

Adolescent Suicide Myths in the United States

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Abstract: In the United States, teen suicide rates tripled over several decades, but have declined slightly since the mid-1990s. Suicide, by its nature, is a complex problem. Many myths have developed about individuals who complete suicide, suicide risk factors, current prevention programs, and the treatment of at-risk youth. The purpose of this article is to address these myths, to separate fact from fiction, and offer recommendations for future suicide prevention programs. *Myth #1: Suicide attempters and completers are similar. Myth #2: Current prevention programs work. Myth #3: Teenagers have the highest suicide rate. Myth #4: Suicide is caused by family and social stress. Myth #5: Suicide is not inherited genetically. Myth #6: Teen suicide represents treatment failure.* Psychiatric illnesses are often viewed differently from other medical problems. Research should precede any public health effort, so that suicide prevention programs can be designed, implemented, and evaluated appropriately. Too often suicide prevention programs do not use evidence-based research or practice methodologies. More funding is warranted to continue evidence-based studies. We propose that suicide be studied like any medical illness, and that future prevention efforts are evidence-based, with appropriate outcome measures.

Keywords: Antidepressants, adolescents, evidence based, school health, suicide

Introduction

The prevention of violence, in particular suicide, is of international concern (Cantor, 2000; Weber, 2000). In 1999, the United States Surgeon General issued a Call to Action to Prevent Suicide because the most current statistics identified suicide as the ninth leading cause of mortality in the United States with nearly 31,000 deaths. Concomitantly, the World Health Organization (WHO) recognized suicide as a growing problem worldwide with nearly 1,000,000 deaths and urged member nations to take action (World Health Organization, 1996). The WHO document, *Prevention of Suicide: Guidelines for the Formulation and Implementation of National Strategies* (1996), motivated a partnership to seek a national strategy in the United States (Institute of Medicine, 2002). In 2001, the United States Surgeon General released the *National Strategy for Suicide Prevention: Goals and Objectives for Action*, which is a plan that will guide the nation's suicide prevention efforts for the next ten years (Satcher, 2001). This document provides essential guidance and suggests the fundamental activities that must follow—activities based on scientific evi-

dence. The National Strategy emphasized that, “much of the work of suicide prevention must occur at the community level where human relationships breathe life into public policy (Satcher, 2001).” In 2002, the Institute of Medicine (IOM) released *Reducing Suicide: A National Imperative*. The IOM clarifies the medical, social, psychological, economic, moral, and political facets of suicide and the need for prevention. Teen suicide rates tripled over several decades in the United States, but have declined slightly since the mid-1990s (American Psychiatric Association, 2003; Kachur, Potter, James, & Powell, 1995). Suicide, by its nature, is a complex problem. Many myths have developed about individuals who complete suicide, suicide risk factors, current prevention programs, and the treatment of at-risk youth in the United States. There are certain myths that suicidologists encounter in their work with the general population, health professionals, school administrators, and other government officials, as well as the media. The purpose of this article is to address these myths related to suicide in the United States, to separate fact from fiction, and offer recommendations for future suicide prevention programs.

Myths and Recommendations

Myth #1: Suicide Attempters and Completers Are Similar

The epidemiology of suicide attempts and completions vary internationally. In the United States, males are four times more likely to die from suicide than females, but females are more likely to attempt suicide than males (Centers for Disease Control and Prevention, 2003). In 1999, 83% of teenage suicide completers were male (Arias, Anderson, Kung, Murphy, & Kochanek, 2003). The only statewide hospital surveillance study of child and adolescent suicide attempters in the United States demonstrated that 84% of attempters were female (Andrus et al., 1991). Suicide attempts peak in the teenage years, while suicide completion peaks in old age (Birkhead, Galvin, Meehan, O'Carroll, & Mercy, 1993; Centers for Disease Control and Prevention, 1998; Kachur et al., 1995). The United States does not have an official source that compiles suicide-attempt data nationwide, therefore, reported rates are speculative (Mancinelli, 2002; Maris, Berman, & Silverman, 2000). However, the average estimated ratio between non-fatal youth suicide attempters and youth suicide completers in the United States was 100–200:1 (Maris, 2002; McIntosh, 2003). In a smaller study, researchers found that adolescent suicide attempters are a large group, with a 1 year incidence rate of 130/100,000 suicide attempts among those with no baseline suicidal behaviors (McKeown et al., 1998). By contrast suicide completion is a rare event, involving only 1–2/10,000 teenagers each year (Kachur et al., 1995). While suicide attempts increase the long-term risk of suicide, the majority of teen suicide completers have never made a prior attempt (American Psychiatric Association, 2003; Brent, Perper, & Moritz, 1993; Maris et al., 2000). Gender differences can be explained by the choice of more lethal means by males, and by cultural influences making it more acceptable for males to complete rather than attempt suicide (American Psychiatric Association, 2003; Canetto, 1997; Maris et al., 2000; Moscicki, 1994).

Recommendations

It will be important to recognize that suicide attempters and completers are two different groups, with some overlap. These two groups will require separate treatment interventions, and outcome measures specific to each group. Cultural influences must also be addressed.

Myth #2: Current Prevention Programs Work

National suicide prevention efforts have focused on school education programs, teen suicide hotlines, media guidelines, and efforts to limit firearm access for at-risk youth (Gould & Kramer, 2001; Shaffer, 1988). Unfortunately,

these prevention methods have not had a significant impact in lowering teen suicide rates. Historically, suicide prevention programs have not been rigorously evaluated, and, consequently, resources have not been focused on high-risk groups (Hazell & King, 1996; Shaffer, Garland, Vieland, Underwood, & Busner, 1991). School-based suicide prevention programs have not been demonstrated to effect suicide rates, and educational benefits have been limited to a few studies (Spirito, Overholser, Ashworth, Morgan, & Benedict-Drew, 1988). In 2004, an evaluation of Signs of Suicide (SOS), a school-based suicide prevention program, documented a reduction in self-reported suicide attempts for the first time using a randomized experimental design (Aseltine & DeMartino, 2004). This study was unique, because it incorporated screening and referral of high-risk youth in addition to an educational component. Teen hotlines are primarily used by females, rather than males, thus having little effect on the group with the highest risk for death (Grossman, 1992). Approximately 5% of all teen suicides are believed to be "cluster" suicides (Hazell, 1993). Cluster suicides involve additional imitative suicides, based on the idea of a contagion, which may be associated with the way the media describes suicide (Gould, 2001; Schmidtke & Hafner, 1988). The Centers for Disease Control and Prevention (CDC) have developed guidelines for the reporting of suicide in the media in the United States. Because the implementation of similar recommendations for media coverage of suicide has been shown to decrease suicide rates in Europe, (Etzersdorfer & Sonneck, 1998; Sonneck, Etzersdorfer, & Nagel-Kuess, 1994) we strongly support the use of the CDC guidelines for media in the United States, although their effectiveness warrants examination. There is general agreement that reducing access to lethal means can reduce suicide completion rates, in fact, according to the CDC, restricting access to lethal means may be one of the most promising underused strategies that warrant further examination (Centers for Disease Control and Prevention, 1994, 2003). Unfortunately, a recent study demonstrated that only 25% of gun owners remove firearms from their home when repeatedly asked to do so by their teenager's mental health provider (Brent, Baugher, Brimaher, Kolko, & Bridge, 2000). In Canada, Leenaars and colleagues (2003) explored the relationship between Canada's Criminal Law Amendment Act of 1977 (Bill C-51) and Canadian suicide rates; although legislative gun control correlated with a decrease in suicide rates, this approach is probably unfeasible in the United States (Leenaars, Moksony, Lester, & Wenckstern, 2003).

Recommendations

Suicidologists recommend that future efforts in the educational system use evidence-based screening tools to identify youth at risk, and link screening responses to appropriate treatment referrals. Limitations include the cost of screening tools used in school settings, as well as the number of false positives (Satcher, 2001). Educational programs

which consist only of a brief, one-time lecture regarding risk factors for youth suicide have not been effective (Centers for Disease Control and Prevention, 1994). Teen hotlines may be effective in helping suicide attempters. An appropriate outcome measure for hotlines could be a reduction in the number of emergency room visits for suicide attempts rather than a reduction in the number of suicide deaths. Reducing access to lethal means may require health professionals to change their strategy of encouraging the removal of firearms to encouraging the safe storage of firearms (American Psychiatric Association, 2003; Centers for Disease Control and Prevention, 2003; Christoffel, 2000). Recently published data from the Utah Youth Suicide Study by Gray and colleagues (2002) indicated that the Juvenile Justice System provides a unique opportunity to identify youth at risk for suicide. The study found that 63% of youth suicide completers had contact with Juvenile Justice, usually multiple minor offenses over many years. Less than half (46%) of the youths found in the justice system could also be located in the public educational system. This finding suggests that mental health screening and treatment should be integrated into the nation's Juvenile Justice systems (Gray, Achilles, & Keller, 2002).

Myth #3: Teenagers Have the Highest Suicide Rate

In the United States, elderly white males have always had the highest risk for completed suicide (Arias et al., 2003). Often suicide in the geriatric population is related to a medical disability. However, older adult suicide rates have stayed relatively constant in the United States, while adolescent and young adult suicide rates have more than tripled between the 1960s and 1990s (Centers for Disease Control and Prevention, 2003; Kachur et al., 1995). The CDC considers years of potential life lost (YPLL) to gauge the impact of an illness on a population (Centers for Disease Control and Prevention, 2003). Teen suicide involves considerable YPLL, and for teenagers nationwide, suicide is one of the leading causes of death (Centers for Disease Control and Prevention, 2003). In addition, cluster suicides predominantly occur in the teenage population (Gould, Wallenstein, Kleinman, O'Carroll, & Mercy, 1990). Rates of suicide among minorities are low compared to whites. The rate of suicide among African American youth in the United States is increasing faster than any other ethnic group (Centers for Disease Control and Prevention, 1998). Surprisingly, the rise in African American youth suicide in the United States is concentrated in those with higher socioeconomic status (Centers for Disease Control and Prevention, 1998).

Recommendations

Future prevention efforts should continue to be focused on adolescents and young adults, given the social, economic,

and emotional impact of youth suicide. While the white population has had the highest suicide rates, other ethnic groups need greater consideration, because of changing epidemiology.

Myth #4: Suicide Is Caused by Family and Social Stress

When interviewing families of suicide victims, relatives often point to an adverse precipitant, such as breaking off a romantic relationship, an argument with parents, or a disciplinary action (Shaffer et al., 1996). One feature of adolescent suicide is that it may be precipitated by a psychosocial stressor associated with a recent loss, rejection, or disciplinary crisis. However, stressors related to these events are common in a normal teenager's life, and suicide is a rare outcome (Zamekin, Alter, & Yemini, 2001). Studies have shown that over 90% of teen suicide completers have psychiatric diagnoses, most commonly a mood disorder with comorbid substance abuse or conduct problems (Brent et al., 1993; Shaffer et al., 1996). Teens who complete suicide have more stress and family dysfunction (Gould, Fisher, Parides, Flory, & Shaffer, 1996). However, we know that mental illness runs in families, and either child psychopathology or parental psychopathology may account for stressors related to family dysfunction. For example, Brent (1994) found that parent-child discord was associated with adolescent suicide, yet when this study controlled for proband psychopathology, parent-child discord made no significant contribution (Brent et al., 1994). The largest controlled studies conducted to date come to different conclusions regarding negative interactions between victims and their parents, and whether history of severe physical punishment plays a role in youth suicide (Brent et al., 1993; Brent et al., 1994; Gould et al., 1996). While suicide victims are more likely to come from nonintact families, the overall effect of divorce on suicide risk is small (Brent et al., 1993; Brent et al., 1994; Gould et al., 1996). While 19% of youth suicide completers in Utah had been reported to Child Protective Services, most reports involved teenagers having physical altercations with their parents, rather than abuse or neglect of small children (Gray et al., 2002). The available information leads to the question of whether the family dysfunction contributes to mental illness, or whether the mental illness contributes to the family dysfunction. Separate from family dysfunction, both child and parent psychopathology have been associated with an increased risk for suicide in Denmark (Agerbo, Nordentoft, & Mortensen, 2002).

Recommendations

Suicide "is caused" by an interplay of biological, psychological, environmental, and social factors. However, it is essential to screen, identify, and treat mental illness in teen-

agers, because mental illness is a known risk factor for suicide. Furthermore, the identification and referral for mental health treatment of any psychopathology in parents of teenagers at risk for suicide is needed. Treating either child or parental psychopathology, or both, should decrease both parent-child discord and family dysfunction.

Myth #5: Suicide Is not Inherited

Genetics has a critical role in mental illness and suicide. If an individual who is adopted at birth completes suicide, it is their biological relatives who are at increased risk for suicide, not the adoptive family members (Schulsinger, Kety, Rosenthal, & Wender, 1979). Suicide rates are higher among monozygotic twins, compared with dizygotic twins (Roy, Segal, Centerwall, & Robinette, 1991). The genetics of suicide are complex. For example, some families are at increased risk for depression over multiple generations, while other families have increased risk for both depression and suicide. Perhaps the later families inherit a more virulent form of depression? A study in Denmark confirmed that youth are more likely to commit suicide if they had a family history of mental illness or they had been diagnosed with a mental illness; however, no one psychiatric diagnosis versus another in parents was associated with an increased risk for suicide among their children (Agerbo et al., 2002). Brent raises the possibility of a two-factor genetic model, where a patient must inherit both a mental illness, and a second factor, such as impulsivity/aggression (Brent, Perper, & Goldstein, 1988).

Recommendations

Future suicide prevention efforts need to focus on identifying a phenotype that predisposes to suicide. A more specific phenotype will help us to identify individuals at risk. Clarifying the phenotype is an integral step in discovering the genetic basis of suicide, because it is unknown whether risk for suicide is mediated by a history of mental illness in the family or the presence of a phenotype that could be associated with either suicide or mental illness, or both.

Myth #6: Teen Suicide Represents Treatment Failure

National studies indicate that very few suicide completers were in treatment at the time of their death (Shaffer et al., 1996). According to Gray and colleagues (2002), government agency data revealed that only 1% of youth suicide completers were in public mental health treatment at the time of their suicide, and only 3% of youth suicide completers had detectable levels of psychotropic medication in their blood sample at autopsy. From 1952–1995, the incidence of suicide among adolescents nearly tripled; howev-

er, rates began to level off in the mid 1990s, and are beginning to decline (Centers for Disease Control and Prevention, 2003). Interestingly, this change in suicide rate coincides with the rapid increase in use of antidepressants and mood stabilizers in children and adolescents (Olfson et al., 1998). In Sweden, there was a 25% reduction in the overall suicide rate, which accompanied a four-fold increase in antidepressant use (Isacsson, 2000; Isacsson, Holmgran, Druid, and Bergman, 1997). While there is no proof of a causal relationship between the use of antidepressants or mood stabilizers and a decrease in suicide completion, other known factors affecting suicide completion rates such as divorce or substance abuse were unchanged (Gould, Greenberg, Velting, & Shaffer, 2003; Shaffer & Craft, 1999). Moskos and colleagues (2002) conducted a study of parent and community contacts of teen suicide completers and found that a lack of appropriate treatment, or compliance with treatment (i.e., use of psychotropic medications) for mental illness, leads to suicide completion rather than mental illness alone. Additionally, parents identified the stigma of mental illness and the denial of mental illness as the most significant barriers between teen suicide completers and treatment (Moskos, Achilles, Keller, Workman, & Gray, 2002). More recently, a study by Olfson and colleagues (2003) examined the relationship between regional changes in antidepressant medication treatment and suicide rates in the United States, and reported a relationship between increased antidepressant use and decreased suicide rates, especially among teenage males. Psychotropic medications can ameliorate symptoms, reduce disability, shorten the course of several psychological disorders, and prevent relapse (World Health Organization, 2001). However, in the United States (Druce, Hoff, & Rosenheck, 2000) and Finland (Laukkala et al., 2001), while there has been a several fold increase in antidepressant use in the general population, most individuals with major depression remain untreated. Undertreatment is more prevalent among children and adolescents than young adults (Haarasilta, Marttunen, Kaprio, & Aro, 2003). A limiting factor in treating psychiatric disorders is the lack of psychopharmacologic studies with children and adolescents. While some psychotropic medications (i.e., antidepressants) have FDA approved uses in the pediatric population, many medications approved for adults are yet to receive adequate trials in younger age groups. The lack of empirically-based studies, which exist but were not made public due to proprietary issues (Zito, Derivan, & Greenhill, 2004), has led to some controversy regarding the use of certain Selective Serotonin Reuptake Inhibitors (SSRIs) to treat depression in children and adolescents (Sood, Weller, & Weller, 2004).

Recommendations

The association between the increase of antidepressant use and decrease of suicide rates warrants further examination. We recommend government intervention to require pharmaceutical companies to study new psychotropic medica-

tions in pediatric populations, and to inform the public of their findings before these drugs come to public market (Zito et al., 2004). More research into biological and psychosocial aspects of mental health is necessary to increase the understanding of the cause, course, and outcomes of mental illness and to develop more effective treatment options (World Health Organization, 2001). We also recommend that all pediatric psychopharmacologic studies be published, including studies with negative results (Whittington et al., 2004; Zito et al., 2004). Public awareness of the available treatments for psychiatric disorders is vital. It may not be the mental illness itself, but rather the lack of treatment or compliance with treatment, which may lead to suicide completion. Barriers to treatment for mental illness must be addressed if the teen suicide rate is to be reduced. These include denial of mental illness, stigma, mental health insurance parity, and other barriers. Public awareness can reduce the stigma of both the diagnosis and treatment of mental illness (World Health Organization, 2001).

Conclusion

Unfortunately, the six myths of teen suicide outlined above indicate that evidence-based information is still needed to combat the high teen suicide rate in the United States. Psychiatric illnesses are often viewed differently from other medical problems. Research should precede any public health effort, so that prevention programs can be designed, implemented, and evaluated appropriately. Too often suicide prevention programs do not use evidence-based research or practice methodologies. More funding is warranted to continue evidence-based studies in suicide. In accord with the United States Surgeon General, we support the position that the public should view mental illness or substance abuse disorders as a real illness. Public awareness could close the gap in the perception of mental illness and physical illness as two distinct separate issues. Increased public awareness regarding the frequency, treatment, and recovery process of mental illness, and the human rights of people with mental illness could reduce barriers to treatment and care (World Health Organization, 2001). Suicidal persons with underlying mental illness who are seeking mental health treatment should be viewed as persons who are pursuing basic health care. Concomitantly, the United States Surgeon General reports that our nation is facing a public health crisis in pediatric mental health. This is of importance for pediatric populations because untreated mental illness is a known risk factor for youth suicide (Satcher, 2001). According to the World Health Organization (2001), countries have the responsibility to give priority to mental health in their health planning, as enlightened mental health policy, legislation, professional training, and sustainable fiscal resources will facilitate the delivery of the appropriate mental health services to those who need them at all levels of health care.

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