

Risk factors and prevention of dog bites in children

Factores de riesgo y prevención de las mordeduras de perro en niños

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Dear Editor:

Dog bites are a concerning health problem in children and one of the leading causes of non-fatal injuries in this population ^[1]. Children are the most at-risk population regarding dog bites and dog-borne zoonoses, which may lead to injuries/illness, or even death ^[2]. Dog attacks not only cause physical injuries but can also lead to long-term psychological problems. The most common psychological consequences of dog bites in children are post-traumatic stress disorder, dog phobia, nightmares and symptoms of anxiety and avoidance behaviors ^[1]. In this article, we discuss the risk factors and prevention of dog bites in children to draw attention to the importance of dog bites in childhood.

Table 1 shows the risk factors for dog bites in children. The real burden of dog bites is considerably larger than those estimated from hospital records ^[3]. The majority of dog bite victims are children ^{[4][5][6]}. Dogs may present greater levels of stress when in the presence of children ^[2]. Therefore, high-risk dogs in families with children should be a cause for concern ^[7]. In a large series, attacks occurred in the home (82.3%), and involved a dog known to the patient (61.7%). The most common dog breed involved was Pitbull (33.1%) ^[8]. Infants were more than four times as likely to be bitten by the family dog and more than six times as likely to be bitten in the head/neck region ^[9]. Although some breeds of dogs have been identified as being more aggressive than other breeds, any dog may attack when threatened ^[10]. Severe dog bites can also be occurred while petting or playing ^[11]. No difference on the effects of selected human–canine interaction/environmental factors on bites occurring when the victim was and was not playing with the dog differed from each other ^[12].

Dog bites can be prevented by eliminating some of the risk factors listed in Table 1, such as not allowing dogs living in a home without yard space, not keeping more than one dog in a home, and not leaving young children alone in a same room with dogs. The most important risk factor for dog bites in children is allowing dogs to live in a home permanently or partially. Therefore, the most effective approach to preventing dog bites in children is to keep dogs outside the home.

From a sociocultural perspective in Islamic populations, dogs' saliva, urine, feces and other body fluids are accepted filthy (najis) and it is forbidden to keep dogs at home and to allow dogs into the home in Islamic teachings ^[13]. Dog has a high level of greed, it clings to the apparent causes with such care that it causes all its heedlessness from Allah, the real bounty giver. That's why, knowing the mediator as an influential person, it took the word filthy as a punishment for the negligence it made from Allah, the real influencer, so that it would be clean ^[14]. There are many material and spiritual benefits and wisdoms of not allowing dogs into the home. Preventing dog bites is just one of these benefits. Since it is forbidden in Islamic teachings, the vast majority of people in our region keep their dogs in their gardens and avoid living with dogs at home. Therefore, the majority of dog bites in children have occurred outside of home.



Table 1. Risk factors for dog bites in children.

Variable
Factors related to children
Early childhood (0 to 5 years)
Male (female in some studies)
Having few children in a home
Living in countryside
Factors related to dogs
Family's, relative's or neighbor's dogs
Owners of multiple dogs
Breeds of Pit Bull and Labrador Retrievers
Smaller breeds and dogs obtained for companionship
Intact dogs of both genders, especially from intact males
Dogs living in a home with no yard space
Dogs routinely allowed inside for some portion of the day
Dogs routinely allowed to sleep in a family member's bedroom
Source: [3][4][5][6][12]

In conclusion, we would like to emphasize that a large percentage of dog bite victims are children, and that the most important risk factor for dog bites in children is allowing dogs to live permanently or partially inside the home. Reducing the incidence of pediatric dog bites requires education of both children and parents that any dog can bite,

regardless of breed, and all child-dog interactions must be highly supervised. However, education alone is unlikely to prevent dog bites [15]. We believe that the frequency of dog bites in children will decrease significantly when dogs are kept outside the home.

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