

RESEARCH REVIEW



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NONFATAL FIREARM VIOLENCE: THREATS AND INJURIES IN FAMILIES

Nonfatal firearm injuries, both intentional and unintentional, account for many more emergency department cases than fatalities. During 2009-2017, there were approximately 2.5 times the number of emergency department visits for nonfatal firearm injury (85,694) compared to fatalities (34,538; Kaufman et al., 2021).

There are many incidents of domestic violence (DV) in which a firearm is used in a nonlethal manner that do not reach an emergency department. These nonfatal firearm injuries or threats are common in DV (Sorenson, 2017). Of 35,413 DV incidents reported to police in a large city, 1.6% involved a gun. In such circumstances, guns were used most often (69.1%) to threaten or intimidate the victims, the gun was brandished in 42.4% of the gun-involved incidents, and in 26.7% the offender threatened to shoot the victim, but did not do so. Nonfatal firearm injuries constitute an important public health problem for DV victims. Providers need to be prepared to screen clients for firearm-related risks and take steps to prevent firearm-related accidents.

When a firearm is used in a nonlethal manner in incidents of domestic violence, this may be called a nonfatal firearm injury or threat. In incidents of DV-related nonfatal firearm injury or threat, the firearm is used to threaten or strike the victim or it can be brandished or displayed in front of a victim in an attempt to coerce them.

REFERENCES

- Kaufman, E. J., Wiebe, D. J., Xiong, R. A., Morrison, C. N., Seamon, M. J., & Delgado, M. K. (2021). Epidemiologic trends in fatal and nonfatal firearm injuries in the US, 2009-2017. *JAMA Internal Medicine*, 181(2), 237-244.
- Sorenson, S. B. (2017). Guns in intimate partner violence: Comparing incidents by type of weapon. *Journal of Women's Health (Larchmt)*, 26(3), 249-258.

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IN THIS ISSUE

We present *Research Review* (RR), a publication of the Center for the Study of Traumatic Stress (CSTS). This issue of RR consists of summaries of research on the risks of mortality and morbidity due to nonfatal firearm violence in domestic violence (DV). We emphasize the importance of a variety of screening procedures for risks due to the behavior of DV perpetrators. Screening can increase the knowledge of unsafe firearm practices and unsafe firearm storage and may prevent the escalation of violence and save lives. It is important to assess children's knowledge of firearm presence, storage location, and whether parents have counseled them about safe firearm practices.

ASSESSING RISKS FOR NONFATAL GUN VIOLENCE

Nonfatal firearm use is common in domestic violence (DV) and can have severe consequences for victim safety and well-being. It is a form of coercive control in which perpetrators attempt to injure, scare, and intimidate partners through threats of the use of firearms. Among the most common threats with a firearm are brandishing, threats to shoot the victim, striking the victim with the firearm, and threats of suicide by the perpetrator.

Remember, beyond the victim, others can be affected including children, other family members, friends, strangers, and pets.

Providers of services for DV victims can assess the victim's risk for firearm violence by inquiring about the behavior of the abuser in terms of prior firearm violence

(see Box 1) and the abuser's behavior with regard to the location and physical security (or insecurity) of the firearm (see Box 2).

SUGGESTED READING

Adhia, A., Lyons, V. H., Moe, C. A., Rowhani-Rahbar, A., & Rivara, F. P. (2021). Nonfatal use of firearms in intimate partner violence: Results of a national survey. *Preventive Medicine, 147*, 106500. doi:10.1016/j.ypmed.2021.106500

Kafka, J. M., Moracco, K. E., Williams, D. S., & Hoffman, C. G. (2021). What is the role of firearms in nonfatal intimate partner violence? Findings from civil protective order case data. *Social Science & Medicine, 283*, 114212. doi:10.1016/j.socscimed.2021.114212

BOX 1: The following are questions that providers can ask to assess the DV victim's risk for experiencing firearm violence by an abuser:

1. Does the abuser have easy access to a firearm?
2. Has the abuser ever threatened to use a firearm on the victim?
3. Has the abuser ever struck the victim with a firearm?
4. Has the abuser ever fired the weapon when angry, but not shot anyone?
5. Has the abuser ever shot at or in the vicinity of the victim?
6. Has the abuser ever shot the victim?

BOX 2: If the victim answers 'yes' to any of the questions in Box 1, the provider can ask "in further consideration of your safety, do you know":

1. Where the firearm is located?
2. Has the abuser ever attempted to hide the firearm?
3. Has the abuser locked the trigger of the firearm?
4. Has the abuser stored ammunition with the firearm?
5. Do you have a safety plan for yourself and for others?



RESEARCH REVIEW

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EXPERIENCES OF NONFATAL FIREARM VIOLENCE BY DV VICTIMS

Nonfatal firearm use in domestic violence (DV) is common and can have severe consequences for victim safety and well-being. A 2020 nationwide study of 958 adults who had experienced DV asked them to describe their experiences with nonfatal abuse by a perpetrator (Adhia, Lyons, Moe, Rowhani-Rahbar, & Rivara, 2021).

Consequences for the victim of nonfatal firearm violence included: feeling fearful, on guard/watchful/easily startled, splitting up with their partner, moving out of their home, going to a shelter, physical injury, contacting a crisis hotline, and missing days of work or school.

Another nationwide study in 2020 asked 171 victim service providers to describe their experiences with victims in which nonfatal firearm violence occurred during the COVID-19 pandemic (Lynch & Logan, 2021). The responses included information based on their knowledge of victim reports of perpetrator firearm access, firearm violence, and safety planning during the pandemic. Almost half the providers who were surveyed reported that perpetrators threatened to shoot the victim or others, such as strangers or mass shootings, and that this had

become more frequent since the start of the pandemic.

Firearm-related violence and its consequences are important topics for FAP personnel to be aware of. Even when DV incidents do not involve firearms, it is still important for FAP personnel to discuss nonfatal firearm violence with victims, as they could be involved in future incidents of escalating violence. FAP personnel can work together to provide Army-specific risk factors for the safety of potential or actual victims of nonfatal firearm-related violence.

REFERENCES

- Adhia, A., Lyons, V. H., Moe, C. A., Rowhani-Rahbar, A., & Rivara, F. P. (2021). Nonfatal use of firearms in intimate partner violence: Results of a national survey. *Preventive Medicine, 147*, 106500. doi:10.1016/j.ypmed.2021.106500
- Lynch, K. R., & Logan, T. (2021). "Always know where the gun is": Service providers perceptions of firearm access, violence, and safety planning during the COVID-19 pandemic. *Journal of Interpersonal Violence*. doi:10.1177/08862605211046270

Nonfatal firearm abuse of an intimate partner can include spoken threats, displaying a gun, or holding a partner at gunpoint. It is a form of coercive control in which perpetrators use firearms to injure, scare, and intimidate partners.

Nonfatal firearm abuse was defined as experiences in which the offender:

1. Displayed a firearm,
2. Hit the victim with the firearm,
3. Threatened to shoot the victim or a pet or someone else,
4. Shot the gun, but did not hit anyone, and
5. Shot the victim or someone else.

Service providers can take important action steps to reduce the risk of firearm-related accidents, injuries, and abuse, such as advising the victim to:

1. Seek outside help (police or 911),
2. Assess the location of the firearm and take steps to remove or disable it,
3. Have an escape plan to respond to firearm threats or violence,
4. Discuss the dangers of firearms and the risk of serious injury or death, and
5. Conduct a risk assessment for the victim's safety, and advise about the risks of firearm ownership in their families.

ASSESSING CHILDREN'S KNOWLEDGE OF FIREARM STORAGE IN HOMES

Public health campaigns to reduce firearm deaths and injuries have put forth messages encouraging screening and counseling of high-risk persons and families. Among these campaigns to enhance preventive measures are safe storage practices, gun locks, and storing ammunition away from the weapon. Other efforts have occurred in legislation including removing access to firearms from people deemed to be at high risk for harm to themselves and others.

While these efforts may reduce firearm-related fatalities, there are other means to learn about children's actions in relation to firearms in the home. A 2017 study of 297 parent-child dyads in Atlanta who presented to pediatric emergency departments evaluated parent-reported presence (or absence) of firearms in the home and firearm storage practices (Doh et al., 2021). The survey also assessed the children's perception of their access to firearms and their ability to identify a toy firearm versus a real one. Parents and children completed surveys independently. Children were between ages 7-17. Parents were largely females (79%), were less than 40 years of age and had some college education or beyond. Fifty-three percent of gun owners reported storing guns insecurely. Firearm owners were more likely than non-gun owners to believe their child could access a firearm (11%-3%). That is, 11% of gun-owning parents thought their child knew where to get their gun, and 53% of children of gun-owning parents knew where their parent's gun was stored. Importantly, 59% of children could not identify a toy gun versus a real gun in a picture. Also important, only 14% of non-gun-owning parents asked if firearms were present in homes that they visited, compared to 55% of gun-owning parents.

This study concluded that there were significant discrepancies between what parents believed their children knew and what their children perceived about guns. The authors also stated there is a disconnect between public policy recommendations on gun safety and reported risk behaviors by parents and children around firearm storage. In other words, while there are campaigns to improve the home safety with regard to the storage of guns and gun storage practices, these campaigns may have underestimated children's knowledge about firearms and firearm safety in the home.

What should FAP providers do to assess parent and child knowledge about firearms, firearm location, and firearm storage?

Screen families of child and adult maltreatment for:

1. Firearm ownership
2. Firearm location
3. Firearm storage
4. Ammunition storage
5. Whether they have discussed safe firearm handling with family members

Screen children for their knowledge of gun location and gun safety practices.

1. Is there a firearm in your house?
2. What does the firearm look like?
3. Is it real or is it a toy?
4. Where is the firearm stored?
5. Do you know how to get at it?
6. Have your parents told you not to try to get it?

FAP providers should know:

1. State and federal laws bearing on child exposure to firearms,
2. Military unit policies on gun possession and storage,
3. Family members' knowledge of family ownership and storage of firearms, and
4. Recommended educational programs for parents to teach children about firearm safety.

REFERENCE

Doh, K. F., Morris, C. R., Akbar, T., Chaudhary, S., Lazarus, S. G., Figueroa, J.,... Simon, H. K. (2021). The relationship between parents' reported storage of firearms and their children's perceived access to firearms: A safety disconnect. *Clinical Pediatrics (Phila)*, 60(1), 42-49. doi:10.1177/0009922820944398

Among these campaigns to enhance preventive measures are safe storage practices, gun locks, and storing ammunition away from the weapon.

ASSESSING WHEN THREATS WITH FIREARMS ARE FORMS OF COERCIVE CONTROL IN DOMESTIC VIOLENCE

Threats of violence are, at a minimum, psychological abuse and a form of coercive control. Coercive control is domestic violence (DV) when it is used by a partner to intimidate, degrade, isolate, and control the victim's behavior. It can include low-level physical violence, sexual coercion, stalking, and threats as well as severe violence and homicide. Coercive control can create an ongoing sense of fear and chronic stress. Threats can be explicit or implicit. Explicit threats are easily recognizable while implicit threats may depend on the context and the history of the relationship. An example of an implicit threat is "I hope nothing bad happens to you."

Coercive control can involve the use of a firearm as a means of explicit or implicit threat. Threats with a weapon may include brandishing, loading with ammunition, pointing, firing, and verbally threatening to harm or shoot. In addition to frightening a victim, a firearm can be used to strike a victim, same as in the use of any physical object such as a club. The U.S. Department of Justice reported that from 1993–1998, about 27% of DV female victims were threatened with a weapon. Threats of harm to a victim as well as to a wide variety of others, including pets and property, are serious issues for law enforcement, medical, and social service providers and may be criminal assault.

Both threats and coercive control are associated with DV homicide. A study of criminal justice and victim service professionals reported the perceived risk factors based on their experiences for potentially fatal DV-related firearm violence (Lynch, Jackson, & Logan, 2021). The perceived risk for DV-related homicide in order from highest to lowest was:

1. Abuser threatened victim with a firearm
2. Victim separated from abuser
3. Abuser has access to a firearm
4. Abuser is stalking the victim
5. Abuser's coercive controlling behavior

Coercive control can involve the use of a firearm as a means of explicit or implicit threat.

Risk assessment of DV victims should always include nonviolent coercive control as it can escalate to severe violence and homicide. Assessment may allow service providers to identify patterns of abuse and control in addition to focusing on violent incidents. It is important to inquire exactly how firearms are explicitly and implicitly used as a means of coercive control in DV and when and how this becomes violent. This is an important point of inquiry for service providers as this pattern could carry through to fatal violence. Sexual coercion should also be considered as a risk factor for DV abuse and homicide. Finally, whatever the methods of coercive control used by an abuser, its frequency and, particularly, its severity should also be assessed.

REFERENCE

Lynch, K. R., Jackson, D. B., & Logan, T. (2021). Coercive control, stalking, and guns: Modeling service professionals' perceived risk of potentially fatal intimate partner gun violence. *Journal of Interpersonal Violence, 36*(15-16), NP7997-NP8018. doi:10.1177/0886260519839419

Service providers should assess DV victims for:

1. The abuser's threat to use a gun, or
2. Nonviolent coercive control that can lead to a greater perceived threat of harm.
3. Is the victim becoming increasingly frightened by the abuser's behavior and threats?

Providers should consider referring victims for law enforcement and legal assistance when risk seems to be increasing.

RESEARCH TO ACTION: SCREENING FOR FIREARM SAFETY TO PREVENT INJURY AND DEATH

While not all firearm deaths and injuries can be prevented, providers can screen and counsel clients/patients for better firearm safety in the home. Such screening could be presented as a *Safety Checkup*, part of routine care that emphasizes a variety of injury prevention measures. For example, if the family has infants or toddlers in the household, safe sleeping and drowning prevention could also be included. The gun safety checkup can be divided into two types of screening questions: (a) for individuals and families and (b) physical gun safety measures.

These two gun safety checkup tools encourage providers to screen and counsel clients who are at risk for gun violence. This checkup promotes individual and family gun safety practices and improved gun safety practices by securing guns in the household. There are many risks that

Individual and Family Counseling Tools to Prevent Firearm Injury and Death

1. Presence of guns in the household
2. Storage and handling practices — locked/unlocked; loaded/unloaded; ammunition stored with/away from gun
3. Other risk factors — suicidal/homicidal ideation; history of violence; current or past mental health problems of occupants of the home; substance abuse

make a person and a family vulnerable to gun violence. We have listed the most common ones here. If any of these are thought to be present, the provider should consider them as red flags for more extensive screening and counseling as well as referral for clinical treatment and/or administrative action such as informing authorities when the provider believes the risk is high.

REFERENCE

Roberts, B., Masiakos, P. T., Vzcek, J., & Sathya, C. (2022). Firearm injury and mortality prevention in pediatric health-care settings. *Pediatrics in Review*, 43(4), 212-221.

Improved Gun Safety

1. **Cable locks** — blocks loading the firearm. Can be used on any gun.
2. **Trigger locks** — Locks around the trigger to prevent the gun from being fired. Uses a key or combination lock.
3. **Lock box** — Small box in which a handgun is stored. Can be opened with a key or combination lock.
4. **Gun safe** — Large safe to store multiple long and small guns.
5. **Disassembling guns** — Taking gun apart, requiring reassembly for use.
6. **Relinquishing guns** — Remove access to guns on temporary or permanent basis, voluntarily or involuntarily.

HEALTHCARE UTILIZATION AND EXPENDITURES FOR NONFATAL FIREARM INJURIES OF CHILDREN

Nonfatal firearm injuries of children add a substantial burden to the health care system in addition to sometimes tragic outcomes for the families and the children. Nonfatal firearm injuries are largely preventable. Estimates of the social and economic costs associated with nonfatal firearm injuries underestimate the total on individuals and systems of care since these estimates do not account for time lost from school, from employment, trauma recidivism, or the potential impact on future opportunities or life choices of the child or family.

A study of children treated in emergency departments and inpatient facilities during 2010–2016 calculated the numbers of encounters and costs one year prior and one year after a nonfatal firearm-related injury (Pulcini et al., 2021). A total of 1,821 children had intentional (10%), self-inflicted (1%), unintentional (55%), and undetermined (33%) firearm-related injuries. Costs of health expenditures increased by \$16.5 million, \$9,084 per patient.

For family advocacy programs and medical providers,

it is noteworthy that 10% of firearm-related injuries were intentional. However, the research did not report how many injuries were inflicted by family members or from an assault outside the family.

10% of firearm injuries to children who were seen in emergency departments were intentionally inflicted. Providers should be aware of the need for safety measures to prevent nonfatal firearm injuries as well as violent encounters.

REFERENCE

Pulcini, C. D., Goyal, M. K., Hall, M., Gruhler De Souza, H., Chaudhary, S., Alpern, E. R... Fleegler, E. W. (2021). Nonfatal firearm injuries: Utilization and expenditures for children pre- and postinjury. *Academic Emergency Medicine*, 28(8), 840-847.