

**KNOWLEDGE, ATTITUDE AND PRACTICE TOWARD
THE PREVENTION OF HOME ACCIDENTS AMONG
MOTHERS IN HOSPITAL PAKAR UNIVERSITI SAINS
MALAYSIA**

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THE PREVENTION OF HOME ACCIDENTS AMONG
MOTHERS IN HOSPITAL PAKAR UNIVERSITI SAINS
MALAYSIA**

by

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**Dissertation submitted in partial fulfilment of the requirements
for the degree of
Bachelor in Nursing**

August 2025

CERTIFICATE

This is to certify that the dissertation entitled “Knowledge, Attitude and Practice toward the Prevention of Home Accidents among Mothers in Hospital Pakar Universiti Sains Malaysia” is the bona fide record of research work done by Ms Fatin Shamimi binti Mohd Fadzil during the period from October 2024 to August 2025 under my supervision. I have read this dissertation and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation to be submitted in partial fulfillment for the degree of Bachelor of Nursing (Honours).

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DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated and duly acknowledged. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at Universiti Sains Malaysia or other institutions. I grant Universiti Sains Malaysia the right to use the dissertation for teaching, research and promotional purposes.


.....

FATIN SHAMIMI BINTI MOHD FADZIL

Date: .03/08/2025

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LIST OF ABBREVIATIONS

HPUSM	Hospital Pakar Universiti Sains Malaysia
SD	Standard deviation
SPSS	Statistical Package for social science
WHO	World Health Organizations

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**PENGETAHUAN, SIKAP DAN AMALAN TERHADAP PENCEGAHAN
KEMALANGAN DI RUMAH DALAM KALANGAN IBU DENGAN ANAK DI
BAWAH UMUR 6 TAHUN DI HOSPITAL PAKAR UNIVERSITI SAINS
MALAYSIA**

ABSTRAK

Kemalangan di rumah terus menjadi kebimbangan utama untuk kesihatan awam, terutamanya bagi kanak-kanak kecil yang sangat mudah terdedah kepada kecederaan. Kajian ini bertujuan untuk menilai tahap pengetahuan, sikap, dan amalan yang berkaitan dengan pencegahan kemalangan rumah dalam kalangan ibu dengan anak di bawah enam tahun yang menghadiri klinik pesakit luar di Hospital Pakar Universiti Sains Malaysia. Kajian ini dijalankan pada bulan Januari sehingga Mac 2025, dengan 225 responden. Purata umur responden adalah 31 tahun (SD=4.9), dengan umur yang berbeza antara 20 hingga 40 tahun. Data dikumpulkan menggunakan soal selidik yang diisi sendiri yang merangkumi maklumat sosio-demografik, pengetahuan, sikap, dan amalan berkaitan pencegahan kemalangan rumah. Analisis Pearson chi square digunakan untuk menentukan hubungan antara pengetahuan dan amalan, serta pengaruh faktor sosiodemografik. Keputusan menunjukkan bahawa majoriti ibu-ibu mempunyai pengetahuan yang sederhana, tetapi amalan pencegahan kemalangan rumah adalah tidak mencukupi. Kajian ini mendapati terdapat korelasi positif yang signifikan antara pengetahuan ibu dan amalan terhadap pencegahan kemalangan rumah ($X^2 = 0.348$, $p < 0.01$), yang menunjukkan bahawa tahap pengetahuan yang lebih tinggi dikaitkan dengan amalan pencegahan yang lebih baik. Di samping itu, satu korelasi terbalik yang signifikan diperhatikan antara tahap pendidikan ibu dan pengetahuan mengenai pencegahan kemalangan rumah ($X^2 = 0.215$, $p = 0.03$). Penemuan ini menekankan keperluan untuk

intervensi pendidikan yang disasarkan untuk meningkatkan kedua-dua pengetahuan dan amalan berkaitan pencegahan kemalangan rumah dalam kalangan ibu.

**KNOWLEDGE, ATTITUDE AND PRACTICE TOWARD THE
PREVENTION OF HOME ACCIDENTS AMONG MOTHERS WITH
CHILDREN UNDER 6 YEARS OLD AT HOSPITAL PAKAR UNIVERSITI
SAINS MALAYSIA**

ABSTRACT

Home accidents remain a major concern for public health, particularly for young children who are highly susceptible to injuries. This study aims to assess the levels of knowledge, attitudes, and practices related to the prevention of home accidents among mothers with children under six years old attending outpatient clinics at Hospital Pakar Universiti Sains Malaysia. A cross-sectional study was conducted during January until March 2025, with 225 respondents. The mean age of the respondents was 31 years old (SD=4.9), with ages ranging from 20 to 40 years old. Data were collected using a self-administered questionnaire covering sociodemographic information, knowledge, attitudes, and practices regarding home accident prevention. Pearson chi square analysis was used to determine the relationship between knowledge and practices, as well as the influence of sociodemographic factors. Results indicated that the majority of mothers had moderate knowledge, but the practice of home accident prevention was insufficient. The study found a significant positive correlation between maternal knowledge and practice towards home accident prevention ($X^2 = 0.348$, $p = < 0.01$), suggesting that higher levels of knowledge are associated with better preventive practices. Additionally, a significant inverse correlation was observed between maternal education level and knowledge of home accident prevention ($X^2 = 0.215$, $p = 0.03$). The findings highlight the need for targeted educational interventions to improve both knowledge and practices regarding home accident prevention among mothers.

CHAPTER 1

INTRODUCTION

1.1 Background of Study

Childhood accidents, particularly those occurring within the home, have been a significant public health issue, especially for children under the age of six. Due to their developmental vulnerability, young children were particularly susceptible to injuries and fatalities in home environments. At this stage, children were highly curious and mobile but lacked the cognitive ability to recognize and respond appropriately to potential dangers. According to the World Health Organization (2014), over 830,000 children died annually from home accidents worldwide, which equated to approximately 2,000 child fatalities every day. In Malaysia, the under-5 mortality rate increased slightly from 7.0 per 1,000 live births in 2020 to 7.4 per 1,000 live births in 2021, signalling a small rise in child mortality (Ministry of Health Malaysia, 2021). Furthermore, millions of children were referred to hospitals for home accident-related injuries, some of which resulted in permanent disabilities (Sackitey, 2018).

In the United States, the Centers for Disease Control and Prevention (2011) reported that home accidents were the third leading cause of emergency department visits. Similarly, in the United Kingdom, it was reported that 40% of all accidents occurred in the home, with 2.7 million individuals receiving treatment for such incidents annually. Approximately 7,000 deaths occurred each year due to home accidents (Helman et al., 2014). In Malaysia, home accidents ranked second in injury rates, only behind traffic-related accidents. The Malaysian National Health and Morbidity Survey in 2016 revealed that nearly two million children under the age of five experienced injuries, with the

highest frequency among children aged 0–4 years. Notably, 80.5% of these incidents took place within the home (Umum et al., 2016).

The most common types of home accidents included falls, burns, drowning, poisoning, and choking. Drowning, particularly in bathtubs or buckets, remained a major concern, especially among toddlers who were drawn to water but lacked the physical ability to stay afloat. Poisoning from household chemicals and medicines was another prevalent risk, as young children tended to explore their environment orally (Alwan et al., 2022). These accidents often resulted in severe consequences, including hospitalization, long-term disability, or even death.

Nurses played a crucial role in preventing home accidents by educating families about safe practices and identifying potential risks in the home environment. They engaged in health promotion activities, focusing on educating parents, particularly mothers, about the importance of child supervision and home safety. Through community outreach and home visits, nurses provided personalized guidance on accident prevention strategies, first-aid techniques, and the safe use of household items. Additionally, they advocated for and participated in public health initiatives aimed at reducing home injuries, especially for vulnerable populations like young children (Çetintaş et al., 2022).

Children aged from birth to six years were at a heightened risk of home accidents. They spent much of their time indoors, where they were exposed to a variety of potential hazards. Their cognitive skills were still developing, meaning they were unable to fully understand the risks in their environment. Their natural curiosity often led them to explore without awareness of the dangers. Common home injuries among young children included chemical poisoning, electrical shocks, burns, and cuts from sharp objects, especially in the kitchen. This study was conducted to assess the level of knowledge,

attitudes, and practices among mothers with children aged 0–6 years old regarding the prevention of home accidents.

1.2 Problem Statement

Home accidents were the leading cause of injury and death among young children globally, with an estimated 830,000 children dying each year from unintentional injuries, many of which occurred at home (World Health Organization, 2022). In Malaysia, home injuries remained a major cause of injury-related illness and death among children. Research conducted by Sahril (2014) indicated that home injuries among young children continued to be a significant concern, with many cases either going unreported or receiving inadequate treatment. The study emphasized that key contributing factors included inadequate parental supervision, hazardous home conditions, and limited knowledge about accident prevention.

Mothers played an important role in safeguarding their children's safety, especially at home. As primary caregivers, mothers were frequently responsible for regulating their home environment and supervising their children's activities. It was crucial to provide information regarding safety measures for home accidents, particularly for mothers, since this knowledge was vital for the effective care of injured children and for minimizing the occurrence of such injuries. Many negative outcomes could have been prevented if mothers were informed about the appropriate actions to take (Dede Cinar & Gorak, 2007; Eldosoky, 2012).

However, studies revealed that many mothers were not fully aware of the causes and preventive measures for home accidents. For example, research conducted in Karbala, Iraq, showed that although a significant number of mothers knew basic safety

precautions, there were notable gaps in their knowledge of first-aid responses for emergencies like burns and electrical short circuits (Al-Mossawy et al., 2021). Similarly, in Malaysia, unsafe home environments and the absence of structured educational programs for accident prevention remained persistent issues (Sahril, 2014).

Moreover, several studies indicated that mothers' knowledge about home accidents was generally insufficient. In Makkah, Saudi Arabia, only 9.8% of mothers had good knowledge, and many still reported accidents, likely due to inadequate supervision (Nour et al., 2020). In Sharkia Governorate, over 55% of mothers were unaware of the causes of home accidents (El-Sabely et al., n.d.). Similarly, in Baghdad, only 9.2% of mothers showed good knowledge of preventing injuries from chemicals, with more than 90% demonstrating poor awareness (Lafta et al., 2013). These findings highlighted a widespread gap in mothers' knowledge regarding home accident prevention.

The problem revolved around home accidents being a leading cause of child injuries and fatalities globally, with particular concern in Malaysia. Despite mothers being the primary caregivers responsible for home safety, research across multiple countries indicated a significant knowledge gap in accident prevention and emergency response among mothers. Studies from Malaysia, Iraq, Saudi Arabia, and other regions consistently showed that most mothers lacked adequate understanding of home safety measures and first-aid procedures. Given the limited research conducted at Hospital Pakar Universiti Sains Malaysia (HPUSM), there was a critical need to assess mothers' knowledge, attitudes, and practices regarding home accident prevention in this setting. This study at HPUSM aimed to address the research gap and contribute to understanding the current level of maternal preparedness in preventing home accidents, ultimately seeking to enhance child safety at home.

1.3 Research Questions

The research questions for this study are as follows:

1. What is the level of knowledge of home accidents among mothers with children under six years old who attended the outpatient clinics in Hospital Pakar USM?
2. What is the level of attitude towards prevention of home accidents among mothers with children under six years old who attended the outpatient clinics in Hospital Pakar USM?
3. What is the level of practice towards prevention of home accidents among mothers with children under six years old who attended the outpatient clinics in Hospital Pakar USM?
4. Is there any association between the level of knowledge of home accidents and the level of practice towards prevention of home accidents among mothers with children under six years old who attended the outpatient clinics in Hospital Pakar USM?
5. Is there any association between selected sociodemographic data (age, educational level, household income, employment status and history of child injury at home) and the level of knowledge of home accidents among mothers with children under six years old who attended the outpatient clinics in Hospital Pakar USM?

1.4 Research Objectives

1.4.1 General Objective

To assess knowledge, attitude and practice towards the prevention of home accidents among mothers with children under six years old who attended the outpatient clinics in Hospital Pakar USM.

1.4.2 Specific Objectives

The specific objectives for this study are as follows:

1. To determine the level of knowledge of home accidents among mothers with children under six years old who attended the outpatient clinics in Hospital Pakar USM.
2. To determine the level of attitude towards the prevention of home accidents among mothers with children under six years old who attended the outpatient clinics in Hospital Pakar USM.
3. To determine the level of practice towards prevention of home accidents among mothers with children under six years old who attended the outpatient clinics in Hospital Pakar USM.
4. To determine the association between the level of knowledge of home accidents and the level of practice towards prevention of home accidents among mothers with children under six years old who attended the outpatient clinics in Hospital Pakar USM.
5. To determine the association between selected sociodemographic data (age, educational level, household income, employment status and history of child

injury at home) and the level of knowledge of home accidents among mothers with children under six years old who attended the outpatient clinics in Hospital Pakar USM.

1.5 Research Hypothesis

Hypothesis 1 (H0): There is no association between the level of knowledge of home accidents and the level of practice towards prevention of home accidents among mothers with children under six years old who attended the outpatient clinics in Hospital Pakar USM.

(H1): There is an association between the level of knowledge of home accidents and the level of practice towards prevention of home accidents among mothers with children under six years old who attended the outpatient clinics in Hospital Pakar USM.

Hypothesis 2 (H0): There is no association between selected socio-demographic characteristics (age, educational level, household income, type of housing and number of children) and the level of knowledge of home accidents among mothers with children under six years old who attended the outpatient clinics in Hospital Pakar USM.

(H1): There is an association between selected socio-demographic characteristics (age, educational level, household income, type of housing and number of children) and the level of knowledge of home accidents among mothers with children under six years old who attended the outpatient clinics in Hospital Pakar USM.

1.6 Significance of study

Home accidents could have been prevented through proper health education, particularly among caregivers like mothers, who played a vital role in ensuring child safety. These incidents, often resulting from unsafe environments and lack of awareness, led to serious injuries or even fatalities. Research indicated that many mothers were unaware of the causes and prevention strategies for home accidents, highlighting the need for targeted educational initiatives. By providing mothers with accurate information, it was possible to significantly reduce the likelihood of home injuries and enhance overall child safety.

The purpose of this study was to assess the level of knowledge, attitudes, and practices of home accident prevention among mothers who attended the outpatient clinics at Hospital Pakar Universiti Sains Malaysia (HPUSM) involving their children under the age of six. The findings aimed to enhance awareness of safety precautions, thereby helping to reduce home accidents in this vulnerable demographic. Additionally, the results served as a valuable resource for healthcare providers, enabling them to develop effective training programs and safety campaigns specifically for mothers.

As healthcare responsibilities expanded, the delivery of health education on home safety became increasingly critical. This study assisted healthcare providers in educating families on creating safer environments for children. Furthermore, the findings stimulated additional research into child safety, raised community awareness, and ultimately improved health outcomes for children.

1.7 Definitions of Operational Terms

There operational terms used in this research proposal are shown below :

Table 1.1 Definitions of operational terms

	Conceptual Definition	Operational Definition
Knowledge of home accidents	Understanding of or information about a subject that you obtain through experience or study, whether understood by one person or by people generally (Cambridge Dictionary, 2024).	In this study, knowledge refer to a respondent (mother) who are knowledgeable towards home accident.
Attitude of home accidents	An emotion or opinion about something or someone, or a manner of acting that is caused by this (Cambridge Dictionary, 2023).	Mothers' attitude towards home accidents will be assessed using 3-point Likert scale which consists of 9 items.
Practice of home accident prevention	Action instead of thought or ideas (Cambridge Dictionary, 2023).	Mothers' practice towards home accidents prevention will be assessed using 'Yes', 'No' or 'Sometimes' option that consists of 7 items.
Home Accident	The house, apartment, etc. where you live, especially with your family, that results in something bad that happens that was not expected or intended and that frequently damages something or	Participants with children under 6 years old experienced of home accidents, caused by daily risks such as household chemicals,

	injures someone (Cambridge Dictionary, 2023).	electrical equipment, and lack of supervision (Sahril, 2014).
Mothers with Children under Six Years Old	A female parent with young children in the early phases of childhood development, particularly those under the age of six, a critical period for growth and learning (Cambridge Dictionary, 2023).	Mothers with children under the age of six refer to caregivers responsible for safeguarding the safety and well-being of young children in the household who are attended as outpatient or caregiver at outpatient clinics in Hospital Pakar USM (Ministry of Health Malaysia, 2021).

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter provides a general review of the literature related to knowledge, attitude and practice of home accidents among mothers who attend outpatient clinic in Hospital Pakar USM. This chapter is organized into six sections covering topics most relevant to answering this study's research questions, meeting its objectives and supporting or disagreeing with its hypotheses. The first section focuses on the home accidents. This part will discuss the level of knowledge, attitude and practice towards home accidents from mothers. Next, the association between the socio-demographic factors such as age, educational level, household income, employment status and number of children with home accidents will be discussed thoroughly. The last part of this chapter will focus on the conceptual framework used in this study.

2.2 Home Accidents

Children's injuries from home accidents are a growing community health concern. Injuries are characterized as intentional or unintentional. According to the National Safe Kids Campaign in the United States, 40% of deaths and 50% of nonfatal unintentional injuries occur at home (Mohamed A Megahed et al., 2016). An accident can be described as an unexpected and unplanned event that typically results in unintentional harm, such as injury, death, or damage to property (Üçüncü et al., 2019).

Accidents are a major cause of illness and death among children. According to the World Health Organization (WHO), up to 50% of children who are hospitalized due to unintentional injuries are left with disabilities (Peden, 2008). Additionally, nearly half of

all injuries in young children occur at home. Children under the age of five are especially vulnerable to home-related injuries because they spend most of their time indoors (Phelan et al., 2011).

In 2015, an estimated 5.82 million children under the age of five died globally (Kassebaum et al., 2017). The injury-specific mortality rate for children under five was 73 per 100,000 population (World Health Organization, 2015). According to the 2014 Egypt Demographic and Health Survey (EDHS), 4% of children under the age of five are consistently reported to have been injured or involved in an accident. (El-Zanaty et al., 2015) identified open wounds, fractures, and burns as the most common injuries among children, accounting for 46%, 36%, and 20% of reported cases, respectively, with only 2% involving other types of injuries.

2.2.1 Fall

Three studies from Malaysia and Brazil examine pediatric falls, emphasizing the impact of the environment, adult supervision, and the nature of fall-related injuries.

A study conducted in a Malaysian rehabilitation hospital reviewed falls among hospitalized children in 2020, identifying 16 reported incidents. The majority of these children were male (56.25%), with falls occurring primarily during activities such as mobilizing, therapy, bathing, and toileting (68.75%). These incidents usually led to minor injuries (43.75%), requiring no further intervention. Notably, only one child who fell was initially assessed as low risk, suggesting that activities involving movement are high-risk for pediatric inpatients (Chern, 2021).

Another Malaysian study examined child falls from high-rise buildings, analyzing how architectural elements like balconies, windows, corridors, and stairs contribute to these incidents. Balconies emerged as the most hazardous feature (eigenvector value =

0.5351), followed by windows and corridors. Children frequently used nearby furniture or appliances to climb, leading to accidental falls, especially on spacious balconies which attracted children to play. Parental overconfidence in window screens as effective fall barriers also added risk, emphasizing the need for child-safe balcony and window designs, such as protective grills and child-proof locks (Yusuf et al., 2021)

In Brazil, a cross-sectional study among children aged 2-5 found that 86.2% had experienced a fall at home, with bedrooms being the most common location (58.3%) even under adult supervision (85.3%), typically by mothers (67.6%). Falls were most frequently from beds (56.4%) or from slipping on wet floors (26.3%). While most falls resulted in no injury (60.3%), a few caused lacerations (16%) or abrasions (14.1%). Additionally, most caregivers (65.7%) reported they had not received any guidance on preventing falls, with those who had received it mainly from community health workers or nurses. This highlights a critical need for enhanced preventive education for caregivers (Silva et al., n.d.).

These studies collectively underscore the role of environmental hazards, supervision limitations, and a lack of parental awareness in pediatric falls. Preventive measures, including child-safe balcony and window designs, improved safety protocols in hospitals, and strengthened fall prevention education, are vital for reducing fall-related incidents among children (Chern, 2021; Silva et al., n.d.; Yusuf et al., 2021).

2.2.2 Burn

Burn injuries are a leading cause of morbidity and mortality worldwide. Children are particularly vulnerable due to their natural curiosity, impulsivity, reactive behavior, and limited ability to assess risks. Among children aged 1 to 4 years, burn injuries are the second leading cause of death after motor vehicle accidents, and they are one of the most

common causes of both injury and death in children from birth to 19 years (Amin et al., 2017).

In South Netherlands, children under five are particularly vulnerable to burn injuries, largely due to unintentional neglect despite extensive prevention campaigns. A review of 381 cases at a Dutch burn center (2013-2015) showed that a lack of supervision, though unintended, was a leading factor in burns among young children. Cases of burns from fire, fireworks, and hot oil were mainly accidental, while injuries involving hot tap water were more commonly due to neglect. Children with these injuries were typically younger, with a median age of 16 months (Loos et al., n.d.).

Similarly, a Polish study found thermal burns to be the predominant type of injury in children, making up 93% of cases, with chemical and electrical burns occurring less frequently. Most thermal injuries stemmed from scalds (84.5%), with fire-related burns and hot object contact being rarer. Home settings, particularly kitchens (59%) and bathrooms (11%), were identified as primary risk areas, aligning with the Netherlands' findings. Children in rural areas experienced more extensive burn injuries than those in urban areas (Kawalec & Pawlas, 2020).

In Malaysia, burns account for about 5.6% of all injury cases, with scalds from hot liquids or solids causing 70.7% of burns among children. As in Poland and the Netherlands, burns predominantly occurred in home settings, with the kitchen being the most frequent location (64.6%). These studies highlight the role of home environments and limited supervision as major contributors to paediatric burns, underscoring the need for focused prevention in high-risk areas to mitigate burn injuries among young children (H. Hasni et al., 2003).

2.2.3 Sharp wound

Research from the United States, Malaysia, and India provides valuable perspectives on the nature of sharp injuries in children, with each study highlighting unique patterns and contributing factors.

In the United States, over a 10-year period, sharp force injuries were significantly frequent among younger children, especially those aged 0-4 years, who were more prone to these incidents than to firearm injuries within the same age bracket. Interestingly, the majority of these sharp injuries were unintentional, contrasting with firearm injuries, which had fewer unintentional cases (15.1%). Additionally, nearly 13% of sharp injuries required ICU care, emphasizing the severity of such incidents in certain cases (Wolf et al., 2019).

On the other hand, in Malaysia, sharp injuries were noted as the second most common type of home injury, following falls, and they made up 29.1% of all reported home injuries. Here, the male-to-female ratio was also skewed, with males being more commonly affected. However, adolescents aged 10-19 were the most frequent victims, a contrast to the younger age group seen in the U.S. study. Additionally, Malaysian cases largely occurred outdoors, with open wounds and superficial injuries being predominant (H. Hasni et al., 2003).

In India, sharp injuries represented the third most common domestic injury, following falls and traffic accidents. Similar to the findings in Malaysia, injuries were primarily sustained indoors by younger children aged 2-3, though outdoor injuries were most often seen in children aged 4-5. Injuries tended to affect the lower extremities, highlighting a difference in the common injury sites compared to those in the U.S. and Malaysian studies (Khan et al., n.d.).

Together, these findings reveal the complexity of sharp injuries in children. While the U.S. study points to a prevalence among younger children and the need for acute care, the Malaysian and Indian studies suggest that age, location, and environmental factors such as outdoor play areas and high-risk home areas like kitchens play significant roles in the occurrence of these injuries, with each location contributing unique risk factors (H. Hasni et al., 2003; Khan et al., n.d.; Wolf et al., 2019).

2.3 Knowledge of home accidents

Since mothers are often the primary caregivers for young children, they play a vital role in preventing accidents at home. Their awareness of safety precautions can significantly reduce the risk of injuries related to the home environment, such as burns, falls, and poisoning (Peden, 2008; Sahril, 2014). Additionally, applying proper first aid techniques for minor injuries can often prevent the need for medical attention (Al Rumhi et al., 2020). Moreover, knowledgeable mothers can educate other family members about safety measures, thereby creating a safer environment for everyone. This proactive approach not only enhances children's health outcomes but also alleviates the financial burden associated with injuries (Sahril, 2014).

Mothers in the present study exhibited a generally low level of knowledge regarding home accidents, with only 9.8% demonstrating good knowledge. This deficiency may be linked to their supervision practices, as many still experienced home accidents despite their efforts. Such accidents may occur due to circumstances beyond their control, compounded by the pressures of modern society that often reduce the time families spend together (Nour et al., 2020).

Similar results were found in a study conducted in China, which indicated that parental knowledge of injury prevention and safety promotion was inadequate (Wang et

al., 2012). In contrast, an Iranian study involving 230 mothers of preschool children reported that 75% demonstrated good knowledge of preventive measures for home injuries (Hatamabadi et al., 2014). These contrasting findings highlight the variability in maternal awareness and practices across different cultural and social contexts, emphasizing the need for targeted educational interventions to improve home safety knowledge among parents globally.

2.4 Attitude towards home accidents

Young children's natural curiosity makes them prone to injuries. Therefore, maintaining a safe home environment and providing close supervision are crucial to minimizing the risk of minor injuries. In the present study, it was found that negative attitudes and behaviors were more prevalent among mothers of children who had experienced home accidents. This aligns with findings reported by (Uskun et al., 2008), who noted similar trends in their research. Additionally, in a study focusing on mothers with children aged 0-6 years, it was observed that many mothers felt ill-prepared to implement effective safety measures against home accidents (Aktürk & Erci, 2016).

According to the findings, nearly 62% of mothers demonstrated a fair to poor attitude regarding home accidents (Al-Mossawy et al., 2021). This is consistent with Aktürk's study, which indicated that mothers of children who experienced home accidents exhibited significantly more negative attitudes and behaviors ($p < 0.05$) (Aktürk & Erci, 2016). Additionally, a separate study conducted in Turkey found that women with children aged 0 to 6 years struggled to effectively prevent home mishaps, highlighting a critical gap in knowledge and preparedness among parents (Al-Mossawy et al., 2021).

Mothers' attitudes toward home safety practices may be influenced by their perceptions of their child's vulnerability to injury. Many mothers might believe that their child is less likely to get hurt and that close supervision is sufficient to ensure safety. Additionally, some mothers may assume that their children possess an understanding of basic safety rules, which leads them to think that the child will inherently behave in ways that minimize risks (Grajales et al., 2014).

2.5 Practice towards the prevention of home accidents

Preventing home accidents is vital for ensuring the safety of young children, particularly since they are more vulnerable to hazards due to their age and developmental stage. Various studies have explored mothers' practices in home accident prevention, shedding light on significant differences in their approaches and effectiveness.

A study from Makkah, KSA, involving 368 mothers attending paediatric clinics, showed that many mothers engage in basic safety measures such as keeping children away from hazardous substances. Specifically, 91% of mothers reported that they keep children away when using detergents, and 85% confirmed checking for gas leaks when changing cylinders. However, despite these efforts, only 29% of the mothers demonstrated overall good practices, such as constant supervision or instructing family members on handling domestic hazards (Nour et al., 2020). This study points to a significant gap in comprehensive safety practices, even among mothers who perform certain preventive actions.

In comparison, research from Nashik, India, examining 90 urban mothers of toddlers, showed that a majority had sufficient knowledge and practices to prevent home accidents. About 66.7% of the mothers exhibited adequate knowledge and preventive measures, while 33.3% had a moderate level of knowledge, with none falling into the

inadequate category (Gholap, 2017). This suggests a more widespread practice of accident prevention among this population, possibly due to better access to information and healthcare services.

Similarly, a study from Nepal assessing the awareness and practices of mothers with children under five found that 59.2% of respondents had satisfactory accident prevention practices, while 15.5% exhibited good safety behaviors. However, a notable percentage, 25.3%, did not implement adequate safety measures, emphasizing the need for more effective interventions to improve practices (Adhikari et al., 2017).

Taken together, these studies highlight a common issue: while some mothers demonstrate preventive behaviors, many still lack good practices in home accident prevention, particularly in regions with limited resources or education. This inconsistency across different populations underscores the need for targeted educational programs that emphasize better accident prevention strategies to ensure safer home environments for children.

2.6 Association between knowledge and practice toward prevention of home accidents

Research on the relationship between knowledge and practices in preventing home accidents presents varying outcomes across different contexts. In a study from India, no significant correlation was found between knowledge and self-reported practices related to home accident prevention ($p < 0.05$). However, the study noted that practices were influenced by factors such as parental age, education level, number of children, and family type (Jena, 2020).

Conversely, a study conducted in El-Beheira Governorate found a strong association between mothers' knowledge and their safety practices at home ($X^2 = 21.714$, $p < 0.001$). It showed that 44% of mothers with good knowledge demonstrated good safety practices, while 17% with good knowledge had poor practices, indicating that higher knowledge levels were associated with improved practices (Sabry Zedain et al., 2022).

Another study from India compared the knowledge and practice scores of urban and rural mothers. Urban mothers had a mean knowledge score of 14.51 (SD = 2.018) and a mean practice score of 14.24 (SD = 1.980), while rural mothers had a mean knowledge score of 14.47 (SD = 2.213) and a mean practice score of 14.23 (SD = 1.890). The study found no significant differences between the knowledge and practice scores of urban and rural mothers, suggesting that geographic location did not influence their knowledge or practices related to accident prevention (Hazarika & Sarma, 2022).

These findings highlight diverse patterns in the knowledge-practice relationship. While the Indian studies found no significant link, the El-Beheira study demonstrated a clear connection, suggesting that regional or cultural factors may play a role in shaping these outcomes.

2.7 Association between socio-demographic characteristics and knowledge of home accidents

2.7.1 Age

Studies on the association between age and mothers' knowledge of home accidents reveal diverse findings. In Bangalore, a study involving 60 mothers of children under five found that 41.7% were aged 26–30 years, while 40% were aged 31–35 years. However, the study reported no significant association between maternal age and

knowledge of home accidents, suggesting that age did not influence knowledge levels in this group (Shanthi et al., 2020).

In contrast, a study conducted in Vadodara with 100 mothers showed notable variations in knowledge across age groups. Most mothers (86%) had average knowledge, while 14% had poor knowledge regarding the prevention and management of home accidents. Younger mothers aged 18–24 years demonstrated the highest proportion with average knowledge (47%), followed by those aged 25–30 years (26%) and those above 30 years (13%). These findings indicate a decline in average knowledge as age increases in this population (Sanjay Shinde, 2022).

Similarly, a study from Makkah, which included 368 mothers attending pediatric clinics, found differences in knowledge scores across age groups. Mothers aged 20–30 years had a mean knowledge score of 5.60 (± 1.39), those aged 31–40 scored 5.85 (± 1.59), and mothers above 40 years had the highest score of 6.14 (± 1.48). This suggests that knowledge improves with age in this group (Nour et al., 2020).

In comparison, the Bangalore study found no significant relationship between age and knowledge, while the studies from Vadodara and Makkah highlighted variations in knowledge levels based on age. These differences underscore the need to consider population-specific factors when assessing the influence of age on maternal knowledge of home accident prevention.

2.7.2 Educational Level

Educational attainment plays a critical role in shaping mothers' knowledge regarding home accident prevention. A study conducted in Makkah, Saudi Arabia, which involved 368 mothers at pediatric clinics, indicated that 57.81% of these participants held a university degree. The findings revealed that mothers with higher education levels

displayed significantly better knowledge and attitudes towards the prevention of home accidents. Additionally, those who were employed and had undergone first-aid training were more likely to demonstrate positive KAP scores, highlighting the importance of both educational and practical experiences in influencing safety practices (Nour et al., 2020).

Similarly, research at Şişli Hamidiye Etfal Training and Research Hospital assessed 217 mothers with children aged 0-6 years, where 72.5% had completed at least high school. This study established a strong link between higher educational attainment and improved knowledge of home accident prevention. It also noted that working mothers exhibited better safety practices compared to non-working mothers. Furthermore, younger mothers (under 35) with higher education levels had a greater mean score regarding the application of safety measures, further emphasizing the direct impact of educational background on preventive behavior (Üçüncü et al., 2019).

On the other hand, a study in Turkey involving 340 mothers of children aged 0-5 years found that 43.8% had only completed primary school. This research identified a significant correlation between maternal educational levels and the occurrence of home accidents, with lower education levels associated with a higher incidence of such accidents ($p=0.001$). The study also indicated that mothers with less education were more likely to engage in unsafe behaviors and attitudes, especially if their children had previously experienced accidents (Uskun et al., 2008)

Together, these studies highlight that increased educational levels are associated with enhanced knowledge, attitudes, and practices related to home accident prevention. The results suggest that focused health education initiatives targeting mothers with lower levels of education could be crucial in mitigating home accidents, as higher education

equips mothers with the knowledge and skills necessary to implement effective preventive measures.

2.7.3 Employment Status

Mothers' employment status significantly influences their knowledge regarding home accidents among young children. A study in the Menouf District of Egypt, involving 270 mothers, found that 69.3% were housewives. This research established a positive correlation between mothers' knowledge and their socioeconomic status, which was also related to their educational levels ($p < 0.001$). Those with higher socioeconomic status had better access to information through mass media, thereby increasing their likelihood of implementing safety measures at home. In contrast, mothers with lower socioeconomic status exhibited less knowledge about preventing home injuries (Mohamed A Megahed et al., 2016).

In another study with 340 mothers of children aged 0-5 years, a significant link was identified between maternal occupation and the incidence of home accidents ($p = 0.010$), revealing that children of housewives experienced a higher frequency of accidents. Furthermore, there was a clear relationship between income levels and the occurrence of home accidents; lower income was associated with a higher incidence of such accidents ($p = 0.001$). This suggests that as income levels rise, the frequency of home accidents decreases, implying that financial stability enhances mothers' ability to create safer home environments for their children (Uskun et al., 2008).

Collectively, these studies highlight how employment status affects mothers' capabilities in preventing home accidents. Employed mothers, particularly those from higher socioeconomic backgrounds, typically demonstrate better knowledge and practices regarding child safety at home. Conversely, housewives or those with lower

incomes may encounter obstacles that hinder their access to educational resources and effective safety practices.

2.7.4 Household Income

Research has shown a notable connection between household income and mothers' knowledge, attitudes, and practices (KAP) concerning home accidents among children. In a study conducted in Makkah, Saudi Arabia, involving 368 mothers, it was found that those with higher family incomes exhibited significantly better safety practices. Approximately 45.31% of the participants reported earning between 5,000 and 10,000 Riyals (about RM 5,500 to RM 11,000), suggesting that increased financial resources enable mothers to adopt effective safety measures at home (Nour et al., 2020).

Similarly, a study with 217 mothers of children aged 0-6 years highlighted that those from higher-income families demonstrated greater awareness of home accidents ($p < 0.001$). A significant proportion (66.5%) reported a monthly income exceeding 3,001 Turkish Lira (around RM 1,400). The findings revealed that the knowledge of working mothers and families with an average income above 1,500 TL was markedly superior compared to lower-income groups ($p < 0.001$). However, the study also noted no significant difference between economic conditions and the actual occurrence of home accidents, indicating that families with lower socioeconomic status might be at a higher risk due to inadequate living conditions, despite not necessarily having more reported incidents (Üçüncü et al., 2019).

A study in Turkey, which included 244 volunteer mothers, found a clear link between income level and scores on accident prevention knowledge and practices. Mothers earning below 1,000 TL or between 2,000-5,000 TL scored notably lower than those earning over 5,000 TL. This suggests that lower-income families may find it