Parental Perceptions, Risks, and Incidence of Pediatric Unintentional Injuries

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Contribution to Emergency Nursing Practice

- Examines parental injury perceptions so that these factors can be considered when communicating with parents about prevention
- Analyzes current ED and statewide trends and client perceptions of injury threat, the nurse may tailor information to an individual, thus making health education more relevant.

Abstract

Introduction: More than 9,000 children die annually from various causes of unintentional injury. Of all the pediatric unintentional injuries occurring in the United States, 8.7 million are treated in emergency departments, and 225,000 require hospitalization annually. Health education programs are available to address these injuries. The objective of this research was to examine the distribution of self-reported high priority injury risks in an urban Midwestern pediatric level 1 trauma center and investigate the relationship between parental perceptions and injury-prevention behaviors. Prevalence rates for 3 data sources are compared.

Methods: Missouri Information for Community Assessment (MICA) was categorized to mirror variables corresponding with risks of injury presented in the Safe 'n' Sound (SNS) program. Level 1 trauma center data were examined to determine how the variables were distributed compared with MICA data and with the parent-reported levels.

Results: A total of 429 SNS surveys were compared with ED data and MICA data. For SNS users, car crashes were identified as the highest risk, specifically due to the use of incorrect car seats. The injuries seen most often in the emergency department were falls, and falls were also the most prevalent injury captured by MICA. Controlling for demographics, parental perceptions predicted several risks for injury.

Discussion: Because parental perceptions are significantly related to risks of injury, prevention programs aiming to decrease injuries could focus on the perceptions. Not only can perceptions be used to tailor health communication materials, these perceptions can be the targets of change. Further work might investigate the extent to which changes in perceptions result in increased adoption of safety practices.

Key words: Injury prevention; Health communication; Pediatric injury; Injury risk; Parental perceptions

Introduction

Unintentional injury is the leading cause of childhood morbidity and mortality in the United States and across the globe.[1] Among injured children, 8.7 million are treated in emergency departments every year.[2] Factors associated with childhood injury include a variety of social, economic, environmental, and personal factors. The number of persons in a household; the level of maternal education; the parents' marital status; geographic location; home ownership; and a child's gender, race, and economic status are all related to rates of injury.[2] Given the substantial burden of childhood unintentional injury, it is vital to understand parents' perspectives of unintentional injury and their role in preventing injury.

Safe Kids USA surveyed parents of children below the age of 15 to identify parental concerns regarding their children's health and safety. In open-ended questions, safety and accidental injury were the third and fourth most often cited topics about which parents worry, respectively; health issues and crime were most often noted as the things parents worry about the most.[3] It is not altogether clear how parents

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conceptualize accidents as distinct from injuries or safety concerns, although parents often think of unintentional injury as unexpected or unavoidable events. Although parents often view injuries as natural aspects of childhood,[4] many parents feel responsible for creating safe environments in which their children can develop. Of course, the etiology of injuries is complex, and efforts to prevent injury should focus on multiple ecologic approaches. However, with respect to this article, if parents believe that they are capable of reducing their child's risk of injury—either by the use of safety supplies or by appropriate supervision—a child's exposure to injury risk may be lower.

Several barriers to the use of safety practices have been identified: lack of anticipation of an injury event, the perception that little can be done to prevent injuries, interrupted supervision, and limitations with adapting one's home.[5] The barrier of supervision was explored by Damashek et al[6] while examining the interaction between supervision and the perception of likelihood and severity of injury. Mothers' beliefs about appropriate supervision are influenced directly by the hazard level of the environment and the age and gender of the child, but there is also an interactive effect among these predictors. For instance, the level of hazard has a greater impact on beliefs of maternal supervision for boys than for girls.

Psychosocial theories and constructs help describe the relationship between parental perceptions and unintentional injury.[7] Optimism bias is the mistaken belief that one has less of a chance of experiencing negative events than others do.[8] Parental optimism bias[9] specifically refers to parents' beliefs about their children's vulnerability to injury. When these beliefs are low, parents may fail to take safety precautions.[8] Use of safety measures has also been associated with fatalism.[10]

Parent perception can be understood by applying the constructs of the health belief model (HBM).[11] According to the HBM, if parents believe precautions prevent injury in their children, and they judge themselves as competent, they are more likely to engage in the behavior because it will prevent negative outcomes. Further, if parents believe that their children are susceptible to injury, and that injury would be severe, the theory suggests they are more likely to take precautions.

Theories such as the transtheoretical model may also help to better inform and reshape related public health interventions. The transtheoretical model recognizes that change is a process that evolves over time through a series of stages that is often nonlinear. The model recognizes that by helping people set realistic goals and follow specific processes, they may progress to fully engaging in recommended behaviors (eg, always using car seats). Eliminating barriers to learning and implementation is important; research has shown that providing tailored messages based on parental interest and selection can be effective in reducing the perception of barriers to injury-prevention behaviors.[12] Message specificity and relevance are integral both in motivating change and in prioritizing the existing risks of injury to children.[13]

Safe 'n' Sound is a computer-based program that collects parent-reported injury risk information and generates tailored feedback for parents with children below the age of 5.[12,14,15] The program delivers tailored information related to risk factors present in the home and car for 6 different categories of injury: burns, falls, poison, airway obstruction, drowning, and motor vehicle injuries (which are commonly coupled with unintentional home injuries by the Centers for Disease Control). The program also asks parents about their attitudes and beliefs so that messages can be tailored to these constructs. For each age group, the questions are presented in decreasing order of risk; once 2 risk categories have been identified, SNS ends, and the parents receive a report offering guidance on how to prevent the 2 highest-priority injuries.

Safe 'n' Sound has been used in various settings, primarily in controlled conditions so that its efficacy could be evaluated and its implementation examined. The objective of the current research was to explore the use of SNS in a natural setting without staff supervision, intentional sampling, or technical assistance. Specifically, the purpose of this study was to determine the extent to which parents' perceptions are related to risks of injury and, further, to compare these risks of injury with incidence of injury in the same venue (the emergency department) and in the state of Missouri.

Methods

This study was a retrospective analysis using secondary data from SNS, the emergency department at SSM Cardinal Glennon Children's Medical Center, and data from the Missouri Department of Health and Senior Services and MICA. This study was approved by the Institutional Review Board of SSM Cardinal Glennon Children's Medical Center. Participation was voluntary, and parents were not identified. Logistic regression analysis was used to assess the association between parental perceptions and 6 injury behaviors.

STUDY SETTING

SSM Cardinal Glennon Children's Medical Center is a level 1 trauma center. The emergency department cares for more than 60,000 children annually, of whom nearly 70% are