

## **Increasing Prevalence of Adolescent Suicide in Developing Countries: Public Health Prevention Strategies**

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### **ABSTRACT**

The increasing suicide morbidity and mortality rates among the adolescent has become a serious human tragedy of great public health concern. Many facets of suicide such as suicide ideation, intent, attempt, ambivalent, gesture, equivalent, and completion are prevalent among this group of people due to their developmental characteristics in an unsupportive cultural and socioeconomic environment, especially in developing countries. Adolescents may at one point or another perceive suicide as a permanent answer to problems, often due to self-doubts, conflict with older ones like parents, fears, confusion, stress, and pressures to succeed or conform while growing up. Due to the fact that suicide is preventable but very difficult to be predicted accurately, it becomes expedient to start to concentrate efforts on identifying, and enhancing suicide protective factors among this age group, and devising and advancing various public health prevention strategies apart from the conventional psychic-medical approaches to stem the tides of suicide among them, especially in developing countries. This study reviews prevalence of suicide among adolescents in developing countries, and proffers public health-based prevention strategies, which, if properly programmed and implemented would be effective in the containment of this public health problem in different settings.

**Key words:** Adolescent suicide, public health prevention strategy

### **INTRODUCTION**

Suicide is a major global public health problem, often, described as an epidemic due to its increasing morbidity and mortality, particularly among adolescents and youths. Although, suicide is ubiquitous, not restricted to any place, race, tribe, nation class, age or gender, recent studies revealed that suicide rates have increased by about sixty per cent in the last forty-five years, mainly in developing countries (WHO, 2011)<sup>[46]</sup>

Suicide is an act of killing oneself intentionally or knowingly, either by direct self-infliction, or indirect means of assistance, or the inaction of the victim when the victim knows that the inaction would cause his or her death (Asogwa, 2015)<sup>[7]</sup>. Where an attempt to kill self intentionally does not result in death, it is considered an attempted suicide. There are many

facets associated with suicide, which include suicide attempt, intent, ambivalent, gesture, equivalent, and completed suicides (Hass, Silverman,& Koestner, 2011)<sup>[22]</sup>

Suicide is not a disease with a single factor cause but a complex phenomenon influenced by several interacting factors: personal, biological, social, psychological, cultural and environmental. According to Achor (2019)<sup>[3]</sup>, a consultant psychiatrist, Federal Neuropsychiatric Hospital, Enugu, suicide is not one factor-act, but occurs due to underlying vulnerability factors, stressful events and mood change.

Globally, according to studies, suicide claims over one million lives every year, with about ten to twenty million attempt suicides annually, making suicide the tenth leading cause of death in the world, with a global mortality rate of sixteen suicides per 100,000 people, a suicide every forty seconds; and in every one person that dies by suicide, about twenty other persons have attempted suicide (WHO, 2011)<sup>[46]</sup>. In Nigeria for instance, Achor (2019)<sup>[3]</sup> states that 6.1 per 100,000 deaths is through suicide.

Studies have shown that adolescents and youths are the most victims of suicide, with the rates dramatically increasing, causing serious public health concerns. Norheim et al (2013)<sup>[35]</sup> noted that suicide is one of the most frequent and fastest causes of death in young age groups. World Health Organization's reports show that low-and middle-income countries are home to more than ninety per cent (90%) of the world's children and youths, and also account for over seventy-five per cent(75%) of the global suicide deaths (WHO, 2014)<sup>[47]</sup>

It is very difficult to predict accurately who is contemplating suicide, including the young ones; however, there are certain identified risk factors for suicide. Centers for Disease Control and Prevention [CDC](2006)<sup>[17]</sup> defines suicide risk factor as anything that increases the likelihood that an individual may harm him or herself. These factors may include both the physical, biological, medical, social, economic psychological and environmental factors. However, suicide risk factors are not necessarily causes of suicidal behavior, they provide no more than guidance. The decision kill oneself is usually not a spontaneous act, but one that evolves slowly over a period of months or years, during which the person openly declares such an intent to his or her close ones, by displaying some warning signs or signals in forms of suicidal communications, threats, or behaviors(Asogwa, 2015)<sup>[7]</sup>. This period of time could offer an opportunity or time to intervene to stop its completion. Stoppler (2009)<sup>[44]</sup> states that seventy-five per cent of those who die by suicide exhibit some suicide warning signs, which are described as 'cry for help or attention', or expression of despair and wish to escape rather than a genuine intent to die.

The physical, social, economic and psychological effects of suicide on family, friends, acquaintances, and even the society are often devastating, hence the need for its prevention. Suicide is preventable. Suicide can be prevented using appropriate strategies, such as recognition of predictive factors and warning signs, suicide awareness and education, modification and implementation of socio-economic conditions of people, utilization of notable protective factors, and legislation measures (Asogwa, 2015)<sup>[7]</sup>

### **ADOLESCENT SUICIDE**

Adolescence is the growing period of transition from childhood to adulthood. According to Ebong (2012)<sup>[19]</sup>, the adolescence period is viewed by some authorities as the period between

ages 10 to 24, while some look at this period as the starting from 8 years to 21 years. Adolescence is not only a vital stage of growth and development but also the stage when young people extend their relationships beyond parents and family and are intensely influenced by their peers and the outside world. An adolescent is seen a person who has left the childhood behaviors, be more matured and begins to exhibit some other characteristics that will enable him or her flow into real adulthood.

The teen years are an anxious and unsettling period as young ones both boys and girls face the difficulties of transition to adulthood. Gould, Greenberg, Velting and Shaffer (2003)<sup>[20]</sup> noted that chronological progression through adolescence is associated with increased incidences of completed suicide, increasing significantly in older adolescents before stabilizing in early adulthood and maintaining this level until the sixth decade. Adolescents may at one point or another perceive suicide as a permanent answer to problems, often due to self-doubts, conflicts with the older ones like parents, confusion, stress, and pressures to succeed or conform, and other human fears while growing up.

### **PREVALENCE OF ADOLESCENT SUICIDE**

Rates of suicide among young people have increased at an alarming rate, and this has remained a serious global public health problem. Global data on suicide show that more teenagers and young adults die of suicide than from cancers, heart disease, HIV/AIDS, birth defects, stroke, pneumonia, influenza, and lung disease combined. Worldwide suicide accounts for an estimated six percent of all deaths among young people (Platton, Coffey, Sawyer, Winer, Haller, Bose et. al., 2009)<sup>[38]</sup>. They further stated that suicide is the second leading cause of mortality among females, and the third leading cause of death among males aged 10-24 yearly, making youth suicide a major global public health concern. In developed countries, there is frantic effort to checkmate rising rates of teen and adolescent suicide, against the alarming increases in suicides among young people in developing countries without and concerted effort any attention to address the problem. WHO Reports (2014)<sup>[47]</sup> showed that low-and middle-income countries are home to more than ninety per cent of the world's children and youths, and also account for over seventy-five per cent of the global suicide death.

Suicidal actions and behaviors remain hidden burdens in developing countries due to certain factors such as social stigma and taboos attached to it, religious and cultural concerns, and lack of proper reporting systems. The reasons for increase in teen and adolescent suicide in these countries could be that teenagers are exposed to many conditions such as poverty, disease, limited healthcare resources, political tension and instability, and security challenges that may undermine or compromise their health and well-being. Cluver, Orkin, Boyes and Sherr (2015)<sup>[15]</sup> added that the higher prevalence of suicidal behaviours among adolescents in African countries may be partly explained by high human immunodeficiency virus (HIV and acquired immunodeficiency syndrome (AIDS) prevalence, political instability and insecurity.

The gender dimension of prevalence of adolescent suicide reveals that sex influences the trend. McMahon, Keeley, Cannon, Arensman, Perry, Clark, et. al., (2014)<sup>[30]</sup> and Blum, Sudhinaraset, and Emerson (2012)<sup>[11]</sup> separately noted that in tandem with well-established gender paradox of suicidality, female teenagers are generally much more likely than male counterparts to experience suicidal ideation and attempts, yet the male complete suicide more frequently than females. McKinnon et al (2015) state that, generally, completed suicide rate is found to be six

times higher in males, while girls are twice more likely to deliberately self-harm themselves than their male counterparts. The presence of co-morbid factors among males such as their propensity conduct and alcohol abuse disorders, their choice of more lethal suicide attempt methods, high levels of aggression and inclination towards violence, and externalizing behaviours, render them more likely to make lethal suicide attempt than the teenage girls (Kaess, Parzer, Haffner, Steen, Ross, Klett, et. al., 2011)<sup>[27]</sup>. In other hand, the higher rate of suicide ideation and attempts among the female teenagers, according to McLoughlin, Gould, and Malone (2015)<sup>[31]</sup>, could be associated with the greater likelihood of feeling of suppression, marginalization, neglect and hopelessness attached to the putative low social status within patriarchal and subjugating social and economic systems in developing countries.

### **Risk Factors for Adolescent Suicide**

People have reasons to commit suicide but these reasons vary in individuals, groups, and societies. Achor (2019)<sup>[3]</sup> identified five reasons people commit suicide, and these include self-punishment, to be a hero (heroic suicide), loss of romantic relationship (romantic suicide), to escape unbearable conditions, and to revenge (revenge suicide). Generally, people commit suicide for the following reasons:

- Relief from emotional and physical pain;
- Escape from unfavorable and unbearable conditions;
- Desire to end one's life to preserve reputation or family;
- Desire for rebirth and restitution;
- Self-sacrifice and allegiance to authority;
- Desire to punish parents or friends or perceived enemy;
- Despair;
- Loss of self-esteem; and
- Poor self-image (Asogwa, 2012)<sup>[9]</sup>.

However, suicide has no single cause factor because it is a combination and complex interaction of many multi-dimensional factors, including biological, psychological, social and environmental factors.

Certain risk factors have been associated with suicide, including adolescent suicide. These risk factors are not necessarily the causes of suicide but they increase to a large extent the likelihood of one contemplating, planning or attempting or completing suicide. Researches have expanded the knowledge of risk factors for adolescent and youth suicidal behaviors both in developing and developed countries to include bullying (Holt, Vivolo-Kantor, Planin, Holland, Deque, Matjasko et al., 2015)<sup>[26]</sup>, physical and sexual abuse (Brown, Riley, Butchart, Meddings, Kann, & Harvey, 2009)<sup>[13]</sup>, mental disorders and depressive symptoms (Asogwa, 2015)<sup>[7]</sup>, substance use and weak family and social relationship (Randall, Doku, Wilson, & Peltzer, 2014)<sup>[40]</sup>. Others include psychosocial symptoms (such as loneliness, having few friends, lack parental support), alcoholism and cigarette smoking, being physically attacked, bullying and victimization, and sexual assault (McKinnon, Garipey, Sentenae & Elgar, 2015)<sup>[29]</sup>, heavy episodic drinking (HED), including alcohol use among adolescents especially preteen alcohol use initiation (Swahn, Palmer, Karirye, & Yao, 2012)<sup>[41]</sup>

Frequent exposure to victimization and bullying or perpetration of bullying has been found to be related to higher risk of depression, suicidal ideation and suicide attempts compared to non-bullied/non-bullying counterparts (Hepburn, Azrael, Molnar, & Miller, 2012)<sup>[24]</sup>. For developing adolescent in which the value place on being accepted makes the experience of victimization such an acutely devastating experience. Bullying can accelerate a pathway to suicide via the creation of variable levels of mental distress (Klomek, Kleinman, Altschuler, Marrocco, Amakawa, & Gould, 2013)<sup>[28]</sup>. According to McLonghlin et al., (2015)<sup>[31]</sup>, the insidious advent of cyber bullying poses a new challenge as bullying assumes a faceless, yet, ubiquitous presence. In agreement, Bannink, Broeren, Van de Looij-Jansen, de-Waart and Raat (2014)<sup>[10]</sup> noted that victims of cyber bullying and school bullying are at a significantly increased risk of mental distress, girl specifically. Brodsky and Stanley (2008)<sup>[12]</sup> concur that exposure to such adverse experience may contribute to suicide ideation among the young people through increasing internalizing behaviors, such as shame, feelings of depression and social isolation that affect the ability to cope with life stressors.

According to Hawton, Saunders and O' Connor (2013)<sup>[23]</sup>, major risk factors for adolescent and youth suicide include being female, exposure to bullying and violence, alcohol and drug use, mental disorders, and weak family and peer relationship. Cluver et al., (2015)<sup>[15]</sup> also established positive association between suicide behavior and adverse childhood experiences, such as physical and sexual abuse, parental neglect, and bullying and peer victimization. Psychological factors such as depression, low self-esteem, hopelessness and weak social relationship, loneliness, lack of parental support and control are well established correlates of suicidal behaviors among adolescents in several low- and middle-income countries (Page & West, 2011)<sup>[37]</sup>. Vulnerability factors that act through personality traits, cognition styles, and mood states have also been linked with suicide occurrence (Achor, 2019)<sup>[3]</sup>

In addition to mental health disorders, McLonghlin, Gould and Malone (2015)<sup>[31]</sup> argued that increased substance abuse, identified higher preponderance of exposure to social deprivation and stressful life events, psychopathology, family history of youth suicide, access to lethal means, and other exacerbating factors such as loss of family links and community support, socioeconomic difficulties, marginalization, loss of religious affiliation, inequality in education, cultural clashes with parents, thwarted hopes and lack of belonging as very important risk factors for adolescent suicide.

Exposure and contagion have been strongly associated with adolescent suicide. McMahon, Corcoran, Keeley, Peery and Arensman (2013)<sup>[30]</sup> noted that exposure to suicide is implicated with self-harm and found to predict suicide ideation and attempt among teenagers. It is observed that a cluster of suicides can emerge via contagion, which could be as a result of influence of media coverage of suicide stories, especially newspaper reports that include specific suicide story details (Gould, Kleinman, Lake, Forman, & Bassett-Middle, 2014)<sup>[21]</sup>. This implies that highly published suicide incidents could serve as the tipping point to initiate suicide clusters or epidemics (copycat) among young people.

Fixed risk factors for adolescent suicide according to studies include male gender, parental mental problems, lesbian, gay, bisexual or questioning sexual orientation, transgender identification, substance intoxication, post-traumatic stress disorder, panic attacks, a history of aggression/impulsivity, argument with parents, living outside the home (homeless) or in a

correction facility or group home, difficulties in school or out of school or work, severe anger, pathologic internet use (Shain et al., 2016)<sup>[42]</sup>, and non-suicidal self-harm. Concurrently, pathologic internet use has been found to be an important correlate with suicidal ideation and non-suicidal self-harm (Durkee, Hadlaczky, Wseterlund, & Carli, 2011)<sup>[18]</sup>. Similarly, Messias, Castro, Usman and Peeples (2011)<sup>[32]</sup> indicated that daily use of video games and internet exceeding five hours is strongly associated with high levels of depression and suicidal ideation and attempt in adolescents.

A summary of suicide-risk factors among adolescents from various studies reviewed includes: emotional and physical pain, romantic relationship troubles or break-up, traumatic or stressful life events, previous suicide attempt, sense of isolation, discrimination, lack of social support, lack of health care services, impulsivity issue and aggressive behavior, substance use (drug and alcohol abuse), lack of coping skills, access to lethal means, family violence or divorce of parents, contagious and imitation effect (copycat), difficulties in dealing with sexual orientation, eating disorders, rape, household financial burdens, being bullied, victimization physically violated and abused, economic disadvantaged, inequality, frustration, social rejection, anger and guilt, disability and deformation, academic failures or competition or pressure, loneliness, feeling of being misunderstood, insecurities. Others are rejection by loved one, loss of loved one (bereavement), sudden loss of job, mental disorders (such as major depressive disorder, bipolar disorder, dysmorphic disorder or schizophrenia), difficulties in adjusting to new expectations and settings, perfectionism or inability to tolerate failures, injury-related behavior (such as fighting, carrying weapons, indiscriminate sex), uncertainties about future, lack of family and community support and control, chronic diseases and infections with stigma, religious and ideological radicalization, failure to achieve ones ambitions or expectations, pathologic internet use, (Asogwa, 2018, 2015; Shain et al., 2016; Burrell, 2012; Hass et al., 2011)<sup>[5,7,42,14,22]</sup>.

### **WARNING SIGNS OF ADOLESCENT SUICIDE**

There are numerous warning signs that adolescents may exhibit or display when they are contemplating suicide, which may be expressed in verbal, physical and behavioral manners as described by Asogwa (2012)<sup>[9]</sup>, Burrell (2012)<sup>[14]</sup> in their studies. The adolescent may make verbal remarks such as, "it would soon be over", or "I want to die", or "I can't take it anymore", and any other remarks or statements that depict intentions to die. They may complain how people are bad to them and how they have become burdens to others. Behaviorally, they may start to withdraw from friends, families, school activities and other activities they once enjoyed. Their eating and sleeping patterns may change. There may be show of changes in their personality, such as violent and rebellious behavior. Sometimes, they run away from homes. There may be sudden change in their mood (mood swing, i.e., they may become more cheerful, justly after a period of time when they are down and depressed). They may exhibit symptoms of psychosis, including hallucination and bizarre thoughts. They may start giving away their prized or precious belongings, and using drugs and alcohol at this time. The quality of their school work may decline and their performance may suddenly drop. They may also begin to neglect their appearance and hygiene, and begin to complain about physical symptoms, which may include headaches, stomachaches, or fatigue (Shain et al., 2016)<sup>[42]</sup>

Caruso (2009)<sup>[16]</sup> states that young people who are contemplating suicide often feel worthless, alone, unloved, and they may believe that they are a burden on their parents or friends, They

feel misunderstood and judged by their peers and adults, They are often ultra-sensitive to criticism, scared to make mistakes and feel unable to cope. They believe that these feelings will last forever and that nobody can help them (Asogwa, 2015)<sup>[7]</sup>

Some adolescents may present with irritability rather than depressed mood as the main manifestation, while others may present with somatic symptoms such as abdominal pain, chest pain, headache, lethargy, weight loss, dizziness and syncope, or other non-specific symptoms. Some other adolescents present behavioral problems such as truancy, deterioration in academic performance, running away from home, defiance to authorities, self-destructive behavior, vandalism, substance use disorder, sexual acting out, and delinquency. Shain et al., (2015)<sup>[42]</sup> identify some other warning signs of suicide among adolescents to include sad or down feelings most of the time, crying spells, guilty and worthless feelings, marked diminished interest or pleasure in most activities, significant weight loss or weight gain, or increase or decrease in appetite, insomnia, fatigue or loss of energy, diminished ability to think or concentrate, and thoughts of death.

However, none of the warning signs is in itself an automatic indication of suicidal intent, but a changed pattern of behavior, including a number of warning signs. To that effect, a person is believed to need urgent attention or help when such person displays about four of the major warning signs daily for more than two weeks. These warning signs play important guidance role in the prevention of suicide. Many people commit suicide because people around them lack knowledge of or are ignorant of suicidal warning signs, and lack the ability to predict imminent notice and observe suicide warning signs and take them seriously. It is much better to overact and get help and save life than to underact and lose the person (Question, Persuade and Response for Suicide[QPR] (2013)<sup>[39]</sup>.

### **PROTECTIVE FACTORS FOR SUICIDE AMONG ADOLESCENTS**

There are factors that may protect adolescents and youths from suicide. Protective factors are the characteristics or conditions that reduce the likelihood of suicide. They can buffer the effects of risk factors (The Campus Suicide Prevention Center, 2011)<sup>[45]</sup>. These protective factors can be classified into individual characteristics behavior factors, social support factors, and school and community factors. Individual characteristics behavior factors include psychological and emotional well-being, positive beliefs, hopes and plans for future, desire to finish school, internal locus of control (i.e., feeling of like one has an impact on one's world and the worth of others), problem-solving and coping skills, including conflict-resolution skills, frustration tolerance and ability to regulate emotions, self-esteem, spiritual beliefs or regular church activities, cultural and religious beliefs that affirm life and discourage suicide, a sense of responsibility to family and friends, not wanting to hurt family or friends, and physical activity, especially aerobic activity.

The social support factors are the support from and connectedness to family, closeness to or strong relationship with parents, parental involvement, social involvement and support from friendships and romantic relationships, show of concern, understanding and caring (from teachers, group leaders, coaches, faith leaders, workplace supervisors, on-going support and support to call in times of crisis. Some of the identified school and community factors include supportive and inclusive peer and mentor environment, a sense of connectedness to school and community and of belonging within the school community and the society, availability and

accessibility of students/youth services and personnel, involvement in sporting and social activities, access to effective care for mental, physical and substance abuse disorders, restricted access to lethal means especially firearms, and monitoring control by school and community authorities.

Achor (2019)<sup>[3]</sup> listed other suicide protective factors as personal religiosity and spirituality, well-developed social support network, having reasons for living, cultural practices that encourage integration, training children, and developing problem-solving skills. American Academy of Child and Adolescent Psychiatry (2015)<sup>[2]</sup> also recognizes religious involvement, and connection between the adolescent, school and peers as protective factors for adolescent suicide.

The fact that it is very difficult to predict accurately suicide because of its complex nature makes it imperative to start identifying different factors that could protect people from suicide, particularly the adolescent and youth who are the most vulnerable ones. The protective factors could be harnessed and used by public health experts as means in the prevention of suicide among adolescents, even in the larger populations.

### **PUBLIC HEALTH PREVENTION STRATEGIES FOR ADOLESCENT SUICIDE**

Suicide prevention aims at eliminating suicide using prevention measures and strategies. Different suicide prevention strategies recommended by studies range from recognition of suicide predictors and warning signs, suicide awareness and education, effective early screening and treatment of mental and psychiatric disorders, modification of social and economic conditions (such as reduction of poverty, violence, discrimination, maltreatment, social isolation, and promotion of healthy lifestyles, legislation measures, engaging the help of faith healers and spiritual advisers (Stoppler, 2009)<sup>[44]</sup>, to the introduction of modern public health approach programmes against adolescent and youth suicide (such as suicide awareness and education, peer-helper, social marketing, Student Support Networks, Coping skill or Life-skill development, etc.). Achor (2019)<sup>[3]</sup> also suggested that national suicide rates can be stemmed through education, use of legislation and policies to restrict access to means of suicide. The public health models of approach to prevention of suicide are discussed further due to their relevance to prevention of suicide among young people. More so, they have been highly recommended due to their good organizational packages, and reported efficacy (Abelson, 2016; The Campus Suicide Prevention Center, 2011)<sup>[1,45]</sup>. The public health prevention strategies that can be adopted to prevent suicide among the young people are suicide awareness and education programmes, peer helper programmes, social marketing strategies, policy strategy, screening and treatment strategies, risk reduction strategies, mass media strategy, development of life skills strategies, and social and economic strategies.

### **SUICIDE AWARENESS AND EDUCATION PROGRAMMES**

The aim goal of suicide awareness and education is to provide factual information about suicide for proper knowledge, attitude, behavior, and skills for personal informed decisions and actions. Good knowledge of suicide helps people to understand suicide as not a solution to any problems; leads to proper and reasonable and non-judgmental attitude and behavior towards suicide; reduces anxiety about suicide; corrects misconceptions and myths about suicide; reduces hostility to suicide issue and suicidal persons; increases coping skills; improves self-help seeking ability; increases ability to identify suicide predictors, warning signs, suicidal

behaviors and at-risk persons; increases the ability to help persons at-risk and selves (Asogwa, 2018; Stanford Encyclopedia of Philosophy, 2012; Hass, Silverman & Koesterner, 2011)<sup>[5,43,22]</sup>. Many scholars acknowledged that the importance of suicide awareness and education in prevention of suicide, and suggested that to reduce the scourge and prevent it, is to adopt a fundamental prevention strategy, which is to increase the knowledge base about suicide that may lead to proper and reasonable or appropriate attitude towards suicide (Okon, 2019; International Centre for Investigative Reporting [ICIR], 2019)<sup>[36,25]</sup>

### PEER-HELPER PROGRAMMES

Peer-helper programmes are public health approach to preventing suicide, especially in young people. Involvement of peers in suicide prevention is absolutely necessary, and is predicted on some facts. Peers can shape norms, convey messages and provide support in ways that can be quite compelling (The Campus Suicide Prevention Center, 2011)<sup>[45]</sup>. Two-thirds of college students who disclosed suicidal ideation, first chose to tell a peer, such as a romantic partner, roommate or friend (Asogwa, 2014)<sup>[8]</sup>. The fact that the peers interact through day and night, they are often the first to recognize health and safety concerns of one another. Kalafat and Elias in their study established that peer confidants have the potentials to play a fundamental role in preventing suicidal adolescents from progressing to completed suicide, when given an appropriate suicide education (Asogwa, 2016)<sup>[6]</sup>.

Peer-helper programmes are of different models where peers are trained to educate, identify and intervene with potentially at-risk adolescents or youths. Peer-helpers are those who are trained and empowered to provide information or assistance to others (The Campus Suicide Prevention Center, 2011)<sup>[45]</sup>. The programmes are designed to educate the young people to be capable to offer assistance or help to peers that are distressed or depressed. In peer-helper programmes, peers can be trained as natural messengers, natural helpers or gatekeepers, advocates, educators, and “mentors” and counselors.

**Peers as natural messengers:** The peers are trained and used to encourage young people to be involved in exchanging conversation on mental health, suicide and other stressful conditions, help-seeking, and local resources. Abelson (2016)<sup>[1]</sup> noted that an example of peers as natural messengers is the “Active Minds”, an organization in over 200 colleges and universities across United States.

**Peers as natural helpers or Gatekeepers:** In this model, peers are trained to be natural helpers to serve as additional “eyes” and “ears” within their natural networks. They learn the basic skills needed to identify safe limit and help others. Gatekeepers training is handled by well-trained and qualified health educators and other health professional, especially trained for the purpose. Examples of gatekeeper models in school settings include Students Support Network (SSN), Campus Connect (CN), Question/Persuade/Refer for Suicide (QPR), Safe Talk and At-risk (Asogwa, 2014)<sup>[8]</sup>

**Peers as advocates:** A peer advocate is trained to tell a personal story of overcoming mental health challenges or other stressful experiences as a way to encourage help-seeking, and promote a belief in recovery. In this model, carefully selected and extensively trained young people are used to speak about their personal experiences in recovery from life challenges.

**Peer educators:** Peer educators are trained to teach others. They conduct activities to raise awareness, change norms and reduce stigma. Contents of peer educator programme include a range of topics from dating, safety, substance abuse awareness, diet, and exercise, basic mental principles, coping- skill abilities, to self-helping skills. An example of this method is the “Friends Helping Friends” programme in some universities in developed countries, which trains peers to teach basic information on mental health and illness and how to reduce stigma, encourage help-seeking, promote healthy and effective strategies for managing mental health problems and life challenges, and promote mental health services (Asogwa, 2018)<sup>[5]</sup>.

**Peer “mentors” and peer “counselors”:** Peers are trained to provide more specialized assistance to individual peers. Peer mentors and counselors work closely with a professional supervisor, and must be well trained to seek immediate assistance when in contact with peers who may be at risk or harm. Example is ‘CoachLink’ programme developed in Eastern Mennonite University, Harrisonburg, V.A., USA (The Campus Suicide Prevention Center, 2011)<sup>[45]</sup>

### **SOCIAL MARKETING STRATEGIES**

Social group leaders ,clubs, organizations, gathering or events can be used to create or raise awareness about suicide, and educate young people on the real facts about suicide, and correct misconceptions or myths about suicide, de-stigmatize mental illness and suicide matters, and encourage help-seeking behaviors (National Mental Association/ Jed Foundation, 2012)<sup>[34]</sup>

### **Policy Strategy**

There are suicide-inducing policies and norms that discriminate based on gender, ethnicity, race, social class, health status, religion. Such policies or norms that are discriminatory and punitive in nature that put pressures, excite anxiety in the young people should be reviewed at all levels and replaced with the more youth-friendly policies that engender fairness, equity and justice. This may help to reduce depression, sense of not belonging, hopelessness, worthlessness and helplessness in adolescents and youths.

### **Screening and Treatment Strategies**

Screening and treatment strategies involve programmes and services for specific disorders associated with suicides, such as depression, substance abuse to help in identifying persons-at risk for suicide, and facilitating referral for appropriate treatment services. Screening can be either universal (targeting all adolescent or youths in a particular place), or directed towards particular groups at risk (such as substance abusers, the abused, the isolated, the raped, etc.)

### **Risk Reduction Strategies**

Risk reduction strategies for suicide may involve a range of activities or programmes that deal on knowledge of comprehensive analysis of all structures and activities that may provide opportunities for suicide; appropriate actions that limit adolescents and youths’ access to potentially lethal means (by creating barriers at balconies, rooftops, bridges, and restricting use of firearms and killer drugs), and proper media reportage of suicide.

### **Mass Media Strategy**

Mass media education approach is a very important strategy in prevention of suicide. This is due to realization that media have a clear attitude-forming and-orienting influence on people

and play a decisive role in preventing or causing self-destruction (Asogwa & Okafor, 2020)<sup>[4]</sup>. Mass media strategy involves disseminating information on prevention and intervention measures and sources of helps, and de-stigmatizing suicidal persons and matters in such a manner that may not invoke suicidal tendencies in others. Mass media reportage of suicide should be properly done in such way that suicide should be not be glorified, or the victims seen as heroes in order to prevent suicide copycat or imitation or contagion, or suicide cluster formation. Such information about suicide should not highlight or give in details the methods and means of the suicide, or the rationale for the suicide.

### **Social Support Strategies**

Social support strategies involve programmes and activities that promote social connectedness and social networks. Network promotion programmes should deal on ways of encouraging development of small groups within the larger community, reaching out to groups who may experience isolation and lack of connectedness. High level of connectedness, interactions and social support and network sites are considered as antidotes to depression and suicide (Asogwa, 2018)<sup>[5]</sup>.

### **Development of Life Skills Strategies**

WHO recommend to its Member States, implementation of programmes among young people to build life skills that enable them cope with life stresses, and identify early, manage and follow people at risk for suicide (ICIR, 2019)<sup>[25]</sup>. It has been noted that possession of some life skills protects individuals from contemplating suicide. Development of life skill strategies involve programmes that would help young people develop coping skills, help-seeking skills, self-esteem, self-helping skills, crisis-tolerance skills, conflict- resolution skills, positive self-image, problem-solving skills, optimism and positive thinking.

### **Social and Economic Strategies**

Social and economic strategies involve modification of social and economic conditions to reduce poverty, violence, abuse, discrimination, social isolation, and promotion of healthy lifestyles.

However, none of the strategies is considered the best, but combination of them would produce more positive results. In adopting any of the strategies,, the nature of the at-risk persons, material and human resources available, and environmental and social settings should be considered.

## **CONCLUSION**

Suicide is an insidious health problem, especially among the adolescent. Adolescents are the second most high-at risk age group, following youths, due to their developmental immaturity, inability to take self-informed and rational decision, social and cultural pressures, and environmental stresses. However adolescent suicide is preventable using appropriate recommended public health suicide prevention approaches and measures which had been tested and found effective among young people.

## RECOMMENDATIONS

Based on the review of literature on adolescent suicide, the following are recommended:

1. There should be public awareness campaign on the scourge of suicide and its underlying causes and risk factors, prevalence rates, warning signs, and the prevention measures, using mass media platforms, and introducing suicide education in schools. Effective suicide awareness and education programmes both in school and community settings would stem the tide suicide, particularly among young people.
2. There should be gatekeeper training programmes both in school and community settings to empower people that are in close contact with young people and the high-risk, such persons like teachers, health workers, police, prison and other correction center officers, clergy/faith leaders, parents and guardians, and peers.
3. There should also be strong advocacy for the reduction in spade of suicide by non-governmental organizations.. This could be done through increased advocacy programmes and increased interest in suicide research, so that government, policy makers, politicians and the general public be adequately informed and educated with empirical data that suicide is a serious public health problem that needs urgent and concerted attention and effort from government and non-governmental agencies and organizations.
4. Mental healthcare services should be expanded to cover all population segments, including different ages of the young people and all disorders including suicide issues and other self-harm and life-threatening behaviors.
5. There should be strict restriction on the exposure of young people to firearms, medications (both prescribed and over-the-counter), and poisonous materials or identified and notable means (such as insecticides like snipper, as the case in Nigeria in recent years)that could be used to commit suicide.

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