TEACHERS AS GATEKEEPERS IN THE PREVENTION OF ADOLESCENT SUICIDE

by

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"'"Any man's death diminishes me, because I am involved

in Mankind;"-- John Donne

Adolescent suicide has increased dramatically over the last 45 years. A flurry of suicide prevention programs were developed and implemented in the 80s, but they have not led to noticeable reductions in the adolescent suicide rates. Schools are frequently the site of prevention programs due to their easy access to students during the school day. The role of teachers as gatekeepers who can identify youth at risk has been undervalued and minimally used, according to surveys available. While there is a lack of evaluation of all suicide prevention programs, gatekeeper training programs have shown promising results. Evidence and advantages for teacher training as gatekeepers is presented along with recommendations for implementing such a program.

Introduction

Although suicide is a tragedy at any age, it is especially horrific when a young person dies from a self-inflicted death. The suicide rate among youth ages 15-19 years of age has increased more than 300% since 1952. (Thatcher, Reininger, Drane, 2001). While actual numbers of youth suicides are still small, this remains a very troubling trend. For every suicide completed it is estimated that somewhere between 100 and 200 attempts are made, making the youth at risk for suicide an even greater number (King, Price, Tellijohann, Wahl, 1999). Not only is there the loss of productive years of that life, but the pain and suffering that family and friends endure for years to come.

As the numbers and awareness of suicides have increased there have been numerous suicide prevention programs developed, protocols advised and articles written. In spite of these efforts, the numbers of adolescent suicides have not noticeably

decreased. In fact, in some subgroups of the adolescent population, suicides have actually increased. Because teenagers spend much of their day in the school environment, schools have been a primary setting for many of the suicide prevention programs. These programs include school-wide protocols for dealing with suicide, awareness programs for students, training for school staff, peer counseling, and selected and mass screening for adolescents at risk for self-injurious behavior. In some cases programs have not been based on solid theory and research, (Breton, Boyer, Bilodeau, Raymond, Joubert, Nantel, 2002) nor well evaluated, or have suffered from both deficiencies. Breton found in an analysis of suicide prevention programs in Canada, that programs had not formulated a theory of suicide or related targeted behaviors to identified risks. He also found that most evaluations were based on reports from the programs reviewed, not on program evaluation. Thus it is difficult to say with certainty, what does or does not work in suicide prevention for schools, or any other setting for that matter.

This paper looks first at the need for a public health perspective to tackle the problem of adolescent suicide. A brief overview of demographic factors of teen suicide along with risk factors and warning signs will precede a discussion of the role and state of preparedness of teachers in middle and high schools in preventing adolescent suicide. Additionally it will present evidence of the efficacy of prevention programs, followed by recommendations that increase teachers' abilities to recognize at risk students. To this end, the teacher-as-gatekeeper perspective will be highlighted as an example of a front line defense, against the complex and challenging problem of suicide in young people. Gatekeeper training consists of training any adults who come in contact with adolescents,

to be able to identify youth at risk for suicide and to know what steps to take to provide assistance. Gatekeeper training programs are designed to increase awareness of the problem, to improve recognition of warning signs, and to educate about intervention steps. Gatekeeper training for school staff is a recommended component of a comprehensive school program (King 2001). Students spend approximately one third of their day in school, and teachers are in a unique position to observe student behavior over time and intervene when necessary.

The Public Health Approach

The Surgeon General's Call to Action of 1999 proposed a blueprint for reducing suicide that included 15 strategies to prevent suicide. These strategies are the result of a national conference held in October 1998, jointly sponsored by agencies in the United States Department of Health and Human Services and the Suicide Prevention Advocacy Network. The recommendations of the conference were to serve as a basis for developing a national strategy for suicide prevention. These strategies can be grouped into three categories – awareness, intervention and methodology (AIM). The strategies should be used as a guide in developing comprehensive programs for schools, including training for teachers and other front line personnel in schools. The Centers for Disease Control (CDC) is also emphasizing, through its research agenda, the need to explore the complex nature of suicide, particularly nonmental illness related factors in suicidal behavior.

By increasing *awareness* at the population level, the problem of suicide can be demystified and brought out of the closet. The secrecy and isolation surrounding suicide contributes to shame and lack of understanding about the problem, and a resultant lack of

both identifying those at risk and appropriate resources for them. *Interventions* to prevent youth suicide need to be improved at both the population and clinical level and provided in a variety of community settings, in order to reach as many adolescents as possible. While there are many intervention programs designed to prevent suicide, most of them have not been rigorously evaluated and may provide limited benefit to those who partake in them (Breton et al, 2002,) This comes to the *methodology* of the AIM strategy – the need to determine the components of a successful program, evaluate the programs, and to replicate evaluations, in order to establish efficacy of interventions. Additionally there is a need to better understand the risk and protective factors related to youth suicide.

Very often efforts are focused on the individual clinical interventions to reduce suicide. While clinical interventions are very important, evidence-based interventions at the population level are vital to tackle this problem. The public health approach focuses on the whole population and subgroups within the population, to identify youth at risk and link them to resources, before they make a suicide attempt. This approach starts by defining the problem, identifying causes and protective factors, developing and testing interventions and then implementing interventions. The public health approach is not to be pursued at the expense of clinical efforts, but in concert with these endeavors. The two approaches can and must inform each other in an effort to reduce suicide among our population and youth specifically.

The Problem

According to The Surgeon General's Report of 1999 in the 42 years from 1952 to 1999 the suicide rate among youth ages 15-24 nearly tripled. In the 15 to 19 year old age

group, the rate increased by 14 for the years 1980 to 1996. For the 10-14 year olds, the suicide rate increased 100%, during the same time frame. These increases occurred while the overall rate of suicide for all ages declined 1.3 per 100,00 from 1976 to1996 (Surgeon General 1999).

The Youth Risk Behavior Surveillance (YRBS) for 1999, which measures behaviors among students, reveals that suicide accounts for 12% of all deaths among youth ages 15-24 years of age. In 2000, 1,921 youth between the ages of 10 and 19 died by suicide. Among 15-19 year olds, suicide was the third leading cause of death, accounting for 12% of total deaths in that group. Suicide was the third leading cause of death for 10-14 year olds, accounting for 7.2% of those who died in that age group. (National Vital Statistics 2002); it moved up in rank in this group as it was previously ranked fourth. Suicide takes the life of more adolescents each year than cancer, heart disease, AIDS, birth defects, stroke, pneumonia, influenza, and chronic lung disease *combined.* (Surgeon General 1999)

White males represent the greatest share of youth suicides, but over the last 10 years African American males have steadily been increasing in numbers (Gould and Kramer, 2001). For 2000, suicide accounted for 13.9% of deaths among males age 15-19 year. Among white males in this age group, suicide accounted for15.6% of deaths, making it the second leading cause of death after unintentional injuries. Among African American males, self-inflicted deaths accounted for 7.3% deaths. A startling 28.4 per 100,000 or 19.1% of total deaths among American Indians males, age 15-19, was due to suicide. Among Hispanic males in this age group, death by suicide accounts for 9.4% of all deaths.

For all females 15-19 years of age, 7.0% of all deaths were attributed to self-inflicted injury. Suicide contributed to 7.4% of all deaths among white females in this group, and among African-Americans it accounted for 3.3%. (National Vital Statistics 2002) Among American Indian females and among Hispanic females 15-19 years of age, suicide accounted for 13.7% and 8.2%, respectively.

Reliable national statistics for suicide attempts are not available because neither the federal government, nor most states mandate reporting. There has been an increase in general population studies that measure suicidal ideation and attempts. For example, the 1999 YRBS survey reported that 28.3% of students said they had felt so sad or hopeless they had stopped doing some usual activities. In this same study 19.3% of students had considered attempting suicide; 14.5% of students had made a plan for suicide, while 8.3% of students had attempted suicide one or more times. Gould and Kramer reported in their review of population studies, that in a period of a year, 20% of high school students expressed serious suicidal ideation, 8% made an attempt, and 3% made an attempt serious enough to require medical attention (Gould and Kramer 2001). Overall female students were more likely than males, to have suicidal ideation and to have made attempts, while males are more likely to have completed suicide. Although Hispanic youth were not over represented in suicide completion, they were more likely to have experienced ideation and attempts, than African American and White youths. (Gould and Kramer 2001).

Though attempts at suicide may give us some insight into the problem of youth suicide Brener et al report some interesting trends regarding suicidal ideation and attempts. Using YRBS data from 1991,1993, 1995, and 1997, they found a decrease in

respondents who reported they had considered suicide and had made a plan, while the numbers of those who made one or more attempts or made an attempt serious enough to require medical attention, had increased. The YRBS suicide-related data from 1997, 1999 and 2001 has been fairly stable in the last four years, showing only a slight decrease. The percentage of students making an attempt increased slightly from 1999 at 8.3% to 8.8% in 2001. The percentage of students who made injurious attempts increased the most among ninth graders. For every year the ninth graders were more likely to report making an attempt than in any other grade. For 2001, 8.2% of adolescents surveyed said they had made a suicide attempt, with a considerably higher percentage of females making attempts. (Brenner, Krug, Simon, 2000) While the data suggesting less ideation but more attempts seems confusing, one possible explanation that the authors pose is that attempts may not be linked with ideation. Other research has shown that many suicide attempts are not planned. The relationship of suicidal ideation, attempt, and completion is clearly an area that needs further study for prevention purposes. Additionally, the previous statistics suggest that prevention and intervention efforts may need to focus on subgroups within the adolescent population based on gender, ethnicity and other related factors.

The most common method of suicide for all age groups is by firearm. This is also true among adolescents and young adults, specifically. In fact a higher percentage of 15-24 year olds use a firearm to commit suicide than in the 25-64 year olds group (Birckmayer &Hemenway 2001). Suicide by firearm among youths has been shown to be associated with a firearm being in the home, particularly a handgun. Having a gun locked and unloaded decreases this risk, somewhat. (Brent 2001; Birckmayer et al 2001;

King 1999). Hanging is the second most common method for completed suicide among youth. Ingesting is the method most often found among youth attempting suicide, but not completing.

Factors related to Youth Suicide and Attempts

Recognizing factors related to youth suicide is important in any effort to prevent suicide. While it is useful to look at individual and aggregate factors, suicide is a very complex issue and a number of factors interact in any suicide completion or attempt. Numerous studies have been done looking at factors and characteristics that may predict risk of suicide.

Having a diagnosable psychiatric illness is the most frequent characteristic associated with suicide. Esposito and Clum reported 80-90% of youth attempting suicide having a diagnosable psychiatric illness (Esposito & Clum, 2002). Psychiatric disorders most commonly found among samples of adolescents attempting suicide, are mood or affective disorders, disruptive behavior disorder, and substance use disorder. Symptoms of posttraumatic stress disorder (PTSD) were also found in youth with a history of suicidal ideation and suicide attempts, even after controlling for depression. (Mazza 2000). PTSD is a diagnosable mental illness characterized by a traumatic precipitating event that is either experienced or witnessed.

Mood disorders, also known as affective disorders, are by far the most common diagnosis seen among suicidal youth, and depression, diagnosed or otherwise, among youth is associated with suicidal ideation and attempts. In looking at the National Longitudinal Study of Adolescent Health, Rushton, and colleagues (2002) focused on

depressive symptoms in young people. The study found that almost 30% of adolescents reported depressive symptoms, with almost 10% reporting moderate to severe symptoms. These symptoms may stay at about the same level or over time or in some cases worsen. The study suggested that a brief screening for depression might not offer much insight into the chronic depression some teen's experience. The study also reported that females were more likely to report depression and more likely to report severe and ongoing depression. Interestingly, the only academic variable associated with persistent depressive symptoms, among the adolescents surveyed, was a history of school suspensions. Two other features associated with symptoms were somatization and fair or poor health.

In another study, school psychologists, counselors and special education teachers in three public high schools in Virginia, identified students who were exhibiting symptoms of emotional disturbance. Of the students identified by school professionals, 74% already had a psychiatric diagnosis. This finding suggests that students identified with an emotional disturbance by school personnel have a high degree of psychopathology, information that may be useful in assessing for suicide risk. Among this group 40% were diagnosed with major depressive disorder (MDD) and both MDD and dysthymia (DYS) are significantly related to suicidal ideation, with or without an additional psychiatric diagnosis (Espositio and Clum, 2002). Having two or more psychiatric diagnoses further increases the risk for suicide.

Psychological characteristics that are associated with suicide among youth are a feeling of hopelessness, impulsivity and poor problem solving skills, poor social skills, hostility, and aggression. (Brent, 2001; Pfeffer, 2001) Youth who identify as either gay,

lesbian, bisexual, or questioning are at increased risk for suicide, with attempts being three times the that in the general adolescent population. (Brent, 2001; Pfeffer, 2001) In a study using Adolescent Health Survey data, male homosexuals rate of suicide attempts was 28.1%, by self report (Catallozzi, Pletcher, Schwarz 2001). Family characteristics found among adolescents who make attempts, include having a parent with a psychiatric history, parent child discord, neglect and abuse by the parent, and the availability of a firearm in the home, particularly a handgun. Moreover, youth with a history of attempts are at an increased risk for reattempt. Males who attempt suicide are at a 30-fold increase to reattempt (Gould and Kramer 2001).

Precipitating factors for suicide completions and attempts most often involve interpersonal problems with parents, and among older teens, with romantic relationships. Ongoing physical and sexual abuse of a teen is another frequent precipitating factor. Problems related to legal difficulties or discipline problems are precipitating factors, particularly among youth who have been diagnosed with a conduct disorder or substance abuse problem. (Brent 2001).

Protective factors against suicide were described in a 2001 article in Pediatrics. These protective factors include having problem solving skills, belief in a religious system, academic achievement, family support and connectedness, support from medical and mental health providers, no access to a lethal method to commit suicide, and community and school support or connectedness.

Suicide Programs in Schools

Over the last 20 years there have been a variety of efforts to reduce youth suicide, including a range of programs in schools. The rationale for school programs is that about 95% of the adolescent population could be reached through the schools, where they spend about a third of their day.

About 5% of the youth population would not be captured in school, mostly due to having dropped out. The students who have dropped out of school pose special risks, as they tend to have higher rates of many risk factors, than adolescents who are in school. Other types of programs need to be considered for adolescents who are not in school. Programs focused on at risk youth in schools could potentially intervene with this population before they dropout of school, thus not only preventing self-injurious behavior but, perhaps, decreasing the likelihood that these young people would drop out as well. One study reporting on an indicated suicide prevention program for at risk youth, suggested that teaching problem solving skills for this group should really be considered suicide prevention. (Thompson, Eggert, Randell & Pike 2001)

School programs to address suicide have included protocols for dealing with attempts and completed suicides, development of crisis teams in schools and school systems, awareness programs for students that are either distinct or part of a class curriculum, peer counseling, educational programs for parents, training for school staff in suicide awareness and recognition of potentially suicidal youth, and targeted and general screening of the adolescent school population.

Though there was a flurry of activity to develop suicide prevention programs in the 1980s, this effort has not continued. Some programs have lapsed and questions have been raised about mandating suicide prevention programs, when no relationship has been clearly established between programs and suicide rates. Despite recommendations by the CDC, only four states have mandated suicide youth prevention programs in schools (Hayden & Paige 2000). Most of the interventions that have been developed and implemented have not been rigorously evaluated. Frequently, neither programs nor their evaluations have been based on solid theory about adolescent suicide. Where studies have been done they have been inconclusive, retrospective rather than prospective, and not replicated. Some programs are relying mostly on monitoring data for evaluation purposes. Consequently, it is difficult to say what works. Because of this lack of empirically based research on the efficacy of prevention efforts, the CDC recommends that suicide prevention plans in schools not rely on any one intervention, but rather a combination of interventions.

Ideally, for purposes of both funding and political support, suicide prevention programs must provide consistency in standards and research on the efficacy of intervention efforts. This would provide increased support for a national strategy to prevent adolescent suicide, and guidance for states to use in developing prevention plans.

At the school district level it is important for there to be a clear, articulated policy regarding youth suicide that includes primary, secondary, and tertiary components - prevention, intervention and postvention efforts. Without a mandated policy at the district or system level, plans are left to individual schools that may lack the skills, staff, and will to develop and implement a coherent and evidenced-based plan. For example,

in reviewing suicide programs in Canada, Breton and colleagues recommended that program analysis needed to occur at the beginning of a program and that greater emphasis needed to be placed on the theory the program is based on. (Breton et al, 2002) Hayden and Lauer (2000) found that what was offered was not always well thought out. For instance, some schools have a screening program, but have no system to provide interventions once students are identified, or they do gatekeeper training, but have no standard referral method for identified students. Other schools have no written policy to deal with various levels of suicide, but they might offer a staff training or have a crisis team. While a few school systems have well developed programs, many more have partial programs, and are reaching limited youth and staff. (Hayden & Lauer, 2000)

King suggested the importance of primary, secondary, and tertiary components in a comprehensive school-based suicide prevention program. Each component has several steps that focus on the needs of the staff, the student body and the individual and their family (King 2001). While all three components are important, the remainder of this paper will focus on steps in the area of primary prevention – specifically, educating school professionals about suicide with specific attention to prevalence, warning signs and risk factors, and referral procedures for identified youth.

Focusing on Teachers

The role of the regular classroom teacher has been undervalued in screening students for risk of suicide. By virtue of seeing students daily in a natural class setting, teachers may often be aware of behavior changes, relationship and peer issues, and other signs that may suggest depression or suicidal risk in students. Even when teachers have

received in-service training on this important topic, the training has often been very minimal.

Unlike school social workers, counselors, psychologists, and administrators, teachers come in to contact with their students almost everyday of the week. Teachers usually have a student for one class per day in high school, and that daily contact allows them to get to know a student's behavior. Support personnel are likely to see students at best once a week, if that.

Though there has been limited and at times inadequate research of suicide prevention programs, one area of intervention that has shown encouraging results has been training teachers to look for warning signs of suicide in students, also known as gatekeeper training. While teachers are the school staff that tend to see students everyday, a review of the literature suggests that little emphasis has been placed on educating and preparing this frontline staff to look for signs of depression and suicide risk among students. For example, King, et .al (2001) indicated that about 9% of the health teachers responding to their survey felt competent in identifying suicidal youth. In other words, nearly nine out of ten health teachers did not feel confident in identifying adolescents at risk for suicide. About 53% did believe they could talk with teachers and counselors about a student, 41% of teachers felt they could ask a student about suicidal intent or ideation, and 42% said they felt they could effectively offer support. Overall efficacy expectations were higher among health teachers who were in schools with a crisis team, and among teachers in a school were they had been offered a workshop. If health teachers did not feel competent in identifying youth at risk for suicide or generally

did not feel confident in offering effective interventions to these students, what does this suggest about other teachers who may have far less education in this area?

In another study, Australian doctors and secondary school teachers were asked about their knowledge of adolescent suicide (Scouller, Smith, Smith, 2002). Less than half the teachers were able to correctly identify risks for suicide, and that almost 50% of teachers surveyed did think it was necessary to take all threats of suicide seriously. Correct knowledge about suicide was not necessarily related to teachers' perceptions of their knowledge, i.e. some teachers with inaccurate information felt they were well informed. For example, 73% of the teachers were not aware that having a psychiatric disorder was a risk for adolescent suicide. When asked about action they would take if encountering a student they thought to be suicidal, 33% said they would refer the student to someone else but not follow-up, 11% would leave the responsibility to the student and only 56% would refer and take some responsibility. The study also showed that those teachers participating in suicide education programs were more likely to take responsible, appropriate action when confronted with a student who was suicidal. (Scouller et. al, 2002) While this study was done in Australia, the findings appear relevant to intervention efforts in American schools. Australia is a country that has also seen a rise in youth suicide and has increased its efforts to cope with this problem.

Gatekeeper Training Programs for Teachers

Teacher training programs are usually described as gatekeeper-training programs and are often included as a component of comprehensive programs. These programs are based on the premise that students at risk for suicide are under identified. By training

natural helpers, such as teachers, about risk factors and intervention strategies, more at risk youth will be identified and offered mental health assistance. The programs usually include education to staff about suicide to raise awareness, information about risk and protective factors, precipitating factors and strategies for intervention. Gatekeeper programs are usually thought to be an essential part of a comprehensive youth suicide prevention program (Hayden and Lauer 2000).

Although gatekeeper training programs are considered an essential part of a comprehensive school-based program, a survey of middle and high schools in the state of Washington, regarding roadblocks to suicide programs, found that only 46.1% of the schools surveyed had gatekeeper-training programs. Additionally, the survey revealed that one of the roadblocks to intervention programs, such as gatekeeper training, was the lack of knowledge about such programs. (Hayden & Lauer, 2000) It seems sadly ironic that in one of the few states that has developed and disseminated a comprehensive plan for youth suicide, less than half the schools have gatekeeper training programs.

Gatekeeper programs vary as to whether they include all school staff or selected staff, but the literature suggests an emphasis on school counselors and special education personnel. In reviewing the CDC's document on Youth Suicide Prevention Programs, eight gatekeeper programs were described as promising programs; of these, 5 offered some level of training to most teachers in their schools. The training for teachers ranged from 1-2 hours per year. It is commendable that some programs reviewed offer teacher training, but it is doubtful that one to two hours a year is enough to provide adequate knowledge about trends, risks and signs to look for, as well as action steps to take. Two programs that were more in-depth and included intervention techniques, offered training

to selected staff, which included special education teachers. In King's (2001) study of health teachers he found that 58% of teachers said their school had not offered an in-service program on suicide in the last five years. While all school professionals should receive this training, it is more likely that counselors and special education teachers are presented with continuing education possibilities on adolescent suicide than regular education teachers.

Though training teachers to be aware of suicidal potential in students would seem both important and useful, there might be criticism of this effort. Teachers already have many responsibilities and frequently have over crowded classrooms. Would it not be burdening teachers with one more responsibility to ask them to look for suicidal risks among the students they serve? Teachers are already in a position to be screening students. It is through teacher referral that students are evaluated for learning problems, classroom behavior problems and psychosocial concerns, such as child abuse. Giving teachers information about suicide actually gives them knowledge that can inform their referrals further. If gatekeeper training is part of a comprehensive program it can offer teachers support in working with troubled adolescents, and provide clear expectations about school protocols and support services available to students with life-threatening symptoms or behaviors. Gatekeeper training programs do not attempt to turn teachers into mental health professionals, but provide teachers with information about school protocol for referring identified youth.

Gatekeeper training programs have the potential to increase knowledge and provide opportunities for discussion of suicide and suicidal behaviors. By so doing, such programs decrease the stigma associated with suicide, and may reduce the suicidal

student's sense of social isolation. Contrary to popular myth, talking about self-injurious behavior will not give someone the idea to act, but rather increases the opportunity for this problem to receive appropriate attention before a student acts in a life-threatening manner.

Gatekeeper training for teachers is potentially cost effective, safe, and can reach a large body of students. Screening of students and suicide awareness programs for students are two other types of programs that have been very popular in the schools. Screening can be done in various ways, usually either of every student or of selected students. Screening needs to be supported with mental health personnel who can follow-up on all positive screens. Screening in large school populations has generally identified a high percentage of false positives, due to the rarity of the event. (Gould and Kramer, 2001) This type of effort is usually costly and requires significant personnel. Additionally, screening on a selected day may identify some students at risk, but will miss many others who might be discovered on other days. As previously noted in the discussion about factors related to suicide, students' identifying as depressed or suicidal one day may not be two weeks later. Student education programs have also been popular in the last twenty years in some schools. The evidence on such programs has been mixed with some evidence that it actually may be detrimental to some groups. (Gould and Kramer, 2001) While it may be useful for some students, it would still be necessary for support services to be available to students identified at risk in classes. Gatekeeper training of teachers focuses on personnel already in place, who have access to students daily. It does require an investment in training time for staff, but it does not require

bringing in additional staff or setting aside curriculum time as screening and student education programs do.

Gatekeeper training of teachers provides teachers with additional information to use in the course of their job, to identify youth at risk for suicide. It is available on a daily basis in the course of a regular school day. It does not require that staff teach a separate course, or conduct a formal screening. Training also does not require that the school set aside separate time for an additional curriculum or for mass screenings, that also require additional personnel.

An additional benefit of gatekeeper training programs is the potential to increase school connectedness, by developing a more caring and supportive community. Gould and Kramer (2001) cited this advantage in their review of suicide prevention programs. Several studies previously referred to, cite school connectedness as a protective factor against suicide, so this quality builds on support for this type of program. The gatekeeper training programs are another point on a continuum of mental health services that are increasingly being advocated for schools, in an effort to provide a range of services to students.

Evaluated Program

Two programs that show promise for gatekeeper training of teachers are Services for Teens At Risk (STAR) and Applied Suicide Intervention Skills Training (ASIST). STAR was highlighted, along with other programs, in the 1992 Youth Suicide Prevention Programs resource guide published by the CDC.

STAR has three components, including teacher awareness training about suicide and referral procedures. The program also has a more in-depth training for school counselors, that includes components of the teacher training plus crisis intervention and risk assessment skills. The third component of this program is training school staff to continue the training. At the time of the CDC document the program had been in effect for 4 years. No evaluation of the teacher training was identified, but the counselor component has been evaluated, and shown positive results in preparing counselors to intervene with students at-risk. This program appears to have a developed protocol for collaboration between teachers and counselors, so that identified youth are then referred for further assessment and linage with mental health resources.

ASIST is a program of Living Works, a public service corporation, located in Canada. It has been implemented extensively in Canada and Australia, as well as several locations in the United States (California, Washington, Georgia). ASIST focuses on gatekeeper training for many settings and specifically for school personnel. The ASIST website provides extensive documentation on its, development, rationale, and application. Numerous process studies have been done on the program and several large evaluations are in progress in California and Australia. Studies to-date support the program's ability to improve awareness of the signs of suicide and improvement in referral of students needing intervention. Selected school staff can be trained as trainers for a system, and provide updates as needed. This program is currently being recommended by the North Carolina Youth Suicide Task Force as a suggested gatekeeper training program in the state.

Both of these programs include the important components of developing awareness about suicide, education about risk factors, warning signs, and referral procedures. While the STAR program has not been evaluated as extensively, some aspects of the program have been evaluated, and its focus is on school personnel. ASIST has been extensively implemented in a variety of communities and is based on solid theoretical analysis of youth suicide. ASIST also has plans to continue and improve evaluation of its effectiveness in reducing youth suicide.

Conclusions

Further study of the complex factors involved in suicide in general and adolescent suicide in particular are needed to better understand this problem. Evidence-based programs with evaluation built in at the developmental stage are vital to give real direction to suicide prevention efforts.

Available research indicates that adolescents surveyed in schools are experiencing considerable levels of suicidal ideation, planning and attempts. They are also experiencing significant levels of depression, which is associated with suicidal behavior. In order to change the trend toward increasing numbers of youth suicide it is necessary to employ a range of efforts in a comprehensive and coordinated program.

Training of teachers as gatekeepers is one component of such a comprehensive program that has shown promising results in available studies, and is more cost effective and less disruptive to the school curriculum than other programs, and yet has not been commonly implemented. Teachers are in a unique position to know students and to potentially identify those at risk for suicide, and yet are being used only minimally in this

effort. Trained teachers would be able to observe students in the course of daily activities and refer students they perceive to be at risk. Mass and selected screening, while another possible option, occur in a specific time period, and are likely to miss many students who are not at-risk at the time of screening.

While much more is known today about suicide and what interventions may work, there is still a great need for rigorous evaluation research that measures both process and outcome of suicide prevention programs. Gatekeeper training suffers from this problem, just like other suicide prevention programs, yet there are many existing training programs that can be further developed and studied to provide empirical support for this important aspect of prevention.

Some evidence does exist that can provide guidance in developing effective gatekeeper training programs for teachers. At the very least programs need to provide general information about suicide, factors related to suicide and warning signs, and steps to be taken with potential suicidal students. Any training needs to be part of a comprehensive school program that provides follow-up of teacher identified students and referral to appropriate resources. The following recommendations are suggested to encourage development of the role teachers have to play in addressing this serious public health issue.

Recommendations

Gatekeeper training of teachers should be required of all teachers within a school system, not just selected individuals, and periodic follow-up sessions should be built into continuing education

Gatekeeper training programs for teachers need to be part of a well-crafted, comprehensive suicide prevention program within a school system. Staff should receive training on the program and the protocols.

Gatekeeper training programs should be developed based on a theory of youth suicide and existing, promising programs. At a minimum programs, should include general education about suicide, risk factors, warning signs, intervention strategies, and school protocols for dealing with attempts and completions.

Evaluation of the teacher training programs and their effectiveness needs to be built into the program at the time of its inception, and refined as needed.

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