Violent Behavior in Children and Youth: Preventive Intervention From a Psychiatric Perspective

GROUP FOR THE ADVANCEMENT OF PSYCHIATRY, COMMITTEE ON PREVENTIVE PSYCHIATRY

ABSTRACT

Objective: To outline causative factors for the epidemic of violence among children and youth in North America and suggest roles for child and adolescent psychiatry in preventive intervention. **Method:** The committee used literature searches to identify biological, psychological, and sociocultural factors associated with violent behavior. **Results:** Children and youth are both victims and perpetrators of violence. Risk factors include socioeconomic status, difficult temperament, chronic illness, psychiatric comorbidity, and parental psychopathology. Access to firearms in a culture of violence presents a particularly serious risk. Protective factors include intact family structures, prosocial peer groups, and supportive communities. Preventive interventions include the following: *universal*, addressed to total population groups; *selective*, for at-risk populations; and *indicated*, for children and youth developing violent behavior. Universal interventions including gun control and improved perinatal care are helpful, and selective interventions such as gun-free zones around schools may be successful. Indicated programs such as gun confiscation and conflict resolution for youth at serious risk may be useful, but only when embedded within well-funded, clinically based, and community-focused programs. Single-emphasis programs such as "Boot Camps" have intuitive appeal, but their utility is doubtful. **Conclusions:** Violent behavior can be prevented, and child and adolescent psychiatrists must be more active in community preventive interventions. *J. Am. Acad. Child Adolesc. Psychiatry,* 1999, 38(3):235–241. **Key Words:** violence, conduct disorders, risk factors, protective factors, preventive interventions.

There is general concern with juvenile violence in America. The magnitude of the problem, along with the increasingly severe nature of violence in youth (Centers for Disease Control and Prevention [CDC], 1994, 1995), overwhelms traditional treatment resources (Elliott, 1994). Direct treatment efforts reach relatively few children and their families, are labor-intensive, and have been only moderately successful (Offord and Bennett, 1994). Preventive maneuvers and practices influencing broad social policies for neighborhoods, families, and children offer the best chance for reducing the incidence of violent conduct disorders and promoting healthy growth and development. Because violence and related psychopathology are slow in developing and present multiple psychiatric markers, child mental health practitioners are in a unique position to identify these problems and intervene early. Preventive interventions aim to reduce the number of risk factors and to increase the number of protective factors for the child, the parent–child environment, and the wider environment. In a tripartite model of the role of prevention in the mental health intervention spectrum (Fig. 1; Institute of Medicine, 1994), universal measures impact total population groups, selective measures are designed for at-risk populations, and indicated measures target children and families with problems leading to manifest disruptive disorders associated with violent behavior. We consider a range of risk and protective factors that might modify violent behavior based on the available evidence, and we conclude with a call for action by community child and adolescent psychiatrists.

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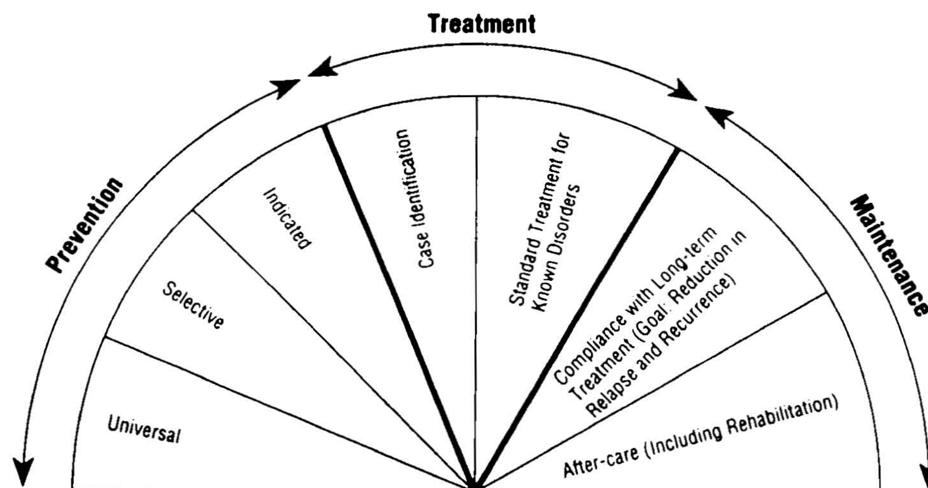

Fig. 1 The mental health intervention spectrum for mental disorders. Reprinted with permission from *Reducing Risks for Mental Disorders: Frontiers for Preventive Intervention Research*. Copyright 1994 by the National Academy of Sciences. Courtesy of the National Academy Press, Washington, DC.

METHOD

The committee conducted computerized searches of *Medline* and *Paperchase* databases through 1997. It defined violence as a sequence of aggressive actions with the child or adolescent as the direct perpetrator or victim. The following keywords were used: infants, children, adolescent, homicide/murder, violence, and killing. Reports were also obtained from Federal Bureau of Investigation (FBI) Uniform Crime Reports, the CDC, the National Center for Injury Prevention and Control, the Bureau of Justice Statistics, the Pacific Center for Violence Prevention, selected RAND publications, and the Institute of Medicine Report on Reducing Risks for Mental Disorders (1994). The committee selected articles and reports deemed most relevant to the topic.

SCOPE AND MAGNITUDE OF THE PROBLEM

In 1994, the FBI Uniform Crime Reports indicated that overall violent crimes rose 1% from 1993 to 1994. Juvenile arrests under age 18 increased by 3%, while adult arrests showed virtually no change. Arrests of persons younger than 18 years of age for murder and nonnegligent manslaughter totaled 2,982—an increase of almost 75% over the 1985 total (FBI, 1994). Likewise, the violent crime index for juveniles increased by 68% between 1988 and 1992 (Snyder and Sickmund, 1995). The U.S. Department of Justice has recently noted a decrease (9.2% in 1996), but even so adolescent homicide rates remain at historically high levels (J.A. Mercy, personal communication, 1997) and could increase with the anticipated 15% increase in the number of adolescents by 2000 (Fox, 1995).

The problem is widespread across the country. As detailed by Richters and Martinez (1993), the 1980s witnessed an extraordinary increase in home and community violence across the United States. Osofsky (1995) surveyed the parents of schoolchildren in a New Orleans housing development; more than 90% of children and youth had witnessed violence (shooting, stabbing, rape, etc.), and more than 50% had been victims of violence. Bell and Jenkins (1993) reported that community violence and its effects were widespread among African-American children on Chicago's southside, leading to feelings of victimization, growing uneasiness, and increased aggression among the children and a strong belief that the black community itself was being threatened. Child and adolescent violence is not limited to blighted urban neighborhoods; it extends into suburbia as well (Pitts and Steiner, 1994). Kachur et al. (1996) conducted a nationwide survey of violent deaths in schools in the United States during 1992; they tallied 105 deaths occurring in communities of all sizes across 25 states. Homicide was the predominant cause of death (81%), and a firearm was usually involved (77%).

The literature review demonstrated a number of patterns based on age, gender, and race. Jason et al. (1983) reviewed FBI Uniform Crime Reports of child homicide age data and found 2 clusters: children aged 3 and younger who were victims of intrafamilial violence and youths aged 12 and older who were victims of extrafamilial violence. A CDC report (1994) found that for 1978 through 1987, the annual homicide rates for young African-American males were 4 to 5 times that of young African-American females, 5 to 8 times that of young

white males, and 16 to 22 times that of young white females. These data have led to conclusions that violence is particularly an African-American problem; however, there is good evidence that the relationship between violence and race is confounded by the strong relationship between minority race and poverty (Snyder and Sickmund, 1995). Minority overrepresentation for all types of crime has become progressively more marked over the past 2 decades (Fagan et al., 1987). From 1980 to 1990, the arrest rate for white males aged 15 to 24 hovered at 12 to 13 per 100,000, while the rate for African-American males in the same age range increased by a factor of 10 (Bazemore and McKean, 1993).

Urban/rural and cultural factors have an effect on violence patterns. From 1993 to 1994, the U.S. crime rate rose 1% in the nation's cities, rose 2% in suburban counties, and was unchanged in rural counties (FBI, 1994). Population density is correlated with the rates of homicide, rape, aggravated assault, and robbery. However, variation between a given city's neighborhoods may be quite marked. In Washington, DC, for instance, a few census tracts accounted for a large proportion of its homicides. Gang membership and culture may also lead to more violent behavior. Ordog et al. (1993), studying rival Los Angeles gangs, found that 50% of gunshot victims were African-American and 50% were Hispanic. Seventy percent of all gunshot wounds were the result of drive-by shootings. Lyon et al. (1992) studied a group of incarcerated white and Latino youth and found higher rates of criminal behavior among gang members than non–gang members.

The epidemic of youth homicide victims appears to be a distinctly American phenomenon. Fingerhut and Kleinman (1990) compared the homicide victim rates of young males (15–20 years old) in 22 developed countries during the period 1986 through 1987. The U.S. had an overall rate of 21.9 per 100,000. The next highest rate—that of Scotland—was far behind at 5.0 per 100,000. If the U.S. rate could be reduced to that of Scotland, more than 3,000 lives would be saved annually.

Cost of Violence

The most tragic cost of violence is life itself, but the monetary costs are an additional burden on the nation. The annual fiscal cost for medical treatment of injuries caused by firearms is approximately $4 billion, while the medical cost for domestic violence is approximately $44 million annually (Mandel et al., 1993). The relative cost for children and adolescents represents a significant percentage of this total. The National Association of Children's Hospitals and Related Institutions reported that in 1991 the average bill for a child wounded by firearms was $14,434. The total cost of both property and violent crime in America was estimated by *Business Week* to be at least $425 billion (Mandel et al., 1993). Indirect costs, including property loss, urban decay, medical care, private protection, and criminal justice, were $255 billion more.

RISK AND PROTECTIVE FACTORS

The complex problem of youth violence and its origins must be approached from an epidemiological perspective, considering both risk and protective factors. This model stands in strong contrast to the single-event hypotheses often used by clinicians. Risk factors for violent behavior include the following: the presence of violence in the home or neighborhood, alcohol abuse, involvement in the drug trade, gun possession, overt criminal activities, and association with older delinquent adolescents and/or adults.

The Effect of Guns

There is an added risk factor for U.S. youth: an unprecedented access to firearms. More U.S. teenagers die from gunshot wounds than from all natural causes combined. Firearm-related mortality accounts for almost half of all deaths among African-American teenagers. Firearm homicides among 15- to 19-year-olds increased from 5.8 per 100,000 in 1985 to 18.1 per 100,00 in 1993—a 212% increase (National Center for Health Statistics, 1993). In 1985, the rate of firearm homicide among African-American males aged 15 to 19 years was 37.4 per 100,000, while among whites of the same age the rate was 5.0 per 100,000. During the next 8 years, the rate of firearm homicide among white adolescents more than doubled to 12.8 per 100,000, but the rate among African-American adolescents more than tripled to 131.5 per 100,000 (Fingerhut, 1993). Guns are now used in three quarters of teenage murders, a rate 3 times higher than several years ago (Fox, 1995). Studies note the increased lethality of firearms, as well as the easy availability of firearms to youth (Ash et al., 1996). Having a gun in the home increased the likelihood of homicide threefold, and suicide fivefold (Pacific Center for Violence Prevention, 1993). The availability of guns is also a crucial factor in the discrepancy noted in suicide

rates between 2 comparable cities in the U.S. and Canada. In Seattle the rate of suicide by handguns was 5.7 times that in Vancouver. For youth aged 15 to 24, the Seattle rate was 10 times higher (Sloan et al., 1988). Guns often take on special meanings for children and youth, ranging from symbols of strength and manhood to protective agents against the fear of assault and death (Ash et al., 1996). Male joblessness, with resultant poverty and family disruption, may be a major causal factor leading to aggressive violence and gang membership, itself often associated with drug-dealing and other antisocial criminal activities (Sampson, 1987).

A culture of urban poverty, homelessness, and social disorganization produces maternal and child risk factors such as low birth weight, cognitive impairment, and child abuse/neglect, which in turn constitute risk factors for crime and violence in adolescence and young adulthood. Invariably, risk factors are additive and follow a developmental sequence. Domains of risk such as organic or temperamental difficulties, disrupted attachments, family adversity, inconsistent parenting, and problems in parent–child relationships predict the early onset of disruptive behavior disorders (American Academy of Child and Adolescent Psychiatry, 1997). Child maltreatment, which includes frank physical abuse, sexual abuse, neglect, and emotional abuse, is an important risk event among youths who have committed murder (Garbarino, 1995). Lewis (1992) evaluated the relationship between child maltreatment and violent behavior. Nearly all violent adults appear to have been violent as juveniles, and she identified "intrinsically vulnerable children" with cognitive, psychiatric, or neurological impairments. Such neuropsychiatrically impaired children, by virtue of their hyperactivity and impulsivity, were more likely to receive abuse from adults in their family settings. However, the relative contribution of childhood trauma is difficult to gauge, since many children who are abused in childhood do not commit murder or other violent acts.

Protective factors to reduce the chance that a child will develop conduct disorder include good intelligence; easy disposition; an ability to get along well with parents, siblings, teachers, and peers; an ability to do well in school; having friends; being competent in nonschool skill areas; and having a good relationship with at least one parent and/or other significant adults. A positive, warm bond between parent and child early in life may lead to more prosocial behavior. The support of other significant adults in the community, prosocial peer groups, and good schools fostering academic success, responsibility, and self-discipline are associated with diminished risk for conduct disorder (Rae-Grant et al., 1989).

Extrapolating from these findings to more violent environments, the presence of such prosocial persons or environments may be crucial. However, such protective factors may not be sufficient to offset the effects of hostile models and pervasively violent environments. More extensive coordination of these protective factors may require evolution into full preventive programs (Institute of Medicine, 1994). The development of such programs should also take into account that we have insufficient data to decide how protective factors operate in contradistinction to risk factors and whether they exact their influence cumulatively, additively, or in isolation (American Academy of Child and Adolescent Psychiatry, 1997). Understanding the causal chains involving risk and protective factors for conduct disorder and violence, as well as the extraordinary resilience shown by some individual children and adolescents in violent environments, raises fascinating and complex questions which require much more study.

PREVENTIVE INTERVENTIONS

Of all the problems in child and adolescent psychiatry, violent behavior is the one most suited to prevention: it develops slowly, with risk factors gradually accumulating over many years before overt violent behavior emerges. This pattern presents clinicians with multiple opportunities to intervene. There are 2 recent extensive reviews of this topic (American Academy of Child and Adolescent Psychiatry, 1997; Institute of Medicine, 1994). The following examples are grouped according to scope (universal, selective, indicated) for the purpose of clarity, but these boundaries are somewhat artificial. For example, some programs instituted for selected at-risk populations demonstrate such success that they are subsequently implemented for entire populations.

Universal preventive measures target entire populations. Many such measures (e.g., gun control) involve the promulgation of far-reaching policies and procedures, which in turn require legislative authorization and funding. Here, political support is essential. Truly universal interventions involving total populations of children (such as seatbelt laws) are uncommon, but several current initiatives appear to have positive implications for the prevention of youth violence. These include widespread programs to enhance prenatal care, mater-

nal/infant care and nutrition, and family management for preschool children and parents. In an interesting national intervention campaign in Norway, Olweus (1991) found that a school program against aggressive behavior and bullying resulted in less bullying, less delinquency, and more attachment to school. This universal intervention shows how a particular problem can be targeted with positive results. Sometimes selective programs can approach universality. The School Development Program started by Dr. James Comer, a child psychiatrist, in the late 1960s has now spread to more than 500 schools nationwide. This program involves parents, teachers, and administrators in child development–centered social and educational programs. Follow-up studies have shown marked academic achievement, with decreases in dropout rates, serious behavior problems, and teacher turnover (Comer et al., 1996).

Selective preventive measures target identified at-risk populations. A number of examples involving various age groups are given. A prenatal/early infancy project for mothers with economic deprivation, poor prenatal health, self-damaging behaviors, and poor family management gave rise to improved maternal diet, reduced smoking during pregnancy, fewer preterm deliveries, higher birth weight babies, and less subsequent child abuse (Olds et al., 1988). In randomized, controlled, prospective outcome studies in the preschool range, positive effects were shown for the children of families with multiple risk factors. Relevant outcomes included academic success, behavioral problems, parenting skills, family management problems, and arrest rates. Some of these effects were only apparent after several years of follow-up. The Houston Parent–Child Development Center Program (Johnson, 1990) for preschool children suffering economic deprivation, academic failure, early behavior problems, and poor family management practices led to fewer behavioral problems and better family management practices. The Perry Pre-School Program (Weikart et al., 1986) showed similar long-term results, including fewer behavioral problems and subsequent arrests. Such programs, including the Head Start program, may therefore help to prevent delinquency (Zigler, 1993).

For grade school children, interpersonal cognitive problem-solving programs gave rise to better problem-solving skills and fewer behavior problems in children with economic deprivation, poor impulse control, and early behavioral problems. A Baltimore program encompassing more than 2,300 children included community preventive intervention, mastery learning, and the "Good Behavior Game" (Kellam and Rebok, 1992). Risk factors addressed included academic failure, aggressive behavior, poor concentration, shyness, and depressive symptoms, and effects of the intervention included a drop in both aggressive and shy behavior as well as better cognitive competence. In Seattle, a social development program for a similar group gave rise to comparable results (Hawkins et al. 1992). Such selective prevention programs provide an excellent basis for prosocial development and may serve as protective factors against later violence in youth.

There have been a reasonable number of selective interventions for children at risk for conduct disorders (American Academy of Child and Adolescent Psychiatry, 1997). Individual programs such as school-based conflict resolution training programs (Ash et al., 1996), gun-free zones around schools, evening curfews, weekend and evening recreation programs, summer camps, job and training programs for youth at risk, and community policing for young people at risk have all been tried, with some positive results. For adolescents, the Positive Youth Development Program (Caplan et al., 1992) addressed early onset of drug use, favorable attitudes toward drugs, and environmental risks. The outcomes were better coping skills, better conflict resolution and impulse control, and less alcohol abuse. The similar but larger Alcohol Education Project (Hansen and Graham, 1991), targeting adolescents with favorable attitudes toward alcohol abuse, found that fewer teenagers wanted to use alcohol and participants had increased knowledge of alcohol risks after the intervention. However, other selective interventions have variable effects. Gun buy-back programs (Mendel, 1995) indicate that an increase in the number of guns obtained is not paralleled by a decrease in crime. On the other hand, programs reducing the passage of firearms across state lines appear to have been effective (Weil and Knox, 1996). A further weakness in these programs is that although they appear to work in the short term, the gains often erode quickly if the programs are not embedded in the total social structure (Kann et al., 1993).

Indicated preventive programs for young persons at imminent risk for violent behavior have been a focus of mental health professionals—including child and adolescent psychiatrists—for many years. Individual interventions including psychotherapy have not been shown to be effective when used in isolation, but there is a sub-

stantial database supporting the effectiveness of broad family- and parent-based psychotherapeutic interventions in the grade school years to reduce violence and related psychopathology (Patterson and Narrett, 1990). The alarming rise in crime, with its cost implications, has also given rise to considerable enthusiasm (especially among some politicians) for more draconian approaches. The long-term success of single-event intrusive programs such as "Boot Camps" has not been demonstrated (Henggeler and Schoenwald, 1994). However, some multisystemic diversion programs aiming to deal with chronic offender youths before they become adjudicated delinquents have shown promising results (Borduin, 1999). The recent "Boston miracle" in which no teenager had been killed by gunfire in nearly 2 years (U.S. Department of Justice, 1996) illustrated vividly how a total, well-funded, community approach can be effective. Deterrent actions included arrests of gang members, apprehension of gun dealers, and identification of youths violating parole. Supportive interventions included the provision of more than 100 part-time teenage counselors, the development of a basketball league limited to gang members, and the coordination of city-funded community centers and local churches. All of this cost a lot of money—$20 million from juvenile justice initiative funds—but the money was well spent. Moreover, the ultimate outcome may be cheaper in the long run. The Rand Corporation (Greenwood et al., 1996) reported that programs concentrating on crime prevention among young people were more cost-effective in reducing serious crime than mandatory sentences for adult repeat offenders. In contrast, the investment in prisons stimulated by "Three Strikes" laws has diverted significant sums from preventive programs.

CLINICAL IMPLICATIONS AND A CALL FOR ACTION

To be effective in dealing with the problem of violence and related psychopathology, a paradigm shift is required. Because exclusive individual clinical interventions for violent conduct disorders do not work, the child and adolescent psychiatrist must seek opportunities to be a leader or team member in well-organized and well-funded community prevention efforts. Such efforts may be used on an early intervention basis or in indicated programs against violent behavior (as in the Boston program). As the data presented in this article suggest, it is possible for us to be extremely effective. This change in clinical identity from individual to community child and adolescent psychiatrists may be difficult, but it is both important and exciting. In addition, it is necessary for us to be involved in further research efforts to understand and treat violent behavior in children and adolescents. Our training programs therefore need to focus more on this evolution of the community child and adolescent psychiatrist from an individual therapist into a member of an active community team, taking a full part in needed clinical and research activities.

The recent decline in youth crime and arrest rates is real and significant, but it does not take into account incarceration effects and may not be reflective of any success from current programs. To extend this decline, further research investment is needed to help us better understand this problem, along with scientifically based clinical prevention programs offering real hope for communities across the country who are committed to preventing violence.

The clinical and research rewards of this endeavor are exciting, and the needs of the children and adolescents at risk for and from violent behavior are extreme. It is time for us to take back the role from which we originally developed in the earliest days of child and adolescent psychiatry.

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