



Suicide: life span considerations

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Suicide is a serious public health problem. Statistics indicate that suicide is the ninth leading cause of death in the United States, accounting for nearly 31,000 deaths [1]. It is also the third leading cause of death among persons aged 15 to 24 [1]. On the average, 85 Americans kill themselves each day. The highest rate of completed suicide is among older white men (>85 years old). White men committed 73% of all suicides in 1997 [1]. About 500,000 individuals require emergency treatment as a result of suicide attempts [2]. Despite the prevalence of completed suicides in men, women are more likely to make attempts.

Predictably, most suicides involve firearms across the life span; approximately 79% of all firearm suicides are committed by white men [3]. Firearms accounted for approximately three of every five suicides (58%) in 1997, followed by poisoning (18%), strangulation (15%), and cutting (1%). The easy access to firearms in the home of high-risk individuals seems to have increased markedly their risk for suicide [1–3].

Although the exact cause of suicide is obscure, approximately 31,000 people in the United States commit suicide annually. Of this number, 90% have a mental disorder, and most have a depressive illness [4,5]. The most common mental disorders associated with global suicides are depressive illness, alcoholism, and personality disorder [5–8]. Suicide attempts or gestures reflect expressions of extreme emotional pain and distress that must be assessed and taken seriously, rather than being discounted as manipulative gestures or bids for attention.

This article overviews multiple, interacting causes and risk factors that result in suicide among older adults and children and adolescents. The article also focuses on the nurse's role in prevention, assessment and implementation of evidence-based treatment planning for the suicidal patient.

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Causative factors

Although the exact cause of suicide is unclear, complex biologic underpinnings and psychosocial factors seem to play key roles. Nurses caring for the suicidal patient must understand intricate biologic and psychosocial factors that play a role in self-destructive behaviors and develop interventions that restore homeostasis and enhance coping behaviors.

Neurobiologic influences

Neurobiologic studies indicate alterations in various brain regions, such as neurochemistry (ie, neurotransmitters [serotonin]), neuroendocrinology, and neuroanatomic structures that are mediated by diverse conditions and predisposition [9], including stress, trauma, and genetics [8,10–13]. Specific alterations in biochemical processes seem to arise primarily from 5-hydroxytryptamine or serotonergic systems [8]. Clinical implications from serotonin dysregulation lie in serotonin's contributions to depressive illnesses, impulsivity, and suicide. Additional studies indicate the role of neuroendocrine dysregulation that is shown by the dexamethasone suppression test. Dysregulation of serotonergic systems is associated with major depression and the risk of suicide. Studies show that the dexamethasone suppression test reflects hyperactivity of the hypothalamus-pituitary-adrenal axis, and this axis is an important biologic marker and predictor of suicide because of its interplay with the serotonergic system [8,11,13,14]. Patients with abnormal dexamethasone suppression test results were more likely to have made a recent suicide attempt or to make future attempts [12,13].

Additional biologic markers are confirmed by psychopharmacologic studies used to treat depressive illnesses. These studies confirm biologic alterations as evidenced by positive responses produced by antidepressant agents in the treatment of depression, anxiety, substance-related, psychotic, and bipolar disorders [11]. Nurses can integrate this knowledge base in developing biologic and psychosocial age-specific interventions that restore homeostasis and reduce the risk of suicide [15,16].

Psychosocial factors

As cited earlier, psychosocial factors and dysregulation of biologic underpinnings increase the risk of suicide. Specific psychosocial factors involve marital discord, unemployment, failing or debilitating health, social isolation or living alone, and cultural influences that perceive the act as noble, particularly in older adults. Psychosocial risk factors in children and adolescents include child abuse, family chaos or turmoil, early parental deprivation, and a positive family history of suicide. Regardless of age group, overwhelming and stressful life events and significant losses,

particularly those that generate feelings of helplessness and hopelessness, often contribute to depressive illnesses.

Early identification of risk factors enables the nurse to formulate holistic nursing care that strengthens the patient's coping skills and restores homeostasis of biologic processes. Nurses can enhance patients' coping skills further by assessing their protective factors and integrating them into treatment planning. Risk factors nurses should look for include the following:

- Previous suicide attempt
- Mental disorders, especially a depressive illness or bipolar disorder
- Comorbid mental disorders
- Positive family history of suicide
- Hopelessness
- Living alone
- Unemployment
- History of impulsive or aggressive behaviors
- Lack of support system
- Easy access to firearms or other lethal weapons
- Cultural and religious beliefs
- Isolation
- Recent neighborhood or school suicide (adolescents and children)

Protective factors

Protective factors are “emotional buffers” that strengthen the patient's coping skills and provide opportunities to develop problem-solving and crisis management skills. Effective crisis management skills enable the patient to attain an optimal level of functioning. To develop the most effective interventions for patients at risk of suicide, the nurse must establish a therapeutic environment that conveys empathy and concern and affords safety. The following six steps are essential to the assessment process and treatment planning:

- Initially the nurse must create a therapeutic environment that focuses on safety, empathy, and support. Safety involves close monitoring, removal of potential weapons, and assessment of the patient's level of danger to self and others. Inquiring about suicidal thoughts or ideations, plan, means, and reasons for wanting to die at this time is crucial to this process. Other important questions include the nature of present stressors; past attempts; and family, school, or community history. Finally, ensuring safety involves asking about accessibility of weapons and removal by family members or law enforcement officers.
- A therapeutic environment requires a nonjudgmental approach and recognition that suicide is often the patient's response to the distress of a mental condition or solution to an overwhelming situational crisis.

- If the patient has a plan, it is important to ask about reasons for not acting on the thoughts. If there is a past history, the following questions elicit important data:
 1. What did you do?
 2. What was going on in your life at the time of the act?
 3. Were you experiencing symptoms of a mental illness or medical condition?
 4. Were you under the influence of alcohol or other drugs? Or were you sober?
 5. Was the act impulsive or planned?
- A complete mental status examination, including assessment of a mood, affect, speech, memory, hallucinations, delusions, and thought processes and content, is imperative.
- A differential diagnosis of an underlying medical condition or substance-related problem also must be made to determine the need for emergent medical attention.
- Suicide prevention also involves assessment of the patient and family's strengths and coping patterns and the quality and nature of social support systems. In the case of an older adult, the nurse needs to ask about present living situation, including who lives in the home or close proximity, daily routines, quality of friendships, financial resources, and access to medications. In the case of a child, it is imperative to identify whether the family or caregivers can provide a safe environment if the child is discharged to parents. These data are discussed later in this article.

Regardless of where the patient enters the health care system, nurses play key roles in identifying high-risk patients and strengthening protective factors. Protective factors often determine treatment, disposition, and referral. The nurse can enhance protective factors by assessing the patient and family strengths and resources, increasing access to mental health care and strengthening support systems and community resources. Unsuccessful crisis resolution that results in suicide often arises from a lack of community resources and support system. Nurses need to collaborate with mental health teams and ensure that the patient has a follow-up referral and that all attempts to maintain access to mental health care are established.

The Surgeon General's call to action to prevent suicide delineated the following protective factors associated with the prevention of suicide [17]:

- Accurate diagnoses and appropriate mental health care
- Timely access to mental health care and preventive interventions
- Lack of access to lethal weapons
- Quality and available support systems (ie, family, friends, caregivers)
- Therapeutic nurse-patient or other provider relationship
- Competent problem-solving, conflict-resolution, and assertive communication skills

- Cultural and religious beliefs that discourage suicide and support self-preservation

An important study concerning protective factors in the community was conducted by Motto and Bostrom [18], who developed a 2-year systematic program of frequent contact with high-risk patients and patients who refused to remain in the health care system. Findings from this study indicated that intensive and regular contact with high-risk suicidal patients had a significant preventive influence for this period. It also showed that infrequent visits and discontinuation of contact are more likely to increase the risk of suicide. Implications from these data suggest that high-risk patients, especially patients who are an imminent threat to themselves, may benefit from the protective factors. Specific protective factors in this study involved frequent community contact from mental health staff [18].

High-risk groups

Although high-risk factors and groups have been mentioned previously, this section focuses on specific age-related risk factors and associated treatment issues. By understanding the impact of developmental factors on coping skills and decisions to commit suicide or live, nurses can develop holistic assessment skills and interventions that facilitate adaptive coping behaviors and reduce the risk of suicide.

Older adults

The distribution of psychiatric illnesses in suicide varies across the life span. Most data indicate that the risk of suicide increases with age in individuals with major affective disorders [19,20]. Depressed older white men are at particularly high risk for suicide, especially men who are divorced or widowed [9–12]. All older adults must be assessed for suicide and depression because the literature indicates that most saw a health care professional shortly before their demise, and an opportunity to intervene was missed [14,21–23].

Developmental issues

Growing old is difficult when one lives in a society or culture that fails to revere the aging process. It is even more challenging when one experiences significant age-related losses, including physical stamina, health, significant others, friends, and a sense of belonging. One's ability to cope with these development issues arises from previous developmental tasks and present coping skills. Nurses working with older adults must show respect and assess individual needs and preferences. Normally, when older adults resort to suicide or believe this is the only option, they are in tremendous emotional and sometimes physical pain. It is imperative to assess for pain and

initiate nursing interventions that provide relief and improve functional status and quality of life.

Treatment issues

Suicidal behavior is more fatal in older adults than among their younger counterparts, and its management must be primarily prevention. The significance of this premise lies in its assumption that older adults have higher rates of completed suicide than at any other point during the life span. Major risk factors in this age group include acute and chronic illnesses with potentially debilitating courses, social isolation, less resilience, and a greater tenacity to die. Older adults tend to give fewer clues or warnings to others of their suicidal plans and generally use more violent means than younger age groups to commit suicide [14,19,20]. High-risk older adults enter the health care system with somatic or physical complaints that often mask symptoms of major depressive illness and other mental disorders.

Characteristically, older adults at risk of suicide because of major depression have primarily physical or somatic complaints. Depression has been linked with disability and decline in functional status among older adults. When an underlying medical condition is ruled out with appropriate diagnostic studies, including a chemistry profile, complete blood count with differential, folate and vitamin B₁₂ levels, thyroid panel, urinalysis, vital signs, and electrocardiogram, there should be a high suspicion of depression.

Further evaluation and mental status assessment often reveal a history of a recent stressful event or loss, such as recent diagnosis of a serious illness in a family member, a significant loss, and other psychosocial stressors. It is imperative for the nurse to ask if the patient has suicidal thoughts, a plan, and the means and to ask about family history of suicide and previous attempts. Changes in sleeping, eating, and concentrating patterns; functional status; quality of social support; and energy levels along with a sense of apathy and hopelessness strongly suggest a major depressive episode [24]. Specific symptoms of major depressive disorder are as follows:

- A 2-week history of a sad, irritable, or depressed mood (children and adolescents may exhibit an irritable mood rather than sad or depressed mood), inconsistent with the patient's normal mood, and a loss in interest in things that were once pleasurable and at least five of the following symptoms:
 - Sleep, appetite, weight, energy, and concentration disturbances
 - Decreased libido
 - Psychomotor agitation or retardation
 - Self-deprecating thoughts
 - Social isolation
 - Recurrent thoughts of death or suicide [24]

Throughout the assessment and treatment course, the patient's risk of danger to self and others must be assessed, documented, and discussed with

the patient and significant others. History of previous suicide, mental illness, family suicide, recent significant losses, and a sense of hopelessness are high risk factors for older adults. Additional screening tests include the Mini-Mental Status Examination (helps screen for cognitive changes), Geriatric Depression Scale, and questions about social roles and satisfaction with current relationships.

Major depressive illness is a treatable illness in any age group, and the nurse must discuss observations and findings with the patient and caregiver or significant other and treatment options. Treatment options for major depression and related suicide risk include crisis intervention, pharmacologic interventions with an antidepressant, and referrals for community support groups or other forms of psychotherapy. Because of cultural issues arising from generational or age-related perceptions of mental health, nurses have a great opportunity to educate older patients about depressive illness and the risk of suicide. Health education must include information about depression and that it is a treatable condition and strengthening support systems and self-worth. Pharmacologic (ie, antidepressant medication) and other psychotherapeutic interventions that provide relief, facilitate adaptive coping skills, and improve functional status and quality of life must be presented.

When dosing pharmacologic interventions, there is a high risk of adverse drug reactions in older adults, particularly when polypharmacy is present. Recommendations for antidepressant medication for older adults normally begin at a low dose with gradual titration. New-generation antidepressants, such as selective serotonin reuptake inhibitors, are more likely to be used because they produce fewer adverse side effects than older tricyclic antidepressant agents. Nurses need to observe for adverse side effects, including increased energy, which may be associated with a higher risk of acting on suicidal ideations. Psychotherapeutic interventions may include psychotherapy and community senior citizen groups that combine pharmacotherapy, supportive psychotherapy, family health education groups and respite care when indicated [19,20].

Treatment outcomes often parallel community resources and the coordination of services. Nurses in various practice settings must coordinate community services and referrals of older adults to facilitate successful resolution of crisis situations (major depressive episode) and reduce the risk of suicide. This is of particular importance in older adults who are poor, lack community resources, and come from various cultural backgrounds. Nurses must collaborate with the patient, caregivers, various health care providers, and community agencies and identify holistic needs of older adults at risk of suicide and implement culturally sensitive and individualized mental health care [19,20]. Hospitalization generally is limited to an individual at high risk of suicide based on clinical presentation, quality of support systems, and mental and physical stability and functional status. Family members opting to care for their loved one at home or in the community require tremendous

support from nurses and other members of the mental health team. Services from various home-based and community mental health teams may include daily crisis intervention and ongoing assessment of treatment responses (ie, adverse drug reactions). A no-harm contract is often necessary when the patient expresses suicidal ideations and a plan.

The no-suicide or no-harm contract commonly is used in nursing as a negotiation process [25,26]; however, there is a paucity of empirical data that suggests that this negotiation process between the nurse and the patient prevents suicide [26]. No-harm or no-suicide contracts may be considered during the acute period as a way to discuss suicide and conditions to call or seek follow-up mental health care. Even when no-harm contracts are used, in either inpatient or community-based settings, the basis of an effective nurse-patient agreement involves a therapeutic relationship and trust. This relationship engenders trust and enables the nurse to assess further the patient's level of lethality, while conveying concern and seriousness about suicidal thoughts and intent.

Documentation of this agreement and other important data, such as assessment data, treatment, and the decision-making process that guides the disposition and referral process, is a crucial aspect of nursing care. Although no-harm or no-suicide contracts are not binding, they are an integral part of treatment planning involving suicide. Documentation also includes discussion with caregivers and significant others concerning issues such as removal of weapons from the home and options if the patient has recurrent suicidal thoughts. Ordinarily the list includes designated mental health providers, family members, or significant others; a 24-hour crisis hotline; and other community resources, including the local emergency department.

Circumstances that indicate the need for acute psychiatric hospitalization include the imminent act of suicide, severe psychiatric or medical conditions, or an unwillingness to agree to a no-suicide agreement. Primary goals of acute psychiatric hospitalization include safety, stabilization of psychiatric or medical symptoms, and close monitoring of the patient's response to treatment planning.

Youth

Suicide is a significant health problem among youth in society [10,24]. Researchers speculate that numerous, multifaceted factors contribute to the risk of suicide in children and adolescents. Childhood and adolescence are vulnerable developmental periods and often overtax coping skills and increase the risk of suicide and other maladaptive behaviors. Vulnerabilities during this developmental period also arise from immature coping skills and ego functioning that interfere with youths' ability to use important cognitive processes and adaptive responses. Data from a study in 1994 revealed that 322 prepubertal children, age 5 to 14, committed suicide [27]. This prevalence represents the lowest age-specific rate. The prevalence of suicide

among adolescents accounts for about 15% of all suicides, with an increasing rate among African-American boys age 15 to 19 [1,9]. According to epidemiologic data, more adolescents died from suicide in 1997 than from cancer, heart disease, birth defects, AIDS, and other serious medical conditions combined [1,9,28]. Similar to other age groups, the most likely form of suicide among children and adolescents is firearms or guns. Mostly adolescents and young adults age 15 to 24 used firearms [27]. Adolescent white boys have the highest risk of suicide [24]. The risk grew rapidly, however, among African-American boys from 1980 to 1995 [29,30]. Suicide affects all groups. From 1979 to 1992, rates among Native Americans were 1.5 times the national rates [1,31]. Additional risk factors associated with adolescent suicide include being homosexual [32,39]; comorbid psychiatric conditions, such as conduct disorder and substance-related disorders; and stressful life events, including family turmoil [9,28,29,31,33].

The results of several psychological autopsy studies of adolescents indicate additional risk factors. One study [15] of 120 victims less than 20 years old and 147 community age-matched, gender-matched, and ethnic-matched control subjects revealed that suicide most likely followed a stressful event, such as a disciplinary crisis, disappointment, or rejection, and that the victim exhibited intense emotional states—*anxiety, anger, hopelessness, and depression*—before the suicide. Although a plethora of risk factors is associated with suicide, these factors have limited capacity for predicting completed suicide. Specific factors associated with adolescent suicide include the following [4,34]:

- Psychiatric disorder, especially when a comorbid mood disorder exists
- Impulsive and aggressive behavior
- Family history or friend or schoolmate history
- Substance-related disorders
- Alterations in biochemistry (ie, abnormalities in serotonergic systems)
- Previous suicide attempts
- Mood disorder
- Family history of aggression and violence
- Social isolation
- Interpersonal loss, especially boys

Recognition of the high incidence and risk factors associated with suicide among children and adolescents is the first step in early identification of these acts. Psychiatric nurses are in crucial positions that enable them to identify risk factors among children and adolescents and implement family-focused interventions that identify high-risk behaviors, prevent self-harm, foster effective parenting skills, and facilitate adaptive coping behaviors.

Developmental issues

Of particular importance for nurses working with suicidal children is understanding the child's cognitive maturity and concept of suicide.

According to developmental theorists [27,35], prepubertal children have predominantly concrete operational levels of cognitive maturity, which indicates that child appraise situations dichotomously (ie, they lack the ability to abstract). Their cognitive processes concerning cause and effect are immature. Immature cognitive processes interfere with the ability to determine the degree of lethality or results of suicidal or self-destructive acts. More importantly, children in this age group lack the ability to conceptualize or understand the finality of death or its devastating effects on loved ones [27]. For these reasons, researchers working with prepubertal children believe that because of the inability to understand or conceptualize the finality of death, prepubertal children are more likely to report more suicidal ideations or suicide attempts than older children. In addition, children in this age group have poorer or inadequate coping skills than older children and tend to perceive suicide attempts or suicidal ideations as a means of coping with stressful situations [27,32,36]. Most researchers agree that the concept of suicide progresses with age and that by age 10, most children understand the concept of suicide [27,32,36].

Another developmental factor that contributes to the high risk of suicide among children and adolescents is immature ego functioning. Immature ego functioning is associated with low self-esteem, impulsivity, low tolerance to stress and frustration, and feelings of sadness. These behaviors also are found in adults, such as adults with a borderline personality disorder. Because of the child's immature cognitive processes and ego functioning, the child's inability to control his or her impulses, arising from overwhelming emotional pain stemming from abuse or family turmoil or chaos, increases the risk of suicide.

Adolescence marks a period that involves dramatic biologic, cognitive, social, and emotional changes. Hormonal changes, the need for acceptance among peers, and moving from adolescence to early adulthood are major developmental challenges that require effective coping skills. Because adolescents have more cognitive maturity and ego functioning than younger children, their ability to mobilize healthier coping skills is greater. Adolescents' coping and problem-solving abilities arise from previous developmental crisis resolution.

Risk factors associated with adolescent suicides were listed earlier. Implications for nurses working with suicidal children or adolescents include assessing the child's developmental stage, meaning of present stressors, and youth's perception of suicide. Normally, suicidal behaviors in children and adolescents reflect the youth's efforts to cope and manage painful feelings or unbearable thoughts. Several studies indicate that adolescents at risk of suicide experience cognitive distortions, similar to those in depressed adults. Cognitive distortions that are likely to result in high-risk behaviors include a sense of worthlessness, hopelessness, low self-esteem, and negative self-talk. Cognitive distortions are likely to respond positively to cognitive behavior therapy, which is discussed later.

Assessment and treatment issues

Typically, children and adolescents seek mental health services with caregivers or family members, school nurses, or counselors who deem them to be at high risk for suicide or other self-injurious behavior. Initially the nurse must establish trust and inform the youth of the parameters of confidentiality, including situations in which this will not occur (ie, youth expresses suicidal or homicidal ideations). Effective treatment planning depends on the severity of the youth's symptoms and imminence of violence toward self or others. Additional factors that guide treatment include the extensiveness of data collection, including history of symptoms, past treatment or attempts, functional status, developmental stage, and available screening tools.

Normally, children and adolescents first are seen alone, their parents are seen alone, then the family is assessed. During the assessment with the child, the nurse is likely to gather data about the child's mood, sleeping patterns, and thoughts of suicide or death. It is crucial for the nurse to convey the seriousness of suicidal thoughts and gestures and assess the youth's perception about death and its finality. The assessment with the parents or caregivers often reveals data concerning the child's social and academic performance, friends, and family stress. The family assessment enables the nurse to gather information about family dynamics. The nurse must focus on the family rather than the child (see the article Parsons elsewhere in this issue).

In addition to gathering of pertinent information concerning history, symptoms, recent stressors, and past attempts [25], nurses must work with the youth, family or caregivers, schools, and communities and develop individualized and culturally sensitive treatment planning. The decision to hospitalize a child or adolescent at risk of suicide is often influenced by the family's ability to provide safety, family stability, and available resources and insurance benefits. High-risk indicators for acute psychiatric hospitalization include a past history of attempt and family history factors. Most adolescents are referred to outpatient community-based mental health care rather than acute psychiatric treatment settings. Outpatient mental health services often include family crisis therapy, crisis intervention, intensive case management (ie, assertive community treatment), or mobile crisis team. This process involves a mental health team that keeps close tabs on the youth via telephone, home visits, and daily crisis interventions. Nurses play crucial roles in the success of inpatient and community-based mental health services by administering medications, psychotherapies, and crisis intervention coordinating services and providing support to the patient and family and psychoeducation.

Treatment planning of the adolescent or child at risk of suicide includes pharmacologic and psychotherapeutic interventions that provide a holistic and culturally sensitive approach. Pharmacologic interventions, such as medications, are used to treatment mental disorders and behaviors that are associated with the suicidal behavior. Interventions that minimize suicidal

behaviors include asking the family or caregivers to remove dangerous objects or weapons from the house, reporting recurrent or imminent suicidal thoughts and gestures, and working with the family and school to develop strategies for improving the youth's coping skills and reducing suicidal behaviors. Other psychotherapeutic interventions include psychotherapy, using a cognitive behavioral therapy approach.

Cognitive behavioral therapy involves intensive social skills training, anxiety and mood management, and assertive communication skills. Another cognitive behavioral therapy approach used to address parasuicide is dialectical behavioral therapy [37]. Dialectical behavioral therapy integrates weekly sessions of individual and group psychotherapies over a 12-month period, whose focus is analysis of maladaptive behavioral patterns and educating the patient about adaptive coping behaviors, interpersonal skills, and problem-solving skills. This model conceptualizes suicide as a maladaptive attempt to modulate feelings or escape and evade painful and negative emotional states. Other authors [34] have shortened the Linehan model [37] to address the needs of adolescents in an inner-city community clinic. This modified version, referred to as *dialectical behavior therapy for adolescents*, includes parents in skills training with the goal of coaching their teens and includes parents and other significant others in individual psychotherapy sessions. Predictably, studies show the benefits of dialectical behavioral therapy in reducing suicidal behavior and hospitalization and enhanced treatment adherence [34,37,38]. An in-depth discussion of dialectical behavioral therapy can be found in another article in this issue by Antai-Otong, entitled "Borderline personality disorder."

Summary

Although the daily hassles of living are challenging and stressful to most people, suicide is a cry for help that often reflects tremendous emotional pain and distress. When one's normal adaptive coping skills or developmental capacities fail to manage these situations effectively, some youth and adults resort to suicide as a means of managing intense overwhelming negative emotional states. This article has discussed suicide among older adults and children and adolescents. The role of the nurse in recognizing high-risk groups, analyzing assessment data, and implementing treatment interventions that integrate holistic concepts and reflect cultural sensitivity has been described.

The ultimate goal of nurses working with the suicidal patient is prevention. Prevention of suicide requires an understanding of the emotional pain that precludes this act. Through preventive measures, the nurse has the opportunity to establish a therapeutic relationship that enhances adaptive coping skills, restores homeostasis of biologic process, and facilitates an optimal level of functioning in all age groups.

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