolescents and families that were inclined to have rigid interaction patterns that mandated specific roles in the family. The family tended to disapprove of the adolescents attempt to establish new roles within the family. These families also displayed decreased levels of effective communication in decision-making and increased levels of conflict.

Race has been a significant and understudied risk factor. The suicide rate among black youth aged 10-19 years increased 114% from 1980 to 1995; This was the highest increase in

suicide rates for youths of all races (CDC, 1995). Among African Americans aged 10 to 14, the suicide rate increased the most (233%) while increasing by 126% for African Americans aged 15 to 19 (CDC, 1995). One of the major findings was the widespread amount of social adversity experienced by African American youth. Lyon, Benoit, O'Donnell, Silber, & Walsch (2000) concluded from their study that 18.4% of the African American control group had been physically or sexually abused, 4% neglected, 32.9% threatened with parental separation and half had experienced a significant loss in their life. African American youth, especially in urban areas, often face a multitude of other difficulties such as poverty, violence, poor educational opportunities, and broken homes.

In a study by Rew, Thomas, Horner, Resnick and Beuhring (2001), suicide attempts and attempts needing medical care were highest (10.4%) among White females and lowest (3.12%) in Black males (2001). Native American and Alaskan Native adolescents have also had a significantly higher rate of suicide than Caucasians and the rate of attempted suicide among Hispanic adolescents is higher than White and African-American youth. Compared to other ethnicities, Asian and Pacific Islanders have an overall low rate of suicide (Range, Leach, McIntyre, Posey-Deters, Marion, et al., 1999). Japanese, Chinese, and Filipino Americans have the lowest rate of suicide for all Americans except African Americans.

Other risk factors include being considered gifted as a teen (Popenhagen & Qualley, 1998), inadequate social connectedness and support, hopelessness (Morano et al., 1993), and poor social skills or social deficits (Beautrais, Joyce, & Mulder, 1996). Other risk factors identified by Perkins and Hartless (2002) were hopelessness, low religiosity, low levels of family support, parental engagement in drug use or perceived parental use of drugs, poor parent

monitoring, lack of positive experience in school, and lack of involvement in extracurricular activities. Most of the research studied independent risk factors rather than multiple risk factors.

It is important to note that warning signs are different than risk factors even though they are often listed together. Warning signs are cues that indicate an acute need and require quick action by those who observe the signs. There is not a typical profile of an impending adolescent suicide victim. This can present obstacles for friends, family, school professionals, and community members in identifying a suicidal youth. However, nine out of ten adolescents who commit suicide give clues before they make an attempt (King, 1999).

Warning signs are frequently expressed as verbal, physical, or behavioral indicators. Many adolescents display warning signs of suicidality that go undetected by others around them. These indicators may be subtle or quite obvious. Examples of behavioral warning signs include being depressed, a change in behavior, loss of energy, giving away cherished possessions, substance abuse, withdrawal, and hopelessness. Verbal warning signs consist of statements such as “I want to die”, “Don’t worry about me, I won’t be around much longer”, “My family would be better without me”, and “I don’t want to be a burden to anyone” (King, 2001, p. 133). One common myth is that adolescents who talk about suicide do not attempt or commit suicide (King, 1999). Those individuals who repeatedly talk about suicide provide one of the most obvious warning signs. Physical indicators or stressful life events include past suicide attempts, changes or loss in relationships, access to a means for suicide, previous family suicide, and serious illness. Aside from observing the physical, behavioral, and verbal warning signs, recognizing the suicidal youth’s feelings can also offer strong indicators. These include feelings that they can’t stop the pain or sadness they are experiencing, having a hard time thinking clearly and making decisions, feeling out of control or like there is no way out of their dilemma, can’t see a future

without pain, don't view themselves as worthwhile, and can't get a person's attention that they are seeking.

Risk factors and warning signs have been researched extensively. The known risk factors and warnings signs provide valuable information for the prevention and intervention of adolescent suicide. The continued effort to understand and evaluate suicidal behavior and completions gives more insight into this complex issue.

Prevention and Intervention Strategies

There are several ways to provide help for individuals who display warning signs. The American Association of Suicidology (n. d.) recommends many suggestions such as talking openly and directly about suicide, listening and being non-judgmental, becoming involved and interested with the suicidal youth, avoiding secrecy or promises of secrecy, taking action to remove the means for suicide, and seeking outside professional help. One of the key factors to consider is to seek help even in the event of uncertainty of suicidal warning signs. Most adolescents who attempt or complete a suicide are ambivalent about dying and any intervention may prevent a death.

The development of suicide prevention and intervention strategies has been an ever changing and progressive process involving many resources. There is no national standard for the prevention or intervention of suicide; however, the research suggests that there are several different strategies. In 1994 the CDC's National Center for Injury Prevention and Control published *Youth Suicide Prevention Programs: A Resource Guide* (O'Carroll, Potter, & Mercy, 1994). This resource guide recognized model programs, which incorporated specific prevention strategies and made general recommendations for the development, implementation and evaluation of youth suicide prevention programs. Other sources such as the United States

Department of Health and Human services Substance Abuse and Mental Health Services Administration (SAMHSA) developed goals and objectives for prevention and intervention. Based on the collaboration of suicide prevention experts and a compilation of the most effective suicide prevention approaches, the CDC recognized eight strategies outlined below.

The first strategy includes the school gatekeeper training. This program educates the school professionals such as teachers, nurses, coaches, and counselors to identify students who have risk factors for suicide. It also instructs the school professionals on how to respond in the event of a suicide threat, attempt or completion.

The second strategy is a community gatekeeper training. This program is designed to educate community members such as health care providers, police, recreation staff and other community members in recognizing youth with risk factors for suicide and have the proper knowledge on how to use referrals and attend to this population.

The third strategy incorporates general suicide education. This component is geared towards teaching students/youth about the risk factors and warning signs of suicide and how to seek assistance for themselves and others who are contemplating suicide. It also incorporates self-esteem and social competency programs.

The fourth aspect concerns screening programs. This includes questionnaires or other screening instruments to assess an adolescent's risk level. The use of these instruments can be repeated throughout the treatment process to reassess the prevention effort.

The fifth approach includes a peer support group. This aspect is the development of a peer support group and provides social skills training in higher risk youth. It can be administered within or outside of the school setting.

The sixth strategy is crisis centers and hotlines. This type of service is made up of

trained volunteers and/or paid staff that provide telephone or drop in counseling to aid in the assistance and referral of the suicidal adolescent.

The seventh method is the restriction of access to lethal means. Programs and/or efforts are implemented to restrict access to handguns, drugs, cutting instruments, or other means of suicide.

Finally, the eighth approach includes intervention after a suicide (postvention). These programs are designed to assist the friends, family and individuals affected by the completed suicide. They are intended to help individuals cope effectively with the feelings of loss and to prevent suicide clusters.

Other prevention and intervention efforts include goal and objective-based strategies. The Substance Abuse and Mental Health Services and Administration (n. d.) summarized eleven goals. The first goal is to promote suicide as a preventable public health issue. The aim of this goal is to increase collaboration between public and private entities. This includes sponsoring a national suicide and suicide prevention conference, creating public education campaigns, organizing forums that focus on specific issues surrounding suicide, and making Internet information on suicide more available.

The second goal is to develop a broad-based suicide prevention support system. This objective is to, again, collaborate with a variety of organizations from schools, faith-based groups, and health care institutions to ensure that prevention and intervention are comprehensive and cooperative with each other. This goal entails implementing a Federal committee to create a National suicide intervention and prevention strategy, establishing public and private partnerships to implement the National Strategy, integrating suicide prevention activities with

more professionals, volunteers, and other groups, and increasing policies designed to prevent suicide in faith communities.

The third goal is to decrease the stigma of receiving mental health and substance abuse services. Mental illness and substance abuse are high risk factors for suicide. The stigma attached to receiving these services may prevent services to treatable illnesses. Traditionally, the stigma attached to mental health, suicide prevention, and substance abuse have contributed to low insurance reimbursements for treatment and inadequate funding for prevention. As a result, the overall services available from state to state are often ineffective and inconsistent for mental health services, including suicide prevention and treatment. There are two separate health care systems for physical health and mental health, which create less services available for mental health as compared to physical health ailments. The bureaucratic barriers further impede the prevention and treatment efforts and access to mental health services. By minimizing the stigma, more individuals in need may seek help, funding may increase, and the integration of all health care has the possibility to work more collaboratively. The objectives for this goal are to increase adequate treatment for suicidal individuals with mental illness and to change the public opinion about mental health and substance abuse disorders as illnesses. Ideally, the public opinion would consider mental illness comparable to a physical illness and recognize the treatment of mental health is as important as treating any other health issue.

The fourth goal established is to develop and incorporate suicide prevention programming. The suicide prevention planning and program development would access organizations and groups that attend to a variety of people, not necessarily a suicidal person. The aim for this goal is to increase the number of comprehensive suicide prevention programs in more States and increase evidence-based suicide prevention programs in schools, universities,

hospitals, agencies, community programs, correctional institutions, and work sites. Another focus of this goal is to create nation-wide technical support centers for the implementation and evaluation of suicide prevention and intervention programs.

The fifth goal is to reduce access to a lethal means. The purpose of this goal is to separate in space and time the suicidal impulse from the accessibility of a lethal means. This includes educating professionals such as health care workers, police, and other safety officials on how to assess a lethal means in the home and review actions to decrease suicidal risk. Also, other objectives are implementing a public awareness campaign to learn ways to reduce accessibility of a lethal means, improving firearm safety, seeking technology to decrease carbon monoxide from automobiles, and creating safer methods to dispense lethal quantities of medications.

The sixth goal entails professional training to identify at risk behavior and to provide effective treatment. Gatekeepers or people who come into contact with individuals who may be suicidal are essential in the detection of risk factors and warning signs. The goal's objectives include improving education and training to identify suicidal behavior for health care professionals, counselors, correctional worker, psychologists, clergy, teachers, and other educational staff, and family members of at risk individuals.

The seventh strategy is to develop and promote effective clinical and professional practices. Once an individual is identified as suicidal, it is crucial to provide them with treatment. The objectives of this goal are to change and improve procedures or policies regarding the identification of suicide risk in settings such as hospitals, substance abuse treatment centers, mental health agencies and other treatment settings, incorporate suicide screening in primary care settings, increase short term and long term treatment for individuals with mood

disorders, provide mental health services to people who have suffered a trauma, sexual, or physical abuse in the emergency department, and train professionals who are in contact with suicide survivors how to respond appropriately to their specific needs. This goal also includes educating family members or significant others of individual receiving mental health or substance abuse disorders with the risk of suicide.

The eighth strategy is to provide better access to community mental health and substance abuse services. This requires financial, structural, and personal barriers to be reduced. Financial barriers include inadequate or poor insurance coverage and lack of money to pay for services outside of a healthcare plan. Structural barriers are insufficient health professionals that specialize in suicide prevention and intervention and a lack of health care facilities. Personal barriers include cultural, spiritual, and language differences, confidentiality or discrimination issues, or not knowing where or how to receive care. Objectives of this goal include improving the health insurance costs available to mental health services, incorporating suicidal risk management guidelines for managed care and insurance plans, joining mental health and suicide prevention and intervention with health and social service outreach programs for at risk groups, creating and integrating screening programs in schools, colleges, correctional institutions and other places, and developing support programs for suicide survivors.

The ninth goal is to control the suicide, mental illness, and substance abuse coverage and perception the media and entertainment industry report. The prevention of suicide clusters or imitations can be reduced through the media. The way suicide, mental illness, and substance abuse are portrayed via the media plays a part in the stigma attached to these issues. The target of this goal is to establish responsible media representation of suicide, increase the television programs, movies, and news reports that follow guidelines in the portrayal of suicide and mental

illness, and require journalism schools to address the issues of reporting a suicide or mental illness.

The tenth strategy is to support suicide and suicide prevention research. The value of research for such a complex issue offers insights and understanding for the prevention and intervention effort. The objectives of this goal includes the development of a national suicide research program, more funding for research, evaluation of prevention and intervention programs, and establishment of an effective intervention registry.

The final goal is to enhance and increase surveillance systems. Surveillance systems are the systematic and continuing compilation of data to track trends, offer evidence-based incentives and activities, recognize risk factors and warning signs, target high risk groups, and evaluate prevention and intervention programs. The aim of this goal is to create and apply a standard protocol for suicide death scene investigations, enhance the number of hospitals that code for cause of injuries, increase national representative surveys on suicidal behavior, develop a national violent death reporting system, require more States to provide annual reports on suicide, and support pilot projects of data systems that examine self-destructive behavior.

The overall agenda of the SAMHSA prevention program serves as a comprehensive model for organizations to take the goals and objectives that are compatible to their population, resources, and responsibilities. As with other prevention and intervention programs, it may be necessary to modify for the use of different populations.

When evaluating prevention programs, the CDC found several limitations including some aspects of the model programs. For example, they found that the relationships between many existing suicide prevention programs and community mental health resources are deficient. This deficiency can strongly impact the effectiveness treatment of adolescent suicidality. They also

found that some of the potentially successful strategies are applied infrequently such as the implementation of restricting a lethal means of suicide and the development of peer support groups. Restricting lethal means and peer support groups were found to be highly effective in the prevention of youth suicide, yet not commonly utilized.

When evaluating school-based suicide prevention programs, the CDC (2002) found little evidence to indicate the effectiveness of these programs. The educational prevention programs often consisted of a one-time lecture or limited information about adolescent suicide. To date, there is inadequate evidence to either support or not support curriculum-based school suicide programs (Hayden & Lauer, 2000). Additionally, suicide prevention was often combined with other existing programs that targeted at risk youth such as high school dropouts, teenage pregnancy, alcohol and drug programs instead of occurring as its own program. Even when suicide prevention did occur as its own program there was a low number of collaborative relationships with the at risk programs.

O'Carroll et al., (1994) found it difficult to advocate one approach over another due to the lack of suicide prevention program efficacy. However, they did make some general recommendations regarding future suicide prevention programs. These recommendations include establishing strong working relationships with mental health agencies and resources within the community and creating a multi-faceted suicide prevention program to try to avoid a "one-size fits" all approach. Due to the lack of sufficient evidence of a specific program, recommendations include a variety of strategies that prove to be effective to reach the largest population possible. Other recommendations that have been found successful were restriction of a lethal means, peer support groups, and collaboration with other prevention programs. The final

recommendation is to incorporate outcome evaluations that measure the effectiveness of the suicide prevention program and make necessary adjustments on a regular basis.

Overall, suicide prevention and intervention begins by identifying prevention strategies and targeting interventions. Prevention focuses on many different dimensions from policy procedures, school systems, youth and parent involvement, and community resources. With the involvement and collaboration of these resources, youth suicide prevention and intervention has a much greater chance of success. As with most approaches, there are potential limitations and problems that arise and those issues need to be addressed for the specific community, school system, and individual. The American Association of Suicidology (n. d.) founded the following community prevention and intervention program that include several strategies and applications for a broad based effort.

The first strategy is to develop and implement public education awareness about adolescent suicide. The purpose is to increase knowledge about suicide risk, improve awareness of protective factors, assist in the recognition of symptoms of adolescent depression, and sharpen skills for responding to suicidal ideation and highlight available community resources. It also focuses on decreasing the negative stigma associated with mental health counseling, therefore increasing the likelihood that youth will seek help more readily. The local media such as radio stations, television, movie theaters, local newspaper or print media can implement suicide awareness. Guidelines for responsible coverage of suicides should also be established as a means to decrease the possibility of additional suicides. Another means for awareness could also be to distribute flyers, brochures, posters and other informational packets. In addition, communities could organize a youth suicide prevention week that included presentations by professionals, youth, survivors, and others.

The second strategy is encouragement of parental involvement in their youth. Implementation of efforts such as parent appreciation day, requirements for parent teacher conferences, parent support groups, and parent skills training in the schools as well as community and government agencies are important. Stricter penalties for those parents who neglect and abuse their children should be enforced. Involving more mentors and other adult figures into the youth's environment are effective as well.

The third strategy is the effort in reduction of access to a lethal means. Firearms were the most common method of suicide by youth regardless of gender, age or race (Potter et al., 1995). The most common location for youth suicide by firearms was in the home (Brent et al., 1993). Ingestion of pills was the most common method among adolescents who attempted suicide (Horwitz et al., 2001). This effort is designed to encourage safe storage or elimination of firearms and other lethal means (such as pills or poisons) from the homes of adolescents who present a high risk. This type of promotion is implemented through public education intervention, providing safety checks for lethal means storage in the community by the police force or other health care professionals, and increasing the laws regarding accessibility to firearms.

The fourth strategy, one of the most important prevention efforts, is to educate and involve youth in suicide prevention and intervention. This is often a touchy subject matter, especially in the school systems. It is feared that by discussing suicide, it may increase the behavior. However, there is no evidence thus far that supports this notion. Approximately 50% of adolescent females and 33% of males report having talked to someone who was suicidal and yet only 25% told an adult about their suicidal peer (NIMH, 1995). Educating youth increases suicide prevention awareness, promotes knowledge, and enhances skills to deal with their own

experiences as well as those of fellow peers. A comprehensive effort and the support from school board officials, educators, school staff, parents, and other community members needs to be in place for this type of programming to be successful. School systems need to implement in their curriculum age appropriate education and suicide prevention skills for students. It is also important to reach those youth who may not be in a mainstream school system such as alternative or private schools, correctional facilities, group homes, homeless shelters, and other places where youth are located.

The fifth strategy is to reduce discrimination or harassment in the school system and community. This may be a challenge, since each community differs in their acceptance of racial, ethnic, religious, sexual orientation, and group and individual differences. The purpose of reducing harassment is primarily to provide a safe and tolerant environment. Implementation includes policy, procedures, and consequences for inappropriate and harassing behavior. Increased education about tolerance, cultural differences, supportive environment, and effective intervention in the school system is a necessity. Implementing community education, along with enforcing local and state laws, can also provide protection and support for diverse populations.

The sixth strategy is to provide education and suicide-specific training for professionals. This includes, but is not limited, to mental health counselors, nurses, physicians, teachers, social workers, alcohol and drug treatment providers, school administrators, crisis response providers, psychologists, spiritual leaders, politicians, volunteers working with youth, juvenile workers, and school counselors. These professionals are in key positions to identify, assess, intervene, and refer youth that are at risk for suicide. Unfortunately, suicidal behavior may often go undetected in many children and adolescents. For example, in primary care settings, the primary care physician did not recognize 83% of adolescent patients who had attempted suicide as suicidal

(Horowitz et al., 2001). Although 47% of the primary care physicians reported having an adolescent patient attempt suicide in the past year, less than half of the physicians screened their patients. Training of professionals, such as providing in-service training, continuing education, and requirements in undergraduate, graduate, and medical schools needs to be established. Also, having the availability of experts in the suicide field can offer specific training for professional groups and address each group's needs to provide optimal care for youth.

The seventh strategy involves screening tools and referral services. Suicide assessment is critically important for several reasons. It helps identify those individuals who are most in need of mental health services, provides initial screening to identify those at risk and is important for research (Range & Knott, 1997). Efforts to incorporate screening and referral services include screening youths in school, community settings, mental health clinics, homeless shelters, crisis centers, emergency rooms, juvenile correction facilities, and alcohol and drug treatment centers. According to Range and Knott (1997), "The Beck's suicide series (SSI, SSI-M, or SSI-SR) are overall excellent measures of suicide risk" (p. 16).

The eighth strategy is to establish and/or improve crisis intervention hotlines. The coordination and training of personnel to provide suicide intervention for the hotlines, evaluation of the hotline effectiveness, and the perceived availability to the youth at-risk of the crisis hotline are necessary in a prevention and intervention effort.

Another strategy in a prevention and intervention system is to improve mental health services. This includes providing more affordable counseling to those who do not have the resources, increasing accessibility of those services to youth and their families, implementing outreach programs for at-risk youth, and creating collaborative relationships with other professionals. Other mental health services such as support groups that focus on skill building,

cognitive behavioral therapy, no-suicide contracts, suicide bereavement groups, and improvement of follow-up services for suicide attempts are also effective.

One alternative to a community-focused program would be an exclusively school-based program. School settings are a prime time to access adolescents and provide suicide educational opportunities. Unfortunately, only one in three states requires suicide prevention curriculum and slightly more than one-half of schools even teach about suicide prevention (King, 2001). The sensitivity of suicide may cause schools to approach the subject of suicide reluctantly. However, there is not any clear evidence that supports that notion. As with any educational programming, it is important to be aware of the impact of the information taught and provide the audience with appropriate resources.

A school-based prevention and intervention program needs to be comprehensive by including three components, primary prevention (prevention), secondary prevention (intervention), and tertiary prevention (postvention) (King, 2001). The primary prevention includes all school activities, programming and awareness efforts that targets the risk factors, warning signs and referral measures for all staff and students. It is the first line of prevention used in most prevention programs and provides a direct approach for addressing suicide. There are several areas in a comprehensive approach, which will be reviewed in the following paragraphs.

The first component includes a district-wide school policy that officially describes the policies and procedures of the suicide prevention and intervention program. This policy incorporates a written plan that gives the details about what procedures to take and who is responsible for what in the event that a student threatens, attempts, or completes a suicide.

The second aspect of primary prevention is educating the staff and professionals of the school about known risk actors and warning signs. At the same time, only 9% of high school teachers thought they could identify a student at risk for suicide and while most of the school counselors were aware of the risk factors, only one in three thought they could identify an at risk student (King, Price, Telljohann, & Wahl, 1999). Mandatory in-services that address warning signs and risk factors is one way to assure that the teachers and staff are receiving this pertinent information. In-service programs or programs that provide suicide education to all staff within each school are considerably more satisfactory by principles than school-wide screening programs or programs that screen for suicide by self-reported tests taken by the students (Miller, Eckert, DuPaul, & White, 1999; see Appendixes A, B, and C).

The third step in the primary prevention is the collaboration of teachers, nurses, and counselors (King et al., 1999). It is vital to have a shared approach when attempting to prevent adolescent suicidality. Referrals and educational opportunities among the professionals in the school setting can provide an increased awareness and can potentially create a higher success rate of prevention.

The fourth piece in primary prevention includes a suicide prevention curriculum for the students including how to identify risk factors, how to deal with a suicidal peer, and how to get help if a student needs it. King (2001) reported that within the “. . . past 12 months, one in five adolescents seriously considered attempting suicide, one in six made a specific suicide plan and one in 12 attempted suicide . . . one in every three school districts nationwide does not require teaching about suicide and almost one-half of all schools do not teach about suicide prevention” (p. 133). As previously mentioned, there is a fear that education about suicide may lead to more

suicidal behaviors. The sensitivity of this subject has presented a challenge when implementing a teaching curriculum.

The next element in primary prevention is the development of program for peer assistance. Adolescence is a time of life where peer support is incredibly important. Suicidal adolescents are more apt to confide in a peer rather than an adult (Kalafat & Elias, 1994). Implementing a program for peers to be educated and informed about the warning signs and risk factors while providing an avenue to get assistance could allow for a greater chance of reaching the suicidal youth.

The sixth component of primary prevention involves the implementation of activities that foster a connected and improved emotional school environment (Mauk & Rodgers, 1994). This includes activities such as peer advisory committees, opportunities for the students to give feedback and suggestions about decisions the school makes, skill-based programs that reach out to those who have emotional and developmental needs, and open door policies to school counselors, psychologists, teachers, and others. An emotionally supportive school offers students the atmosphere to reach out for help and feel that assistance will be provided if necessary.

The seventh aspect of a primary prevention is to attain a collaborative relationship between the school system and the student's parents (Mauk & Weber, 1991). When the school offers opportunities for parents to get involved in their child's education and prevention effort, it provides the adolescent a consistent message at home and at school. Parents can be encouraged to promote suicide prevention through their own community involvement such as at church, work, or other organizations in which they are involved. This collaborative effort again gives the adolescents a consistent message and awareness about suicide.

The eighth step in the primary prevention process involves a specific partnership with the school and the community (Mauk & Rodgers, 1994). The relationship with law enforcement, the local hospital(s), mental health agencies, psychiatric facilities, and other youth organizations is a key factor in providing the most effective level of care for a suicide attempt or threat.

The final component of primary prevention is to have in place a school crisis intervention team (Mishara & Daigle, 2001). This should include a group of varied individuals such as a school counselor, teacher, school nurse, and principal. This team should consist of a leader or back up leader present at all times and have a specific plan of action that is practiced in the event of a suicide threat or attempt. The importance of a formal plan in a crisis situation is to inform all people involved and prevent mistakes during the crisis.

After addressing the prevention strategies, it is important to implement the intervention element in the case of a suicide threat or attempt. The second major component in a comprehensive school suicide prevention and intervention program is called secondary prevention or intervention (King, 2001). There are several factors involved in the intervention process.

The first element in intervening with a student who has threatened suicide is to make sure the student is safe. Screening tools such as self-report test and individual interviews are used to identify at risk youth for suicide (Joiner, Pfaff, & Acres, 2002; see Appendix D). Suicidal students should never be left alone, the adult in the situation needs to contact another person for added assistance, the student should not be promised any confidentiality, and the adult handling the situation needs to ask specific questions about the student's plan of suicide and what means they have available.

The next component in the intervention process is to evaluate the student's risk (Joiner et al., 2002). King (2001) categorizes the student into three levels of risk: extreme, severe, and moderate. In the case of an extreme risk, the student has a very specific suicide plan and the means to commit suicide readily available to pursue the act. The next level, severe risk situation, is where the individual has a suicide plan without the means available. However, the student may have the means available at home or elsewhere. The last level is the moderate risk situation where the student has verbalized a threat but does not have a plan and has no specific means to commit suicide. As with most intervention strategies, it is crucial to assess the level of risk in order to provide the individual with the appropriate level of care. This evaluation leads into the next phase of intervention: deciding what mental health services are required. If a student is in extreme risk, then the method of suicide needs to be removed from the student's possession and proper professionals can take on further responsibility. In the event that the risk is determined as severe, the school professionals would contact the appropriate officials and aid the student in receiving treatment. During the moderate risk situation the level of risk would still be taken as seriously; However, the school officials would approach the situation with a less aggressive manner. In all cases, the parents would be notified and the student would be provided with resources for assistance. After the immediate contact of the parents, it is important that the school continues to see that the intervention process does not end with short-term care. The school should have a plan to collaborate with community resources and the safety of the student needs to be a priority.

After the crisis has taken place, a debriefing of the professionals involved is the last intervention step (Mauk & Weber, 1991). This is a process that provides the individuals

involved to express their concerns, thoughts, ideas, and suggestions about how the intervention went. It is a time to reevaluate the crisis intervention plan and make any necessary changes.

The third major component of a comprehensive based program is the tertiary prevention or postvention. Postvention programs help survivors in the grieving process, identify at risk students, and refer students to appropriate resources (Gould et al., 2003). This includes informing and offering counseling opportunities to the students and staff in the event of a student suicide to reduce the trauma and attempt to prevent other suicides from occurring (Mauk & Gibson, 1994). The postvention incorporates activities following the days of a suicide in ways such as providing on-site counseling services for both students and staff, making an announcement of the death during first class period of the day, demystifying the suicide, minimizing the media attention, and continuing to monitor the emotional state of the students. This may also include involving outside community resources and allowing flexibility in the following school days.

CHAPTER III

CRITICAL ANALYSIS

When analyzing the literature on adolescent suicide and suicidal behavior, it becomes evident that there are several approaches, factors, implications and recommendations for the theories of suicide, suicide risk factors, and suicide prevention and intervention strategies. A summary of the literature will be reviewed, discussing the key points and significant findings. Finally, implications and recommendations regarding the reviewed research of adolescent suicide will be explored.

Summary of Findings

The research on adolescent suicide involves a vast and intricate body of knowledge. This epidemic continues to remain the third leading cause of death for adolescents. Furthermore, the magnitude of the problem goes much further than death when the rate of suicide ideation and attempts are considered. A number of adolescent suicide theories, risk factors, and prevention and intervention strategies have been researched.

Several theories have been formed in order to understand the complexity of adolescent suicide. One of the most prominent and well researched is the biological theory. There appears to be a higher incidence of suicidality in psychiatric disorders such as depression. On the other hand, there is little research to support that disorders such as adolescent schizophrenia is linked to a higher rate of suicide. There are inconsistent results regarding the influence of bipolar in youth and there is recent data that supports a correlation with adolescent suicide and panic disorder and posttraumatic disorder. Overall, the research shows a significantly higher rate of suicide attempts and completions that occur within families, implying a possible genetic causation.

Other theories such as the psychoanalytical approach address the adolescent's ego and coping mechanisms. It is believed that during puberty the adolescent has a self-destructive drive and the inability to cope with stress, anger, hopelessness, and loss, therefore increasing their suicidal behavior.

The sociological theory is based on the adolescent's connection to their social network, which includes their family, society, religious affiliation, and political group. The over involvement or under involvement of the adolescents social network influences their choice in suicide attempts or completions. The research indicates that more individualistic cultures have higher incidences of suicide as opposed to collectivist cultures. For example, the more interconnected and interdependent an individual is with their culture, the lower the rate of suicide.

The social psychological approach addresses the adolescents outside factors such as their family life, abuse issues, relationship with others, and environment. The ability of the individual to function along with the circumstances of their life has an impact on their incidence of suicide. The family dynamics of an adolescent's suicide victim can draw attention away from the family conflicts or issues and concentrate on the individual victim. Family therapy suggests looking within the family system rather than just the individual for factors that contribute to suicidal behavior and treatment.

The social learning theory is based upon imitation. The behaviors, interactions, and coping mechanisms the adolescent is surrounded by are believed to be what the adolescents emulate. When an adolescent's family, friends, or media utilize or sensationalize suicide as a means to deal with difficulties, the adolescent is more likely to do the same.

The final and most recent approach is the human ecological theory. This approach offers a better understanding of adolescent suicide from a personal, interpersonal, and sociocultural perspective. It recognizes a multidimensional and interactional four-part system: ontogenic, microsystem, exosystem, and macrosystem. These systems represent individual factors such as substance abuse, depression, and hopelessness to family history, media, school, loss, peers, ethnic and cultural differences, and their impact on adolescent suicide. The ecological model looks further than specific or isolated risk factors; It identifies a multitude of influences that contribute to adolescent suicide.

Another area of the literature review is adolescent suicide risk factors. This has been a highly researched area in the field of adolescent suicide. Much of the data displays specific risk factors and offers warning signs to be aware of during adolescence. One of the most widely researched risk factors is the presence of a psychopathology. Depression or other affective disorders are consistent with a higher rate of suicide in adolescence. Individuals whose parents have psychopathology, especially depression and substance abuse, have an association with completed suicide. Gender also plays a role in youth suicide. Females have a much higher rate of attempts and ideation whereas males have a lower rate of attempts but a higher rate of completion. Males typically choose a more lethal means of suicide. Males also tend to be diagnosed with a higher incidence of conduct, anxiety, or mood disorders and engage in substance abuse more frequently. However, substance abuse is a risk factor for both genders. Another factor in increased suicide attempts and completions includes accessibility to a lethal means such as firearms in the home. Removal of lethal means lowers the rate of adolescent suicide. Prior suicide attempts are considered one of the strongest predictors of suicide. There is an elevated risk for males who have had a history of suicide attempts versus females.

Hopelessness, poor interpersonal and social skills, aggressive-impulsive behavior, family history of suicide, impaired parent-child relationships, and family dysfunction are all associated with a higher risk of suicide behavior. Other risk factors are contributed to stressful life events such as loss, physical or sexual abuse, school or work difficulties, legal issues, parental divorce, romantic problems, and the death of a family member or friend by suicide. Several of these risk factors are greatly increased with comorbidity significantly increasing the risk of adolescent suicide.

The final aspect of the literature review are the prevention and intervention strategies. A community based program and a school-based program were examined. The community-based programs summarized eight strategies created by the CDC's National Center for Injury Prevention and Control and eleven goals established by SAMHSA. These strategies include school gatekeeper training, community gatekeeper training, general suicide education, screening programs, peer support groups, crisis center or hotlines, restricted access to a lethal means, and intervention after a suicide. The CDC also provided recommendations for the development, implementation, and evaluation of prevention and intervention programs.

The school-based prevention and intervention program incorporated a comprehensive approach implementing three components, primary prevention, secondary prevention, and tertiary prevention. The primary prevention aspect incorporated school activities, awareness and education programming, networking within and outside the school system with other professionals, and implementing policies and procedures. The secondary prevention includes identifying and screening at risk youth and providing a debriefing for those involved in the event of a crisis. The final component, tertiary prevention, consists of making counseling services available for the survivors and targeting students and situations to prevent further suicide attempts or completions.

Implications and Recommendations

The literature indicates that there continues to be a need for integrated research in the areas of risk factors, warning signs, and theories of adolescent suicide and suicidal behavior. Much of the research to date has studied independent theories or risk factors. Although this has proved to offer valuable information, it does not address the prevalence of multi-risk factors or a combination of theoretical backgrounds. It is imperative to research adolescent suicide from an ecological approach in order to understand the many facets of this problem. For example, an adolescent may have a biological disposition towards depression coupled with a loss, living in an extremely individualistic culture, and watches a television program that reports a recent suicide. The combination of factors that occur at a particular time in the adolescent's development could be what drives the individual to suicide. Other issues to be considered with the ecological perspective are the developmental stage of the adolescent, the number of risk factors and how often they occur, and the assessment and evaluation of suicide or suicidal behavior. Also, the inability to identify the warning signs presents a major problem among school professionals, medical personal, mental health professionals, and students. The identification of warning sign(s) could prevent the attempt or completion of a suicide and possibly provide the suicidal individual with the help they need.

Another area of research recommended is to continue to study the biological component of suicide. The increased data that supports specific biochemical's found in depression and suicidal behavior can help target available pharmaceuticals or help to create new ones. Development of newer and more effective medications implies better treatment for suicidal youth and may save lives.

Another recommendation is to standardize prevention and intervention programs nationwide. These programs need to be infused into school systems, communities, and government agencies. The programming should be concise and clear so the implementation is easy to incorporate. Many of the current prevention and intervention programs are vague and offer suggestions that are not specific or clear to the reader.

The national and state governments must make adolescent suicide a priority by supporting prevention and intervention programs through funding and mandated programs. These programs should have regular evaluations, updated information and procedures, and revisions as needed. Adolescent suicide is proven to be a problem that can be intervened upon and prevented. By mandating a national program, American society can make an impact on this issue.

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APPENDIX A

Case Description of Curriculum-Based Suicide Prevention Program

In this procedure, early in the school year, all high school students (e.g. Grades 10-12) would be presented with information regarding adolescent suicide prevention. Students would be presented with the information regarding: (a) incidence rates of adolescent suicide; (b) “warning signs” of adolescent suicide; (c) school and/or community resources for referring a student or peer for counseling; and (d) issues about confidentiality. Students would be given the opportunity to ask any questions they had regarding adolescent suicide. Each high school student would receive the information during relevant classroom periods (e.g., health class). The information would be presented by a school psychologist knowledgeable in suicide prevention. The procedure would require approximately three class periods (approximately 2 hours). Any students who believed they were at-risk for suicidal behavior as a result of this procedure would immediately be interviewed by a school psychologist to determine the magnitude of suicidal risk. If students were found to be at-risk for suicidal behavior, their parent(s)/guardian(s) would be notified and provided with the necessary referral information regarding how their child could receive help (Eckert, Miller, DuPaul, & Riley-Tillman, 2003).

APPENDIX B

Case Description of Staff In-Service Program

In this procedure, early in the school year, all school staff members (including bus drivers, secretaries, cafeteria worker, etc.) would receive in-service training on the topic of adolescent suicide prevention. Staff members would be presented with information regarding: (a) incidence rates of adolescent suicide; (b) “warning signs” of suicide; (c) school and/or community resources for referring a student for counseling; and (d) issues about confidentiality. Staff members would also be given the opportunity to ask any questions they had regarding adolescent suicide. Each staff member would receive the information during staff in-service training sessions. The information would be presented by a school psychologist knowledgeable in suicide prevention. The procedure would require approximately 2 hours to complete. Any students who were identified as at-risk for suicidal behavior as a result of this procedure would immediately be interviewed by a school psychologist to determine the magnitude of suicidal risk. If students were found to be at-risk for suicidal behavior, their parent(s)/guardian(s) would be notified and provided with the necessary referral information regarding how their child could receive help (Eckert, Miller, DuPaul, & Riley-Tillman, 2003).

APPENDIX C

Case Description of School-Wide Student Screening Program

In this procedure, early in the school year, high school homeroom teachers would hand out a brief self-report form to all high school students (e.g., Grades 10-12) during homeroom period. As the homeroom teachers hand out the self-report forms, they would provide the students with the following information: (a) that their school is interested in how they are feeling; (b) that the questionnaire will assist the school in understanding them better; and (c) that questionnaire will allow the school to provide help to the students if necessary. The self-report form is designed to determine whether or not particular students are at-risk for engaging in suicidal behaviors. There would be no mention of suicide by the teachers. Filling out the forms would require approximately 10 minutes. The forms would be scored by trained school psychologists. Students scoring above a predetermined cutoff score (i.e., within the at-risk range) would immediately be interviewed by a school psychologist to determine the magnitude of suicidal risk. If students were found to be at-risk for suicidal behavior, their parent(s)/ guardian(s) would be notified and provided with the necessary referral information regarding how their child could receive help (Eckert, Miller, DuPaul, & Riley-Tillman, 2003).

APPENDIX D

Suicide Screening Tools

There are many instruments and tests used to measure the particular aspects of suicide and suicidal behavior. The following instruments offer a variety of options used when assessing children and adolescents for suicide risk. Typically one instrument is used by a mental health professional to assess the youth.

Linehan's Suicidal Behavior Questionnaire (SBQ).

This is a four-item scale that assesses prior suicide ideation and behavior, frequency of suicide ideation, threats of suicide, and the chances of attempting suicide in the future. The SBQ is a self-report questionnaire.

Suicide Probability Scale (SPS).

This screening tool contains 36 items designed to assess severity of suicide risk. It assesses four dimensions of suicide, which include hopelessness, negative self-evaluation, suicide ideation, and hostility. Each item is rated on a 4-point scale ranging from 1 (none or a little of the time) to 4 (most or all of the time). This instrument was designed to go along with an interview for adolescents older than age 14.

Beck Hopelessness Scale (BHS).

The BHS is 20-item self-report instruments that assess negative expectations about the future. It uses a true-false format.

Pier-Harris Children's Self-Concept Scale (PHCS).

This instrument is an 80-item self-report test that assesses self-concept and self-esteem in children and adolescents.

Fairy Tales Test (FT).

This test is also known as the Life and Death Attitude Scale or the Suicidal Tendencies Test. The FT is specifically appropriate for children 10 years or under. It includes two parallel sets of stories, four stories in each set. The stories have an animal hero that portrays one of four attitudes, attraction to life, attraction to death, repulsion by life, and repulsion by death. The test takes 15 to 25 minutes and is usually more interesting to young children.