

**FACTORS ASSOCIATED TO HOME INJURIES
IN PRESCHOOL CHILDREN**



**A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF NURSING SCIENCE
(PEDIATRIC NURSING)
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY**

2007

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Thesis

Entitled

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IN PRESCHOOL CHILDREN**

Wannaprai Yamma

Miss Wannaprai Yamma
Candidate

Rutja Phal

Prof. Rutja Phuphaibul,
D.N.S.
Major-Advisor

Renu Pookboonmee

Asst. Prof. Renu Pookboonmee,
D.N.S.
Co-Adviser

B. Mahaisavariya

Prof. Banchong Mahaisavariya,
M.D.
Dean
Faculty of Graduate Studies

Orasa Panpakdee

Assoc. Prof. Orasa Panpakdee,
D.N.S.
Chair
Master of Nursing Science
Faculty of Medicine,
Ramathibodi Hospital

Thesis

Entitled

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was submitted to the Faculty of Graduate Studies, Mahidol University
For the degree of Master of Nursing Science (Pediatric Nursing)

On

October 1, 2007

Wannaprai Yamma

Miss Wannaprai Yamma

Candidate

[Signature]

Lect. Vanida Durongritichai,

Dr.PH.

Member

Nirobol Kanogsonthornrat

Asst. Prof. Nirobol Kanogsonthornrat,

D.N.S.

Chair

Renu Pookboonmee

Asst. Prof. Renu Pookboonmee,

D.N.S.

Member

Rutja Phuphaibul

Prof. Rutja Phuphaibul,

D.N.S.

Member

B. Mahasavariya

Prof. Banchong Mahaisavariya,

M.D.

Dean

Faculty of Graduate Studies

Mahidol University

Rajata Rajatanavin

Prof. Rajata Rajatanavin,

M.D., F.A.C.E.

Dean

Faculty of Medicine, Ramathibodi Hospital

Mahidol University

ACKNOWLEDGEMENTS

I wish to express my sincere gratitude and deep appreciation to Professor Dr. Rutja Phuphaibul, my major adviser for her assistance; guidance, supporting, understanding and helping me conduct the study step by step from the beginning until the end of the study. I would like to deeply thank Assistant Professor Dr. Renu Pookboonmee, my co-adviser for their advice, kindness and encouragement throughout the study

My gratitude is extend to my thesis committee member, Assistant Professor Nirobol Kanogsonthornrat and Lecturer. Dr. Vanida Durongritichai for their valuable comments and supervision. Special thank are also given to Associate Professor Adisak Phalitpholkarnpim, M.D., Assistant Professor Suwannee Udomtassanee, Assistant Professor Dr. Chuenruedee Kongsaktrakul for their valuable suggestion in validating the questionnaire form. In addition, I would like to thank to Assist. Prof. Parichard Gooch, Assist Prof. Noppawan Piaseu for warm guidance and in valued comments with respect to statistician analysis of the data.

I greatly appreciate for Dean, Faculty of Nursing, Rangsit University who has given me a permission to leave for time study. Special thank to staff of Tambon Taopoon, Tambon Tharab, Tambon Watkaw and Tambon Nongplamor for their helping to kindness extending collect data. This research would not be successes without great cooperation from the parents and caretaker of children in this study. I am very grateful.

I would like to thank to the Master of Nursing Science, Faculty of Medicine, Ramathibodi Hospital, Mahidol University for given a chance of studying here and I would like to thank all the teacher who have taught me.

Finally, a special appreciation is extended to my family and all my friend for their kind support and encouragement throughout the study.

Wannaprai Yamma

FACTORS ASSOCIATED TO HOME INJURIES IN PRESCHOOL CHILDREN

WANNAPRAI YAMMA 4536544 RAPN/M

M.N.S. (PEDIATRIC NURSING)

THESIS ADVISORS: RUTJA PHUPHAIBUL, D.N.S., RENU POOKBOONMEE, D.N.S.

ABSTRACT

The present descriptive research aimed at investigating the factors associated to home injuries in preschool children, including personal factors (gender and personal characteristics of children), social factors (age of parents, educational of parents, occupation of mothers, number of children in the family, and family income), and environmental factors (home environment), with the number of injuries as the dependent variable. The data were collected by interviewing parents or caretakers of 120 preschool children aged three to five years in Ratchaburi Province to elicit data regarding types and numbers of injuries in the past three months. Data were then analyzed by means of Chi-square test.

The findings of the study revealed that of the 120 subjects, 60% were boys and 40% were girls. Most of the subjects had personal characteristics as they were unable to be still for a long period of time. Instead, 75.8% of them were very active and liked to climb or jump up and down. On average, the subjects had 2.1 siblings in the family, and the mean ages of their fathers and mothers were 32.9 and 30.2 years, respectively. Most of their parents were still in the working age group. They had completed elementary education, and most worked as wage earners. The average family income was 10,069 Baht per month.

The findings of the study revealed that there was a statistically significant association between children's personal characteristics and home injuries in preschool children ($\chi^2 = 17.83$, $df = 2$, $P < .001$) However, the other factors was not associated to home injuries in preschool children.

The present study sheds light on the significance of prevention of home injuries in preschool children. Parents should take care of their own children, or find baby sisters or caretakers who understand specific characteristics of each child so as to provide proper care that ensures children's safety and well-being.

KEY WORDS: HOME INJURIES/PRESCHOOL CHILDREN/ASSOCIATED

92 pp.

ปัจจัยที่มีความสัมพันธ์กับการบาดเจ็บที่บ้านของเด็กวัยก่อนเรียน
(FACTORS ASSOCIATED TO HOME INJURIES IN PRESCHOOL CHILDREN)

วรรณไพโร แยมมา 4536544 RAPN/M

พย.ม.(การพยาบาลเด็ก)

คณะกรรมการควบคุมวิทยานิพนธ์: รุจา ภูไพบูลย์,D.N.S., เรณู พุกบุญมี,D.N.S.

บทคัดย่อ

การวิจัยครั้งนี้เป็นการวิจัยเชิงบรรยาย เพื่อศึกษาปัจจัยที่มีความสัมพันธ์กับการเกิดอุบัติเหตุในบ้านของเด็กวัยก่อนเรียน ซึ่งประกอบด้วยปัจจัยด้านบุคคล (ได้แก่ เพศ ลักษณะเฉพาะตัวของเด็ก) ปัจจัยด้านสังคม (ได้แก่ อายุของบิดา-มารดา การศึกษาของบิดา-มารดา อาชีพของมารดา จำนวนพี่น้องในครอบครัว และรายได้ของครอบครัว) และปัจจัยด้านสิ่งแวดล้อม (สิ่งแวดล้อมที่บ้านและบริเวณบ้าน) และมีจำนวนครั้งของการเกิดบาดเจ็บเป็นตัวแปรตาม โดยสำรวจการเกิดการบาดเจ็บที่บ้านย้อนหลัง 3 เดือน กลุ่มตัวอย่างเป็นเด็กก่อนวัยเรียนที่มีอายุ 3-5 ปี ในจังหวัดราชบุรี จำนวน 120 คน เก็บข้อมูลโดยใช้แบบสอบถามถามบิดา-มารดา หรือผู้เลี้ยงดู วิเคราะห์ข้อมูลด้วยสถิติ Chi-square

ผลการศึกษาค้นคว้า พบว่ากลุ่มตัวอย่าง 120 คน เป็นเด็กชาย 60% เด็กหญิง 40% ส่วนใหญ่พบว่ากลุ่มตัวอย่างมีลักษณะเฉพาะตัวคือ มีพฤติกรรมอยู่เฉย ๆ ใต้ไม้นาน ซุกซนกว่าปกติ อยู่ไม่นิ่ง และมีพฤติกรรมชอบปีนป่าย กระโดดขึ้นลงเป็นบางครั้งถึงร้อยละ 75.8 กลุ่มตัวอย่างมีพี่น้องในครอบครัวเฉลี่ย 2.1 คน บิดามีอายุเฉลี่ย 32.9 ปี มารดามีอายุเฉลี่ย 30.2 ปี ซึ่งส่วนใหญ่อยู่ในวัยทำงาน บิดา-มารดาส่วนใหญ่จบการศึกษาชั้นประถมศึกษา ประกอบอาชีพรับจ้างเป็นส่วนใหญ่ มีรายได้เฉลี่ยของครอบครัวอยู่ที่ 10,069 บาท/เดือน

เมื่อวิเคราะห์หาความสัมพันธ์พบว่าลักษณะเฉพาะตัวของเด็กมีความสัมพันธ์กับการเกิดบาดเจ็บที่บ้านของเด็กวัยก่อนเรียน ($\chi^2 = 17.83$, $df = 2$, $P < .001$) ส่วนตัวแปรอื่นพบว่าไม่มีความสัมพันธ์กับการเกิดบาดเจ็บที่บ้านของเด็กวัยก่อนเรียน

การศึกษาค้นคว้าชี้ให้เห็นความสำคัญในการป้องกันการบาดเจ็บในเด็กก่อนวัยเรียน บิดา-มารดาควรเป็นผู้ดูแลเด็ก หรือจัดหาผู้ดูแลเด็กที่มีความเข้าใจลักษณะเฉพาะตัวของเด็กแต่ละคน เพื่อจะได้ดูแลเด็กอย่างระมัดระวัง ไม่ควรปล่อยให้เด็กอยู่ตามลำพังโดยปราศจากผู้ดูแล

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CHAPTER I

INTRODUCTION

Background and Rationale

The mortality of Thai children caused by injury has been increasing since 1987, and this has been the cause of great concerns as the issue of injuries-related deaths does not seem to receive much attention and is not much mentioned in the policy of the government and the Ministry of Public Health's injuries.

In Thailand, the available literature indicates that injury is the major cause of mortality and morbidity in the children under 15 years with the highest rates in preschool children (Chanpen Chuprapawon, 2000: 105, 121). The review of Children's hospital admission shows that child injury rates had increased from 5.06 to 6.21 percent during 1990-1992. Sawitree Chalorn and Somnuk Trichaiyaporn (1992: 523) reported that 60 percent of injury children were admitted with a majority of 2-5 years old children.

Additionally, the review of injured report in Thailand during 1996-1997 supported the significant of injury in preschool children. The preschool children had the morbidity rates of 18,100 per 100,000 populations and mortality rates of 22.6 per 100,000 populations. These rates were the second ranked cause of death for the school children, after the infectious disease. The hospital admission rate of injured preschool children was 312.2 per 100,000 populations which was ranked the third, after respiratory infectious disease and diarrhea (Chanpen Chuprapawon, 2000: 104-105).

Injuries in children tend to occur at home or around the home because it is the environment in which they spend most of their time. Thus, injuries happen in unsafe areas in or around the home. A study conducted in 1999 found that 61% of injuries-related deaths in Bangkok occurred at home and in its surroundings (Palitpolkarnpim, 2003: 27). The major types of injury in preschool children. were fall, drowning, and burn. Most of these injuries occurred at home (Ruangkanchanasetr, et al., 1991: Jakchai Jungterrapanit, 1995: 218). Also, other types of injuries were also including

electrocution, injuries caused by materials or products, suffocation, poisons, animal bites, and others (Research Center for Promotion of Safety and Prevention of Injuries in Children : 2004).

The preschool children have the prominent characteristics to get injury more than other children for several reasons. First, they want to do activities by themselves with their physical development restrictions (Nieves, et al., 1996: 206, Porntip Kampor, 1997: 153). They are more likely to be more active than the younger children. While they have not enough experiences and skills to protect themselves from any dangerous things as the older ages do. Moreover, The nature of preschool children, they are inquisitive and want to do activities all the time, which can cause harm especially when they cannot evaluate, make decisions, or solve the problems when they derive (Kulaya Tantipalachiva, B.E. 2542: 122). The preschool children are mischievous, they like to search for objects, and they may climb to fulfill their curiosity, so injuries can happen (Auraphan Leuboonthavatchai, B.E. 2534: 89)

Injury has impacts on preschool children health, including physiological and psychological status. The physiological effect ranges from scars and long-term outcomes (Precha Siritongtaworn & Nantika Sansuwan, 1999: 3-5). Post traumatic stress is a major mental health effect of the preschool children (Peterson & Bell, 1996: 3047, 3065). Moreover, injury can lead to lost, including disability-adjusted life year(DALYs) and the year of life loss (YLL). The study in 1990 reports that DALYs rate from preschool children injury was the third cause of diseases burden for the preschool children next to infectious and non-infectious diseases. The disease burden from injury is expected to be equal or exceed that caused by infectious diseases in the next two decades. In 1998, YLL from injury in the child under 5 years was 95,704 years which is higher than that of other diseases (Chanpen Chuprapawon, 2000: 104)

The study of Ciampo et al., (2001: 239-243) found that most of the children who suffered from injuries were male rather than female. This may be because male children are more naughty and alert than female children (Amphaiphan Panyaroj, B.E.2545: 290). In addition, in families with more than one child, parents may let the older siblings take care of younger ones and feel assured that there are someone to look after their children. However, if problems arise, the older siblings who are in charge are still children who may lack appropriate decision-making and problem-

solving capabilities. Besides, in families with several children, parents may not be able to take sufficient care of each and every one of them, so it is more likely for injuries to take place (Vijit Boonyahotara, B.E. 2531: 47).

Moreover, parents or supervisors can cause danger to children if they lack responsibility, are careless, and do not know children's development and nature. A study by Ramsay et al. (2003: 404–414) found that mothers who had low education had more chances to cause injuries to their children. In addition, Kerstring-Durrwachter & Mielch (2001: 335-342) found that children of low-income mothers tended to have a lower level of education, and these mothers tended to have many children but did not know how to control them, so it is more likely for injuries to occur, too (Villalba-Cota, et al., 2004: 53-57). On the other hand, Ditchsuwan (1996: 52) found that the age of the mothers, which was higher than 30, was one of the protective factors for children. In addition, it was also discovered that the rate of injuries was higher if the parents worked as laborers or traders than the rate of injuries in the families with parents who were government officials, office employees, or businessmen. This may be because parents who worked as laborers or traders had less time to look after their children, or because their work made them too tired or deprived of the time to take care of their children, so they were unable to protect them from injuries. In contrast, the parents who worked in an office or government agency had specific working hours, had more time to take a rest, and were not so exhausted, so they had more opportunity to take a good care of their children (Supatra Tiampathom, 1994: 107). Therefore, it can be summarized that social factors related to injuries in preschool children included father's age, mother's age father's education, mother's education, mother's occupation, and family income. Besides these, environment factors also increase the chance of injuries in preschool children, such as unsafe condition of the house, furniture, electricity outlets, boiling pots in the kitchen, medicine cabinet, and chemicals. In addition, the surroundings such as playgrounds and swimming pools can cause danger if they are not carefully protected. However, every time that an injury happens, parents will be stricken with sadness and sorrow, but everything will fade by time until it happens again with the next child, without knowing how to protect it.

Injury is the leading cause of death and disability for children after the year of life. Investigators from a variety of disciplines have found that child mortality rate from injury can be reduced by preventive methods (Eichelberger, et al., 1990: 714; Chanpen Chuprapawon, 2000: 104-105). Child injury prevention aims to reduce the number, severity, and the adverse consequences of child injuries. It involves various strategies, designed to (a) prevent – causing event, (b) reduce or prevent child injuries during potentially hazardous events that do occur, and (c) enhance survival and minimize adverse outcomes when injury does occur (Barss, et al., 1998: 10).

Health care services have had a strong influence on the children injury prevention activity. They play an important role in the initiation of a child safety programs (Chanpen Chuprapawon, 1995: 175). Despite many programs are success, there is still a wide knowledge and action gap resulting in the occurrence of prevention child injuries.

The obstacles applying the existing injury knowledge to create child safety program include (a) lack of comprehensive statistics for all types of child injury and worldview of injury, (b) lack of political and community concern, (c) practitioner ignorance, and (d) the failure of applying the necessarily intersystem nature of injury prevention work to practice.

In this study, the researcher selected Ratchaburi Province as the research setting because a review of literature has shown that there was no study conducted in the rural community before. When considering the injury statistics of children aged 3 to 5 years in Ratchaburi Province in 2006, it was found that the morbidity rate was 12,721 per 100,000 populations and the mortality rate was 24.5 per 100,000 populations. It could be seen that the mortality rate in Ratchaburi Province was higher than the mean of the whole country. Furthermore, injuries ranked the second cause of death for the preschool children, after infectious diseases (Ratchaburi Public Health Office, B.E. 2549). In addition, the researcher informally interviewed the staff of the Ratchaburi Public Health Office and health stations and found that the related personnel paid little, if any, attention to prevention of injuries in children. Most of the work was related to campaigning accident preventions during major festivals. In fact, prevention of injuries in children was significant. This is because injuries could be fatal, and they can affect the children's development and quality of life. Some injured

children have to live with the morbidity for the rest of their lives, and this could affect their living or prevent them from taking care of themselves and earn their living, making them a burden on society. Thus, the researcher was interested in investigating factors related to home injuries in preschool children in Ratchaburi Province.

Conceptual Framework

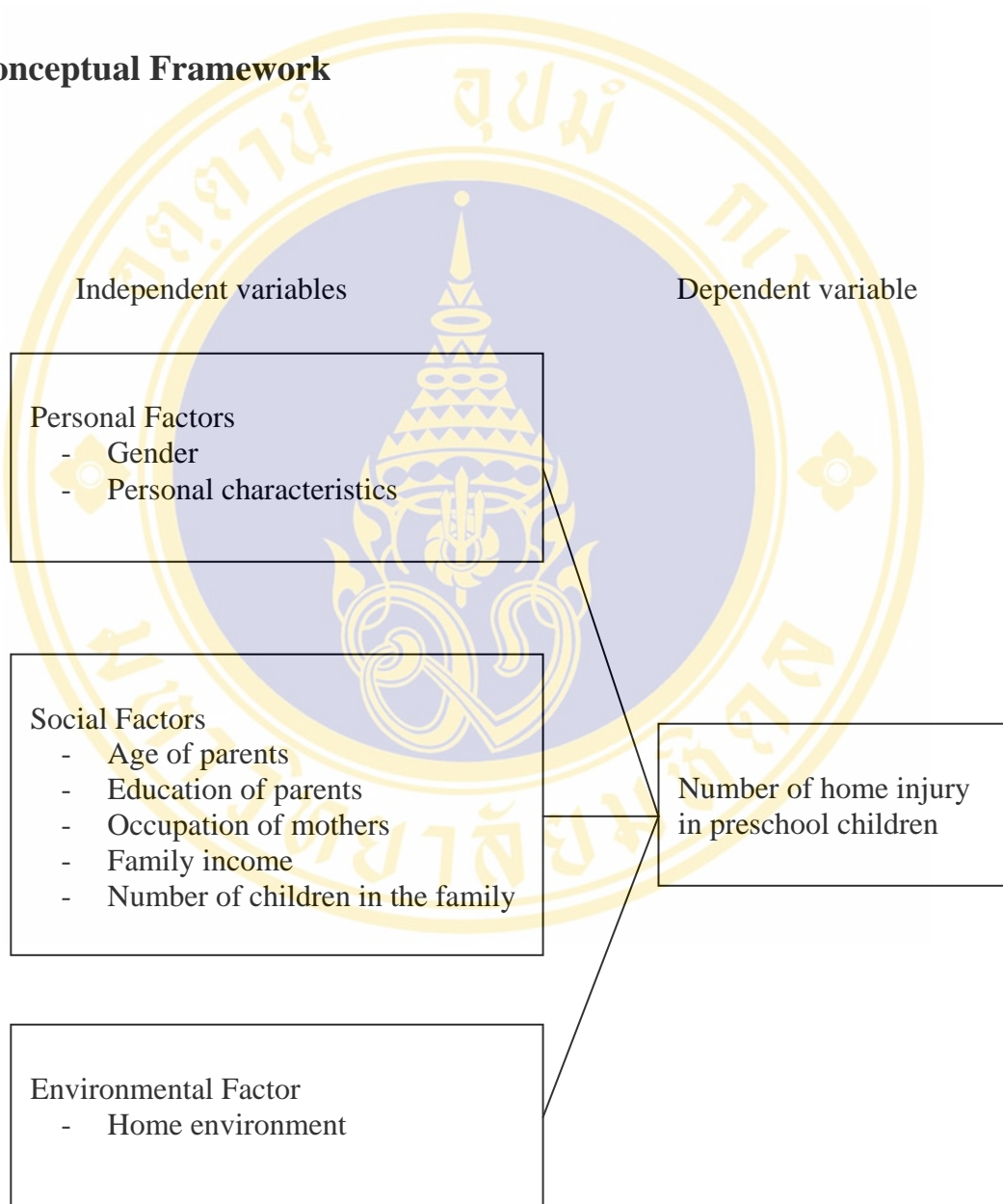


Figure 1: Conceptual framework of the study

Research Objective

To study the factors associated to home injuries in preschool children

Research Hypotheses

There are association between personal factors, social factors, environmental factor and home injuries in preschool children

Study Variables

Independent Variables

1. Personal Factors

- Gender
- Personal characteristics

2. Social Factors

- Age of parents
- Education of parents
- Occupation of mothers
- Number of children in the family
- Family income

3. Environmental Factors

- Home environment

Dependent variable

- Number of home injury in preschool children

Definition of Terms

1. Preschool children referred to children who were three to five years old.

2. Home injuries in preschool children referred to the sudden event which were unintentional forces that occurred without specific intent of harm to preschool children, including environment inside and around of the house that could lead to the physical damage or abnormality (Bolton, et al., 1999: 526; National Institutes of Health, et al., 2001).

In this study, injuries in preschool children referred to history of injury during the past three months. According to International Disease classification version eleven (ICD11) (Medical Institute of Public Hazard and Accident, 1999: 3), 10 injury types for preschool children were classified as follow:

2.1 Fall on the same level and fall on the different level

Fall on the same level referred to fall on the floor such as trip over.

Fall on the different level referred to fall from the high level such as fall from the stair or chair.

2.2 Attack or crash

Attack or crash referred to attacked, crashed, or clipped by persons or objects, including sharp and blunt objects, such as scissors, foreign body, gun, firecracker, knife, paper, or wood.

2.3 Injured by animal

It referred to pet bite, including pet with or without identified owner, and animal bite such as snake, rat, or centipede.

2.4 Drowning

Drowning referred to falling into the well, canal, river, jar, tank, or bucket.

2.5 Respiratory tract injury

It referred to aspirate objects into the respiratory tract, such as food, seed, or candy. Also, it included the obstruction of foreign body in the orifice, nostril, or ear canal.

2.6 Electrical injury

Electrical injury referred to any injuries caused by electrical flame or electrical circuit.

2.7 Smoke or flame injury

Smoke or flame injury referred to smoke aspiration and flame injury.

2.8 Heat or hot object injury

Heat or hot object injury referred to any injuries caused by hot water burn and hot object burn.

2.9 Toxic animal or toxic plant injury

2.10 Toxic substance injury

Toxic substance injury referred to any injuries caused by eating, inhalation, and touching any toxic substances.

3. Personal Factors referred to preschool children characteristics related to any home injuries in preschool children, including gender and personal characteristics by to use demographic data questionnaire.

Gender referred to boys and girls.

Personal characteristics, in this study, referred to injury risk behaviors of preschool children. They were elicited with item 13, 'being unable to be still and being more active' and item 14 'climbing and jumping up and down.'

4. Social Factors referred to parent's characteristics related to home injuries in preschool children. This factors were age of parents, education of parents, occupation of mothers, family income, and number of children in the family that by to use demographic data questionnaire.

Age of parents referred to the number of years of period of life which begins at birth and continues to the present year of the parents of preschool children.

Education of parents referred to the highest level of education attained by the parents of preschool children.

Occupations of mothers referred to main job that mother earn money.

Family income referred to the amount of money both of the parents earn in one month from their paid job and from other sources.

Number of children in the family referred to the number of children who live in the same house.

5. Home environment referred to the environment in and around the home which could cause injuries to the preschool children, that by to use environmental factor questionnaire. In this study, if to found the risk more than one to assume that was the risk which could be divided risk factors score into the following three levels as follows:

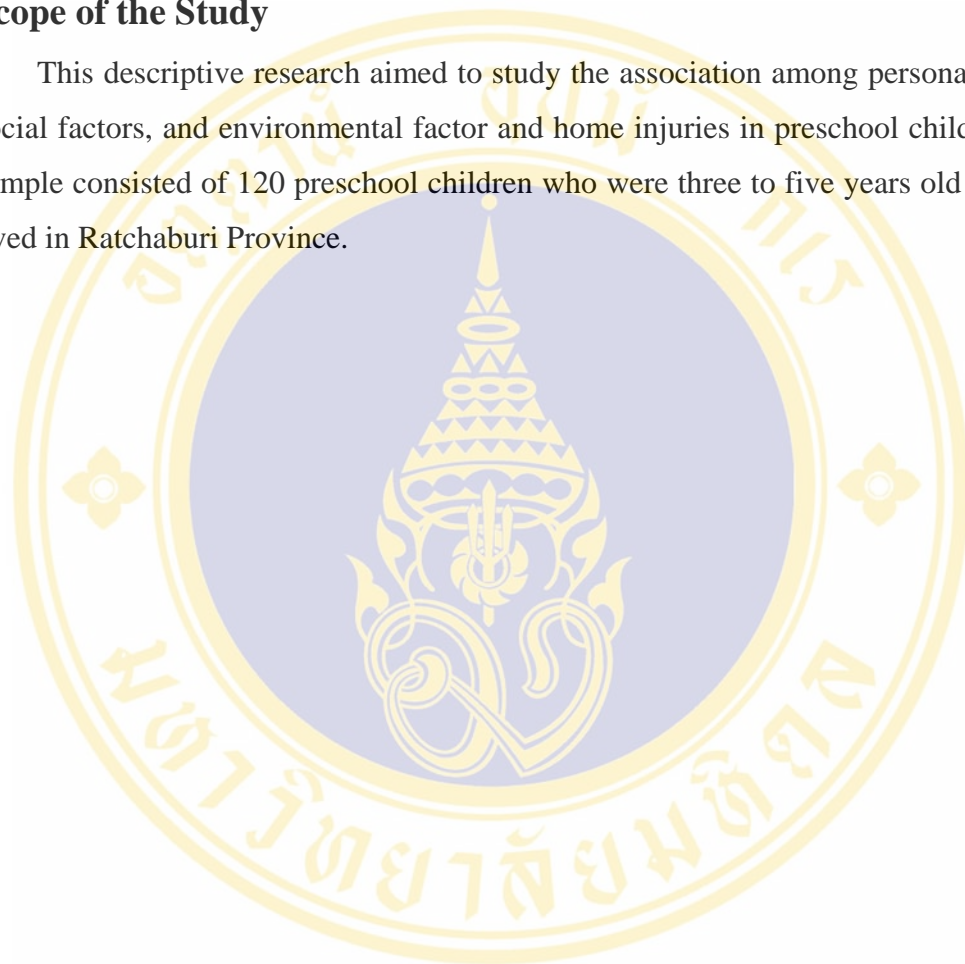
Expect Outcomes and Benefits

1. The findings of the study could be used in planning for reduction in and prevention of injuries in preschool children at home.

2. The findings could encourage parents, caretakers, supervisors, and others who work with preschool children to realize the causes of injuries and to better manage the environment to prevent injuries in preschool children at home.

Scope of the Study

This descriptive research aimed to study the association among personal factors, social factors, and environmental factor and home injuries in preschool children. The sample consisted of 120 preschool children who were three to five years old and who lived in Ratchaburi Province.



CHAPTER II

LITERATURE REVIEW

Injuries can be prevented if a person has awareness, carefulness, and appropriate behaviors. In this chapter, the related literature is reviewed in the following topics:

1. Preschool children home injury
2. Types of home injuries in preschool children
3. Factors associated to home injuries in preschool children

Preschool children home injury

Preschool children is the important stage of personality and lifestyle development. Physical and mental development are determined by interactions of preschool children heredity and their surrounding environment. In addition, they are indirectly depended on child rearing practices of their parents or caregivers (Pulkkinen, 1995: 1660, Wandee Warawit, 1994: 528; Porntip Kampo, 1997: 96-104)

The preschool years are period from three to five years of age. This is an age of discovery, inventiveness, and curiosity. It is also the time when the sociocultural pattern of behaviors is developed.

The rate of physical growth slows and stabilizes during the preschool years. Average weight gain remains about 2.3 kg per year. The average weight at the age of three is 14.6 kg, at the age of four is 16.7 kg, and at the age of five is 18.7 kg.

Growth in height also remains steady at a yearly increase of 6.75 to 7.5 cm and generally occurs in elongation of the legs rather than of the trunk. The average height is 95 cm at the age of three, 103 cm at the age of four, and 110 cm at the age of five.

Physical proportions no longer resemble those of the squat, potbellied toddlers. The preschooler is slender but sturdy, graceful, agile, and posturally erect. There is little difference in physical characteristics according to sex, except as dictated by such factors as dress and hairstyle.

In addition, most bodily systems are mature and stable, and preschool children can adjust to moderate stress and changes. Motor development consists of mostly increases in strength and refinement of previously learned skills, such as walking, running, and jumping. However, muscle development and bone growth are still far from mature. Excessive activity and overexertion can injure delicate tissues.

Properly

fitted shoes, good posture, appropriate exercise, and adequate rest are essential for optimum development of the musculoskeletal system (Whaley & Wong, 1993: 368).

In general, the preschooler learn to develop their personalities by expressing their feelings during doing activities because their cognitive process has not been developed to understand the complex cause and effect relationship. They only have the concrete thinking and often specifically absorbed the immediate interests they can be obvious to their surroundings. They focus on one aspect of a situation and a limited amount of information (Crawley, 1996: 226; Mobley & Evashevski, 2000: 161). Moreover, the curiosity and spirit of adventure for problem solving may lead them into danger (Kelly, et al., 1997: 307). They sometimes misjudge the relations between their physical abilities and the demands of correctly estimating the situation they daily encounter (Plumert & Schwebel, 1997: 317). They tend to overestimate their physical abilities, particularly when they perceive that the consequences of doing activity are not risk for them. As a result, they are not reliable decision makers in protecting their health safely.

Because of improved gross and fine motor skills, coordination, and balance, preschoolers are less prone to falls than toddlers. They learn the world by physical interaction with their environment around them. They explore the properties of object by touching and moving them around (Brown & Dunn, 1996: 789). These children are attracted by noises. They learn to control their bodies and enjoy their daily activities such as dressing, bathing, toilet, and fun – and – games (Safe kids of Georgia, 2000; Thomson, 2000: 641). They tend to be less reckless, listen more to parental rules, and are aware of potential dangers, such as hot objects, sharp instruments, and dangerous height. Putting objects in the mouth as part of exploration has all but ceased, although poisoning is still a danger.

Based on the afore mentioned developments of preschool children, it can be seen that preschool children are more likely to suffer from dangers and injuries. Growth and development of muscles leading to their love of running, climbing, and playing which is seen as a developmental stage of children are the major cause of falls. At this age, children tend to be very active, and they constantly move their body instead of being still. They like to search and learn about new things to practice and develop coordination of their nervous system and their muscles. For instance, they gain more body balance while walking or running, and they like to climb up stairs, tables, or chairs. However, since their calculation of distance is not yet perfect, they are more likely to fall down and bump into objects around them. Some children like to play with door locks, so it is possible that their fingers get stuck at the door. Moreover, children at this age are naturally curious, and they love to experiment. It is possible that sometimes injuries happen because children do not understand or have no experience with dangerous objects in the house. For instance, they may play with a knife to imitate adults, but their motor skills are not fully developed, so they end up cutting themselves. Furthermore, their learning development makes children inquisitive and curious. However, their lack of knowledge and experience may make them easily vulnerable to the dangers from their own doing such as suffocation from a coin they put into their mouth or electrocution from putting a wire in an electrical outlet. Although, the preschool children begin to develop their self – control, but they have not enough knowledge and experience to detect the dangerous situation and to avoid danger.

Mental health of preschool children are as important as their physical health (Katzman, et al., 2000). These children have ambivalent emotions, including good and bad emotions, disclosure express them, and easily change their moods.

Therefore, preschool children have rapid development in every aspects, however, their developmental levels are immature and influenced by their situation responsive capacities. These characteristics, also, affect on child rearing of caregivers, such assupervision and maintaining safety environments.

Type of home injuries in preschool children

Injury is the disruption of structure or function of human organism, resulting from acute exposure to excessive or deficient energy, regardless of intention. Most physical harm or damage are related to the carelessness or risk behavior of the children (Rahman, et al., 1998: 215; Bolton, et al., 1999:526). According to the concept of “accidentology”, injury has been defined as a behavioral process instead of a single event. It leads to a sense of predictability of injury event and this understanding is facilitated to succeed in injury control (Jansson & Svanstrom, 1995: 174-175)

The last revision of the instrument for classifying types of injury is coded from the World Health Organization’s International Classification of Diseases (ICD) which is substantially influenced by the Nordic Medico – Statistical Committee 1991 (NOMESCO). It is useful for investigative purpose, prevention, research, and epidemiological comparisons at the local, regional, national, and international levels (Jansson & Svanstrom, 1995: 175). Its classification system basically concerns about causes of contact, place, injury mechanism, activity, sequence of injury event, and injury circumstances which helped in achieving a better understanding of injury phenomenon.

Many studies reported that most frequent preschooler injuries are vehicle related injury, burn, drowning, fall, suffocation, respiratory obstruction, bruising, and poisoning (Ubol Sribuapuan, 1997: 92; Morrison, et al., 1999: 533). They often occurred inside and outside the house with familiar areas such as kitchen, living room, bedroom, and bathroom, respectively (Ruangkanchanasete, et al., 1991: 127; Jacobson, et al., 2000: 71).

Additionally, preschool injuries are related to activities mostly performed by the preschool children. These activities are classified into five groups, such as falls, burns, drowning, being crushed, and aspiration. Fall from the ladder or bed are commonly happened in preschool children (Adisak Plitponkarnpim, 1999: 7; Mayr, et al., 2000: 618). Common burns involve playing with the lighter or firecracker, being touch by the hot pot, electrical plug, and climb to grasp something (Rajaviti Hospital, 1996: 47-57; Russel, 1998: 180; Anan Tanmukayakul, 1992: 878). Drowning into the ditch near the house during playing was another type of injury reported by the preschool children (Nieves, et al., 1996: 206; Guyer, et al.,

1997: 905-918). Being crashed by others from running, playing or riding is also occurred. Aspiration of food or small objects is the serious injury happened (Jakrapan Susiwa, et al., 1997: 96-100; Morrison, et al., 1999: 957).

Home injury as impacts on physical and mental health of the preschool children. Physical impacts range from tissue injury, wound, disability, and death (Penpimol Yangyong, 1998: 17; Precha Siritongtaworn & Nantika Sansuwan, 1999: 3-5). Bone injury in preschool children are more severe and higher risk for short and long-term disabilities than those of adults because of the rapid growth of the epiphysis of long bone (Adisak Plitponkarnpim, 1999: 29; Bunsin Buranapanichakit, 1999: 210-213; Supachai Jenjindamai, 1999: 218).

The common psychological effect of child injuries was post traumatic stress disorder, common called PTSD. Its symptoms are re-experiencing the injury event through intrusive thought, wanting to avoid subject or stimuli related to the injury event, and increasing in startle response. These symptoms are often manifested through behaviors related to child's trauma, which are difficult to be observed by parents or caregivers. Some children display PTSD through nightmares (Peterson & Bell, 1996: 3065). Poor positive image, educational experience, and quality of social interactions are also the effects of injury on children (Peterson & Bell, 1996: 3047; Crawley, 1996: 226; Kaarlela, 2000).

Other impacts of child injuries are loss of time, expense, and independence. Both physical and psychological effects from injury possibly interfere child development in the present and in the future.

In this study, home injuries, such as falls, burns, poisoning, and drowning are the most common causes of injuries among preschool children as follows:

Falls

Preschool children are mischievous. They love to run and climb. As a consequence, they are more likely to fall down or fall from a high place. A study by Pooltawee (2001:34) showed that falls were approximately half of the injuries among children 1 – 4 years old. The characteristics of the victim, agent environment, and supervision if injuries showed that 38.5 of falls happened in children aged 2 years Over half of them (60%) Male: female was 1:1.2. Most of falls happened in the home

(71.0%) and elsewhere around the home Head/neck was the main site of injury (56.9%), 64.6% of the falls were involved playing. As well as, a study by Barry, (1997: 393-397) falls are the most common cause of injuries (54.6 %) that bring a patient of all ages to the emergency department. More importantly, falls occur most frequently in children younger than five years of age. They rarely cause death, but often result in broken bones and head injury. Moreover, a study of Lallier (1999: 1060-1063) showed that falls are a major cause of emergency room visits and admissions in pediatric hospitals. In the study with 64 patients including 45 boys and 19 girls, the findings indicated that the patients mainly fell from balconies, windows, trees, roofs, and stairs. Over 60% of falls occurred in private houses. In summary, falls occur particularly often, including falling from stairs, falling from playground equipment, falling from a bicycle, falling from the tree, falling from balconies or windows, and falling from a piece of furniture.

Hand Injuries

A study by Mirdad (2005: 47-49) showed that the male: female ratio was 1.7: 1.0, with both left-handed and right-handed children were relatively equally injured. The finger most commonly injured was the middle finger, followed by the index finger. The most common type of hand injury was crush injuries caused by doors at home (52.2%), heavy objects (6.6%) and injuries caused by grinding machines (6.6%). Moreover, a study of Muguina (2004: 201-204) found that treadmills impose a high risk for children. A child's hand can get trapped in the conveyor belt, causing friction burns to the underlying tissue. Ten patients, at a mean age of 3.4 years, sustained injuries associated with treadmill use. Trapping of the hand between the conveyor belt and the base was the most frequent injury mechanism. Burn location was predominantly on fingers and palms. Four patients required operative intervention. All patients required specialized wound care as well as scar management and occupation therapy. As the result of these injuries is general poor, prevention is more important.

Drowning

Plitponkarnpim (2003, Internet) reported that drowning was the first cause of death among children under five years. It has been found that 47% of children who

drowned died when then they fell into the water while running, climbing, or playing in the area with water sources without close supervision from adults who mistakenly thought that the children should be able to take care of themselves. Moreover, more cases of drowning are admitted to the hospital and require intensive care. The majority of drowning occurs in the home, usually in a pool or bath. Children who nearly drown at home are significantly younger than those who nearly drown in natural waterways or bath tubs in the home, canals, or ditches in the front or at the back of their house. Besides, neurological damage at discharge following drowning has been reported in 7% of the cases (Ross, et al. 2003: 446-450).

Burns

Scalds: As regards the burn characteristics of different pediatric age groups, scald burns are the main cause of burns in the youngest group less than six years of age. Also, the home is the most common site of injury (Klebanovas et al. 2002: 1164-1170). A study by Lin et. al. (2005: 182-187) found that the kitchen/dining area and living room are the most frequent places where pediatric burns occur. Among the agents of scald burns, hot drinks and soups are the leading causes. The two most scald injury patterns are (1) the child reaching up and pulling a pot of hot water off the stove or other elevated surface, and (2) the child grabbing, overturning, or spilling a container of hot water onto himself or herself (Drago, 2005: 10-16). Young children may not be able to respond because they cannot comprehend the danger of hot water. The kitchen is the major site of burn from water, beverage, grease, and hot liquids that cause burns requiring admission to hospital (Pual, Internet 1989).

Fire plays: A study by Istre et al. (2002: 128-132) pointed out that fire is one of the most significant causes of burns related to deaths and the highest rates occurred in the youngest children (< 5 years) and in census tracts with lowest income. Fire play accounted for 42% of all injuries, 62% of deaths from apartment and mobile home fires. Most of the fire is caused when children are playing with matches or a lighter. Most started in a bedroom. The burn causes a much longer hospital stay than any other type of injuries (Broides & Affaf, 2003: 207-214).

Poisoning

Most poisoning occurs inside the home. It was the third leading cause of death from severe to mild injuries among children younger than five years old (4.0%,17.0%,1.0% respectively) without adult supervision. (Ditchsuwan, 1996: 45). It mostly occurs with boys (Soori, 2001: 227-230). A study by Soori (2001: 227-230) found that drug poisoning is more common and is a serious problem among children. Even though very few die of poisoning, many need traumatic treatment which can be very unpleasant and require admission to hospital. A statistics of the northern territory show that two-thirds of the substances children swallow are medicines and the remainder is ordinary household products such as cleaning products, perfumes, and toiletries (Bate et al., Internet 1998).

Foreign body ingestion

Foreign body ingestion was the fifth leading cause (10.7%) of injury among children under 5 year old . Most injuries of all classification occurred in male children. (Ditchsuwan, 1996:43).The diagnosis and the management of foreign bodies in the esophagus of children have benefited from the digestive endoscope. The average age was four years. The sex repartition shows that boys are more likely to ingest a foreign object than girls. In 91% of the cases, the diagnosis is obvious on the x-ray print. The endoscopy assessment has shown that most of the foreign bodies swallowed by children are coins, food items, toy parts, and jewelry items (Ndiaye et al., 2002:143-137). According to a study carried out by O'Brien (2001: 100-102), of 339 patients who sought treatment at the injury and emergency department with foreign body ingestion, 59 required admission, and ingestion was accidental in 93% of the patients. The reasons for admission were as follows: large foreign bodies, dangerous foreign bodies, and living far from the hospital. Of these, 19 patients were discharged without intervention, while 37 patients required endoscopic retrieval. In two patients, the foreign body was not identified by endoscopy. Only three required surgery.

Electric shock

Childhood death due to electrocution is rare and more likely to occur when children are playing around electrical wires or equipment and often result from either

faulty apparatus, or a lack of understanding of the potential dangers involved. The majority of deaths occur in the home environment (Byard, et al., 2003: 46-48).

Animal bites

Dogs and cats are popular pets. However, these animals can cause problems and may even be dangerous to children. Ditchsuwan (1996:42) of study showed the important cause of injury between 1992 and 1994 in Phatthalung Province. Animal bite, in this study, was the highest cause of injuries among children under 5-years old (29.8). The most common cause of animal bite was dog bite (68.5%, data not presented). This is because children may play with the animals without caution and may unknowingly and unintentionally hurt them, so they can be bitten by the animals. Animal bites may result in wounds that require stitching and rabies vaccination. Some children may be bitten on the face, and the remaining scars may affect the children's self-image when they grow up. Some parents may have to pay a large amount of money for subsequent plastic surgery (Kulaya Tantipalacheewa, B.E. 2542: 125). In addition to pets like cats and dogs, children may also be harmed by other animals including snakes, centipedes, scorpions, etc.

Factors related to home injuries in preschool children

The factors selected as the study variables were personal factors, social factors, and environmental factor, each of which is described in detail below.

Personal factors included in the study were gender, and personal characteristics.

Gender

Kersting-Durrwachter, et al. (2001: 335-342) investigated injuries in preschool children and found that boys had 33% more injuries than girls and that about three-quarters of all injuries took place at home. In addition, Ditchsuwan (1996)of study findings revealed that the number of children under the age of five who were injured and sought hospital care increased every year, and most of them were boys. Sex and age of children differed as to the cause of injuries in children. Manheimer, et al. (1966: 519-532) suggests that differences in the kind and range of activities in which boys and girls engage undoubtedly account for the difference in injuries rates. Thus, boys have more injuries than girls at all age and the difference in rate for boys and girls become more pronounced with increasing age.

Personal characteristics

Children's behaviors can be used to predict a risk of injury. A study by Wazana, et al. (1997: 602-610) suggested that aggression is a consistent risk factor for general injury, and hyperactivity was inconsistently associated with all types of injuries. In addition, Ditchsuwan (1996: 72) carried out a study and found that children who had more than 90 percentile score of abnormal behavior (attention deficit hyperactivity disorder and aggression) showed a 1.91 times increased in risk. Finally, a study by Pooltawee (2001: 49) showed that children who were not able to settle down to anything for more than a few minutes also had a 19.73 times greater risks than children without this behavioral problem. It also discovered that children who often watched a violent show on television or movies had higher risks of injuries as well

Social Factors included in the present study were number of children in the family, age of parents, education of parents, occupation of mothers, and family income.

Number of children in the family

In a large family with many children, parents pay attention to their children not in the same way a small family could. An injured child is a consequence of his or her parents' neglect. Schor (1987: 1280-1284) suggests that the number of children in the family is related to the rate of injury. Schor's study revealed that families with a single child were less likely to have at least one injury diagnosis (68.5%) than families with two children (74.9%) or three children (76.5%). A study by Villalba-Cota, et al. (2004: 53-57) showed that the family that had more than five siblings was significantly associated with childhood injury. In addition, Pornpatkul (1995) found that the family with more than four siblings was at a higher risk of injury than the one with fewer than four siblings. Likewise, Pooltawee (1998: 38) found that the number of children in the family was associated with child injury. Two and more than two children in family increased the risk of injury by 1.29 times when compared to only one child in the family. Lastly, Seth, et al. (1996: 342-347) found that children had at least a 50% increased risk of injury mortality if they were born to the mother who had more than two other children when compared to those born to the mother with no other children.

Age of parents

Age of parents is correlated with developmental process level and other life experiences, which will result in differences in expressions regarding tolerance, understanding, reasoning, and decision making of individual behaviors (Orem, 1980: 154). A study by Bijur, et al. (1988: 710) found that children whose mothers were between 30 and 40 years of age had fewer risks of injury when compared to those having the mothers who were 20-24 years old. Children of young mothers are found to have 6.5 more injuries per 100 children in school age groups. In addition, Hajar, et al. (1995: 197–204) conducted a study in six pediatric hospitals in Mexico and found that children whose mothers were under 24 years of age had more major injuries. Furthermore, in the study of Pooltawee (1998: 41), the parents were classified into two age groups—those younger than 29 years old and those who were 30 years of age or older. The results showed that the children whose parents were in the 29 years of age or younger group had 1.58 times higher risks of injury. Moreover, Seth, et al. (1996: 342–347) found that children had at least a 50% increased risk of injury mortality if they were born to the mother who was younger than 20 years of age when compared with those whose mother was older than 30 years old.

Education of parents

The study findings of Pooltawee (1998 : 41) revealed that the father and mother's education level was an important factor that could predict children's injury with statistical significance, especially parents who had no schooling or a low level of education. In addition, Suwana, et al. (1991: 127–132) found that children whose parents' education was lower than primary school level had 2.1 times higher risks of injury. Besides, Xiaohan, et al. (1996: 11–105) found that injury risk was significantly associated with low education. Moreover, Seth, et al. (1996: 342–347) found that children had at least a 50% increased risk of injury mortality if they were born to a mother who had less than a high school education when compared with those whose mother had a college education. In contrast, Ditchsuwan (1996: 73) showed that secondary education and undergraduate education posed 1.75 and 2.05 times higher risks of injury when compared with primary education. Bourguet and McArtor (1989: 556–560) found that there was a curvilinear relationship between injury and the mother's education. Children whose mother had attended college were at a highest

risk. Finally, Hajar, et al. (1995: 197–204) showed that there was a statistically significant relationship between the mother with low schooling and major injuries, with the risk increasing to 2.30 times.

Occupation of mothers

The study findings of Supatra Tiempathom (1994: 106) revealed that the mother's occupation was a significant factor associated with home injuries in preschool children. In other words, the children whose mothers were a housekeeper or an officer had lower risks of injury than the children whose mother worked as an employee, farmer, or a trader. Moreover, Pooltawee S. (1998: 50) found that the mother's occupation, both indoor and outdoor works, increased the risk of injuries by 4.14 times when compared with mothers who were housewives. Also, the study of Hajar, et al., (1995: 197–204) showed a protective effect on severity of injuries when the mother worked outside the home in comparison to the mother who did not work. In addition, Dal Santo, et al. (2004: 273–283) discovered that the children whose mothers were unemployed had more injuries than other children. Finally, the study of Chaveepojnkamjorn, et al. (2002: 642–646) showed that the mothers who worked outdoor had 4.14 times increased effects on their children when compared to the mothers who were housewives.

Family income

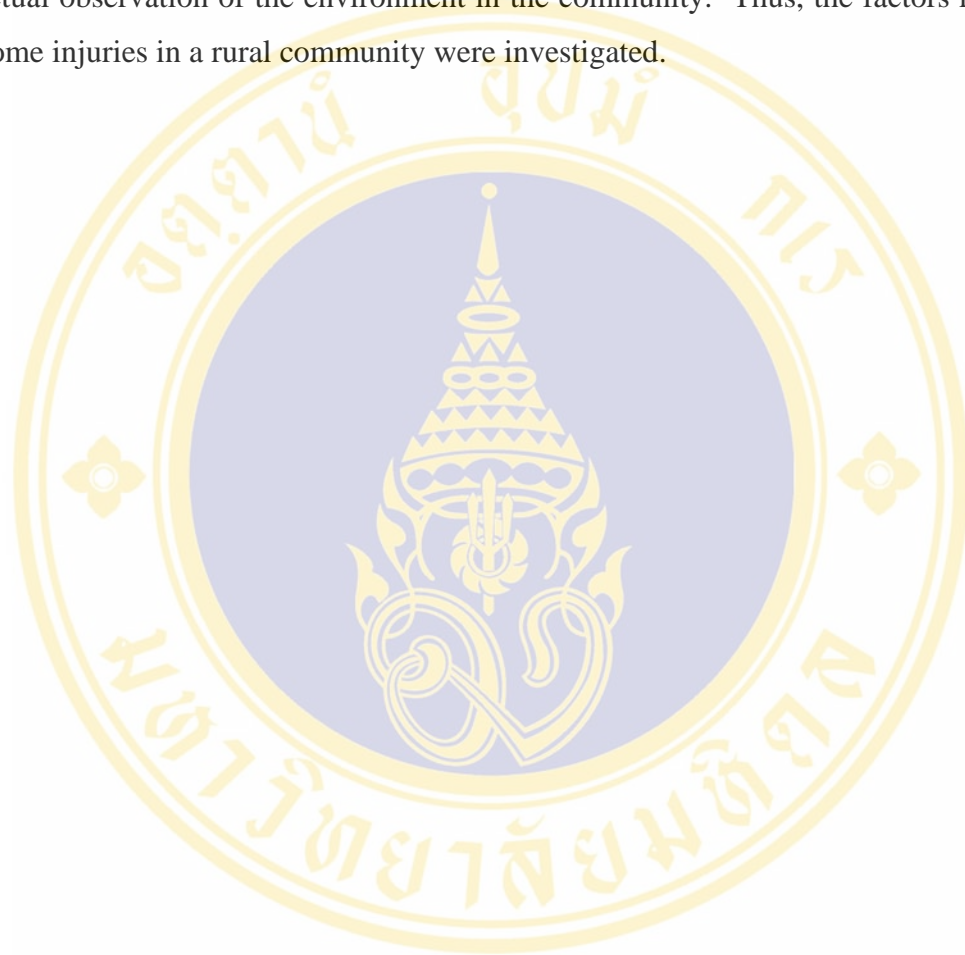
The strong association between injury and poverty is the most consistent finding in published epidemiological studies of childhood injury. The association is present in all age groups (Ian, 1995: 925-928). For instance, a study of Sander & Stocking (1991: 1112–1114) indicated that the majority of low income families had incorrect safety and prevention behaviors such as having no fire extinguisher, letting windows be in a poor condition, installing no safety gate on the stairways, not locking up a storage space for hazardous substances (sharp objects, cleansing supplies, and medicines), and letting children older than three years old bathe without supervision. In addition, Phyllis, et al. (1998: 188–193) found that there was an association between poverty of the families and an increased risk of injury. The overall odd ratio for risk of injury attendance between the poorest and the most affluent social areas are 1.28 (Reading, et al., 1999: 321).

Environmental Factor

The majority of deaths or injuries occur in the home environment, and furniture is found to be the product that most frequently caused injuries. Also, injuries are found to take place when children play with or near faulty electrical equipment at home. It has been reported that children who live in a house that needs repair work are at a higher risk of injuries than other children. Smith, et al. (1997: 256) investigated baby walker-related injuries and found that 78% fell from stairs and the number of stairs was significantly associated with skull fracture and admission to the hospital. Besides, the largest number of injuries happened in the children's home while they had no supervision. Chaveepojnkamjorn, et al. (2002: 642-646) found that Sundays and Saturdays were the most frequent days of injuries. Children who spent most of the daytime at their relatives' house had a higher risk of injuries than those who stayed at their home, with 37.9% of children injured at their relatives' house and 50.8% of all injured children were without a supervisor. Furthermore, Fonseca, et al. (2002: 97-104) found that living in a home built from bricks and mortars was associated with a 35% increase in injuries. In addition, Pooltawee (1998: 42) compared a detached house and other types of houses. The findings showed that living in a townhouse increased the risk of child injury. On the contrary, living in a brick/row house and others was not statistically significantly related to child injury. The findings also suggested that living in a house which had more than one room increased the risk of injury by 2.61 times, and that the risks of injury of children who spent most of their time at a relative's house or a daycare center increased to 4.29 and 5.33 times, respectively. Moreover, Brook & Boaz (2003: 177-182) showed that accidental injuries most often occurred in the afternoon and in the absence of parental supervision. Finally, Hijar, et al. (1995) found that children who play outside the house (on the roof, steps, or patio) without the presence of their mother had 2.48 times more chances to suffer from injury.

Based on the review of the literature and related research, the researcher was interested in examining the relationship among the factors related to injuries of preschool children at home. The independent variables investigated in this study were personal factors including gender, personal characteristics, social factors including the number of children in the family, age of parents, occupation of mothers, education of

parents and family income; and the environment factor of home environment in Ratchaburi Province. This is because most of the studies conducted in the past were carried out in urban communities or collected data from secondary hospitals. However, in the present study, the researcher collected data in a rural community with actual observation of the environment in the community. Thus, the factors related to home injuries in a rural community were investigated.



CHAPTER III

MATERIALS AND METHODS

This descriptive correlational study was designed to examine the association between selected factors of gender, personal characteristics, the number of children in the family, age of parents, education of parents, occupation of mother, family income, and home environment with home injuries in preschool children. This chapter describes research methodology employed in the present study.

Population and Sampling

The population consisted of the preschool children who ranged in age from three to five years old and who lived in Ratchaburi Province from May to July 2007. The sample was purposively selected by using the inclusion criteria as follows:

1. The families had a male or female child aged three to five years who was healthy and had no disabilities (blindness, deafness), chronic disease, or mental retardation.
2. Parents were able to communicate in the Thai language.
3. Parents were willing to participate in the study.

Sample size

Based on proposal, researcher aim to predict home injury in preschool children. Which, used multiple regression analysis. The sample size of the study was calculated based on the power of analysis of Polit & Beck (2004) that determines the sample size following selected variables. There were eight independent variables (gender, personal characteristics, the number of children in the family, age of parents, education of parents, occupation of mothers, family income, and home environment) in this study. When conducting multiple regression analysis, the researcher wanted to achieve a power of .80, alpha of .05, and moderate effect size of .13. Thus, a sample size of 109.8 subjects was required. However, to prevent the loss of subjects, the sample size of 120 will be recruited. Later, when violated assumption of the Pearson's product moment correlation was found, the researcher turned to use the Chi-Square

test. With Polit & Beck power analysis, whereas the researcher gave power of .80, alpha of .05 and moderate effect size of .13 the sample size was equal to 80 for Chi-square study.

Setting

The target sample for this study was community-dwelling Thai preschool children, aged three to five years old, in Ratchaburi Province. Four out of eight Fac. Of districts and two sub-districts (Muang, Photharam, Bangphare, and Banpong) were selected as research settings for the recruitment of the Thai preschool children. The four districts were selected because the number of preschool children is constantly increasing and the lifestyles of preschool children and geography of these four districts are similar to other districts in Ratchaburi Province. In addition, the preschool children in these locations retain the agriculture lifestyle, similar to the predominant lifestyle of people living in the central region of Thailand.

Sampling

As for sample selection, the sample was selected using multi-stage sampling as follows (see Figure 2):

Step 1: Four districts out of eight districts and two sub-districts of Ratchaburi Province were selected. These four districts were Muang, Photharam, Bangphare, and Banpong.

Step 2: Sub-districts were then selected using simple random sampling from the previously selected four districts (one sub-district from each district). The selected sub-districts were Tharab, Taopoon, Watkaw, and Nongplamor.

Step 3: Villages were selected using simple random sampling from the previously selected sub-districts (two villages from each sub-district). The results were Moo 4 and Moo 5 in Tambon Tharab, Moo 2 and Moo 3 in Tambon Taopoon, Moo 5 and Moo 6 in Tambon Watkaw, and Moo 8 and Moo 10 in Tambon Nongplamor.

Step 4: Simple random sampling was used to select preschool children from the family records who had the characteristics similar to the inclusion criteria (30 subjects from the villages in each sub-district). Additionally, only one preschool child per family was recruited. If there were more than one preschool child in the family, the cast lot was used (Polit & Hungler, 1999).

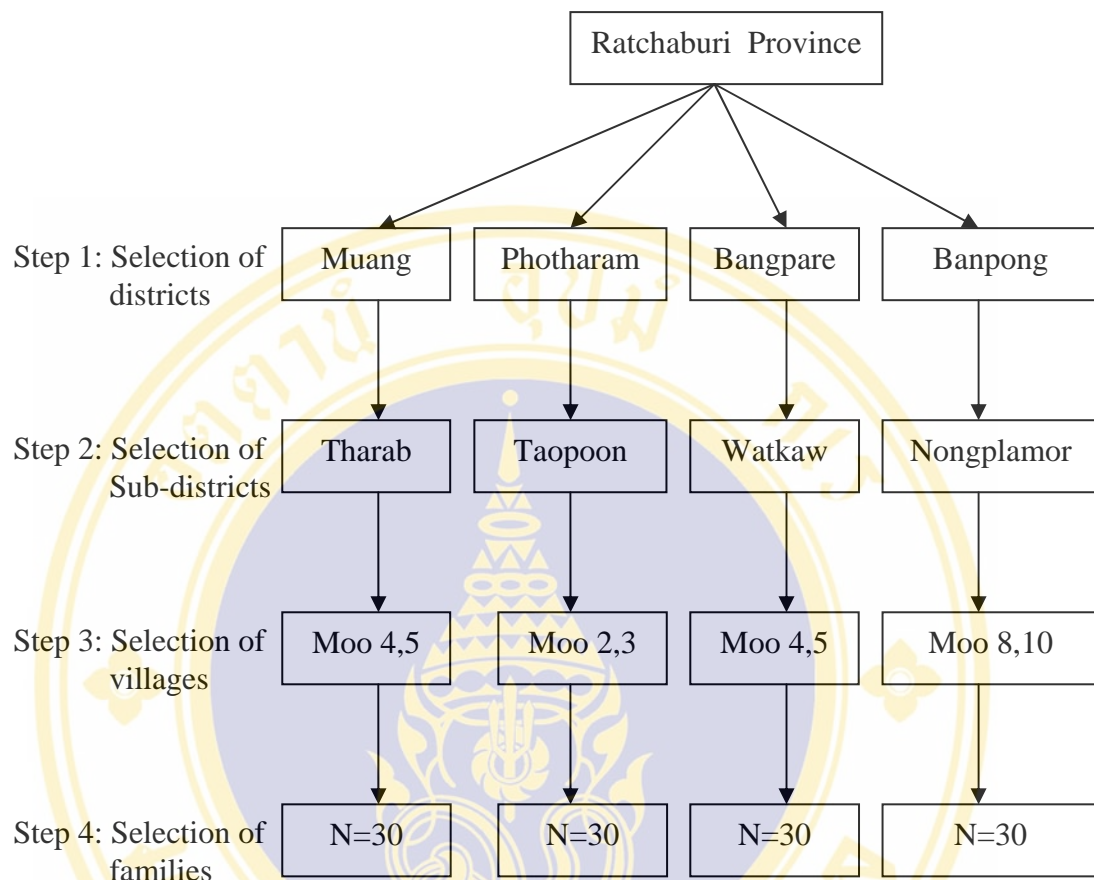


Figure 2: Sampling Procedure

Instruments

The instruments of this study consisted of three parts as follows:

1. Demographic data questionnaire

The questionnaire was used to record information regarding the preschool children's characteristics including gender, personal characteristics, age of parents, education of parents, occupation of mothers, number of children in the family and family income. It includes 14 items. Each of the variables could be grouped to calculate relationships with the Chi-square test as follows:

gender could be divided as follows: boy and girl

personal characteristics consisted of item 13 'being unable to be still and being more active' and item 14 'climbing and jumping up and down,' which were then divided into three levels: always (2 points), sometimes (1 point), and never(0 point).

When the scores from items 13 and 14 were combined, the new scores would be as follows: 0, 1, 2, 3, and 4 points. The researcher regrouped the scores as follows: those with the scores of 0 to 2 points belonged to group 1, those with the score of 3 points belonged to group 2, and those with the scores of 4 points belonged to group 3.

Age of parents could be divided as follows: ≤ 30 years old, 31 – 40 years old, and > 40 year old.

Education of parents could be divided as follows: Primary school, Secondary & high school / Diploma, and Bachelors/Master degree.

Occupations of mothers could be divided as follows: working at home including housewives and traders (at home) and working outside including laborers, employees, agriculturists, and government officials.

Family income could be divided as follows: $< 10,000$ baht and $\geq 10,000$ baht.

Number of children in the family could be divided as follows: 1, 2, 3, and ≥ 4 persons

2. Environmental factor questionnaire

The researcher adapted this questionnaire from the questionnaire developed by Supatra Tiempathom. It included 21 items, with the scoring criteria as follows:

The environmental factor and others that caused injuries at home were considered from the questionnaire and observation of the status of children and risks for injuries at home which could be divided risk factors score into the following three levels as follows:

1. Low risks the scores were lower than $\bar{X} - 0.5S.D.$
2. Moderate risks the scores were between $\bar{X} \pm 0.5S.D.$
3. High risks the scores were higher than $\bar{X} + 0.5S.D.$

3. The cause of injury questionnaire consisted of the questions elicited information about the cause of the injury at home including the type of injuries and the number of injuries that occurred within the past three months.

Validation of Instruments

In this study, the instruments were validated to ensure validity and reliability in the following steps:

1. Content Validity

Three questionnaires—the Demographic Data questionnaire, the Environmental Factor questionnaire, and the Cause of Injury questionnaire which consisted of the questions eliciting information about the cause of the injury at home including the type of injuries and the number of injuries that occurred within the past three months were submitted to the thesis adviser to examine the suitability, comprehensibility, and language appropriateness of the items. The questionnaires were then revised before being submitted to a panel of three experts to ensure accuracy and comprehensibility of content, language appropriateness, and interpretation of items. After that, the questionnaires were revised and improved according to the experts' comments and suggestions as follows:

Part 1: Demographic Data Questionnaire

Four items were revised for clarity of language, and one item which asked the subjects to specify who they were was omitted. Finally, there were 14 items in this questionnaire.

Part 2: Environmental Factor Questionnaire

Five items were revised to ensure clarity of language, and one item was added to cover environmental risk factors at home. Finally, there were 21 items in this questionnaire.

Part 3: The Cause of Injury Questionnaire consisted of the questions that elicited information about the cause of the injury at home including the type of injuries and the number of injuries that occurred within the past three months.

One item was revised to ensure clarity of language by adding the criteria to determine the severity of falling down.

2. Reliability

The reliability of the instrument was tested with 30 preschool children whose characteristics were similar to those of the sample, and the Cronbach's alpha coefficient was equal to 0.7. However, it is worth noting here that the questionnaire of Supatra Tiampathom was validated only for content validity by three experts who examined accuracy, language appropriateness, clarity, and comprehensibility of the content, but no examination was conducted to determine the reliability of the instrument.

Protection of Human Subject

The researcher identified herself as a family nurse while conducting this research process and used the research transaction in the entire process. The researcher gave the best efforts to strictly protect the rights of participants. Therefore, the researcher demonstrated and confirmed the ethical issues throughout the whole research process for the informer and the participant trust in providing data.

The informants and participants could make decision to consent and collaborate in this study without using any authority. The questions in this study were carefully asked to imply no judgment. They could cancel or stop the interview in the research process at anytime they wished without having to notify the researcher.

In every stages, the researcher would secured all of the information obtained. Only the researcher and advisory research committee in this study could had access to the raw data.

Data Collection Procedure

The approval of Ethical Clearance Committee on Human Right Related to Research Involving Human Subjects from the Faculty of Graduate Studies, Mahidol University, was obtained before starting the procedure below. The data collection proceeded in the following sequence:

1. An introductory letter from the Faculty of Graduate Studies, Mahidol University, was sent to the Director of the Ratchaburi Province Health Office to explain the objectives of the study and to ask for permission to collect data.
2. After permission was granted, the researcher contacted the key persons in each community, i.e. the director of community hospital, head of health promotion department, and the directors of local health centers, to explain the objectives, research procedures, and data collection process.
3. The researcher selected the preschool children subjects by means of multi-stage sampling.
4. The researcher met the community leaders and healthcare volunteers to ask for suggestions regarding how to approach preschool children.
5. The researcher collected data from the sample as follows:

5.1 The researcher met the subjects and established the rapport by introducing herself, describing the research objectives, and asking for participation in the study with protection of human subjects taken into account. When the subjects clearly understood the procedure and agreed to take part in the study, they were asked to sign the informed consent form or to express their verbal agreement. The researcher then asked for their readiness to respond to the instruments. If the subjects were not ready due to prior engagement, the researcher made an appointment with them for subsequent data collection.

5.2 When the subjects agreed to participate in the study, a one-time interview was conducted by the researcher at the subjects' convenience. The subjects responded to the questionnaires including the demographic characteristic questionnaire, the environmental factor questionnaire, the cause of injury at home questionnaire, and finally the questionnaire of injuries at home. It took approximately 30-45 minutes to complete the four questionnaires. After completion of the questionnaires, the researcher would check to see if all questions were answered. If some questions were not completely answered, the researcher would then ask the parent subjects to respond to all questions.

Data Analysis

Data were analyzed by using the SPSS statistical package as follows:

1. Descriptive statistics (e.g., mean, standard deviation, and range) were performed to describe the demographic characteristic of the subjects and the major variables of the study.

2. All the relationship between the independent variables (Personal Factors, Social Factors, Environmental Factor) and dependent variables (number of home injury in preschool children) are analysis by using Chi-square test.

CHAPTER IV

RESULTS

The present study was descriptive research which aimed at investigating the factors associated to home injuries in preschool children. The subjects of the study were 120 preschool children who were three to five years old and lived in Ratchaburi Province. In this chapter, the findings of this study are presented in three parts as follows:

- Part I: Demographic characteristics of the subjects
- Part II: Types and numbers of home injuries
- Part III: Hypothesis testing

Part I: Demographic Characteristics of the Subjects

Personal factors

There were 120 preschool children who participated in the study. Of these, 72, or 60% were boys, and 48, or 40%, were girls. It was found that when it came to personal characteristics, most of the subjects were more active and could not be still for a sustained period of time. They also liked to climb and jump up or down sometimes, which accounted for as many as 75.8% of the subjects (Table 1).

Table 1. Number and percentage of the study sample categorized according to personal factors

Personal Factors	Frequency	Percentage
Gender		
Male	72	60.0
Female	48	40.0
Specific characteristics of the children		
Being unable to be still and being more active		
Always	21	22.5

Table 1. Number and percentage of the study sample categorized according to personal factors (continued)

Personal Factors	Frequency	Percentage
Sometimes	91	75.8
Never	2	1.7
Climbing and jumping up and down		
Always	28	23.4
Sometimes	91	75.8
Never	1	0.8

Social factors

It was found that 35% of the subjects had three siblings in the family ($M = 2.17$, $SD = 1.28$). The largest number of siblings was 5 (7.5%), and the smallest was 1 (10%). When considering the demographic characteristics of the parents, it was found that the mean age of the fathers was 32.9 years ($SD = 7.58$), most ranging from 31 – 40 years (44.9%), while that of the mothers was 30.14 years ($SD = 6.09$), ranging from 31 – 40 years (34.2%). The largest groups of the fathers and mothers completed elementary education, making up 48.3% and 30.8%, respectively. Furthermore, the average family income was 10,069 Baht per month ($SD = 9,152.05$). The highest income was 75,000 baht per month, and more than half of the subjects (59.1%) had a monthly income lower than 10,000 baht, which may have been because half of them (50.8%) worked as general wage earners (Table 2).

Table 2. Number and percentage of the study sample as categorized according to social factors

Social Factors	Frequency	Percentage
Number of siblings (including the child subjects)		
1	16	13.4
2	33	27.5
3	42	35.0
4	22	18.3

Table 2. Number and percentage of the study sample as categorized according to social factors (continued)

Social Factors	Frequency	Percentage
5	7	5.8
Range = 1-5, Mean = 2.17, SD = 1.29		
Age of Fathers (years)		
20 – 30	47	39.2
31 – 40	54	45.0
41 – 50	17	14.2
> 50	2	1.6
Range = 20-63, Mean = 33.06, SD = 7.37		
Education of Fathers		
No formal education	1	0.8
Primary school	58	48.3
Secondary school	25	20.9
High school/Vocational certificate	28	23.4
Bachelor's degree	7	5.8
Master's degree	1	0.8
Age of Mothers (years)		
20 – 30	71	59.2
31 – 40	41	34.2
41 – 50	7	5.8
> 50	1	0.8
Range = 20-51, Mean = 30.14, SD = 6.09		
Education of Mothers		
No formal education	3	2.5
Primary school	52	43.3
Secondary school	31	25.8
High school/Vocational certificate	22	18.4
Bachelor's degree	10	8.3
Master's degree	2	1.7

Table 2. Number and percentage of the study sample as categorized according to social factors (continued)

Social Factors	Frequency	Percentage
Occupation of Mothers		
Housewife	17	14.1
Labor	61	50.8
Government official	6	5.0
Employee	20	16.7
Agriculture	5	4.2
Trader	11	9.2
Family income (baht/month)		
< 10,000	71	59.2
10,001 – 20,000	41	34.2
20,001 – 30,000	6	5.0
30,001 – 40,000	1	0.8
> 40,000	1	0.8
Range = 1,000-75,000, Mean = 10,069, SD = 9,152.05		

Environmental factors and objects causing home injuries

1. Type of residence, utilization of residences, and characteristics of doors, windows, stairways, and patios

It was found that almost all of the subjects, or 97.5%, built the house on their own plot of land. Of these, 60% lived in a single-story house, and 23.3% built a two-story house. Almost half of the houses, or 46.7%, were located on an orchard, farm, or paddy field, 35% were situated close to a roadway, and 10.8% were on a bank of a canal or a river. Most of the subjects, or 88.34%, used the houses mainly for living, while the rest also used the houses for other purposes. Of the latter group, 11 also used the houses as a grocery store, and three used the houses as a hairdresser's. When considering the types of gates, doors, windows, stairways, and patios of these houses, it was found that 91.7% of the houses had a gate, but there was no lock, the lock was broken, or the children may be able to open the lock by themselves. As for windows, 75% of the houses had iron bars or barriers on all

windows. Moreover, 39.2% of the houses had stairways. Of these, 80.9% had handrails on the stairways, 55.3% had no gate or barrier, and 61.5% had the steps of the stairways wider than 15 centimeters apart. Finally, more than half of the houses, or 60.8%, were single-story houses, and

Table 3. Number and percentage of the study sample as categorized according to types of residence, utilization of residences, and characteristics of doors, windows, stairways, and patios

Characteristics of residence	Frequency	Percentage
1. Type of residence		
Type of house		
- Housing project	3	2.5
- Houses built on own plot of land	117	97.5
Style		
- Single-story	72	60.0
- Single-story raised dwelling	20	16.7
- Two-story	28	23.3
Location		
- In farmland, orchard, or paddy field	56	46.7
- On the bank of a canal or river	13	10.8
- Near a roadway	42	35.0
- In a housing project	3	2.5
- In a market	3	2.5
- Workplace housing facility	3	2.5
2. Utilization of residences		
- Living only	106	88.3
- Living and conducting business	14	11.7
3. Type of front doors		
- Having a door	110	91.7
- Having no door or a broken door	10	8.3

Table 3. Number and percentage of the study sample as categorized according to types of residence, utilization of residences, and characteristics of doors, windows, stairways, and patios (continued)

Characteristics of residence	Frequency	Percentage
4. Type of front door locks		
- Having a lock children could not open	48	40.0
- Having no lock or a broken lock	72	60.0
5. Type of windows		
- Having iron bars on all windows	90	75.0
- Having iron bars on some windows	9	7.5
- or having broken iron bars		
- Having no iron bars on windows	21	17.5
6. Stairways		
- Having stairways	47	39.2
- Having no stairways	73	60.8
7. Handrails		
- Having handrails	38	80.9
- Having no handrails	9	19.1
8. Barrier to stairways		
- Having barrier to stairways	21	44.7
- Having no barrier to stairways/or broken	99	
9. Steps		
- Each less than 15 cm apart with no empty space in between and not broken	18	38.5
- Each more than 15 cm apart and/or with empty space in between and/or broken	29	61.5
10. Patios		
- Having patios	19	15.8
- Having no patios		

2. As regards types of rooms and furniture in the house

The 120 subjects, 65.8% had rooms or partitions. With regard to toilet, 78.3% did not have water on the floor, 70.8% had a toilet bowl not higher than 20 centimeters, 94.2% had enough lighting in the toilet, and 88.3% did not have a water tank higher than one meter in the toilet. When considering the furniture in the houses, it was found that almost all houses had cabinets, tables, and chairs, accounting for 98.3%, 94.1%, and 88.4%, respectively. Furthermore, 52.5% of those with cabinets and tables piled things up on the cabinets and tables, and 52.5% had hot or sharp objects on the cabinets or tables. Finally, 90.6% of the houses had no broken or defective chairs (Table 4).

Table 4. Number and percentage of the study sample as categorized according to types of room and furniture inside the house

Type of room and furniture	Frequency	Percentage
1. Characteristics of rooms inside the house		
- With rooms or partitions for different purposes	79	65.8
- Without rooms or partitions	11	9.2
- Untidy and messy rooms with objects scattered all over the place	24	20.0
- No partition for the kitchen	6	5.0
2. Characteristics of toilet		
Floor		
- With water on the floor	26	21.6
- With no water on the floor	94	78.3
Toilet bowl		
- Higher than 20 cm or a flushed toilet	35	29
- Not higher than 20 cm	85	70.9
Lighting		
- Dark and without light bulbs	7	5.8
- Bright enough or with light bulbs	113	94.2

Table 4. Number and percentage of the study sample as categorized according to types of room and furniture inside the house (continued)

Type of room and furniture	Frequency	Percentage
Water tank		
- Not higher than 1 meter	14	11.7
- No water tank/Water tank higher than 1 meter	106	88.3
Cabinet		
- Cabinet in good condition	48	40.0
- Cabinet with objects stacked on top	62	51.7
- No cabinet	2	1.6
Table		
- Broken table	20	16.7
- Table in good condition	54	45.0
- Table with objects stacked on top, hot objects, sharp objects, or breakable objects	39	32.5
- No table	7	5.8
Chair		
- Broken chair	10	9.4
- Chair in good condition	96	90.6
- No chair	14	11.6

3. When considering medicine cabinets, toys, chemicals, appliances, and objects than could be dangerous in the house

It was found that 73% of the subjects had a medicine cabinet in the house. Of these, 53.4% could be opened by children, 71.6% divided the medicines into different categories such as oral medications or ointments, and 63.6% had labels on all types of medicines they had. As regards toys in the household, 53.5% did not keep toys properly, and 30.5% had toys in a good condition. Moreover, when it came to electrical outlets and plugs, all houses, or 100%, had electrical outlets and plugs. Of these, 58% had electrical outlets installed out of reach of children, 96.7% did not have a cover to prevent children from putting their fingers in them, and 88.4% were in a good condition. Regarding chemical and toxic substances in the house, 65% and 63.3% kept detergents and cleaning fluids where children could reach them,

respectively. Furthermore, 89.2%, 65.8%, 80%, and 89.2% did not have moth balls, pesticides, engine oils, and fertilizer in the household, respectively.

With regard to electrical appliances, all households had appliances such as rice cookers, irons, fans, and water boilers, and 95.8% could be reached by children who either used or played with them. Besides, there were knives and scissors in every household, and 1.7% had guns, even though no printing presses, iron shapers, lathes, or rice threshers were found in these houses. However, 86.7% of the households kept knives, scissors, or guns where children could reach them. In addition, 95.8% of the households had something to ignite the fire such as matches or lighters, and 63.5% did not keep them properly out of reach of children. Also, 88.3% did not have tool sheds, storage rooms, garages, or silos, while 11.7% did. Of the latter, 42.9% were accessible to children. Finally, 61.7% of the households had pets such as dogs, cats, chickens, or cows (Table 5).

Table 5. Number and percentage of the study sample as categorized according to medicine cabinets, toys, chemicals, appliances, and dangerous objects in the household

Dangerous objects or materials in the household	Frequency	Percentage
1. Medicine cabinets (there could be more than one answer)		
Having	88	73.3
- Could be reached by children	47	53.4
- Could not be reached by children	41	46.6
- Categorizing medicines	63	71.6
- Not categorizing medicines	25	28.4
- All medicines properly labeled	56	63.6
- Not all medicines properly labeled	32	36.4
Not having	32	36.4
2. Toys		
- Too small and could be swallowed or thrust in nose	4	3.3
- Broken toys	7	5.7
- Toys not kept properly or tidily	64	53.5
- Broken toys not kept properly or tidily	45	37.5

Table 5. Number and percentage of the study sample as categorized according to medicine cabinets, toys, chemicals, appliances, and dangerous objects in the household (continued)

Dangerous objects or materials in the household	Frequency	Percentage
3. Electrical outlets and plugs (There could be more than one answer)		
Having	120	100
- Out of reach of children	61	50.8
- Within reach of children	59	49.2
- Having a cover	4	3.3
- Having no cover	116	96.7
- In a good condition	106	88.4
- Defective and possible dangerous	14	11.0
4. Chemical or toxic substances		
Detergent		
- Within reach of children	78	65.0
- Out of reach of children	42	35.0
All types of cleaning fluids		
- Within reach of children	76	63.3
- Out of reach of children	42	35.0
- Not having	2	1.7
Mothballs		
- Within reach of children	4	3.3
- Out of reach of children	9	7.5
- Not having	107	89.2
Pesticides		
- Within reach of children	14	11.7
- Out of reach of children	27	22.5
- Not having	79	65.8
All types of engine oil		
- Within reach of children	3	2.5
- Out of reach of children	21	17.5

Table 5. Number and percentage of the study sample as categorized according to medicine cabinets, toys, chemicals, appliances, and dangerous objects in the household (continued)

Dangerous objects or materials in the household	Frequency	Percentage
- Not having	96	80.0
Fertilizer		
- Within reach of children	4	3.3
- Out of reach of children	9	7.5
- Not having	107	89.2
5. Electrical appliances		
- Within reach of children	115	95.8
- Out of reach of children	5	4.2
6. Tools, equipment, and sharp objects		
- Within reach of children	104	86.7
- Out of reach of children	16	13.3
7. Matches and lighters		
- Within reach of children	42	35.0
- Out of reach of children	73	60.8
- Not having	5	4.2
8. Pets		
- Having	74	61.7
- Not having	46	38.3
9. Tool sheds, garages, storage rooms, silos		
- Having and accessible to children	6	5.0
- Having but not accessible to children	8	6.7
- Not having	106	88.3

4. Concerning household environment

When it came to lighting, it was found that all houses, or 100%, had light bulbs. Of these, 93.3% and 98.3% had light bulbs at the front of the house and in the kitchen, respectively. However, only 9.2% had light bulbs at the gate and fence. Moreover,

67.7% of the households had a lawn or ground whose surface was uneven, 33.3% had a pond, pool, or ditch within in the compound of the house, and 78.3% did not have a fence around the house. Of the houses that had a fence, 65.4% had a barrier to prevent children from getting out of the house unnoticed (Table 6)

Table 6. Number and percentage of the study sample as categorized according to household environment

Household environment	Frequency	Percentage
1. Lighting in and around the house		
On the fence		
- Having light bulbs	11	9.2
- Having no light bulbs	109	90.8
At the door		
- Having light bulbs	112	93.3
- Having no light bulbs	8	6.7
Kitchen		
- Having light bulbs	118	98.3
- Having no light bulbs	2	1.7
Inside the house		
- Having light bulbs	120	100
2. Lawn or ground		
- Having a smooth surface	2	1.7
- Having a rough, uneven surface	76	63.3
- Having a grass lawn	36	30.0
- Not having	6	5.0
3. Ponds, pools, or ditches		
- Having and accessible to children	26	21.6
- Having with fence	3	2.5
- Having with no fences	11	9.2
- Not having	80	66.7

Table 6. Number and percentage of the study sample as categorized according to household environment (continued)

Household environment	Frequency	Percentage
4. Fences		
- Having and could keep children inside	15	12.5
- Having but broken	2	1.7
- Having but children could crawl through	9	7.5
- Not having	94	78.3

Environmental risk and objects causing home injuries

Of these 120 households, when considering the risk factors for injuries, it was found that the risk scores ranged from 11 to 35 points (Mean = 23.63, SD = 4.06). In addition, when dividing the risk scores into different levels, the findings revealed that 37.5% of children lived in a house with a moderate level of risks, 33.3% lived in a house with a high level of risks, and 29.2% lived in a house with a low level of risks (Table 7).

Table 7. Number and percentage of the study sample as categorized according to environmental risk scores

	Risk scores	Frequency	Percentage
Low	(Less than 21.77 points or less than $\bar{X} - 0.5$ SD)	35	29.2
Moderate	(Between 21.77 and 25.89 points or between $\bar{X} \pm 0.5$ SD)	45	37.5
High	(More than 25.89 points or more than $\bar{X} + 0.5$ SD)	40	33.3
Min-Max = 11-35, Mean = 23.63, SD = 4.06			

Part II: Types and Numbers of Home Injuries

All 120 children subjects had injuries at home in the past three months. When considering eight types of injuries, it was found that falling came first, as 191 children or 79.3% had falling injuries in the past three months. Injuries from tools, machines, sharp objects, and blunt objects ranked second, as 26 children had been injured, making up 10.8%. This was followed by drowning or choking on foreign objects, as 8 children had such an injury in the previous three months, or 3.3%. In addition, 4 children, or 1.7%, had an injury involving fire, substances, or hot objects, another 3 were injured from electric shocks, or 1.2 %, one was injury form chemical or toxic substances and medicines, or 0.4% and eight were other injuries or 3.3% including six were bites or scratches from household pets and nails piercing feet However, there were no injuries caused by explosives and guns (Table 8).

The researcher used the information related to injury in this study to calculate the incident rate of home injuries and found that each preschool child had injuries approximately 8.03 times in the past years (964 episodes/100 preschool children/year).

Table 8. Number and percentage of the study sample as categorized according to types of injuries

Type of injuries	Children with injuries (120)	
	Frequency	Percentage
1. Falling	191	79.3
2. Drowning or choking on foreign objects	8	3.3
3. Injuries from tools, sharp and blunt objects	26	10.8
4. Injuries from fire, substances, or hot objects	4	1.7
5. Injuries from electrical shocks	3	1.2
6. Chemical or toxic substances and medicines	1	0.4
7. Others	8	3.3

The types of injuries could be discussed in detail as follows:

1. Falling/bumping into objects: The highest frequency of falling from a high place was five times, and the highest frequency of tripping and falling was also five times. The highest frequency of bumping into objects was four times, and children were hit by falling objects once. Also, the highest frequency of getting stuck between objects was two times.

2. Drowning or choking on foreign items: The highest frequency of children choking on a foreign object was two times. Also, they fell into a pool, pond, or ditch once, they put a foreign object into their nostrils once, and they put a foreign object in their ears once.

3. Injuries caused by tools, engines, sharp objects, or blunt objects: The highest frequency of children being injured from a sharp object was two times.

4. Injuries from fires, substances, or hot objects: The highest frequency of children being burned by hot water was one time, the highest frequency of children touching a hot object was also one time.

5. Injuries from electricity: The highest frequency of children being shocked by electricity was one time.

6. Chemical or toxic substances and medicines: The highest frequency of children being take medicine was one time.

7. Other injuries: The highest frequency of children being bitten by pets was one time, and the highest frequency of children being wounded by a nail piercing their feet was one time.

8. Overall injuries per children, it was found that for the past three months, the highest frequency of children having home injuries was 18 times (Table 9)

Table 9. Number of injuries as categorized according to types of injuries

Injuries	Min - Max	Mean	Median	SD
1. Falling or bumping into objects				
- Falling from a high place	0–5	0.23	0	0.68
- Falling down	0–5	0.95	1	0.91
- Bumping	0–4	0.15	0	0.51
- Objects falling on top	0–1	0.08	0	0.28
- Being stuck between objects	0–2	0.17	0	0.42

Table 9. Number of injuries as categorized according to types of injuries (continued)

Injuries	Min - Max	Mean	Median	SD
2. Drowning or choking on foreign objects				
- Falling into pool, pond, or ditch	0–1	0.02	0	0.13
- Choking on objects	0–2	0.02	0	0.02
- Putting foreign objects into nose	0–1	0.02	0	0.13
- Putting foreign objects into ear	0–1	0.02	0	0.13
3. Injuries from tools, engines, sharp objects, or blunt objects				
- Sharp objects	0–2	0.20	0	0.44
4. Injuries from fire, substances, or hot objects				
- Hot water burn	0–1	0.01	0	0.09
- Hot object burn	0–1	0.03	0	0.16
5. Injuries from electricity				
- Electrical shock	0–1	0.03	0	0.16
6. Chemical or toxic substances and medicines				
7. Other injuries				
- Bitten by pets	0–2	0.05	0	0.29
- Nails piercing feet	0–1	0.02	0	0.13
8. Overall injuries				
	1–18	2.01	1	2.35

Data regarding the last injuries

As for the injuries that took place in the last three months, it was found that of 120 children who participated in the study, 98, or 81.7%, fell down. This was followed by injuries caused by tools, machines, sharp objects, and blunt objects, accounting for ten subjects or 8.3%. In addition, six subjects, or 5%, were injured from falling into water, drowning, and choking caused by a foreign object. Finally, three subjects, or 2.5%, were injured from fire, substances, and hot objects, while another three, or 2.5%, were bitten or scratched by household pets.

As regards the characteristics of the injuries, it was found that 76 subjects, or 63.3%, suffered from bruises or swelling, 36 subjects, or 30%, suffered from minor

cuts on the skin, four subjects (3.3%) had a foreign object in their ear or nose, 11 subjects (9.2%) had a cut about 1 to 2 cm in length, two subjects (1.7%) had wounds that required more than three stitches, one subject (0.8%) had a wound that required fewer than three stitches, one subject (0.8%) had a broken leg, two subjects (1.7%) had a blister about 1 to 2 cm in size, one subject (0.8%) had a burn on the chest, one subject (0.8%) had a head wound, and one subject (0.8%) had broken teeth.

Treatment outcomes

Ninety-three children (77.5%) were treated at home by their caregivers, 16 (13.3%) sought treatment at the health stations, eight (6.7%) went to the hospital, two (1.7%) received treatment at a private clinic, and one (0.8%) was treated with a traditional healer.

Furthermore, it was found that of the total 120 subjects who were injured, 118 of them, or 98.3%, were completely cured. On the other hand, two subjects, or 1.7%, were recovered with morbidity. Of these, one had a scar on the chest after having been admitted at a hospital for ten days for free of charge due to the 30-Baht healthcare card. The other subject fell down after climbing up to play on a motorcycle parked at home. The parents took the subject to a traditional healer who used oil massage to treat the injury. As a result, two legs of the subject were of different length and the subject was unable to walk normally. The parents explained that they did not take the child to the hospital because the treatment was expensive, and they did not have any information about the rights to free treatment as no government agency had ever provided them with necessary information or offered assistance.

Part III: Hypothesis testing

Hypothesis state that “there are association between personal factors, social factors, environmental factor and home injury preschool children”

The Chi-square test revealed that personal characteristic was statistically significant associated with home injury in preschool ($p < .001$). However, other factors was not associated to home injury preschool children (Table 10)

It was also found that most of the subjects were more active and could not be still for a continuous period of time. They liked to climb or jump up and down. In one instance, the subject suffered from as many as 18 injuries in three months. Of these injuries, ten resulted from climbing up a tree, climbing up a window, running around, and jumping from one table to another. In another case, the child climbed up a parked

motorcycle which fell down on his leg, the parents explained that he was very active and like to climb just like other boys. Thus, it could be concluded that children who were more active tend to have more accidents than others.

Table 10. The association between personal factors, social factors, environment factors and home injuries in preschool children

Factors	Home Injury				χ^2	P-Value
	Injury = 1		Injury >1			
	Frequency	(%)	Frequency	(%)		
Gender						
- Male	48	(66.7)	24	(33.3)	1.33	.25
- Female	27	(56.3)	21	(43.7)		
Personal Characteristic (score)						
- 0-2	64	(54.8)	23	(32.2)	17.83	.00
- 3	5	(55.6)	4	(44.4)		
- 4	6	(26.1)	17	(73.9)		
Number of sibling in the family (person)						
- 1	26	(70.3)	11	(29.7)	3.44	.33
- 2	30	(62.5)	18	(37.5)		
- 3	12	(48.0)	13	(52.0)		
- ≥ 4	7	(70.0)	3	(30.0)		
Age of Fathers (years)						
- ≤ 30	34	(72.3)	13	(27.7)	3.33	.19
- 31 – 40	31	(57.4)	23	(42.6)		
- >40	10	(52.6)	9	(47.4)		
Education of Fathers						
- No formal education/Primary school	37	(62.7)	22	(37.3)	0.12	.94

Table 10. The association between social factors and home injuries in preschool Children (continued)

Factors	Home Injury				χ^2	P-Value
	Injury = 1		Injury >1			
	Frequency	(%)	Frequency	(%)		
- Secondary &High school / Diploma	30	(61.2)	19	(38.8)		
- Bachelors/Master degree	8	(66.7)	4	(33.3)		
Age of Mothers (years)						
- ≤ 30	46	(6.7)	23	(33.3)	1.26	.53
- 31 – 40	23	(56.1)	18	(43.9)		
- >40	6	(60.0)	4	(40.0)		
Education of Mothers						
- No formal education/Primary school	33	(60.0)	22	(40.0)	0.31	.86
- Secondary &High school / Diploma	32	(64.0)	18	(36.0)		
- Bachelor/Master degree	10	(66.7)	5	(33.3)		
Occupation of Mothers						
- Housewife/Trader	15	(55.6)	12	(44.4)	0.72	.39
- Labor/Agriculture /Government Official/Employee	60	(64.5)	33	(35.5)		
Family Income (baht)						
- <10,000	59	(66.3)	30	(33.7)	2.11	.15
- ≥10,000	16	(51.6)	15	(48.4)		

Table 10. The association between social factors and home injuries in preschool Children (continued)

Factors	Home Injury				χ^2	P-Value
	Injury = 1		Injury >1			
	Frequency	(%)	Frequency	(%)		
Environmental Risk Score						
- Low risk	21	(60.0)	14	(40.0)	0.53	.77
- Moderate risk	30	(66.7)	15	(33.3)		
- High risk	24	(60.0)	16	(40.0)		

CHAPTER V

DISCUSSION

Characteristics of the Study Sample

The sample in the present study consisted of 120 preschool children aged three to five years. In terms of gender, 60% were male. Moreover, the average number of siblings in the family was 2.17. As for their parents, the fathers ranged in age from 20 to 63 years old (Mean = 32.9, SD = 7.58), and the mothers were between 21 and 51 years old (Mean = 30, SD = 6.09). The largest group of fathers and mothers completed primary school, accounting for 48.3% and 30.8%, respectively. A little more than half, or 53.3%, earned enough, and their income ranged from 1,000 to 75,000 baht per month (Mean = 10,069, SD = 9,152.05). Thus, they earned a moderate level of income. Most fathers and mothers worked, with the largest group being wage earners. Also, 14.1% of the mothers were housewives, so they had no personal income and spent most of their time at home taking care of the children. Most of the children in the study lived with their parents. During the day when the parents went out to work, the children were generally taken care of by their grandfathers or grandmothers (68%).

In addition, most of the subjects lived in a rural area, and their houses were located in an orchard, farmland, or paddy field. Some of the houses were located on a bank of a river, and they did not have a fence and children could run around freely. It was also found that some of the houses were situated near a roadway, and they were no fences either. Even though some houses had fences, children were still able to run outside. Besides, it was found that most houses were built on their own plot of land. More than half, or 60%, were single-story houses, and 10.8% also used the houses for business purposes such as grocery stores or barber's shops. Of 120 houses, when considering risk factors for home injuries, it was found that the risk scores ranged from 11 to 35 points (Mean = 23.63, SD = 4.06). Furthermore, 37.5% of the children lived in a house with a moderate level of risks, 33.3% lived in a house with a high

level of risks, and 29.2% lived in a house with a low level of risks. Besides, the environmental factors which caused injuries in these houses varied. For example, some houses were located on the bank of a canal or a river, but they did not have a barrier to prevent children from wandering outside. Moreover, some children could open the locks at the door in their house, and other children lived in a house with stairways that did not meet the safety standard. Also, some houses were very messy, with stuff scattered all over the place, which could easily make children trip and fall. Finally, some houses had electrical outlets which were within children's reach, and chemical substances or medicines were accessible to children. All of these constituted risks for home injuries in preschool children.

Types of injuries

When considering the injuries that had happened in the previous three months according to eight types of injuries, it was discovered that the most commonly found injury was falling down, accounting for 79.3% of the total. This finding was congruent with the findings of most studies that falling down is the most important cause of home injuries both in urban and in rural communities. In this study, it could be seen that falling down could be further divided according to the type of household environment. For example, 40% of the subjects who lived in a two-story house were injured when they fell down the stairs. Besides, it was found that the stairways in most houses were not up to the safety standard, as the steps were more than 15 centimeters apart, which could easily cause falls. Moreover, the injuries were also caused when children ran into the door, or tripped over objects scattered on the floor. In this study, 30% of the houses did not separate space for different functions and they were not kept tidy. This could also cause accidents and injuries. Finally, it was found that 63.3% of the lawns or grounds in the house did not have an even surface, so the children were more likely to trip and fall than when they walked, ran, or played on an even surface.

In addition to falling down, there were injuries caused by tools, machines, sharp objects, or blunt objects, at 10.8%. In particular, most of the children had a cut after playing with a knife. The findings revealed that 86.7% of the caregivers did not keep sharp objects such as a knife in a safe place out of reach of children, especially in the

kitchen which the children could enter regardless of the door. Some children saw their mothers cook with a knife, so they used the knife in their play. Even though they may be able to avoid injuries sometimes, it was still likely that accidents could occur to them at a later occasion, which could be either serious or not so serious.

In addition to injuries caused by tools, machines, sharp objects, or blunt objects, there were also injuries caused by drowning or choking on foreign objects, at 3.3 %. When considering injuries caused by drowning, it was found that 10.8% of the subjects lived in a house situated on a bank of a canal or river, and 34.8% of these had no fences to prevent the children from going outside. Children were able to walk to the ponds, canals, or rivers by themselves. The findings of this study showed that a number of subjects liked to play on the edge of a pond and slipped into the water without any serious injury. Unfortunately, after data collection was completed, the researcher learned that one subject played in the water with a group of friends, aged four to six years old, without adult supervision and drowned. In addition, there were injuries caused by putting a foreign object such as a bead or a button into the ear or nose. The parents had to take the children to the hospital to have the object removed. When surveying inside the houses of the subjects, it was found that they were not kept in a tidy condition. Things were not put in proper places or containers and were not out of reach of children. Some parents bought toys with small components such as a miniature robot or a doll with beads which were dangerous for children.

Apart from drowning or choking on foreign objects, 1.7% of the subjects suffered from fire or hot objects. The injury took place when the child went into the kitchen while the mother was cooking. He grabbed the pot of soup on the edge of the table, so the hot soup burned his chest. He was hospitalized for ten days for wound dressing, and he recovered with a scar. In this incident, the accident may have happened because the mother was careless, assuming that there should be no danger when there was an adult around. This particular finding was different from the finding of Garling A. (1993) who found that the rates of injuries decreased when the mother was in the same room with the children. In addition, a group of subjects liked to play with a lighter or matches, which could lead to fire. Even though none was reported in this study, the findings indicated that 60.8% of the subjects were able to reach matches or lighters to light a fire as they were not kept out of reach of children.

In addition, injuries caused by electricity were found in 1.2% of the subjects. In this study, the subjects put their fingers in the electrical outlet, but there were no serious injuries. The data regarding the household environment showed that 49.2% installed electrical outlets close to the floor which could be reached by children, and 96.7% did not have a cover. In addition, 95.8% of children could reach and play with electrical appliances in the house. Thus, it could be seen that if there was no proper preventive measure, children could be electrocuted, seriously or not seriously, anytime. Furthermore, 53.4% of the subjects could take medicines by themselves such as paracetamol syrup. Their mothers left the medicines in the refrigerator, and the children said the medicines were tasty so they took them by themselves. Some of the houses did not have a medicine cabinet, and the mothers kept the medicines in the refrigerator without realizing that the children could take the medicines by themselves. When this happened, the mothers did not take the children to the hospital as they thought it should be all right. Finally, some children were injured when their pets bit or scratched them when they played with the pets. In this study, 61.7% of the subjects lived in a house with pets, most of which were not kept on leash or in a cage. However, there were no injuries caused by explosives and guns.

In this study, even though the injuries were caused by different reasons, and even the injuries were not serious or fatal, there are opportunities that such injuries will occur again in the future if there is not proper prevention, in terms of the caregivers themselves and the household environment. The injuries may be serious and may result in morbidity or mortality.

In addition to factors related to household environment and caregivers, it is believed that community nurses and related healthcare personnel such as village health volunteers should play an important role to prevent injuries in children. Thomson (2000: 639-646) suggests four nursing roles involving caring for children in the home.

1. Provider of care

The nurse's primary role is to provide direct nursing care to the child by using nursing process and concerning health promotion, prevention, and quality assurance as a framework through home visit in setting health priorities (Pender, 1996: 34; Bolton, et al., 1999:532). The nurse coordinates all nursing cares to

meet the child's physical and psychological needs while involving the family context when appropriate. Knowledge of various development stages is imperative and helps the nurse to weave growth and development principles into their communication skills. A thorough assessment, plan before providing community services, and ongoing home care services is necessary when caring for children.

2. Patient and family educator

Empowering families to care for their children by being a family educator is a major task for family nurse. This role involves thoroughly assessing the children's and family learning abilities.

The child and family should be participated in all phases of their care when age appropriate and the nurse can determine what the child and family need to know or do to function independently. The development of a written teaching plan guides the process and coordinate teaching among all family members involved in the child's care. Well-documented client education is as important as documenting any other aspects of client care.

3. Patient advocate

Ball and Bindler (1999: 5) define advocacy as acting to safeguard and advance the interests of another. Advocacy is directed at enabling the child and family to adjust the child's health in their own ways. To be an effective advocate, the nurse must be aware of the child's and family's needs, resources, and available healthcare services. Family nurses can best assist the family and child making informed choices about services available and how to act in the child's best interests.

This role needs to be shared with other health care providers and other helpful resources. The best way for nurse is to become a team member that is seen as guiding and supporting the family without giving specific direction.

4. Case manager

The goal of case manager is to assist the child and family to achieve the best outcome while controlling the cost of healthcare services. It is the nurse's responsibility to be familiar with community resources and services reimbursed by the family's health plan or other financial resources. With this regard, family nurse

must be able to make the best judgement for the case while considering and coordinating all of the factors involved.

However, in this study, the findings indicated that community nurses did not completely or seriously fulfill their roles. When interviewing community nurses working at a health station and caregivers of children, it was found that most of the nurses played a reactive role rather than a proactive role as they waited for the patients at the health stations rather than conducting a survey or paying a house visit. They did not meet the community members to directly disseminate knowledge and information, so the members lacked necessary knowledge regarding diseases, first-aids, rights to treatment, arrangement of household environment to ensure safety, or prevention of injury at home. In one instance, the subject fell down after climbing up to play on a motorcycle parked at home. The parents took the subject to a traditional healer who used oil massage to treat the injury. As a result, two legs of the subject were of different length and the subject was unable to walk normally. The parents explained that they did not take the child to the hospital because the treatment was expensive, and they did not have any information about the rights to free treatment as no government agency had ever provided them with necessary information or offered assistance. Thus, even though the parents had a 30-baht card which entitled their child to free treatment, the child ended up having to live with his disability for the rest of his life.

In addition to the aforementioned roles and duties of community nurses, at present, primary healthcare workers played an important role working in collaboration with community nurses. Primary health care workers provide primary health service of the individual, family and community levels. Public health problem solving emphasizing community participation is their works. Their roles are change agent, community health leader, and primary health care service coordinator (Pantip Ramasutara, 2000: 15). The responsibilities are as follow:

1. Being community information center by surveying community, planning with community leader, other health care providers, and local organizations, managing community information system and disseminating the information in community, proposing information, service activity, and health education to community.

2. Serving the essential needs to people. These serving are health education, nutrition, maternal and child health, immunization, communicable and non-communicable disease prevention, water supply and garbage and filth removing, first aids, essential drug providing, dental health, mental health, injury prevention, consumer protection, risk environmental solving, and AIDS control.

Although family nurse and primary health care worker have their specific roles as the frame for the effective work, the remarkable evidences reflect the effectiveness of health care service. This study showed that the great majority of parents never receive any counseling in injury prevention. The primary obstacles in providing health education during home visit is (a) lack of information on particular topic and insufficiently understanding the importance of certain health issue, (b) lack of time in the visit, and (c) lack of comfort with counseling skill and realistic expectation of patient response (Ehiri & Watt, 1995: 20-25).

The resulting injuries, either caused by the children themselves or by the caregivers or the household environment, should be taken into thorough consideration by community nurses and primary health care workers who should work in collaboration with each other to prevent home injuries among children.

Study hypothesis: Personal factors, social factors, and environmental factors was associated to home injuries in preschool children

Personal factors

Gender: Gender was not associated to home injuries in preschool children with statistical significance ($p > .05$). Likewise, Supatra Tiempathom (1994: 102), Adhisaputro (1983: 8), and Ditchsuwan (1996: 62) found no statistically significant relationship between gender and home injuries in preschool children. This may be because interests and developmental stages of boys and girls do not differ much, and children at this age tend to play in groups with both sexes (Sritham Thanabhumi, 2535: 64). In addition, boys and girls who took part in the present study always had someone to look after them. Besides, the environment around the children such as the

house, furniture, and objects kept in the house varied, so injuries did not happen mainly because of gender.

Personal characteristics: Children's personal characteristics was associated to home injuries in preschool children with statistical significance ($p < .001$). This finding was consistent with the findings of Supatra Tiempathom (1994: 104) and Ditchsuwan (1996: 62) that personal characteristics of children were statistically significantly related to home injuries in preschool children. One plausible explanation is that even though children at this age undergo similar physical, mental, and social development, they are very active and constantly move, so they are more likely to bump into other persons or objects around them. Moreover, Wazana et al. (1997: 602-610) suggested that hyperactivity was inconsistently associated to all types of injuries. Finally, Pooltawee (2001: 38) investigated risk factors of home injuries among children aged one to four years and found that children who were hyperactive had 19.73 more chances to have an injury. In this study, the highest incident rate was 18 injuries in three months. An interview with the subject's mother revealed that the child was very active and never liked to be still. He also liked to jump up and down and climb a tree. The only time he could be still was when he was eating and sleeping. Therefore, it could be concluded that the children's personal characteristic was associated with injuries.

Social factors

Number of children in the family was not associated to home injuries in preschool children with statistical significance ($p > .05$). This finding yielded support to the finding of Supatra Tiempathom (1994: 90) and Adhisaputro (1983: 18). In this study, the numbers of siblings of the subjects ranged from one to five, and most lived in an extended family in a rural society. Thus, the children lived with their grandfathers, grandmothers, aunts, or uncles who took care of them when the parents worked outside the house. During data collection, the researcher found that 68% of the caregivers of the subjects were grandparents or aunts of the subjects, so the subjects were not left unsupervised during the day. Therefore, the chances to be

injured were lower. For this reason, the number of siblings did not affect home injuries in children.

Age of parents: Age of parents was not associated to home injuries in preschool children with statistical significance ($p > .05$). This finding yielded support to the finding of Pooltawee (2001: 41) who investigated risk factors for home injuries of children aged one to four years old and found that children whose fathers and mothers were younger than 30 years old had had 0.58 and 1.40 times more chances to suffer from home injuries, respectively, when compared to those whose parents were older than 30 years old. Furthermore, age of parents could not predict home injuries in preschool children with statistical significance. Moreover, Ditchsuwan (1996: 60) found that children whose mothers were younger than 30 years old had 1.0 time more chances to have injuries when compared to those whose mothers were older than 30 years of age, but mothers' age could not predict home injuries in preschool children with statistical significance. Besides, Adhisaputro (1983: 12) studied home injuries in preschool children in Din Daeng District and found that the fathers' mean age of 33.87 and the mothers' mean age of 30.2 was not associated to home injuries in preschool children with statistical significance. In the present study, the mean age of the fathers was 32.9 and that of the mothers was 30.14, which were not different from those reported in other studies. At present, communication and media are accessible to all families. For this reason, television commercials on childcare may enable parents to take better care of their children. Some families may have only one child, so they may pay more attention to him or her. Also, some parents are still young and they earn only a moderate income, so they are unable to move out and live on their own. Instead, they have to live in an extended family with their parents or relatives. Thus, there may be more adults to help look after the children, and this can reduce the chances that injuries will occur.

Education of parents: Parents' education was not associated to home injuries in preschool children with statistical significance ($p > .05$). Similarly, Pooltawee (2001: 41) investigated risk factors for home injuries of children aged one to four years old and Adhisaputro (1983: 12) studied home injuries in preschool children in Din Daeng District. They found that parents' educational background was not associated to home injuries in preschool children with statistical significance. On the other hand,

Ditchsuwan (1996: 62) reported that children whose mothers completed education higher than high school had 3.03 more chances to have an injury. On the contrary, Suwanna et al. (1991: 192) found that children whose parents had lower than primary education had higher risks for injuries. However, based on the interviews with parents conducted in the present study, both fathers and mothers cared for their children and were concerned with their children's well-being regardless of their educational background. At the same time, even though the parents may not be highly educated, there were still grandparents who were highly experienced in childcare. Thus, parents' educational background did not influence home injuries in preschool children.

Occupation of Mothers: The occupation of the mothers was not associated to home injuries in preschool children with statistical significance ($p > .05$). This finding was in congruence with the findings of Adhisaputro (1983: 17) and Ditchsuwan (1996: 57) that mothers' occupation was not associated to home injuries in preschool children with statistical significance. In contrast, Pooltawee (2001: 50) found that children whose mothers worked outside the home had 4.14 times more chances to have an injury when compared to children whose mothers were housewives or had no occupation. However, Supatra Tiempathom (1994: 106) found that children whose mothers were housewives or worked in an office had less injuries when compared to those whose mothers were laborers. In this study, the subjects lived in an extended family with the mothers working outside the house including wage earners, employees, agriculturists, or government officials. Therefore, they did not have much time to take care of their children. In addition, the present socioeconomic condition means that both parents have to work outside the house to earn their living, both in urban and rural societies, so grandparents, aunts, or siblings have to become caregivers of children in the household. Similar findings were reported by Nang sarm phong (2006:41) that both parents have to work and 40% were government officials and 30.4% were laborers, so children are left with their grandparents, aunts, or uncles. Since the grandparents, aunts, and uncles had to look after the children more than the parent, the mothers' occupation did not have an effect on children's home injuries.

Family income: Family income was not associated to home injuries in preschool children with statistical significance ($p > .05$), and this finding supported the findings of Adhisaputro (1983: 18), Supatra Tiempathom (1994: 108), Pooltawee (2001: 42), and Ditchsuwan (1996: 62). These studies found that family income was not associated with home injuries among preschool children. Furthermore, Nang Sarm Phong (2006:42) found no statistically significant relationship between family income and home injury preventive behaviors ($r = 0.01$, $p\text{-value} = 0.96$). In this study, it was found that the monthly income of the family was lower than 10,000 baht on average, which was a rather low level of income. However, when the parents worked outside the house to earn their living, there were grandparents or relative who helped take care of the children. In other words, the children were constantly looked after by their relatives. For this reason, family income was not associated with home injuries of preschool children.

Environmental Factor

Home environment: Home environment was not associated home injuries in preschool children with statistical significance ($p > .05$). This study gave the similar result to the study by Nang Sarm Phong (2006) find that more than half of the caregivers (62.5%) live in the high risk environment. This meant that the home injury preventive behavior was not related to the risk environment. However, this finding was inconsistent with the findings of Adhisaputro (1983: 20) and Supatra Tiempathom (1994: 110) that the houses with more risk factors for injuries could cause more injuries in children such as broken doors, steep stairways, lack of handrails, etc.

In the present study, the mean of overall injuries incident per child was 2.01, which could be considered very low. The findings revealed that 37.5% of the children lived in a house with a moderate level of risks, 33.5% lived in a house with a high level of risks, and 29.2% lived in a house with a low level of risks.

It was found that the parts of the houses which could cause injuries were stairways and kitchens which had sharp objects such as knives, rice cookers, boilers, etc. Moreover, doors could also cause injuries when children played with them by opening and shutting them. Electrical outlets and plugs could be a cause of injuries as

well, as children liked to poke their fingers in them. When objects were scattered all over the house, children could trip over them and fall down. Besides, some children who were more active liked to run around and fall down, while others lived in an environment which could cause injuries such as a house on the bank of a canal or river, a house with no fence, a lawn with uneven surface, all of which posed a risk for injuries among preschool children.

According to the interviews conducted by the researcher, it was found that the children's caretakers always warned the children about each danger. For example, the children were told not to walk outside the house by themselves, not to go near the pond, or not to play with detergent or a knife. If the children did not listen to their caretakers, they would be punished by spanking and preaching. As a result, they would learn about what they could do and what they could not do without getting punished. Besides, in an environment which could cause injuries such as a door without a lock, stairways with no handrails, or a lawn with uneven surface, children would learn to adapt themselves so as to live in such environments. The subjects in this study lived in an extended family with grandparents or relatives to look after them when their parents had to work or go outside the house. Even some families had older children who could look after their younger brothers or sisters, in this study, most of the subjects were not taken care of by their older siblings. Besides, grandparents, aunts, or relatives tended to have more childcare experience, so they could well take care of the children when their parents were out. A study of Nang Sarm Phong (2006: 38) reported that there was a significant association only between the type of caregivers and home injury preventive behaviors (Chi-square = 5, p-value = 0.02). Its results also revealed that grandparents, aunts, and uncles had better preventive behaviors than mothers and fathers, thus the home environment, regardless of its characteristic, had no effects on home injuries of preschool children.

CHAPTER VI

CONCLUSION AND RECOMMENDATION

Conclusion

The present study investigated the factors associated to home injuries in preschool children aged three to five years in the previous three months. The subjects in the study were 120 children recruited by means of simple random sampling. Data were collected by interviewing the parents of the children between May 1 and June 30, 2007. The data collection instruments consisted of 1) demographic, personal, and social characteristics of children questionnaire, 2) environment and injury-causing objects in the household observation form, and 3) type and number of injury in the previous three months questionnaire. An instrument in the part two was developed based on the instruments of Supatra Tiempathom and on a review of literature. The instruments were examined by a panel of three experts to ensure content validity and language appropriateness. Cronbach's alpha coefficient of the instruments was equal to 0.70. Data were collected by the researcher with the cooperation of public health officials working at four health stations in four Tambon—Tambon Tarab, Muang District; Tambon Taopoon, Potharam District, Tambon Wat Kaew, Bang Pae District, and Tambon Nongplamor, Banpong District, Ratchaburi Province. The factors associated to home injuries in preschool children were analyzed using Chi-square test. The findings of this study could be summarized as follows:

1. Personal factors which was associated to home injuries in preschool children with statistical significance at the .001 level were personal characteristics. However, gender was not associated to home injuries in preschool children with statistical significance.

2. Social factors of parents' age, parents' educational background, parents' occupation, number of children in the family, and family income was not associated to home injuries in preschool children with statistical significance.

3. The environmental factor of home environment was not associated to home injuries in preschool children with statistical significance.

Limitations of the Study

1. The present study was retrospective study; thus, the responses obtained from the subjects may not have been completely accurate due to time relapses. For example, the subjects may not have been correctly memorized the number of times the children had had each type of injuries. Therefore, the interviews took a long time to complete so as to increase the accuracy of the information.

2. The sample size of the present study was small, so the sample did not represent the population of the study.

Recommendations

Recommendations for health services

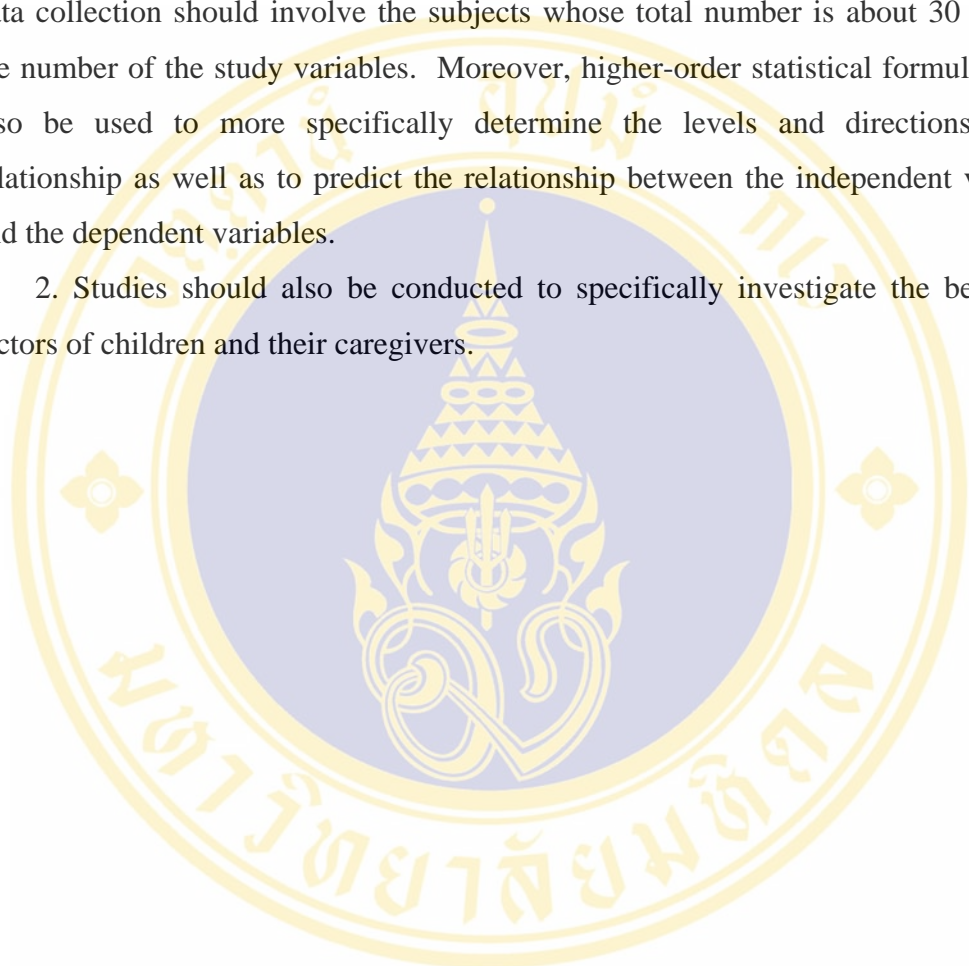
In this study, it was found that the factors related to home injuries of preschool children included personal characteristics of the children, especially those who could not be still for a continuous period of time and were more active, liked to climb, and liked to jump up and down. In addition, it was discovered that the parents lacked correct knowledge and understanding about first-aid that should be provided to injured preschool children, and they lacked understanding about safe home environment. In one instance, a child fell down from a motorcycle and was treated by a traditional healer, so he had to live with permanent morbidity. In another case, the child had 18 accidents in only three months, which meant a very high score of environmental risks. As a result, coordination with related agencies such as those responsible for arrangement of community environment is necessary, and training and activities should be organized to disseminate knowledge among parents of preschool children in the following topics:

- First-aid and rights to treatment
- Childrearing for behavioral adjustment
- Arrangement of safe home environment
- Effects of injuries on children and family
- Prevention of home injuries

Recommendations for further research

1. In this study, Chi-square test was used to determine the relationship. One major weakness of the Chi-square test is that it can be used to test the relationship, but it cannot determine the level of relationship among the variables. In further research, data collection should involve the subjects whose total number is about 30 times of the number of the study variables. Moreover, higher-order statistical formula should also be used to more specifically determine the levels and directions of the relationship as well as to predict the relationship between the independent variables and the dependent variables.

2. Studies should also be conducted to specifically investigate the behavioral factors of children and their caregivers.



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APPENDIX A

แบบสอบถาม

ปัจจัยที่มีความสัมพันธ์กับการบาดเจ็บที่บ้านของเด็กวัยก่อนเรียน

ส่วนที่ 1 ข้อมูลทั่วไป ปัจจัยด้านบุคคลและสังคม

วันที่ให้สัมภาษณ์ เดือน พ.ศ.

1. ผู้ให้สัมภาษณ์มีความสัมพันธ์กับเด็กเป็น
 - [] มารดา [] บิดา [] คนดูแลเลี้ยงดูเด็ก ระบุ
2. เด็กมีพี่น้องในครอบครัวที่อยู่ในบ้านเดียวกันจำนวน.....คน
3. บิดาอายุ ปี
4. จำนวนปีที่ได้รับการศึกษา.....ปี
5. อาชีพของบิดา
 - [] ไม่ได้ทำงาน [] รับจ้างทั่วไป [] รับราชการ/รัฐวิสาหกิจ
 - [] ลูกจ้าง/พนักงาน [] เกษตรกรรม [] ค้าขาย [] นักธุรกิจ
6. มารดาอายุ ปี
7. จำนวนปีที่ได้รับการศึกษา.....ปี
8. อาชีพของมารดา
 - [] ไม่ได้ทำงาน [] รับจ้างทั่วไป [] รับราชการ/รัฐวิสาหกิจ
 - [] ลูกจ้าง/พนักงาน [] เกษตรกรรม [] ค้าขาย [] นักธุรกิจ
9. รายได้ของครอบครัว เฉลี่ยเดือนละ บาท
10. เศรษฐกิจของครอบครัว
 - [] รายได้ไม่พอกับรายจ่าย
 - [] รายได้พอ ๆ กับรายจ่าย
 - [] รายได้พอเหลือเก็บ
11. เด็กเกิดวันที่.....เดือน.....พ.ศ.....

12. เด็กอายุ ปี.....เดือน เพศ ชาย
 หญิง
13. เด็กเคยมีพฤติกรรมอยู่เฉยๆ ได้ไม่นาน ชุกชนกว่าปกติ อยู่ไม่นิ่ง
 มีประจำ มีบางครั้ง ไม่มี
14. เด็กเคยมีพฤติกรรมชอบปีนป่าย กระโดดขึ้นลง
 มีประจำ มีบางครั้ง ไม่มี

ส่วนที่ 2 แบบสังเกตสิ่งแวดล้อมและสิ่งทีก่อให้เกิดการบาดเจ็บที่บ้าน

- ลักษณะบ้าน ห้องแถวไม้ มีลานซีเมนต์ก่อนถึงทางเท้า
 ห้องแถวอยู่ติดทางเท้า
 ไม่มีทางเท้า
- ตึกแถว มีลานซีเมนต์ก่อนถึงทางเท้า
 ตัวตึกอยู่ติดทางเท้า
 ไม่มีทางเท้า
- บ้านจัดสรร บ้านเดี่ยว ชั้นเดียว
 ชั้นเดียว
 สองชั้น
 มากกว่าสองชั้น ระบุ.....
- ทาวน์เฮ้าส์ ชั้นเดียว
 ชั้นเดียว
 สองชั้น
 มากกว่าสองชั้น ระบุ.....
- อาคารชุด อยู่ชั้นที่.....
 อื่น ๆ ระบุ
- บ้านปลูกเอง ชั้นเดียวไม่มีได้ถุน
 ชั้นเดียวได้ถุนสูง
 สองชั้น
 อื่น ๆ ระบุ.....
- แหล่งที่ตั้งของบ้าน ในสวน, ไร่, ทุ่งนา ริมน้ำ ลำคลอง

- ใกล้เคียงทางรถเข้า-ออก
- ใกล้เคียงถนนหรือบริเวณทิ้งของเหลือใช้ของชุมชน
- ใกล้เคียงโรงงาน ระบุ.....
- เป็นหมู่บ้านจัดสรร ใกล้เคียงซ่อมรถ
- ตลาด
- เป็นบ้านพักอาศัยของบริษัทหรือหน่วยงานราชการ
- อื่น ๆ ระบุ.....

การใช้ประโยชน์พื้นที่ของบ้าน

- เป็นที่อยู่อาศัยอย่างเดียว
- เป็นที่อยู่อาศัยหรือประกอบกิจการอื่นด้วย ได้แก่
 - ร้านค้า ระบุ.....
 - สำนักงาน ระบุ
 - โรงงาน ระบุ
 - อื่น ๆ ระบุ

ปัจจัยเสี่ยงสิ่งแวดล้อมและสิ่งก่อกำเนิดการบาดเจ็บที่บ้าน
ผู้วิจัย

สำหรับ

1. ลักษณะประตูหน้าบ้าน []
 - บานประตู หรือที่กั้น มี (0)
 - มีแต่ชำรุด หรือไม่มี (1)
 - กลอนล็อกประตู มีและเด็กเปิดเองไม่ได้ (0)
 - ไม่มี หรือชำรุดหรือเด็กอาจเปิดเองได้ (1)

2. ลักษณะหน้าต่าง []
 - หน้าต่างมีเหล็กดัด หรือที่กั้นครบทุกบาน (0)
 - หน้าต่างมีเหล็กดัด หรือที่กั้นไม่ครบทุกบาน หรือมีบางส่วนชำรุด (1)
 - หน้าต่างไม่มีเหล็กดัด หรือที่กั้นครบทุกบาน (1)

3. ลักษณะบันได []

มีบันได ซึ่งมีลักษณะดังนี้

ราวบันได มี (0)

ไม่มี (1)

ที่กั้นทางขึ้นลงบันได มี (0)

มีแต่ชำรุด หรือไม่มี (1)

ขั้นบันได แต่ละขั้นห่างไม่เกิน 15 ซม. และไม่มีช่องระหว่างขั้น, ไม่ชำรุด (0)

แต่ละขั้นห่างเกิน 15 ซม. และ/หรือมีช่องระหว่างขั้น และ/หรือมีส่วนชำรุด (1)

ไม่มีบันได (0)

4. ลักษณะระเบียง []

มีระเบียง ซึ่งมีลักษณะ ดังนี้ (ตอบได้มากกว่า 1 ข้อ)

มีลูกกรงกันโดยรอบ (0)

ลูกกรงไม่ชำรุด (0)

ลูกกรงกันไม่รอบ (1)

มีลูกกรงชำรุด (1)

ลูกกรงมีช่องห่างเกิน 9 ซม. (1)

ไม่มีระเบียง (0)

5. ลักษณะห้องต่าง ๆ ภายในบ้าน []

กั้นห้องเป็นสัดส่วน หรือแบ่งพื้นที่ใช้สอยเป็นสัดส่วน (0)

ไม่กั้นห้อง และ/หรือ ไม่แบ่งพื้นที่ใช้สอยเป็นสัดส่วน (1)

จัดของไม่เป็นระเบียบ มีของใช้วางระเกะระกะ ปะปนไม่แยกประเภท (1)

ห้องครัวไม่มีประตูกั้น (1)

6. ห้องส้วม []

มีลักษณะดังนี้ พื้น มีน้ำขังเปือกและอาจลื่นล้มได้ง่าย (1)

ไม่มีน้ำขัง (0)

คอห่าน สูงเกิน 20 ซม. หรือเป็นส้วมแบบชักโครก (1)

สูงไม่เกิน 20 ซม. (0)

แสงสว่าง มีดทึบ ไม่มีหลอดไฟติดตั้งไว้ใช้งาน (1)

พอเพียง หรือมีหลอดไฟติดตั้งไว้ใช้งาน (0)

ถังใส่น้ำ ถังน้ำสูงไม่เกิน 80 cm (1)

ไม่มี (0)

7. เฟอร์นิเจอร์ในบ้าน

[]

ตู้ มี ชำรุด เช่น ขาชำรุด กระจกที่ฝาตู้แตกหรือร้าว (1)

ไม่ชำรุด (0)

มีช่องวางซ้อนสูงบนหลังตู้ (1)

ไม่มี (0)

โต๊ะ มี ชำรุด เช่น เนื้อไม้ฉีกขาดหรือมีมุมแหลมคม (1)

ไม่ชำรุด (0)

มีช่องวางซ้อนสูงบนโต๊ะ และ/หรือผ้าคลุมโต๊ะห้อยชายบนโต๊ะวางของร้อน ของมีคม ของแตกหักง่าย (1)

ไม่มี (0)

เก้าอี้ มี ชำรุด เช่น ขาชำรุด พนักพิงชำรุด (1)

สภาพดี ไม่ชำรุด (0)

ไม่มี (0)

8. ผู้ยาสามัญประจำบ้าน หรือที่เก็บยาประจำบ้าน

[]

มี ซึ่งมีลักษณะดังนี้ (ตอบได้มากกว่า 1 ข้อ)

เด็กเปิดตู้และหยิบยาเองได้ (1)

เด็กไม่สามารถเปิดตู้และหยิบยาเองได้ (0)

มีการจัดยาเกิน ยาทาภายนอก แยกชนิดไม่ปะปนกัน (0)

มีการจัดยาเกิน ยาทาภายนอก ไว้ปะปนกัน (1)

มีฉลากปิดขวดยาครบถ้วน (0)

มีฉลากปิดขวดยาไม่ครบถ้วน (1)

ไม่มี (0)

9. ของเล่นในบ้าน []
- ของเล่นชิ้นเล็กเกิน สามารถเข้าคอ จมูก หรือหูได้ (1)
 - ของเล่นชำรุด (1)
 - จัดเก็บไม่เป็นระเบียบ (1)
 - ของเล่นไม่ชำรุด จัดเก็บเป็นระเบียบ (0)
10. ปลั๊กไฟ เต้าเสียบไฟฟ้า []
- มี ซึ่งมีลักษณะดังนี้ (ตอบได้มากกว่า 1 ข้อ)
- ติดไว้สูงเด็กเอื้อมไม่ถึง (0)
 - ติดต่ำเด็กเอื้อมถึง (1)
 - มีอุปกรณ์ป้องกันปัดรูเสียบ (0)
 - ไม่มีอุปกรณ์ป้องกันปัดรูเสียบ (1)
 - อยู่ในสภาพดีไม่ชำรุด (0)
 - มีส่วนชำรุดที่อาจเป็นอันตรายเช่น แตกหักบางส่วน หลวม หลุด เก่ามาก (1)
 - ไม่มี (0)
11. สารเคมี สารพิษ []
- ผงซักฟอก วางไว้ในที่เด็กหยิบถึง (1)
- มีที่แยกเก็บ เด็กหยิบมาเล่นไม่ได้ (0)
- ไม่มีใช้ (0)
- น้ำยาทำความสะอาดทุกประเภท
- วางไว้ในที่เด็กหยิบถึง วางปะปนกับขวดน้ำอื่นๆ (1)
- มีที่แยกเก็บ เด็กหยิบมาเล่นไม่ได้ (0)
- ไม่มีใช้ (0)
- ลูกเหม็น มีใช้ วางทั่วไปในลิ้นชัก ในตู้ (1)
- มีที่แยกเก็บ เด็กหยิบมาเล่นไม่ได้ (0)
- ไม่มีใช้ (0)

- ยาฆ่าแมลง มีขวด หรือกระบอกฉีดยาฆ่าแมลงตั้งทิ้งไว้ในที่เด็กหยิบถึง (1)
 มีที่แยกเก็บ เด็กหยิบมาเล่นไม่ได้ (0)
 ไม่มีใช้ (0)

น้ำมันเครื่องยนต์ทุกประเภท

- เก็บปะปนกับสิ่งอื่น เก็บไว้ในที่ที่เด็กหยิบถึง (1)
 มีที่แยกเก็บ เด็กหยิบมาเล่นไม่ได้(0)
 ไม่มีใช้ (0)

ปุ๋ย

- มีขวด หรือกระบอกตั้งทิ้งไว้ในที่เด็กหยิบถึง (1)
 มีที่แยกเก็บ เด็กหยิบมาเล่นไม่ได้ (0)
 ไม่มีใช้ (0)

12. ในบ้านมีอุปกรณ์เครื่องใช้ต่อไปนี้อะไรบ้าง (ตอบได้มากกว่า 1 ข้อ)

- เตาถ่าน เตาฟืน เตาแก๊ส
 เตาไฟฟ้า กระทะไฟฟ้า หม้อหุงข้าวไฟฟ้า
 กระทิกน้ำร้อน เตาไรด พัดลมตั้งโต๊ะ
 เด็กเข้าไปใช้หรือเล่นอุปกรณ์ เครื่องใช้เหล่านี้อย่างหนึ่งอย่างใดหรือทั้งหมด
 ได้ (1)
 เด็กเข้าไปใช้หรือเล่นไม่ได้(0)

13. ในบ้านมีเครื่องมือ เครื่องจักร ของมีคม ของไม่มีคม อะไรบ้าง (ตอบได้มากกว่า 1 ข้อ)

- แท่นพิมพ์ เครื่องตัดเหล็ก เครื่องกลึง
 เครื่องนวดข้าว มัด, กรรไกร อาวุธ, ปืน
 อื่นๆ ระบุ.....
 เด็กเข้าไปใช้หรือเล่นอุปกรณ์ เครื่องใช้เหล่านี้อย่างหนึ่งอย่างใดหรือทั้งหมด
 ได้ (1)
 เด็กเข้าไปใช้หรือเล่นไม่ได้ (0)

14. ในบ้านมีไม้ขีดไฟ อุปกรณ์จุดไฟ เช่น ไฟแช็ค พลุ ดินปืนหรือไม่

- มี มีที่เก็บเด็กหยิบเองไม่ได้ (0)

- ไม่มีที่เก็บ เด็กหยิบเล่นเองได้ (1)
 ไม่มี (0)
15. ที่บ้านมีสัตว์เลี้ยงอะไรบ้าง (ตอบได้มากกว่า 1 ข้อ) []
 มี (1) ได้แก่ แมว.....ตัว สุนัข.....ตัว ไก่.....ตัว
 อื่นๆ ระบุ.....
 ไม่มี (0)
16. ในบ้านมียานพาหนะอะไรไว้ใช้บ้าง []
 มี (1) ได้แก่ รถจักรยาน รถจักรยานยนต์
 รถยนต์ เรือ
 อื่นๆ ระบุ.....
 ไม่มี (0)
17. ในบ้านมีสิ่งต่างๆ ต่อบ้านนี้หรือไม่ (ตอบได้มากกว่า 1 ข้อ) []
 มี ได้แก่ โรงเก็บเครื่องมือ โรงรถ
 ห้องเก็บของ ชู้งข้าว
 เด็กเข้าไปเล่นได้ (1)
 เด็กเข้าไปเล่นไม่ได้ (0)
 ไม่มี (0)
18. แสงสว่างภายในบ้านและบริเวณบ้าน []
 บริเวณรั้ว มีหลอดไฟติดตั้งไว้(0)
 ไม่มีหลอดไฟติดตั้งไว้ (1)
 บริเวณประตู มีหลอดไฟติดตั้งไว้(0)
 ไม่มีหลอดไฟติดตั้งไว้ (1)
 ห้องครัว มีหลอดไฟติดตั้งไว้(0)
 ไม่มีหลอดไฟติดตั้งไว้ (1)
 ภายในบ้าน มีหลอดไฟติดตั้งไว้(0)
 ไม่มีหลอดไฟติดตั้งไว้ (1)

19. สนามหรือลานบ้าน []
- [] มี มีลักษณะดังนี้
- [] ลื่น เช่นพื้นขัดมัน (1)
 - [] ผิวขรุขระ ไม่เรียบ (1)
 - [] สนามหญ้า (0)
 - [] มีสิ่งกีดขวางอาจเป็นอันตรายต่อเด็ก (1)
 - [] มีอุปกรณ์ของเล่นสนามที่ชำรุด (1)
- [] ไม่มีสนามหรือลานบ้าน (0)
20. บ่อ, สระน้ำ, ท้องร่อง, ภูเขา บริเวณบ้าน []
- [] มี ลักษณะดังนี้
- [] เด็กเข้าไปเล่นเองได้ (1)
 - [] มีที่กั้น หรือรั้วกั้นโดยรอบ (0)
 - [] ไม่มีเครื่องกั้น (1)
- [] ไม่มี (0)
21. รั้วบ้าน []
- [] มีรั้ว
- [] กั้นไม่ให้เด็กออกภายนอกได้ (0)
 - [] รั้วชำรุด (1)
 - [] รั้วมีช่องที่เด็กลอดออกได้ (1)
 - [] เด็กปีนเล่นได้ (1)
- [] ไม่มีรั้ว ซึ่งบ้านมีลักษณะดังนี้
- [] เป็นบ้านที่ควรมีรั้ว แต่ไม่ได้ทำรั้วไว้ (1)
 - [] เป็นบ้านที่ไม่จำเป็นต้องทำรั้ว เช่น ตึกแถว ห้องแถว (0)

ส่วนที่ 3 ชนิดและจำนวนครั้งที่เกิดการบาดเจ็บ

ถามว่าในระยะ 3 เดือนที่ผ่านมาเด็กเคยบาดเจ็บอะไรบ้าง หรือมีการบาดเจ็บอะไรเกิด

ขึ้นกับแต่เฉพาะการบาดเจ็บที่เกิดในบ้านและบริเวณบ้าน โดยถามทีละข้อจนครบ และลงจำนวนครั้งที่เกิดขึ้นด้วย ถ้าเด็กไม่เคยบาดเจ็บให้กา / ในช่องไม่เกิด

ชนิดของการบาดเจ็บ	การบาดเจ็บในระยะ 3 เดือน	
	ไม่เกิด	เกิด (ครั้ง)
1. การพลัดตกหกล้ม/วัตถุหล่นทับ ชน กระแทก		
1.1 ตกจากที่สูงจนมีบาดแผล หรือรอยฟกช้ำ หรือแขน-ขาหัก		
1.2 หกล้มจนมีบาดแผล หรือรอยฟกช้ำ		
1.3 ถูกชน กระแทกจนมีบาดแผล หรือรอยฟกช้ำ		
1.4 วัตถุหล่นใส่ จนมีแผล		
1.5 ติดอยู่ระหว่างวัตถุ ถูกหนีบ จนห้อเลือด หรือมีเลือดออก		
1.6 อื่นๆ ระบุ.....		
2 การตกน้ำ จมน้ำ สำลึกลงแปลงปลอม		
2.1 ตกบ่อ, สระ, คู		
2.2 ตกตุ่ม, ถัง ภาชนะขังน้ำไว้ใช้		
2.3 สำลึกวัตถุเข้าหลอดลม		
2.4 วัตถุติดคอ		
2.5 ใส่วัตถุหรือสิ่งแปลกปลอมในรูจมูก		
2.6 ใส่วัตถุหรือสิ่งแปลกปลอมในรูหู		
3. บาดเจ็บจากเครื่องมือ, เครื่องจักร, ของมีคม, ของไม่มีคม		
3.1 จากเครื่องมือ เครื่องจักร ระบุ.....		
3.2 ของมีคม ระบุ.....		
3.3 ของไม่มีคม ระบุ.....		

ชนิดของการบาดเจ็บ	การบาดเจ็บในระยะ 3 เดือน	
	ไม่เกิด	เกิด (ครั้ง)
4. บาดเจ็บจากไฟ, สาร, วัตถุร้อน		
4.1 ถูกไฟไหม้พองจาก ระบุ.....		
4.2 ถูกน้ำร้อนลวก ระบุ.....		
4.3 ถูกวัตถุร้อน ระบุ.....		
5. บาดเจ็บจากไฟฟ้า		
5.1 ถูกไฟช็อต, ไฟดูด เนื่องจาก ระบุ.....		
6. รับสารพิษ สารเคมี รวมทั้งยาต่าง ๆ		
6.1 จากการกิน ระบุ.....		
6.2 จากการสูดดม ระบุ.....		
6.3 จากการสัมผัส ระบุ.....		
7. บาดเจ็บจากกระบิด, ปีน		
7.1 ถูกยิง		
7.2 ถูกกระบิด		
7.3 เล่นปืน		
7.4 เล่นดอกไม้ไฟ, ประทัด, ลูกโป่งสวรรค์, ปีนเก้าอี้		
8. การบาดเจ็บอื่น ๆ เช่น		
8.1 สัตว์เลี้ยงกัด, ข่วน ระบุ.....		
8.2 การบาดเจ็บอื่น ๆ ระบุ.....		

ส่วนที่ 4 ใช้ถามรายละเอียดในกรณีเคยบาดเจ็บที่บ้านครั้งสุดท้าย

1. การบาดเจ็บครั้งสุดท้ายในช่วง 3-5 ขวบเกิดเมื่อ.....ขณะที่เด็กอายุได้.....ปี.....เดือน

2. การบาดเจ็บที่เกิดคือ

- การพลัดตกหกล้ม
- การตกน้ำ จมน้ำ สำลักสิ่งแปลกปลอม
- บาดเจ็บจากเครื่องมือ, เครื่องจักร, ของมีคม, ของไม่มีคม
- บาดเจ็บจากไฟ, สาร, วัตถุร้อน
- บาดเจ็บจากไฟฟ้า
- รับประทาน สารเคมี รวมทั้งยาต่าง ๆ
- บาดเจ็บจากระเบิด, ปืน
- สัตว์เลี้ยงกัด, ข่วน

3. จากการบาดเจ็บที่เกิดขึ้นเด็กได้รับบาดเจ็บหรือมีความผิดปกติอย่างไร (ตอบได้มากกว่า 1 ข้อ)

- ฟกช้ำ, บวมโน
- ผิวหนังถลอกเป็นแผล
- มีบาดแผลผิวหนังลึกขาด
- เย็บไม่เกิน 3 เซ็ม
- เย็บเกิน 3 เซ็ม
- แขน/ขาหัก, ข้อหลุด
- ไม่ต้องเข้าฝือก
- เข้าฝือก
- สิ่งแปลกปลอมในอวัยวะ ระบุ.....
- หมดสติ
- อื่น ๆ ระบุลักษณะบาดแผล/การบาดเจ็บ.....

3. เด็กได้รับการรักษาที่ไหน

- โรงพยาบาล
- สถานีอนามัย
- คลินิก
- หมอพระ
- อื่น ๆ ระบุ.....

4. ลักษณะความรุนแรงของการบาดเจ็บที่ได้รับ (ตอบได้มากกว่า 1 ข้อ)

- ไม่ได้นอนพักรักษาตัวในโรงพยาบาล
- นอนพักรักษาตัวในโรงพยาบาล
- สูญเสียอวัยวะ ได้แก่
- ตาบอด
- นิ้วขาด
- แขนขาด
- ขาขาด
- อื่น ๆ ระบุรายละเอียด.....

5. ค่าใช้จ่ายในการดูแลรักษาครั้งนี้.....บาท

6. ผลการรักษา

[] หายเป็นปกติ

[] หายแต่มีความพิการติดตัว ระบุ.....

[] ยังอยู่ในระหว่างรักษา เช่น รอดตัดไหม รอดตัดเฟือก ฯลฯ

[] อื่น ๆ [] ระบุ.....



APPENDIX B

LIST OF EXPERTS

The content of the instruments for data collection in this study were validated by three consulting experts as follow:

1. Associate Professor Adisak Phalitpholkarnpim, M.D.
Head of the Research Center to Promote Safety and to Prevent Injuries in Children, Department of Pediatrics, Faculty of Medicine, Ramathibodi Hospital
2. Assistant Professor Suwannee Udomtassanee
Coordinator, Pediatrics Nursing, Ramathibodi Hospital
3. Assistant Professor Dr. Chuenruedee Kongsaktrakul
Lecturer, Department of Pediatrics, Ramathibodi Hospital

APPENDIX C

Consent Form

หนังสือยินยอมโดยได้รับการบอกกล่าวและเต็มใจ

การวิจัยเรื่อง “ปัจจัยที่มีความสัมพันธ์กับการบาดเจ็บที่บ้านของเด็กวัยก่อนเรียน”
วันที่ให้คำยินยอม วันที่.....เดือน.....พ.ศ.....

ก่อนที่จะลงนามในใบยินยอมให้ทำการวิจัยนี้ ข้าพเจ้าได้รับการอธิบายจากผู้วิจัยถึงวัตถุประสงค์ของการวิจัย วิธีการวิจัย รวมทั้งประโยชน์ที่จะเกิดขึ้นจากการวิจัยอย่างละเอียด และมีความเข้าใจดีแล้ว

ผู้วิจัยรับรองว่าจะตอบคำถามต่างๆ ที่ข้าพเจ้าสงสัยด้วยความเต็มใจ ไม่ปิดบังซ่อนเร้น จนข้าพเจ้าพอใจ

ข้าพเจ้ามีสิทธิที่จะบอกเลิกการเข้าร่วมโครงการวิจัยครั้งนี้เมื่อใดก็ได้ และการเข้าร่วมโครงการวิจัยนี้โดยสมัครใจ และการบอกเลิกการเข้าร่วมวิจัยนี้ จะไม่มีผลใดๆ ต่อตัวข้าพเจ้าและเด็กในปกครองของข้าพเจ้าที่จะพึงได้รับต่อไป

ผู้วิจัยรับรองว่าจะเก็บข้อมูลเฉพาะที่เกี่ยวข้องกับตัวข้าพเจ้าและเด็กในปกครองของข้าพเจ้าเป็นความลับ และจะเปิดเผยได้เฉพาะในรูปที่เป็นผลสรุปการวิจัย การเปิดเผยข้อมูลเกี่ยวกับเด็กในปกครองของข้าพเจ้าต่อหน่วยงานต่างๆ ที่เกี่ยวข้องกระทำได้เฉพาะกรณีจำเป็นด้วยเหตุผลทางวิชาการเท่านั้น

ผู้วิจัยรับรองว่าหากมีข้อมูลเพิ่มเติมที่ส่งผลกระทบต่อการศึกษา ข้าพเจ้าและเด็กในปกครองของข้าพเจ้าจะได้รับการแจ้งให้ทราบโดยไม่มีปิดบังซ่อนเร้น

ข้าพเจ้าได้อ่านข้อความข้างต้นแล้ว และมีความเข้าใจดีทุกประการ และได้ลงนามในใบยินยอมนี้ด้วยความเต็มใจ

ลงนาม.....ผู้ปกครอง

ลงนาม.....พยาน

ลงนาม.....พยาน

APPENDIX D

คำอธิบายตอบแบบสอบถาม

ดิฉันนางสาว วรรณไพเราะ แยมมา เป็นนักศึกษาหลักสูตรพยาบาลศาสตรมหาบัณฑิต สาขาการพยาบาลเด็ก คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล กำลังทำวิจัยเรื่อง “ปัจจัยที่มีความสัมพันธ์กับการบาดเจ็บที่บ้านของเด็กวัยก่อนเรียน” เพื่อเป็นข้อมูลในการป้องกันการบาดเจ็บที่บ้านของเด็กวัยก่อนเรียน ดังนั้นดิฉันใคร่ขอเชิญชวนท่านซึ่งมีบุตรอายุ 3 - 5 ปีเข้าร่วมในโครงการวิจัยครั้งนี้ โดยให้ท่านช่วยตอบแบบสอบถามที่ใช้ในการเก็บข้อมูลสำหรับการทำวิจัยครั้งนี้ด้วย คือ แบบสอบถามข้อมูลส่วนบุคคลและสังคม แบบสังเกตสิ่งแวดล้อมและสิ่งที่ก่อให้เกิดการบาดเจ็บที่บ้าน และจำนวนครั้งที่เกิดการบาดเจ็บ ซึ่งคาดว่าจะใช้เวลาประมาณ 20 – 30 นาที ในการเข้าร่วมวิจัยครั้งนี้จะเป็นไปตามความสมัครใจของท่าน หากท่านต้องการยกเลิกการเข้าร่วมการวิจัย สามารถที่จะยกเลิกการเข้าร่วมวิจัยเมื่อไหร่ก็ได้ โดยไม่มีผลกระทบใดๆ ทั้งสิ้น การตอบแบบสอบถามนี้ ข้อมูลที่ได้ที่จะนำเสนอเป็นผลสรุปโดยรวมของผู้เข้าร่วมการวิจัย หากท่านมีข้อสงสัยประการใดเกี่ยวกับแบบสอบถามในการวิจัยครั้งนี้ ดิฉันยินดีอธิบายให้ท่านเข้าใจอย่างชัดเจนตลอดเวลา และข้อมูลทั้งหมดจากการตอบแบบสอบถามนี้จะได้รับการปกปิดเป็นความลับ

ผู้วิจัยขอขอบคุณในการเข้าร่วมโครงการนี้

ลงชื่อ.....

(นางสาววรรณไพเราะ แยมมา)

ผู้ดำเนินการวิจัย

APPENDIX E

	
No. <u>MU 2007-074</u>	
Documentary Proof of Ethical Clearance The Committee on Human Rights Related to Human Experimentation Mahidol University, Bangkok	

Title of Project.	Factors Predicted to Home Accident in Preschool Children (Thesis for Master Degree)
Principle Investigator.	Miss Wannaprai Yamma
Name of Institution.	Faculty of Medicine Ramathibodi Hospital
Approved by the Committee on Human Rights Related to Human Experimentation	
Signature of Chairman.	 (Professor Dr.Srisin Khusmith)
Signature of Head of the Institute.	 (Professor Dr.Pornchai Matangkasombut)
Date of Approval.	20 APR 2007
Date of Expiration.	19 APR 2008

BIOGRAPHY

NAME	Miss Wannaprai Yamma
DATE OF BIRTH	27 January 1976
PLACE OF BIRTH	Ratchaburi, Thailand
INSTITUTIONS ATTENDED	Burapha University, 1994-1998: Bachelor of Nursing Mahidol University, 2002-2007: Master of Nursing Science (Pediatric Nursing)
POSITION & OFFICE	1998-2006: Praram 9 Hospital, Bangkok Position: Nurse 2006-2007: Praram 9 Hospital, Bangkok Position: Head Nurse of Pediatric OPD September 2007 - Present: Lecturer in Rangsit University, Bangkok Position: Lecturer Tel. 081-8433885, 02-2742809 E-mail: yamma_wan7@.yahoo.co.th
HOME ADDRESS	58 Moo 1 Tambon Taopoon Photharam District Ratchaburi Province 70120.