Journal of Safety Research 51 (2014) 87–92

Contents lists available at ScienceDirect

Journal of Safety Research

journal homepage: www.elsevier.com/locate/jsr

Research note

Risk for household safety hazards: Socioeconomic and sociodemographic factors

Sunnye Mayes [a], Michael C. Roberts [b], Cathleen Odar Stough [b,*]

[a] Department of Pediatrics, University of Oklahoma Health Sciences Center, 1200 Children's Ave., Suite 14500, Oklahoma City, OK 73104, USA
[b] Clinical Child Psychology Program, University of Kansas, 2015 Dole Human Development Center, 1000 Sunnyside Avenue, Lawrence, KS 66045, USA

ARTICLE INFO

Article history:
Received 26 December 2013
Received in revised form 24 April 2014
Accepted 16 September 2014
Available online 7 October 2014

Keywords:
Unintentional injury
Injury prevention
Safety hazards
Home safety

ABSTRACT

Introduction: Many unintentional injuries to young children occur in the home. The current study examines the relation between family socioeconomic and sociodemographic factors and risk factors for home injury. *Methods:* Presence of household hazards was examined in 80 families with toddler-aged children. Parental ability to identify household hazards in pictures was also assessed. ANOVAs and Pearson product–moment correlations examined the relationship between presence of household hazards, knowledge to identify hazards, and factors of yearly family income, parental age, parental education, parental marital status, child ethnicity, and the number of children living in the home. *Results:* A greater number of hazards were found in the homes of both the lowest and highest income families, but poorer knowledge to identify household hazards was found only among parents of the lowest income families and younger parents. Across family socioeconomic status, parent knowledge of hazards was related to observed household hazards. *Conclusions:* The relationship between family income and risk for injury is complex, and children of both lower and higher SES families may be at risk for injury. *Practical applications:* While historically particular focus has been placed on risk for injury among children in low income families, injury prevention efforts should target reducing presence of household hazards in both high and low SES families.

1. Introduction

Unintentional injury is a leading cause of childhood mortality (Arias, MacDorman, Strobino, & Guyer, 2003) with approximately 12,000 children deaths resulting from unintentional injury in the United States each year (Borse et al., 2009). The majority of childhood unintentional injuries occur at home (DiGuiseppi & Roberts, 2000; Haynes, Reading, & Gale, 2003). For children between 1 and 9 years of age, drowning and burns account for approximately 35% of deaths from unintentional injury (Bernard, Paulozzi, & Wallace, 2007). Falls represent the leading cause of nonfatal injury among children with almost 3 million children receiving emergency medical care each year for fall-related injuries (Borse et al., 2009). Despite these statistics, many households of young children contain hazards, such as lack of supervision around breakable items, presence of items posing a fall risk for children, presence of choking hazards, presence of poisonous items, unprotected stairways or windows, and improperly stored household cleaning products, medications, matches, and sharp objects (e.g., Morrongiello & Kiriakou, 2004). Therefore, it is important to identify and understand variables that may increase or decrease the likelihood of presence of home hazards and parental engagement in home safety behaviors.

Previous studies have found that parents are more likely to take precautions to reduce environmental hazards if they believe that the potential hazards are a threat to their children (Glik, Kronenfeld, & Jackson, 1991). Additionally, greater maternal perception of risk for injury is associated with a decreased frequency of childhood injuries in situations with low maternal supervision or a low number of household hazards (Abboud Dal Santo, Goodman, Glik, & Jackson, 2004). However, parents often do not judge their child as being vulnerable to many types of home injuries (Morrongiello & Kiriakou, 2004). Parents may also lack knowledge about specific household hazards. For example, in one survey, approximately half of parents reported that they believed most burn injuries occurred from contact with fire, when in fact, burn injuries are much more likely to occur from hot tap water, items on the stove, or spilled hot beverages (Eichelberger et al., 1990). In addition, the majority of the parents were not able to describe the correct procedure to follow if a child has swallowed a toxic substance. These findings indicate that many parents are unaware of some potential sources of injury in their homes or how to remediate them.

* Corresponding author at: University of Kansas, Clinical Child Psychology Program, 2015 Dole Human Development Center, 1000 Sunnyside Avenue, Lawrence, KS 66045, USA. Tel.: +1 785 864 4226; fax: +1 785 864 5024.
E-mail addresses: sunnye-mayes@ouhsc.edu (S. Mayes), mroberts@ku.edu (M.C. Roberts), odarcc@gmail.com (C.O. Stough).

http://dx.doi.org/10.1016/j.jsr.2014.09.002
0022-4375/

Regarding injury prevention efforts, mothers believe that it takes a moderate level of effort to prevent childhood injury (Morrongiello & Kiriakou, 2004). Mothers engage in varying numbers of safety practices in attempts to prevent different types of childhood injuries with the greatest efforts made to prevent burns, drowning, and poisoning (Morrongiello & Kiriakou, 2004). Similarly, parents have demonstrated greater knowledge of prevention strategies for poisoning, drowning, and burn injuries than for falls, which is one of the most common causes of both fatal and nonfatal household injuries (Anderson & Smith, 2003; Hippisley-Cox et al., 2002). Engagement in some safety practices has been related to factors such as parental education level and parental employment (e.g., Beirens, van Beeck, Dekker, Brug, & Raat, 2006).

Socioeconomic and sociodemographic variables, such as poverty, younger parent age, less parental education, and immigration status, have also been associated with increased risk for unintentional childhood injury and severity of injury, including risk for injuries in the home specifically (e.g., Faelker, Pickett, & Brison, 2000; Laursen & Nielsen, 2008; Marcin, Schembri, He, & Romano, 2003; Smithson, Garside, & Pearson, 2011). Sociodemographic and socioeconomic factors have also been related to observed household safety hazards (e.g., Greaves, Glik, Kronenfeld, & Jackson, 1994; Mullvaney & Kendrick, 2004). For example, socioeconomic status (SES) has been found to be one of the greatest predictors of the presence of controllable household (Greaves et al., 1994). Factors such as living in rental properties that may not be modified, high costs of safety equipment, overcrowding in residential settings, lack of childcare support, and mistrust of authorities and systems that provide injury prevention education are all barriers to preventing injury (e.g., Smithson et al., 2011) and are associated with socioeconomic conditions. Additionally, young or less-educated parents may lack appropriate knowledge of child development and injury risk, which may put their child at increased risk for injury (Smithson et al., 2011). While research has examined increased injury risk associated with lower SES (Faelker et al., 2000; Marcin et al., 2003), fewer investigations have examined this relationship more thoroughly among higher SES households. Thus, it is not known if all families with higher SES are at lower risk for child injury, or if there are subsets within higher SES groups that may be at an increased risk for household injury.

1.1. Current study objectives

The current study examined parental knowledge of household safety hazards and observed household hazards as a function of family sociodemographic and socioeconomic variables. Household safety hazards are objects or conditions that present a risk for injury. The hazards assessed for in the current study were rated by home safety professionals as important to address in order to ensure a safe home for children and included the most common reasons for serious injury (Lutzker & Bigelow, 2002). These objects are considered hazards if they are within arm's reach of a child under the age of 6 or if the objects are stored in an unlocked container, cabinet, or drawer. These hazards included fire and electrical hazards (i.e., combustibles, protective fire screens, electrical outlets and switches, protective appliance covers, electrical cords and plugs), hazardous ingestible small objects (i.e., small objects accessible to children), hazardous mechanical objects (i.e., crib cords and plastics), firearm hazards (i.e., firearms accessible to children), solid and liquid poisonous hazards (e.g., medications, deodorizers, detergents and cleansers, glues and adhesives, solvents and thinner), hazardous sharp objects (i.e., sharp items accessible to children), falling hazards (i.e., balconies with wide slats, stairs without gates, accessible upper windows), and drowning hazards (i.e., bathtubs/sinks, buckets, wading pools; Lutzker & Bigelow, 2002). Specifically, the following associations were explored:

(a) The number of hazards observed in the family home was explored in relation to yearly family income, parental age, parental education, parental marital status, child ethnicity, and the number of children living in the home.
(b) Parental ability to identify household safety hazards in generic household pictures (i.e., not pictures from the family's own home) was explored, including differences related to yearly family income, parental age, parental education, parental marital status, child ethnicity, and the number of children living in the home.
(c) The relationship between parental ability to identify household hazards and number of observed hazards in the family's own home was explored.

2. Materials and methods

2.1. Participants

Families of toddler-aged children were recruited from child-care centers, community agencies, and activity groups from three Midwestern states, as well as department announcements to staff at the authors' institution using convenience sampling. The majority of recruitment locations were child-care centers that offered regular and subsidized tuition rates, meaning the centers served families with a range of SES backgrounds. Families recruited at child-care centers, community agencies, and activity groups received flyers and then were approached by researchers on designated recruitment days. University recruited families responded to posted flyers. Inclusion criteria were: (a) family had a child between 15 and 48 months of age; (b) the parent was English speaking; (c) the parent was the child's legal guardian. Families were excluded from participation if any family member living in the home had received an injury requiring medical attention in the previous month or if the child in the targeted age range had any developmental disabilities. These exclusions were made to prevent saliency effects from recently sustained injuries and to control for the higher risk of injury among children with developmental disabilities (Xiang, Stallones, Chen, Hostetler, & Kelleher, 2005).

Eighty parents of families with a toddler-aged child participated. Sixty-seven of the participants (84%) were mothers and 13 were fathers (16%). The mean age of the mothers in the study was 33.07 ($SD = 5.80$) and the mean age of the fathers was 37.31 ($SD = 4.07$). Children were predominantly male (60%) and Anglo-American (80%) with an average age of 30.84 months ($SD = 8.44$).

2.2. Measures

2.2.1. Demographics questionnaire

This questionnaire was created for this study to obtain demographic information about the family, such as child sex, child ethnicity, and family income. Variables from this questionnaire included in the current analysis include: age of parent completing study measures, educational level of the parent completing study measures, family income, marital status of parent completing study measures, and number of children living in the home.

2.2.2. Picture hazards identification measure

A series of 8 photographs depicting various rooms of a home with at least five observable hazards present were used as a measure of parental knowledge of household safety hazards. These pictures were captured by the study authors and are not copyrighted. The pictures depict the following rooms: two photographs of a child's bedroom, a bathroom, living room, kitchen, dining room, stairway, and backyard. At least five hazards were present in each picture with a total of 65 hazards depicted in the eight photographs. Parents were given a small picture album and were asked to note what, if any, hazards they noticed for young children in each picture. For each hazard identified, the parent was asked what strategy, if any, he or she would implement to remediate the hazard if it were present in the family's home. All