Reducing the Adolescent Suicide Rate Through School-Based Prevention Programs

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Suicide is the number one leading cause of death among adolescents aged 10-24 in Oregon, and it continues to be a leading cause of death among adolescents throughout the world. [1-6, 10] Rates of adolescent suicide are increasing nationally, and suicidal ideation, suicide attempts, and completed suicides are rising above the national average in Oregon. [5,6] For these reasons, Healthy People 2020 and 2030 continue to address adolescent suicide as a leading public health issue. [2,3,4] According to the CDC Web-based Injury Statistics Query and reporting System (WISQARS), Oregon has an age adjusted suicide rate of 17.3 per 100,000 compared to the national average of 13.1.[6] In addition, rural and underserved communities are disproportionately affected by adolescent suicide. Klamath county, for example, has an age-adjusted suicide rate almost four times the national average at 47.10 per 100,000 per the Oregon Violent Death Reporting System (ORVDRS). [5] Novel ideas for addressing the issue of suicide are needed. Targeting youth with educational suicide prevention campaigns is one strategy that can have short and long-term effects on reducing the suicide rate. A multi-faceted approach addressing access to mental health services, peer-support, antibullying, and risk management including firearm safety, is needed to truly address the growing problem of adolescent suicide and protect our nation's youth. A one-time educational talk for high-school adolescents can address adolescent suicide by defining at risk youth, warning signs of suicide, and positive outlets for support like peer groups and trusted adults. [18, 19, 20]

Access to care, suicide awareness, population-based prevention training, and risk mitigation can all help prevent adolescent suicide; however, implementing these programs in rural and underserved areas may be a challenge. In Oregon, Governor Kate Brown signed House Bill 3427, also known as the Student Success Act, which will infuse new tax revenue to implement statewide school prevention programs for bullying, cyberbullying, and suicide prevention. [1,5] In addition, Senate Bill 52, Adi's Act, requires school districts to plan suicide prevention, intervention, and follow up care to students starting in the 2020-2021 school year. Research shows that the onset of suicidal ideation usually occurs between ages 10-17, and adolescents who move from suicidal ideation to attempting suicide usually do so within 1-2 years from the onset of suicidal ideation. [7,10] This time period is a prime opportunity to address suicide prevention via school-based programs, and many countries already employing these programs show a reduction in self-reported suicidal ideation and attempts. [7]

Traditional methods of addressing adolescent suicide are based on identifying at-risk individuals and referring them to specialty services. With limited mental health resources, referral capabilities, rural healthcare disparities, and access to counseling, these traditional methods are wrought with barriers to care and are not a practical way of reducing the overall adolescent suicide rate. [15] In comparison, programs at the population level have been proven to reduce long term suicidal ideation and improve mental health outcomes. [16-20] Newer methods focus on the importance of peer-groups, recognizing risk factors of suicide, the importance of seeking help, and finding support systems with trusted adults to help through emotional turmoil. [16-18] These strategies bring awareness to entire school populations and normalize suicide education and seeking help rather than focusing on individuals already displaying red flags of suicidal behaviors.

Help-seeking behavior is a crucial component that needs to be addressed in suicide prevention programs. Increasing open communication between adolescents and their parents and finding support from other trusted adults can confer lasting mental health benefits to our nation's youth [15]; however, adolescents are not very likely to seek help. Adolescents tend to adhere to a "code of silence" and seek minimal help or assistance, and, if they do report suicidal ideation, they are twice as likely to tell a friend and not their parent or another trusted adult. [16] Having trusted relationships with at least one adult was a protective factor against suicide, and the strongest effect of this can be seen with positive relationships between an adolescent and their own parents. [15] Seeking assistance from adults must be encouraged among friend groups to break the "code of silence," and fostering adolescent relationships with trusted adults should be a priority in suicide prevention.

If creating positive relationships with parents or other adults is not possible or difficult for adolescents, trained peer-advisors are effective in breaking the "code of silence" and helping adolescents cope with emotional turmoil. [15-18] Adolescents are already more trusting of friends and are more likely to talk to friends their own age about issues they are going through, so training a select group of peers in suicide prevention can be a protective strategy. [18] By using peers for suicide prevention, suicide awareness and the responsibility to help is a given, and more adolescents know the warning signs of suicidal behavior as well as the actions to take if a friend is in need of help.

While many prevention programs focus on developing identifying protective factors, steps must be taken to identify and mitigate risk. In order to mitigate risk, the mechanisms of suicide completion and suicide attempts in adolescents is important to consider. Across all countries,

hanging/suffocation was the most common cause of adolescent suicide across all sexes, followed by jumping from a height or jumping/lying in front of a moving object. [10] According to the Center for Disease Control and Prevention's Web-Based Injury Statistics Query and Reporting System (WISQARS), the most common methods of suicide from adolescents aged 10-19 in Oregon were suffocation, followed by the use of firearms. [4,5] While varying by region, overall, suicide by firearm is the leading cause of suicide in the United States and is consistently high in rural counties in Oregon. [4,5,10]

When thinking about prevention plans and how to decrease suicide among adolescents in Oregon and United States, it is difficult to implement prevention measures targeting suffocation and hanging; however, legislation around gun safety can significantly decrease rates of adolescent suicide. Greater firearm access, as measured by the number of firearms per 100 people in a country, increased the rate of suicide by firearm, [10] and firearm availability among youth in the United States of America is a rising concern. Knowing that increased availability and access to firearms causes significant death and disability among our nation's youth and that prevention efforts targeting proper firearm storage and restricting firearm sales have been related to decreased suicide rates, [10] education on these topics should be included in suicide prevention programs. Additionally, this may be an area to foster parent involvement in suicide prevention to come up with primary prevention strategies they can implement at home.

Increased exposure to violence also increases the risk of suicidal ideation, and adolescents who actually attempted suicide were more likely to have experiences with witnessing self-harm by friends, family members, or other individuals. [6] In addition, exposure to physical abuse, sexual abuse, emotional abuse, or other adverse childhood events increases the risk of adolescent

suicide. [6,7] One well-studied form of abuse in adolescents comes in the form of bullying. Bullying amplifies feelings of hopelessness and decreased self-worth and is detrimental to the health of our nation's youth, causing feelings of burdensomeness and hopelessness. [9] Adolescents who are bullied more often and for longer periods are at the greatest risk of developing depression, and those who are subjected to physical abuse compared to verbal or emotional abuse are at the most risk. [9,10]

While chronic victims of bullying report higher levels of suicidal ideation, it was also found that individuals who were "bully/victims," or both bullies and victims themselves, also had higher levels of negative mental health outcomes and are at the greatest risk of suicidal ideation and suicidal behaviors. [8,12,13] Therefore, both the victim and the bully are negatively impacted by the act of bullying. Being involved in any capacity can carry health consequences and an increased risk of suicidal thoughts and behaviors into adolescence. As such, antibullying campaigns at schools are crucial components of overall suicide prevention programs, and preventing bullying at an early age can help improve the mental health outcomes of all children.

Peer victimization in the form of social exclusion, verbal abuse, and cyberbullying can also contribute to the development of suicidal thoughts. [7,9,12] In the modern era of technology, cyberbullying is emerging as a common medium of adolescent bullying. Children exposed to cyberbullying are more likely to have thought of suicide compared to traditional modes of bullying, and both traditional bullying and cyberbullying are shown to have lasting impacts on adolescent mental health and wellness. [14]

Organizations like the National Suicide Hotline are utilizing technology to prevent suicide through screening and treatment strategies. The National Suicide Hotline, along with other

organizations, now utilize phone, email, live online chats, and text message systems to screen for suicide and provide timely resources to adolescents with suicidal thoughts. [21] The anonymity of technology-based services may help break the traditional code of silence and allow adolescents to reach out for help without feeling stigmatized. In addition, adolescents are familiar with technology and this presents a new way to communicate with peers and counselors.

When looking at the underlying reason that adolescents report bullying, it is important to note that many risk factors contribute to bullying behaviors. Bullies tend to have higher risks for underlying mental health conditions such as high impulsivity, ADHD, depression, anxiety, and adverse childhood events. [8,9] If we take these reasons into context, a better approach at suicide prevention may be to increase counseling and mental health services for these individuals to address the root cause of bullying, rather than rely on the traditional route of discipline, suspension, or expulsion from school. Expulsion and suspension are representative of a "lack of belonging" in the school environment and can amplifying the underlying mental health problems of bullies and bully/victims rather than helping. Thus, interventions from primary school onward with an emphasis on antibullying, connectedness, counseling, and mental health services can both prevent chronic bullying and peer victimization while decreasing the risk of adolescent suicidal ideation and behaviors.

Adolescents who reported exposure to violence also had increased rates of underlying psychiatric conditions like depression, anxiety, feelings of hopelessness, and increased impulsivity. [6] About 90 percent of individuals who die by suicide have a comorbid mental health condition, with depression being the most common. [13] Additional populations at an increased risk of underlying mental health conditions and suicide include American Indian/Alaskan Native

and LGBTQI adolescents. [11] Interestingly, LGBTQI youth in Oregon had a 20% higher risk of suicide attempts if living in an "unsupportive county" as defined by lack of democrats, lack of antibullying school policies, lack of antidiscrimination policies, and a lack of gay-straight alliances at school. [7] Anti-discriminatory and antibullying policies in school can be used to promote connectedness and understanding in an effort to alleviate these health care disparities and protect our most vulnerable youth.

The concept of emotional clarity, the ability to recognize and communicate one's emotions, combined with adequate social support, can decrease suicide risk in youth. [15] If prevention programs focus on building social support systems and the skills necessary to address negative emotions, adolescents can identify triggers and seek help and support from peers in managing those distressing thoughts. Furthermore, social groups, clubs, religious groups, and teams also promote connectedness and serve to increase self-esteem and decrease rates of depression among youth. In addition, social connections within the family determine the child's access to healthcare and mental health resources, so an effort must be made to destigmatize mental health illness, promote honest conversations between adolescents and their parents, and provide safe spaces for open communication.

Adolescent suicide is preventable, and school-based programs are effective in reducing suicidal behaviors among youth. [15-18] While accessible, anonymous hotlines, websites, texting resources, and live chats are crucial in helping adolescents; more needs to be done to prevent at-risk youth from getting to the point of needing those services. Approaching adolescent suicide prevention at the population level through school-based programs provides an opportunity for early intervention and increased awareness of resources for at-risk youth. In addition, these

suicide prevention programs create inclusiveness, decrease the stigma behind mental health conditions, and foster peer-support that provides tools to deal with emotional turmoil and suicidal thoughts. While these programs are useful, more resources need to be developed to address underlying risk factors for adolescent suicide, including screening and treating underlying mental health conditions, reducing exposure to violence and bullying, and limiting access to lethal means of suicide, especially firearms. Implementing new curriculum surrounding these areas in school-based prevention programs can further reduce suicidal ideation and suicidal behavior, increase inclusiveness, and decrease the suicide rate among adolescents throughout the country.

To prevent the increasing rates of adolescent suicide in this country, suicide prevention programs and educational talks should be a standard part of school curriculum. Utilizing school-based programs and educational talks can destigmatize suicide and promote open conversation about mental health and wellness.[16-20] An educational talk that focuses on positive aspects of suicide prevention like identifying friends, familial support, and positive outlets for the entire school population can do more to prevent adolescent suicide than exclusive programs that specifically recruit at risk youth. [18, 19] This broad approach promotes inclusivity of the entire student population, bringing suicide awareness to both teachers and student bodies. Educational talks that foster participation of all students, utilize modern technology to promote mental wellness, and provide resources to students are important aspects of decreasing the adolescent suicide rate.

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