

Knowledge, Attitude, and Practices of Unintentional Home Injury Prevention
Among Parents of Preschoolers in the People's Republic of China*
ความรู้ ทักษะ และ การปฏิบัติ การป้องกันอุบัติเหตุที่บ้านของผู้ปกครองเด็กวัยก่อนเรียน
ในสาธารณรัฐประชาชนจีน*

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Abstract

Childhood injury is a serious public health problem. This descriptive-correlational study aimed to examine the level of practice of unintentional home injury prevention among parents of preschoolers, as well as the relationship between knowledge, attitudes and practices of unintentional home injury prevention among parents of preschoolers. The samples were 95 parents of preschoolers in 3 public kindergartens in the Jinniu District, Chengdu City, the People's Republic of China and were purposive selected. The data were collected from June to July 2020. Research instruments consisted of the Demographic Data Form, the Knowledge on Home Injuries Questionnaire, the Attitude on Home Injuries Questionnaire, and the Practice on Home Injury Prevention for Preschoolers Questionnaire. Descriptive statistics and Spearman rank correlation coefficient were used in data analysis.

The results of this study were as follows:

1. The overall mean score of practice on home injury prevention among parents of preschoolers was at a high level ($\bar{X}=50.09$, $SD=9.33$).

2. Knowledge did not correlate with practice on unintentional home injury prevention among parents of preschoolers ($p > 0.05$). However, there was a moderate relationship between attitude and practice on unintentional home injury prevention among parents of preschoolers ($r=0.44$, $p < 0.05$).

The results of this study provide baseline information on parents' practices of unintentional home injury prevention for preschoolers and related factors. This information can be used for health professional to promote unintentional home injury prevention programs for parents of preschoolers.

Keywords: Knowledge, Attitude, Practices, Unintentional home injury prevention, Parents, Preschoolers

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บทคัดย่อ

อุบัติเหตุในเด็กวัยก่อนเรียนเป็นปัญหาสำคัญทางสุขภาพ การวิจัยเชิงพรรณานี้มีวัตถุประสงค์เพื่อศึกษาการปฏิบัติในการป้องกันอุบัติเหตุในบ้านของผู้ปกครองเด็กวัยก่อนเรียน และหาความสัมพันธ์ระหว่างความรู้ทัศนคติและการปฏิบัติในการป้องกันอุบัติเหตุในบ้านของผู้ปกครองเด็กวัยก่อนเรียน กลุ่มตัวอย่างเป็นผู้ปกครองเด็กวัยก่อนเรียน 95 ราย ในโรงเรียนอนุบาลของรัฐบาล 3 แห่ง ในเขตจังหวัดเชียงใหม่ เมืองเฉิงตู สาธารณรัฐประชาชนจีน คัดเลือกกลุ่มตัวอย่างแบบเฉพาะเจาะจง เก็บข้อมูลตั้งแต่เดือนมิถุนายน ถึงกรกฎาคม พ.ศ.2563 เครื่องมือที่ใช้รวบรวมข้อมูลประกอบด้วย แบบสอบถามข้อมูลทั่วไป แบบประเมินความรู้เกี่ยวกับอุบัติเหตุในบ้าน แบบสอบถามทัศนคติเกี่ยวกับอุบัติเหตุในบ้าน และแบบสอบถามการปฏิบัติในการป้องกันอุบัติเหตุในบ้านของผู้ปกครองเด็กวัยก่อนเรียน วิเคราะห์ข้อมูลโดยใช้สถิติเชิงพรรณนา และสัมประสิทธิ์สหสัมพันธ์สเปียร์แมน

ผลการศึกษาพบว่า

1. คะแนนเฉลี่ยโดยรวมของการปฏิบัติในการป้องกันอุบัติเหตุในบ้านของผู้ปกครองเด็กวัยก่อนเรียนอยู่ในระดับสูง ($\bar{X}=50.09$, $SD=9.33$).

2. ความรู้ไม่มีความสัมพันธ์ทางสถิติกับการปฏิบัติในการป้องกันอุบัติเหตุในบ้านของผู้ปกครองเด็กวัยก่อนเรียน อย่างไรก็ตาม ทัศนคติมีความสัมพันธ์ทางบวกระดับปานกลางกับการปฏิบัติในการป้องกันอุบัติเหตุในบ้านของผู้ปกครองเด็กวัยก่อนเรียนอย่างมีนัยสำคัญทางสถิติ ($r = 0.44$, $p<0.05$)

ผลการวิจัยครั้งนี้ได้ข้อมูลพื้นฐานเกี่ยวกับการปฏิบัติของผู้ปกครองในการป้องกันอุบัติเหตุในบ้านของเด็กวัยก่อนเรียนและปัจจัยที่เกี่ยวข้อง เพื่อใช้สำหรับบุคลากรทางสุขภาพในการส่งเสริมการป้องกันอุบัติเหตุในบ้านในกลุ่มผู้ปกครองเด็กวัยก่อนเรียนต่อไป

คำสำคัญ: ความรู้ ทัศนคติ การปฏิบัติ การป้องกันอุบัติเหตุที่บ้าน ผู้ปกครอง เด็กวัยก่อนเรียน

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Background and significance

Childhood injuries are a serious public health concern. According to the intent of the injury, it can be divided into intentional and unintentional injuries. With regards to the group of children who are under five years old, the injury-specific mortality rate was 73 per 100,000 population in the world (World Health Organization [WHO], 2015). In China, childhood injury was the third leading cause of death among children under 5 years old (Xiang et al., 2019), and the highest mortality rate was among preschoolers (Wang & Cui, 2020). Although preschoolers begin to develop some self-control during this period, they have limited abilities on recognition dangerous situations or avoiding of dangers as well as insufficient knowledge. They also tend to become caught up in their own actions and pay little attention to the larger world around them (Hockenberry & Wilson, 2013). More than half of unintentional injuries occurred at home (Silva, Fontinele, Oliveira, Bezerra, & Rocha, 2017). The most common unintentional injuries at home among preschool-aged children included falls, choking/strangulation, burns or scalds, poisoning and drowning (Centers for Disease Control and Prevention [CDC], 2010). To prevent or reduce unintentional home injury in preschoolers, parents should take responsibility for their children's safety (Jaques, Weaver, Weaver, & Willoughby, 2018). They must practice on prevention in order to keep their children from unintentional injury and stay alert to prevent injury (Megahed, Khalil, Ibrahim, & El Disoki, 2016).

The practice of unintentional home injury prevention for preschoolers refers to a father or mother's activities or actions to avoid bodily damage to their 3-5-year-old child as a result of an unplanned incident, namely falls, choking/strangulation, burns or scalds, poisoning and drowning. A study in Turkey investigated the practices of parents on preventing unintentional home injuries (Ince, Yalcin, & Yurdakok, 2017). The results showed that 31.1% of the parents used child safety furniture products, approximately 86% of parents had never drunk nor carried hot liquids when children were nearby, and less than 1% of parents had ever left their child alone in or near a pool, bathtub, bucket, or toilet. However, 19.9% of the parents reported keeping some cleaning products, chemical products, or other hazardous products in packages other than their original ones. In addition, another study in Sulaimani city, Iraq, showed that 77.8% of mothers had no separate cooking area, and children were nearby them during cooking (Ibrahim, Rashed, Babakir-Mina, & Muhamed, 2017). In conclusion, the studies of the various parental activities to prevent unintentional home injury showed many different levels of prevention practices.

There are many factors affecting the practice of unintentional home injury prevention among parents of preschoolers, including the demographic characteristics of both the parent and child (Xiang et al., 2019), knowledge (Silva et al., 2017) and attitudes (Akturk & Erci, 2016; Chow et al., 2016). In this study, knowledge and attitude were selected because of the

modifiable variables' property. Knowledge and attitude directly affect practice, as illustrated in the knowledge-attitude-practice model (based on the cognitive-affective-behavior theory) (Schwartz, 1976).

Previous studies were conducted to explore the relationship between knowledge and practice on preventing unintentional home injury among parents. Some studies showed a low-positive correlation between mothers' knowledge and practices (Poorolajal, Cheraghi, Hazavehei, & Rezapur, 2013) and between attitude and practice (Zhao, Gui, Zhang, & Li, 2011). However, a study conducted in Shenzhen, the People's Republic of China, found that although there was a high level of knowledge and attitude regarding child safety restraint (CSR) among Chinese parents, but the level of practice in the use of CSR was still low (Liu et al., 2018). Thus, the relationship between knowledge, attitude and practice is not clear, especially in preventing unintentional home injuries among parents of Chinese preschoolers.

The rapid economic, social, and political changes in China over the past five decades has profoundly reshaped the everyday life of people. Modern nuclear families are commonly found in big cities. Parents take all responsibilities of their children, but most of them are young and work full-time jobs. During weekday, parents usually place a preschooler in a kindergarten before they go to work. After work, parents usually pick up their children from the kindergarten and take care of them at home until their children go to bed. This is the reason that the researcher chose to collect data from

kindergarten schools. With the rapid economic changes, Internet become more and more popular, a lot of information can be provided by Internet, and the parents often use a mobile phone to search information in everyday life. Thus, parents are the main caregivers who spend most of the time with their children at home, and the responsibility of protecting their children belongs to them (Ozanne-Smith & Li, 2018).

Previous studies focused on knowledge and attitude on home unintentional injuries among parents for preschoolers, but these studies did not cover the five main types of unintentional injuries in namely fall, choke/strangulation, burn, poison, and drown in a single study. In addition, the relationship of knowledge and attitude towards prevention of injury was addressed in a few studies, and with children in various ages. Furthermore, some studies showed a positive relationship between knowledge and attitude, while others showed there was no correlation between them at all, and thus the relationship between knowledge, attitude and practice was not clear. The results of previous studies may not fully explain the knowledge, attitudes, and practices of parents regarding prevention of unintentional injuries at home in Chengdu, China. This information can be used for nurses in order to promote home unintentional injury prevention for preschoolers.

Objectives

1. To examine the level of practice of unintentional home injury prevention for

preschoolers among parents in the People's Republic of China.

2. To examine the relationship between knowledge, attitude, and practice on unintentional home injury prevention for preschoolers among parents in the People's Republic of China.

Research questions

1. What is the level of practice of unintentional home injury prevention for preschoolers among parents in the People's Republic of China?

2. what is the relationship between knowledge, attitudes, and practices of unintentional home injury prevention for preschoolers among parents in the People's Republic of China?

Conceptual framework

The conceptual framework of this study is based on the Knowledge-Attitude-Practice (KAP) Model (Schwartz, 1976) and the literature reviews. Knowledge, attitudes, and practice are important concepts of human behavior. Change of one's knowledge and attitude may change individual's practice. In this study, knowledge and attitude toward home unintentional injuries prevention of preschoolers can affect practices of home unintentional injuries prevention of preschoolers among parents. There are 5 types of home unintentional injuries namely fall, choke/strangulation, burn, poison, and drown included in the scope of the study. Knowledge refers to the parent's understanding of information on predisposing factors and the ways of prevention of home unintentional injuries.

Attitude refers to the parent's perception or viewpoints toward prevention of home unintentional injuries. Practices of home unintentional injuries prevention of preschoolers refers to the father or mother's activities or action to avoid 3-5 years old children's body damage result from an unplanned incident namely fall, choke/strangulation, burn, poison, and drown happening at home.

Methodology

A descriptive-correlational study was conducted to examine the level of practice of unintentional home injury prevention among parents of preschoolers, as well as the relationship between knowledge, attitudes, and practices of unintentional home injury prevention.

Population and sample

Purposive sampling was used to obtain samples with the following inclusion criteria: A mother or a father aged equal to or more than 18 years old who have blood relation to healthy preschoolers, attending the selected kindergarten in Chengdu City of China, spending most of the time to take care of their preschooler at home, having none of disability or severity disease, be able to communicate, read, understand and written Chinese language and be willing to participate in the study.

The participants in this study included 102 parents who had preschoolers in three public kindergartens situated in the Jinni District, Chengdu City, China.

Research instruments

The research instrument was a question-

naire including four parts in the Chinese language. The CVI of the modified the Knowledge on Home Injuries Questionnaire, the modified the Attitude on Home Injuries Questionnaire, and the modified the Practice on Home Injury Prevention for Preschoolers Questionnaire was 0.95, 0.96 and 0.94 respectively, all were in acceptable level (Polit, Beck, & Owen, 2007). The forward and back translation process was applied to translate all questionnaires (Polit & Beck, 2008).

Part 1: The Demographic Data Form addressing characteristics of parents and child.

Part 2: The Knowledge on Home Injuries Questionnaire, which was modified based on the Knowledge on Home Injuries Questionnaire (El Seifi, Mortada, & Abdo, 2018) and consisted of 20 questions. Each question required answering either "true" or "false." "True" answers were scored as "1", while "false" answers were scored as "0." The internal consistency reliability as measured using Kuder-Richardson 20 (KR 20) was 0.725.

Part 3: The Attitude on Home Injuries Questionnaire, which was modified based on the Attitude on Home Injuries Questionnaire (El Seifi et al., 2018) and consisted of 13 questions, each with a 3-point Likert scale. The internal consistency reliability as measured using Cronbach's alpha coefficient was 0.723.

Part 4: The Practice on Home Injury Prevention for Preschoolers Questionnaire, which was modified based on the Supportive Strategies for Accidents Prevention (Mohammed, Mohammed, Byoumi, 2013) with a total of 20 items each with a 4-point Likert scale. Answers

were rated at 3 levels including low, moderate, and high based on the class-interval method (Polit & Beck, 2004). The internal consistency reliability as measured using Cronbach's alpha coefficient was 0.848.

Ethical consideration

The study was approved by the Research Ethics Review Committee in Faculty of Nursing, Chiang Mai University, Thailand. The sample who agreed to participate in the study was asked to sign a written consent, and no gift that might be interpreted as coercive was given to participants. Furthermore, the participants were informed that they had the right to participate or not to participate in the study and that they had the right to withdraw from the study at any time.

Data Collection

After getting permission from the directors of the 3 kindergartens, the researcher randomly selected the subjects from the name list of parents of preschoolers in each kindergarten. After getting agreement to participate in the study from the parents, parents were brought to another private room to fill out the questionnaires and be distributed the questionnaires. After they finished, the completeness of the questionnaire was checked by the researcher. In total, 95 questionnaires were completed with a response rate of 93.14%.

Data analysis

Data were analyzed to reflect the purposes of the study. Descriptive statistics were used to analyze the frequency, percentage, mean and standard deviation. Due to the non-normal

distribution of data on knowledge, attitude and practice, Spearman's rank-order correlation was applied to examine the relationship between them.

Results

The findings showed that the majority of participants (84.21%) were mothers, married (90.53%) and were 26-35 years of age (72.63%). Almost half of the participants held a diploma (50.53%) and were business owners (50.53%). More than one-third had a monthly family income above 8,000 Yuan (about 1,200 USD) (36.84%). The mean of experience in preschooler care was 4.19 years (SD = 2.00), and the mean of time spent per day with a child was 8.11 hours (SD = 7.64). The majority of the study participants (93.68%) had received information regarding unintentional injury prevention for

preschoolers from the internet (85.26%). Investigation showed a high proportion (85.26%) of children were 4-5 years, more than half of them are male (54.74%) and had experienced a previous home injury (55.79%).

The data of parent's practice on unintentional home injury prevention of preschoolers is shown in Table 1 showed the total mean score of parent's practices on unintentional home injury prevention of preschoolers was at a high level (\bar{X} =50.09, SD =9.33). In determination of dimensions, it was found that the mean score of five types of unintentional home injuries were all at high levels: prevention of falls (\bar{X} = 10.76, SD=1.65), prevention of choking/strangulation (\bar{X} = 8.69, SD=2.55), prevention of burns or scalds (\bar{X} = 12.20, SD=3.28), prevention of poisoning (\bar{X} = 10.82, SD=2.13) and prevention of drowning (\bar{X} =7.62, SD=1.78).

Table 1 Level of practice on unintentional home injury prevention for preschoolers among parents (n=95)

Variables	Level			Mean (\bar{X})	S.D.	Interpretation
	Low (n)(%)	Moderate (n)(%)	High (n)(%)			
Level of practice on unintentional home injury prevention for preschoolers among parents (total mean score)	1 (1.05)	11 (11.58)	83 (87.37)	50.09	9.33	High
Prevention of falls	0	10 (10.53)	85 (89.47)	10.76	1.65	High
Prevention of choking/strangulation	6 (6.32)	34 (35.79)	55 (57.89)	8.69	2.55	High
Prevention of burns or scalds	6 (6.32)	15 (15.79)	74 (77.89)	12.20	3.28	High
Prevention of poisoning	3 (3.16)	10 (10.53)	82 (86.31)	10.82	2.13	High
Prevention of drowning	4 (4.21)	19 (20.00)	72 (75.79)	7.62	1.78	High

The relationship between knowledge, attitude, and practice on unintentional home

injury prevention for preschoolers among parents is shown in Table 2. The results show

that there is a moderate level of positive correlation between parent's attitude and practice on unintentional home injury prevention among preschoolers ($r=.44$, $p < .05$). However,

there is no relationship between parent's knowledge and practice on unintentional home injury prevention among preschoolers ($r=.11$, $p > .05$).

Table 2 Relationship between knowledge, attitude and practice on unintentional home injuries prevention for preschoolers among parents (n=95)

Variables	Practice	P Value
Knowledge	.11**	.29
Attitude	.44**	.00*

* $p < .05$

** Spearman's Rank Correlation Coefficient

Discussion

According to the objective of examine the level of practice on unintentional home injury prevention for preschoolers among parents. The results from the study indicated that the overall mean score of parents' practices on unintentional home injury prevention for preschoolers was at a high level ($\bar{X}=50.09$, $SD=9.33$) (Table 1). This could be explained by many factors including the demographic data of parents and children, knowledge, and attitude. Firstly, in consideration of parents' demographic data, findings from this study revealed that 72.6% of the participants ranged from 26-35 years old. In this age group, Jaques, Weaver, Weaver, & Willough (2018) reported most parents usually had good home injury prevention practices, because their main concern is injury to their child. In this study, more than three-quarters of parents had a high education level (76.8%), which means they had a better understanding of information regarding unintentional home injury prevention.

Some previous studies support that the high educated people had a better understanding of information (Ince et al., 2017). Furthermore, recent studies showed that most of the parents (83.2%) had high income more than 4,000 Yuan per month. Higher incomes may mean that the family had enough money to install safety equipment such as window guards, non-slip mats, etc. The study by Megahed et al. (2016) also supports this notion. The mean time spent taking care of their child was 8.11 hours per day, which showed that most parents still spend much of their free time taking care of their child. Younesian, Mahoozpour, Shad, & Hatamabadi (2016) also found the time parents spent taking care of their child could influence the practice of preventive measures. In addition, most parents (85.3%) gained unintentional home injury prevention information from the Internet. With the rapid development of the Chinese Internet and the proliferation of smartphones, parents can easily get information about unintentional home injury prevention at any

time and from anywhere, from resources such as child health care. Rezapur-Shahkolai, Afshari, Moghimbeigi, & Hazavehei (2017) reported that parents receiving more information on injury prevention could help to promote prevention practices.

The majority of children in this study (85.26%) were 4-5 years old. At this age, they can ride a bike, walk and skip; they are also often curious about many new things such as matches and fires. More than half (54.7%) of the children in their study were boys. Boys were found to suffer from home injury more often than girls because they like to take more risks and tend to behave more impulsively (Yin, Wu, Luo, Pak, Choi, & Liang, 2015). Thus, parents of boys typically pay more attention and take more actions to avoid their child getting an unintentional home injury. The present studies also showed that more than half of children (55.7%) had at least one injury experience. Once a child has had an injury experience, parents can learn from this experience to improve their unintentional home injury prevention practice levels further, and to prevent their children from experiencing injury again.

In addition, parents' knowledge and attitudes towards unintentional home injury might result in higher-level more effective practice. The present studies showed that the majority of parents (85.3%) had received information regarding unintentional home injury prevention. Low knowledge of parents can more easily lead to unintentional injury because the parents do not know how to keep their children from danger (Younesian et al.,

2016). The study also showed most parents had a positive attitude towards unintentional home injury prevention. The more positive the attitude the parents had, the more risk around the child would be perceived, and thus parents would be more likely to perform preventative activities (Chow et al., 2016).

The relationship between knowledge, attitude, and practice on unintentional home injury prevention for preschoolers among parents. The study showed that firstly, knowledge showed no correlation to practice in unintentional home injury prevention among parents ($p > 0.05$). According to the Knowledge-Attitude-Practice Model (Schwartz, 1976), knowledge can affect personal practice. However, the result was in contrast with the theory - while some knowledgeable parents performed high-level practices, other parents' practice of unintentional home injury prevention was unsatisfactorily performed. For this reason, Nilsson (2016) indicated some parents had high knowledge, sometimes they still "blind" to the dangers facing their children, as they often felt fatigued after work if they don't have the support from other family members. Besides, the occurrence of unintentional home injury was not certain, but it could happen on circumstances. However, if some parents did not concern this issue, and the child remained safe, they may think it is not a "problem" until the child is injured. Another reason might be due to the house design and furnishing which they cannot change. In addition, some parents may encourage risks for their child, and/or they believe that unintentional injury is simply

a “normal thing” (Hogan, Weaver, Cioni, Fry, Hamilton, & Thompson, 2018). Secondly, attitude showed a statistically significant, moderately positive correlation to practice of unintentional home injury prevention among parents ($r=0.44$, $p < 0.01$) (Table 2). According to the Knowledge-Attitude-Practice Model (Schwartz, 1976), attitude can affect one’s practice. The parent with higher attitude scores on unintentional home injury prevention for preschoolers can usually perceive the danger around their child, thus they usually perform more injury prevention measures for their children (Van Zoonen & Baardse, 2016). In addition, the demographic data may be another reason for the statistically significant between attitude and practice. For example, nearly two-thirds of the study’s parents were aged from 26-35 years old and 84.2% were mothers. In China, the mother is typically the main caregiver and tends to be more attentive and careful regarding unintentional home injury prevention for her child(ren). For this age group of parents, most of them had higher education levels and could easily acquire new scientific information. With the rapid development of the Chinese Internet and the proliferation of smartphones, the Internet leads parents to be more concerned about unintentional home injury (Ince et al., 2017). In the present study, the majority of the parents (83.2%) had an income exceeding 4,000 Yuan per month, which means they can afford things such as safety equipment and safety toys, which they would then put into practice (Megahed et al., 2016). By contrast, the mean amount of time spent with a child per day

was 8.11 (SD=7.64), parents who stayed with their child for many hours a day could better perceive the dangers around the child, and they had more time to prevent their child from unintentional home injury (Younesian et al., 2016).

In conclusion, the practice of unintentional home injury prevention among parents in China was at a high level. Knowledge showed no relationship to practice, but attitude showed a statistically significant positive relationship to practice on unintentional home injury prevention for preschoolers at a moderate level.

Conclusions and implications

The findings of this study serve as preliminary data which could help nurses and other health care professionals in the pediatric ward and child health care department to better understand the relationship of knowledge, attitude, and practice on unintentional home injury prevention among parents of preschoolers. It can also be used to guide nurses when providing guidance and advice for parents on how to improve their unintentional home injury prevention practice.

Conclusions and recommendations

Further research should look at predicting factors related to parent’s practice on unintentional home injury for preschoolers and other types of unintentional home injuries such as sharp injury and crash injury. Besides, since correlation among the variables still unclear from previous studies and this study,

more correlational research are needed prior to predictive research. Confounding variables among KAP should be explored.

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