EFFECTS OF MULTI-COMPONENT PROGRAM ON FAMILY CAREGIVER'S ENGAGEMENT IN PROMOTING SAFETY OF HOSPITALIZED CHILDREN: A QUASI-EXPERIMENTAL STUDY

Miss Pataraporn Yubonpunt

A Dissertation Submitted in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy in Public Health
Common Course
COLLEGE OF PUBLIC HEALTH SCIENCES
Chulalongkorn University
Academic Year 2020

ผลของโปรแกรมพหุองค์ประกอบต่อผู้ดูแลในครอบครัวเพื่อการส่งเสริมความปลอดภัยของผู้ป่วยเด็ก: การศึกษากึ่งทดลอง

น.ส.ภัทรพร ยุบลพันธ์

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาสาธารณสุขศาสตรดุษฎีบัณฑิต
สาขาวิชาสาธารณสุขศาสตร์ ไม่สังกัดภาควิชา/เทียบเท่า
วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย
ปีการศึกษา 2563

Thesis Title	EFFECTS OF MULTI-COMPONENT PROGRAM ON FAMILY CAREGIVER'S ENGAGEMENT IN PROMOTING SAFETY OF HOSPITALIZED CHILDREN: A QUASI-EXPERIMENTAL STUDY
By	Miss Pataraporn Yubonpunt
Field of Study	Public Health
Thesis Advisor	Associate Professor KANCHANA RUNGSIHIRUNRAT, Ph.D.

Accepted by the COLLEGE OF PUBLIC HEALTH SCIENCES, Chulalongkorn University in Partial Fulfillment of the Requirement for the Doctor of Philosophy

..... Dean of the COLLEGE OF PUBLIC HEALTH SCIENCES

(Professor SATHIRAKORN PONGPANICH, Ph.D.)

DISSERTATION COMMITTEE

..... Chairman

(Professor SURASAK TANEEPANICHSKUL, MD)

..... Thesis Advisor

(Associate Professor KANCHANA RUNGSIHIRUNRAT, Ph.D.)

..... Examiner

(MONTAKARN CHUEMCHIT, Ph.D.)

..... Examiner

(PRAMON VIWATTANAKULVANID, Ph.D.)

..... External Examiner

(Nipunporn Voramongkol, MD)

ภัทรพร ยุบลพันธ์ : ผลของโปรแกรมพหุองค์ประกอบต่อผู้ดูแลในครอบครัวเพื่อการส่งเสริมความปลอดภัยของผู้ป่วยเด็ก: การศึกษากึ่งทดลอง. (EFFECTS OF MULTI-COMPONENT PROGRAM ON FAMILY CAREGIVER'S ENGAGEMENT IN PROMOTING SAFETY OF HOSPITALIZED CHILDREN: A QUASI-EXPERIMENTAL STUDY) อ.ที่ปรึกษาหลัก : รศ. ดร.กาญจนา รังษีหิรัญรัตน์

การมีส่วนร่วมของผู้ดูแลในครอบครัวในการเพิ่มความปลอดภัยเป็นหนึ่งในกลยุทธ์ที่ต้องดำเนินการในโรงพยาบาลในประเทศไทยยังมีการศึกษาไม่มากนัก และยังไม่พบว่ามีการสร้างเครื่องมือสำหรับใช้เป็นแนวทางแก่ผู้ดูแลในครอบครัว การศึกษานี้มีวัตถุประสงค์เพื่อวัดผลการใช้โปรแกรมพหุองค์ประกอบต่อการมีส่วนร่วมของผู้ดูแลในครอบครัวในการส่งเสริมความปลอดภัยของผู้ป่วยเด็กที่นอนโรงพยาบาล การศึกษากึ่งทดลองดำเนินการระหว่างเดือนสิงหาคม ถึง ตุลาคม พ.ศ.2562 ณ หอผู้ป่วยเด็กของโรงพยาบาลภาครัฐ ทางภาคตะวันออกเฉียงเหนือของประเทศไทย กลุ่มตัวอย่างคือผู้ดูแลในครอบครัวจำนวน 160 คน ที่ได้รับการคัดเลือกตามเกณฑ์การคัดเข้า กลุ่มตัวอย่างในกลุ่มทดลองได้รับการปฏิบัติตามมาตรฐานการดูแล และได้รับโปรแกรมพหุองค์ประกอบระหว่างการนอนโรงพยาบาลของผู้ป่วยเด็ก โปรแกรมพหุองค์ประกอบพัฒนาภายใต้แนวทางความปลอดภัยของผู้ป่วยเด็กและ 'ARM' เป็นเนื้อหา สื่อประกอบด้วยแผ่นพับโปสเตอร์การอบรมพูดคุยเรื่องความปลอดภัยด้วยวิดีโอและการแจ้งเตือนทางข้อความ แบบสอบถามที่พัฒนาขึ้นนี้ใช้วัดความรู้การรับรู้ความสามารถของตนเองและการมีส่วนร่วมในการส่งเสริมความปลอดภัยของผู้ดูแลในครอบครัว สถิติเชิงพรรณนาใช้สำหรับแสดงข้อมูลด้านลักษณะประชากร และคะแนนของแต่ละผลลัพธ์ การวิเคราะห์สถิติที สำหรับแบบกลุ่มอิสระต่อกัน (Independent sample t-test) และไม่อิสระต่อกัน (Dependent sample t-test) เพื่อเปรียบเทียบความแตกต่างของผลลัพธ์ระหว่างกลุ่มและภายในกลุ่มตามลำดับ การวิเคราะห์ความแปรปรวนร่วม (Analysis of Covariance:ANCOVA) ถูกนำมาใช้เพื่อควบคุมปัจจัยรบกวนที่มีต่อผลลัพธ์

ผลการศึกษาคะแนนความรู้ การรับรู้ความสามารถของตนเองในกลุ่มทดลองสูงกว่ากลุ่มควบคุมอย่างมีนัยสำคัญ ($p< 0.001$) คะแนนการมีส่วนร่วม ในแต่ละมิติและในภาพรวมของกลุ่มทดลองสูงกว่ากลุ่มควบคุม และมีความแตกต่างอย่างมีนัยสำคัญทางสถิติทั้งในภาพรวม และรายมิติ ($p<0.001$) โปรแกรมพหุองค์ประกอบเป็นประโยชน์ในการเสริมสร้างความรู้และส่งเสริมให้ผู้ดูแลในครอบครัวมีส่วนร่วมในการส่งเสริมความปลอดภัยสำหรับผู้ป่วยเด็กที่นอนโรงพยาบาล เพื่อให้ผู้ดูแลในครอบครัวสามารถเป็นส่วนหนึ่งในการสร้างความปลอดภัย ผู้ดูแลในครอบครัวควรได้รับการส่งเสริมผ่านสื่อสุขศึกษาและการสนับสนุนจากบุคลากรทางการแพทย์

สาขาวิชา สาธารณสุขศาสตร์ ลายมือชื่อนิสิต .....

ปีการศึกษา 2563 ลายมือชื่อ อ.ที่ปรึกษาหลัก .....

6079169253 : MAJOR PUBLIC HEALTH

KEYWORD: Hospitalized child, Caregiver, Promoting safety, Patient engagement, Multi-component program

Pataraporn Yubonpunt : EFFECTS OF MULTI-COMPONENT PROGRAM ON FAMILY CAREGIVER'S ENGAGEMENT IN PROMOTING SAFETY OF HOSPITALIZED CHILDREN: A QUASI-EXPERIMENTAL STUDY. Advisor: Assoc. Prof. KANCHANA RUNGSIHIRUNRAT, Ph.D.

Family caregiver's involvement in improving patient safety was stated as one of the strategies that need to be undertaken in the hospital. A little is known about the study and has no tools that use to guide family caregivers. This study aimed to investigate the effects of multi-component programs on family caregiver's engagement in promoting safety for hospitalized children. A quasi-experimental study was performed during August-October 2019 in pediatric wards of public hospitals, North –Eastern, Thailand. 160 family caregivers were recruited with eligible criteria. The participants in the intervention group were given usual care and the multi-component program during the hospitalization of the child. The Multi-component program was developed under patient safety guidelines for child and 'ARM' was the content. There were leaflets, posters, safety talk training with video, and SMS alerts. The developed questionnaires were used to measure family caregiver's knowledge, self-efficacy, and engagement in promoting safety for hospitalized children. Descriptive statistics were used for socio-demographics and scores of each of the outcomes. Independent sample t-test and Dependent sample t-test were used to compare the difference of outcomes between the group and within-group respectively. The Analysis of Covariance (ANCOVA) was used to adjust the confounding factor.

The result showed that the knowledge score and self-efficacy scores in the intervention group were statistically significantly higher than the control group ($p < 0.001$). The engagement score in each dimension and overall in the intervention group were higher than in the control group. There were statistically significant differences between intervention and control groups in both total scores and in each dimension ($p<0.001$). The multi-component program is beneficial for enhancing knowledge's family caregivers and encourages them in order to engage in promoting safety for hospitalized children. This study recommended that the family caregiver should be encouraged by both educational material guidelines and the role of healthcare staff.

Field of Study:	Public Health	Student's Signature .....
Academic Year:	2020	Advisor's Signature .....

ACKNOWLEDGEMENTS

This route of degree has taught valuable lessons and experiences. Of course, my achievement will not be possible without the greatest support from all those involved. First, I am grateful to acknowledge my advisor Assoc. Prof, Dr. Kanchana Rungsihirunrat for pleasure advice, support, and encouragement throughout the study.

I am grateful to thank each of the Committees to give beneficial suggestions for developing this research and myself. In addition, they had made an opportunity to do the challenges. Also, thank all the instructors of the College of Public Health Sciences for teaching and sharing knowledge.

I gratefully acknowledge Huachiew Chalermprakiet University for financial support throughout the study. Thank you to all the colleagues of the Faculty of Public Health and Environment for supporting me always.

I gratefully acknowledge financial support from Chulalongkorn University, The 90th Anniversary of Chulalongkorn Fund (Ratchadapiseksompoth Endowment Fund)

I am grateful to thank all of the participants for participating in the study. They gave deeper knowledge and new experiences. Also, thank nurses in pediatric wards who helped and made beautiful friendships.

I would like to thank my friends who have joined on my journey. They always inspire and support until graduation.

I am grateful to special thanks to my family, they are always the sources of my power. Also thank my little sister for supporting and staying beside me whatever I faced until graduated in Ph.D.

Pataraporn Yubonpunt

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER I

INTRODUCTION

1.1 Background and rationale

Patient safety is global issue in hospital setting. It is the core of modern health care and one of dimension of quality of care, and also is the key internal process of hospitals setting [1]. Patient safety is absence of preventable harm to a patient during the process of health care and reduction of risk of unnecessary harm associated with health care to an acceptable minimum [2]. It was estimated that as many as one in 10 patients are harmed while receiving hospital care. Healthcare associated harm arisen from or associated with plan or actions taken during the provision of healthcare rather than an underlying disease or injury [3]. The impact of unsafe care broadly highlights the magnitude and scale of the problem. Apart from injuries and die, cost of harm associated with the loss of life or permanent disability resulting in lost capacity and productivity of the affected patients and family's income or even loss of trust in the system and loss of reputation and credibility in health services [4]. An adverse event from unsafe care is a significant problem across all countries. Therefore, patient safety improvement is an international awareness issue.

Patient safety in hospitalized children mean that preventing injury to children caused directly by the health care system [5]. Hospitalized children cannot decide about their own care and vulnerable to medical error and harm as they are totally

depending on the communication and behaviours of parents in preventing the occurrence of errors [6, 7]. The study have examined parents' reports of sentinel events related to their children's safety. The finding indicated that 20% of reports were linked to problems with medication, 13% to complications with treatment, 13% to problems with equipment, 24% to communication between staff members, 16% to communication between staff and family members, and 14% of reports referred to other matters [8]. Experts have agreed that medical error in children have a higher potential of injury than in the adult population [9, 10].

In child's care context, hospitalized children need closer supervision. Family caregivers are significant person in total care process of the children. They play an especially important role when children are not physically or cognitively able to participate in their own care, and become surrogate decision maker. This responsibility is both their right and their job, their role are as 'arm and leg' to protect and prevent hospitalized children from harm. [11, 12]. Family caregiver might be involved in identifying and preventing events that potentially risk the child's safety. Therefore, it is important to focus on the family caregiver's involvement in ensuring the safety of their hospitalized children [13].

Patient's engagement in safety issue can be seen as a special case of health promoting behavior and can state that this is a growing trend [14, 15]. Engagement is action that individual must take to obtain the greatest benefit from the health care services available to them. This definition focuses on behaviors of individuals relative

to their health care [16]. Patient engagement in patient safety concept is defined as the process of building the capacity of patients, families, caregivers, as well as health care providers to facilitate and support the active involvement of patients in their own care in order to enhance safety, quality, and people-centeredness of health care service delivery [17]. There has been increasing agreement that patient engagement is a crucial factor for improving quality of care, increasing patient safety which associated with fewer adverse events and reducing healthcare expenditure [15, 18-20].

Family caregivers have a pivotal in ensuring safety of their child. Therefore, children are represented by family caregivers. For this reason, expert and governing bodies have suggested family engagement in care can improve safety for hospitalized children [7]. The Joint Commission and the Agency for Healthcare Research and Quality (AHRQ) recommended that family caregivers help to prevent errors by becoming 'actively involved and informed' members of their healthcare team and 'taking part in every decision about child's health care' [21]. Therefore, in the context of hospitalized children for this study uses the word 'engagement' which emphasize on family caregiver engagement in promoting safety of hospitalized children. It means that act as actively involved in promoting safety with healthcare staff to prevent harm and medical errors during child's care process. Family caregiver's involvement in improving patient safety was stated as one of the

strategies that need to be undertaken to support the quality and safety environment in health care organization [22].

Notwithstanding, family caregivers' taking an active role-related patient safety in the process of medical treatment in hospitalized children is still challenging. Because of the pattern of medical paternalism, healthcare professionals can decide or choose the treatment methods for patients and they prefer to listen and comply with it. Studies of patient safety of hospitalized children have examined and found that family caregivers want to involve as a partner in improving their child's safety in the hospital and needed to watch over care to prevent mistakes [7, 23]. Abilities and needs to participate in their child's care varied in socio-demographic, hospitalization characteristics and organization factors. There were considered as a covariate in paediatric patient safety research, especially when using parent-report data. For individual characteristics such as age, self-efficacy, literacy, and knowledge were stated that influence on the engagement [7, 14, 16].

Knowledge is an intrapersonal factor and important fundamental to understand and behave in each of the situations. Family caregiver's knowledge related to educational background and receiving information about the care process during hospitalization. Safety-related behaviors are challenging for patients and families to interact with healthcare providers. It is difficult for patients and families to engage in safety-related behaviors due to a lack of knowledge on how to participate [24]. Meaningful and effective engagement begins with empowering patients. Patients

and families need to have sufficient information about health conditions and about health care systems and processes. Thus, they can be a knowledgeable partner in decision making [17]. Family caregivers have offered several ideas to encourage active involvement in their child's safety during hospitalization by increasing parent knowledge of safety issues [12]. Enhancing the knowledge base on how can involve in the child's care process should be addressed and appropriately educated for family caregivers of hospitalized children.

Self-efficacy is not a general concept, it is a construct used in social cognitive theory to explain behavior change. This is the most likely affect performance when individuals consider a goal important and confident. They can perform the goal and the expectation that one can copes with or succeeds at specific tasks or challenges [25, 26]. There have widely studied in healthcare using self-efficacy theory to enhance or improve health outcomes such as willingness to adopt preventive strategies, treatment adherence, behavior change and with greater patient participation in healthcare decision-making [21]. For this study self-efficacy of family caregiver is the confidence to actively interact with professional staff in promoting safety for hospitalized children. Promotion of self-efficacy has promoted as potential ways to improve safety and was stated that may play in patient involvement in safety [12, 24]. Engagement in promoting safety is challenging behavior. Therefore, the theoretical self-efficacy is an important fundamental for family caregivers to

active involvement in the care process, especially engaging in promoting safety in hospitalized children.

Pediatric respiratory disease is a major cause of morbidity and mortality in both developed and developing countries with 70% of the global deaths occurring in Africa and Southeast Asia. It can cause children aged less than 5 years old to have the highest morbidity and mortality rates. In some patients, survivors may have abnormal respiratory and other systems, such as chronic sinusitis, chronic bronchitis, bronchiectasis, cerebral palsy and so on [27]- [28]. In Thailand, there have some studies of family caregiver's participation in their child care which focused only on participation in basic caring. The results showed parents involved in a child's care at a moderate level (score =66.84). Thai parents expressed concerns including afraid of making mistakes, being afraid of complaining about professional staff, and feeling nurses could do a better job [29, 30]. However, It is a paucity of research approach to foster about family caregiver's engagement in promoting safety of hospitalized children, in particular of hospitalized children with respiratory disease. In addition, the study of knowledge and self-efficacy is also unknown. The knowledge and self-efficacy and engagement in patient safety should be addressed.

The public hospitals have responsibilities to support a large number of people who are sick. There is widely accepted that healthcare staff have the expert skill and ethical obligation for providing safety and the highest quality of care. However, patients and families and carers are an important person to respond to

their own care and feedback on real health outcomes. Thus, during hospital staying of hospitalized children, the family caregiver is also completely surrogate to play a role such as participating in care coordination and assessing care practices for accuracy and safety. In order hospitalized children to receive safe care, family caregivers need to play active roles by engaging in total care processes as a vigilant partner with professional staff.

This study purposes to employ the multi-component program through an educational approach for encouraging family caregiver's engagement in promoting safety of their child including written tools and verbal techniques. There are leaflets and posters, and safety talk training with video and SMS alerts. 'ARM' is the contents of the intervention that was reviewed mainly based on Speak Up: Prevent Errors in Your Child's Care [31] and 20 Tips to Help Prevent Medical Error in Children [32]. This abbreviation is represented for key safety-related behaviors of family caregiver action to promote safety of hospitalized children. A-represent for Advocate to Ask, R-represent for Report and Response and M-represent for Monitoring and Make sure. Therefore, the multi-component program is developed for laypeople who are family caregivers of hospitalized children, to educate them on how they can play an active involvement in promoting safety of hospitalized children.

The hypothesis is that the multi-component program can be beneficially to improve knowledge, self-efficacy, and engagement in promoting safety for hospitalized children. This study expected to make the first empirical pieces of

information about family caregiver's engagement in promoting safety of hospitalized children and to identify possible roles of engagement for the family caregiver. This information could be usefully to provide an optimizing standard of procedure for both healthcare providers and family caregivers to be greater partnerships for children during hospitalization. In addition, it can stimulate social knowledge and awareness on the family caregiver's roles and responsibilities to be the safety vigilance in the healthcare services system.

1.2 Research Gap

A little is known about study in family caregiver's knowledge, self-efficacy and engagement in promoting safety of hospitalized children in Thailand. There have no evidence of intervention enhancing family caregiver's knowledge, self-efficacy and engagement.

1.3 Research Question

Is there an effect of multi-component program on family caregiver's knowledge, self-efficacy and engagement in promoting safety of hospitalized children?

1.4 Research Objective

General objective

To investigate the effect of multi-component program on family caregiver's knowledge, self-efficacy and engagement in promoting safety of hospitalized children

Specific Objective

1. To compare the effect of multi-component program on family caregiver's knowledge regarding promoting safety of hospitalized children between the intervention and usual care group

2. To compare the effect of mul-ticomponent program on family caregiver's self-efficacy of patient –professional staff interactions in promoting safety for hospitalized children between the intervention and usual care group

3. To compare the effect of multi-component program on family caregiver's engagement in promoting safety of hospitalized children between the intervention and usual care group

4. To examine the effect of multi-component program on family caregiver's knowledge regarding promoting safety of hospitalized children between before and after intervention

5. To examine the effect of multi-component program on family caregiver's self-efficacy of patient –professional staff interactions in promoting safety for hospitalized children between before and after intervention

6. To examine the effect of multi-component program on family caregiver's engagement in promoting safety of hospitalized children between before and after intervention

1.5 Research hypothesis

Ha: There are significant effect of multi-component program on family caregiver's knowledge regarding in promoting safety of hospitalized children between the intervention and usual care group.

Ha: There are significant effect of multi-component program on family caregiver's self-efficacy of patient –professional staff interactions in promoting safety for hospitalized children between the intervention and usual care group.

Ha: There are significant effect of multi-component program on family caregiver's engagement in promoting safety of hospitalized children between the intervention and usual care group.

Ha: There are significant effect of multi-component program on family caregiver's knowledge regarding in promoting safety of hospitalized children between before and after intervention.

Ha: There are significant effect of multi-component program on family caregiver's self-efficacy of patient –professional staff interactions in promoting safety for hospitalized children between before and after intervention.

Ha: There are significant effect of multi-component program on family caregiver's engagement in promoting safety of hospitalized children between before and after intervention.

1.6 Operational definition

Hospitalized children: the male and female child ages 3-7 years who is diagnosed with respiratory disease and will be hospitalized at least 3 day

Respiratory diseases: group of respiratory diseases and syndrome that physician diagnosed and ordered children have to admitted including Bronchitis, Pneumonia, Asthma, Respiratory Syncytial Virus (RSV), croup syndrome

Family Caregiver: female ages 35-60 years who is as giving birth the child's natural or relatives of hospitalized children and self-identified as caregiver for child during hospital staying

Relationship to the child: relationship status between family caregiver and child including mother, grandmother, aunt

Condition of child's illness: severity of child's illness based on family caregiver perceptions

Number of previous hospitalization: frequency of previous of child's admission

Experience in hospitalization: family caregiver's experience in admission to hospital

Experience in unsafe event: family caregivers ever met unsafe event when they were hospitalized patient or knew about medical error from other sources

Patient safety of hospitalized children: hospitalized children free from harm and adverse event during hospital staying by family caregiver's engagement in promoting on safety related behaviours

Knowledge of family caregiver: family caregiver's understanding and capable to consider and assess question about active role to involve in promoting safety of hospitalized children

Self-efficacy of family caregiver: family caregivers' confidence actively to interact with professional staff in promoting safety for their hospitalized children

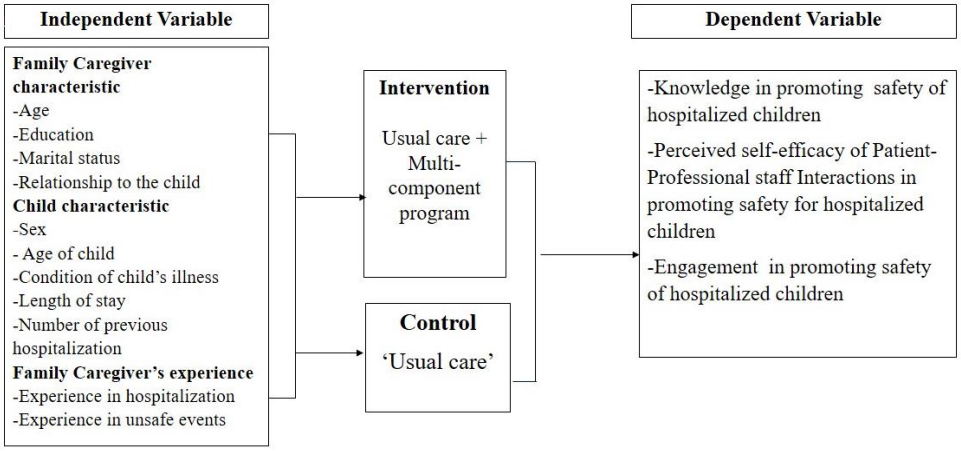
Engagement of family caregiver: family caregivers play active role to involve with healthcare provider in child care process

Promoting safety in hospitalized children: safety related behaviours for involving in child care process in order to prevent harm during child's hospitalization

Multi-component program: the intervention program was an educating approach for the family caregiver during the child's hospital staying that combined material and technique to support each other including giving leaflet and poster, safety talk training via video playing, and SMS alert reminder

Readmission: The children who had discharged from the hospital but get back in the hospital with the same disease within 28 days after discharge.

1.7 Conceptual Framework



CHAPTER II

LITERATURE REVIEW

2.1 Definition of Patient Safety

Patient safety can help doctors, nurses and all other health care professionals practice safer and better health outcomes. Therefore, it is good not only for patients but for everyone in health care [33]. The term of “Patient safety” was defined by many organizations such as 1. Institute of Medicine (IOM) defined as “freedom from accidental injury,” and was expanded as a discipline in the health care sector that applies safety science methods toward the goal of achieving a trustworthy system of health care delivery. It is also an attribute of health care systems; it minimizes the incidence and impact of, and maximizes recovery from, adverse events [34]. 2. The reduction of risk of unnecessary harm associated with health care to an acceptable minimum [35]. 3. The prevention of errors and adverse effects to patients associated with health care [33]. and 4. The avoidance, prevention and melioration of adverse outcome or injuries stemming from the processes of healthcare [36]. Therefore, patient safety is an avoidance and prevention of risk and unsafe events to patient in all of the care processes.

2.2 Patient safety in pediatrics

Pediatric patient safety means preventing injury to children caused directly by the health care system itself [5]. From above patient safety meaning, this study define patient safety in pediatrics as hospitalized children free from harmful

incidences or adverse events during hospital staying; an incidence that resulted in harm to a patient [35].

In the pediatric context, safety challenges are complex. Children are highly vulnerable to medical error compared with adult medical errors and harm differ in several ways. Moreover, it may be potentially harmful errors more frequently. [5, 37]. Medical errors in child's care can involve in medications, surgery, diagnosis, equipment, lab reports and environment.

From a cohort prospective study about parent-reported errors and adverse events in hospitalized children found that errors and preventable adverse events reported by parents were related to diagnosis, medication, procedure, and other therapies of care. Harmful errors appeared most often to be procedure or diagnosis related errors, while non-harmful errors/near-misses appeared to be predominantly related medication. Parents identified communication problems as contributing factors in a number of errors. These included communication between health care professionals (e.g. day and night teams failed to communicate a change in insulin rate), communication between health care professionals and parents (e.g. parent had to request someone 5 times) [37]. From a retrospective surveillance study about adverse events in hospitalized pediatric patients found that adverse events most frequently occurred as a result of hospital-acquired infections, intravenous line complications, gastrointestinal harms, respiratory-related harms, and other causes (e.g. allergic reaction, pressure ulcer, fall) [38].

Pediatric respiratory disease is a major cause of morbidity and mortality in both developed and developing countries with 70% of the global deaths occurring in Africa and Southeast Asia. It can causes children aged less than 5 years old have the highest morbidity and mortality rates. In some patients, survivors may have abnormal respiratory and other systems, such as Chronic sinusitis, Chronic bronchitis Bronchiectasis, Cerebral palsy and so on [27, 28]. Hospitalized children with respiratory diseases may get complications and possible risk which could be attributed to harm such as nosocomial infection, medication error, fall, drug allergy, phlebitis and wrong identification.

The safety during hospitalization of child completely depends on parents and family caregivers. Nurses considered parents involvement is importance for child's physical needs. They might be involved in identifying and preventing events that potential risk the child's safety and collaborate with families caregiver as partners has helped build trusting between patient-professional relationship [13, 39]. Therefore, it is important to focus on the family caregiver's involvement in ensuring or promoting the safety of their hospitalized children.

2.3 Patient engagement in patient safety

2.3.1 Patient engagement

There are many definitions of patient engagement, 1. An action individual people take to obtain the greatest benefit from health care services available to them [16]. 2. As the action individuals may enact to participate knowledgeably and

actively in their own healthcare to realize its full benefit [40] 3. Patients, families, their representatives, and health professionals working in active partnership at various levels across the health care system; direct care, organizational design, governance and policy making to improve health and health care. They recognize that those who engage and are engaged include patients, families, caregivers, and other consumers and citizens [19]. 4. As the process of an active involvement and support patient in decision making activities of health care and treatment [41]. 5. It is a process like multidimensional experience, resulting from the conjoint cognitive (think), emotional (feel), and conative(act) enactment of individuals toward their health management [42].

2.3.1 Patient engagement in patient safety

Engaging patients and their families in being advocate for their own safety may play a key part in reducing unnecessary healthcare expenditures and improving patient safety [43]. Patient's engagement in safety can be seen as a special case of health promoting behaviours [14]. It is the process of building the capacity of patients, families, carers, as well as health care providers to facilitate and support the active involvement of patients in their own care, in order to enhance safety, quality and people-centeredness of health care service delivery. [17]. From a framework for the NHS, defined as patients, caregivers and families to work with healthcare professionals, healthcare service providers to improve safety and quality in healthcare [44].

Hospitalized children need to have family member or caregiver to take care and represent for them in each process of care. For this study patient engagement in cases of children infer to family caregiver engagement. From all above meaning of patient engagement and patient engagement in patient safety which emphasize on individual level. Therefore, family caregiver engagement was defined as family caregiver of hospitalized children act as actively involved in promoting safety with healthcare staff by safety related behaviors to prevent harm during the child's care process.

2.4 Social Cognitive Theory and Self-Efficacy Theory

Office of Behavioral and Social Sciences Research (2019) have explained that Social Cognitive Theory (SCT), is the cognitive formulation of social learning theory that has been best articulated by Bandura, explaining human behavior in terms of a three-way, dynamic, reciprocal model in which personal factors, environmental influences, and behavior continually interact. Social cognitive theory synthesizes concepts and processes from cognitive, behavioristic, and emotional models of behavior change, so it can be readily applied to counseling interventions for disease prevention and management. A basic premise of these theory is that people learn not only through their own experiences, but also by observing the actions of others and the results of those actions.

Key constructs of social cognitive theory that are relevant to health behavior changing interventions include: 1.Observational learning 2.Reinforcement 3. Self-

control 4.Self-efficacy. Some elements of behavior modification based on social cognitive theory, construction of self-control, reinforcement, and self-efficacy include goal-setting, self-monitoring and behavioral contracting. Goal-setting and self-monitoring seem to be particularly useful components of effective interventions.

Self-Efficacy Theory: A social scientist, the theory of self-efficacy was born from social cognitive theory and conceptualizes the interface between person-behavior-environment. Self-efficacy theory provides a clear explanation of a person's belief of their capacity to arrange and carry-out a course of action. Central to the concept of self-efficacy is the assumption that individuals can have influence over their actions. An antecedent to self-efficacy is the chance for self-evaluation defined as the ability to measure individual results to particular evaluation criteria. The person uses their own capability and creates a self-efficacy projection [45]. Self-efficacy affects every area of human endeavor. By determining beliefs in which a person holds regarding their power to affect situations. It strongly influences both the power a person actually has to face challenges competently and the choices in which a person is most likely to make. These effects are particularly apparent, and compelling, with regard to behaviors affecting health [46].

There have sources to achieve self-efficacy including four main sources as following [47, 48]:

1.Verbal persuasion - Verbal persuasion involves verbal input from others, such as colleagues, supervisors, and administrators, that serves to strengthen a

person's belief that he or she possesses the capability to achieve a desired level of performance. Bandura noted that "it is easier to sustain a sense of efficacy, especially in times of difficulty, if significant others express faith in one's capabilities than if they convey doubts".

2. Vicarious Experience - is that of observing other people successfully perform the action that one is contemplating. The people has the opportunity to appraise his or her own capabilities because the model provides a standard and this can help them to set goals for his or her own ways.

3.Mastery Experiences - The most influential source of efficacy information is personal mastery experiences because they provide the most authentic evidence of whether one can master whatever it takes to succeed in a particular field or endeavor.

4.Physiological and Affective States - When judging their own capabilities, people rely partly on information conveyed by physiological and emotional states. A person's level of arousal, whether perceived positively as anticipation or negatively as anxiety, can influence his or her self-efficacy beliefs.

In conclusion, self-efficacy derived from social cognitive theory, its beliefs influence how people think, feel, motivate themselves, and act. It is related to people who believed that they will succeed are more likely to attempt a new behavior. Self-efficacy could be gained and raised by learning from a task that they were previously successful, watching someone with whom they can identify

performing a task successfully, by getting positive feedback/verbal persuasion relating the task from someone, and interpret physiological or affective states.

2.5 Factors related with patient and family caregiver engagement

According, the children need to have advocate or family caregiver for their illness. For this study focus on action of family caregiver who is caregiver for child. From literature review found that factors related to engagement/involvement was considered both from parent/relative and child. As following:

Family caregiver characteristic

Gender: Mostly study use gender as general characteristic of sample unit. From previous study in hospitalized children use gender of family caregiver as part of socio-demographic characteristics [7, 49, 50]. Although mostly of study showed female or mother is frequency caregiver for children, to improve gender relations and support male or father involvement by promoting fathers understanding of their familiar role for hospitalized children is also a responsibility for pediatrics' health care services. In adult patients found that women were more likely than men to ask both factual and challenging question to staff about safety related behaviors, gender affect directly to patient's willingness and ability to engage with their own safety [51, 52]. For this study, use gender of family caregiver to limit bias.

Age: Age is patient characteristic that can limit to be involved in care process. Range of age of family caregivers of hospitalized children is widely and depend on in

each social context. For this study focus on ages of family caregiver ranges 35-60 years. From previous study about patient safety found age could potentially deny implementation of patient involvement in patient safety and related to their willingness to question healthcare staff about safety issue [51-53]. From previous study in hospitalized children use age of parent or caregiver as part of socio-demographic characteristics [21, 49, 50, 54-56]. Age is considered as individual characteristic that influence on patient engagement behaviors [57].

Education: Educational level implied to knowledge and power of people. Under paternalistic structure there is a culture of hierarchical behavior within the health system, and influence on communication and action between patient and professional provider [58]. Lay people may not be participated in care process as it should be. Because patient believed that their knowledge has less than and differ from professional staff. However, previous study found that education of parent significantly influences about the needs of watching over child's care to ensure mistakes weren't made [7]. Parents who lacked knowledge cannot participate effectively in their child's care [49]. In contradictory, family caregiver's educational backgrounds did not influence their need to participate in more advanced care or in decision making, need to watch over care [59, 60]. For this study considered education of family caregiver as confounding factors for engagement in promoting of safety of hospitalized children.

Marital status: from previous study found only a few survey studies use marital status as parent or caregiver characteristic [54, 61]. It seemed that marital status of caregiver might not be associate with participation in child's care. However, Aarthun et al. stated from literature review that marital status of parent influences on preference of involvement [62]. Therefore, this study considered marital status of caregiver as confounding factors for family caregiver's engagement in promoting of safety of hospitalized children.

Relationship to the child: event though mostly study found that parent or caregiver is mother. Under capitalism, in Thai rural area context found the children live and is looked after by relatives such as grandmother, grandfather, aunt. In terms of pivotal person of child, they were considered as parental caregiver that also advocate for child's illness. This characteristic was used in cross-sectional study [7, 49, 61] and experimental study [56]. Although mostly studies found that there are not correlated with parent participation in child's care but needed to use as characteristic of family caregiver. Therefore, the result is inconclusive. For this study considered relationship of family caregiver to child as confounding factors for engagement in promoting of safety of hospitalized children.

Hospitalized children characteristic

Age of child: From previous study in hospitalized children use age of child as part of socio-demographic characteristics [21, 49, 56]. Age of child to influence for family caregiver to aware and participate with health care staff in care process [63,

64]. On the other hand, after adjusted covariate factors, age of child was not correlated with family caregiver to concern for medical errors during child's hospitalization [21]. Therefore, there have widely range of age of child in many studies and also used to adjust for different outcome measurement. It's unclarified for this factor. For this study considered age of child as confounding factors for family caregiver's engagement in promoting of safety of hospitalized children.

Condition of child's illness: serious illness can reduce patient's ability to participate actively in prevention error in cases of adult patients [52]. It is quite difference in cases of children because their illness is responsibility of family caregivers. Therefore, staying with the hospitalized child is an unconditional aspect of being a parental. They viewed pediatrics hospitalization as the most important event of the family and under their role to care and advocate. Typically, mostly studies either cross-sectional or experimental study consider severity of child disease as child's characteristic. From previous study considered as the best predictor of parent's satisfaction and participation in child's care [64, 65], and also parent need to watch over care was significantly associated with the child having been hospitalized for breathing problems compare to all other reasons for hospitalization [7]. This is an influencing factor for parental involvement in decision making of during child's hospitalization [62]. For this study considered condition of child's illness as confounding factors for family caregiver's engagement in promoting of safety of hospitalized children.

Length of stay: From previous studies always used length of stay is part of child characteristic [7, 49, 56, 61]. Length of stay might influence to outcome of study that need to examined result during hospital staying, it induced to short effect of intervention and sample size in the end [66]. Moreover, it was considered as both barriers and facilitators that associated with parents and provider staff interactions in child care [29]. For this study considered length of stay as confounding factors for family caregiver's engagement in promoting of safety of hospitalized children.

Number of previous hospitalizations: This factor is always used in study of hospitalized children. Frequency of previous of child's admitted can also implied to family caregiver's experienced. From previous study found that a different number of admissions were significantly associated with family caregiver having decrease concern about medical errors, compared between having 1 time to none [21] and predictor for parent participation in the care of a hospitalized child [67]. For this study, considered number of previous hospitalizations as confounding factors for family caregiver's engagement in promoting of safety of hospitalized children.

Family caregiver's experiences

Experienced in hospitalization: family caregiver's experienced may lead to feeling of capability or skill. The low level of involvement depend on the fact that family caregivers had no experience of previous hospitalization [49] and also difficult to participate in the technical care of their child [68-70]. For this study considered

experienced of family caregiver as confounding factors for engagement in promoting of safety of hospitalized children.

Experienced in unsafe event: if a patient has witnessed or experienced such an incident (either first or second hand) they may more participate in safety related behaviour in their own care in the future. Experience of a patient safety incident can result in a patient will be involved in patient safety issues [71]. As well as family caregiver is advocate of hospitalized child. Surely, their experiences with safety events during their own or other's hospitalizations admitted can lead family caregivers more awareness and need watching over and vigilance in speaking up about safety in care process of hospitalized children [7, 12] . For this study considered experienced in unsafety event of family caregiver as confounding factors for engagement in promoting of safety of hospitalized children as recommended that should address the independent effect of past medical errors on family caregivers concerning about medical errors [21].

Family caregiver knowledge

Knowledge is important fundamental for understand and undertaken for situation. Knowledge in this study emphasized on family caregiver's knowledge and defined as understanding and capable to consider and assess about active role to engage in promoting safety of hospitalized children. It was considered as intrapersonal factor that can be affect and barrier on patient's safety behaviors. It also be difficult for patients to engage in safety due to lack of knowledge[24].

Knowledge of family caregiver relate with receiving information about care process during hospitalisation. Not knowing what will happen to their children and lack of concerned information make families feel abandoned and difficulties in understanding and engagement in child's care [49, 59]. Likewise, family caregivers need differ according to the knowledge of the individual and knowledge is affected from education background [50, 54]. Meaningful and effective engagement begins with empowering patients. Patients and families need to have sufficient information about health conditions and about health care systems and processes so that they can be a knowledgeable partner in decision making [17]. Literature stated that family caregivers offered several ideas to encourage active involvement in their child's safety during hospitalization by increasing parent knowledge of safety issues [12]. Thus, enhancing knowledge of family caregivers to participate in safety of the hospitalized children should be addressed.

Family caregiver self-efficacy

Self-efficacy definition as individuals' belief in their ability to perform actions that will influence the events affecting their lives, determining how people feel, think, motivate themselves and behave in the face of obstacle and adverse experiences. It can be considered a determining factor for healthy behavior promotion [72]. Family caregiver self-efficacy focus about task specific to providing care and comfort to their children during treatment procedure or care process [73]. Perceived self-efficacy in preventing errors is strongly related to the reported

likelihood of taking preventive actions. It is particularly strong predictor of taking preventive actions that are newer and unfamiliar and ones that require questioning medical authority. The finding indicated that having greater sense of self-efficacy in being able to prevent medical error is significantly linked with a greater reported likelihood of engaging in preventive action [74]. Self-efficacy is considered as individual characteristic that influence on patient engagement behaviors [57]. Study about parental concern for errors during a child's hospitalization found that self-efficacy was independently associated with parental report about the need to watch over a child's care to prevent mistake. Parent with high levels of self-efficacy with physician interactions may feel more comfortable communicating with physicians, which in turn may temper parent's concern about medical errors during hospitalization [21].

2.6 Campaign, Guideline, to make patient safety in child's care

There have guidelines for prevention medical errors in child's care by international organizations. For this study reviewed two guideline from The Joint Commission and Agency of Healthcare Research and Quality. There are international organization to promote quality and safety in healthcare systems [31, 32].

The contents in both guidelines is as safety related behaviors for family caregiver to promote safety in hospitalized children. There is any behavior that family caregiver involves in to reduce and prevent the risk of a medical error to mitigate the effects of an error when it occurs. These include (but not limited to) the family

caregiver providing important information about hospitalized children medical history, observing and checking care processes, identifying and reporting treatment complications, and speaking up if they have any safety-related concerns about the care that their child receives [24].

Most error results from problems created by today's complex health care system. But errors also happen when doctors and their patients and families have problems communicating. In cases of children, they need to have pivotal person to advocate for their illness. As same as adult patients, hospitalized children want a care with quality and without medical error. Therefore, parent and caregiver need to know how to prevent medical errors for their child's care and detail as follow:

2.6.1 20 Tip to Help Prevent Medical Errors in Child's Care

Family caregiver can be involved in child's health care details as following[32]:

Table 1 20 Tip to Help Prevent Medical Errors in Child's Care

"1. The single most important way you can help to prevent errors is to be an active member of your child's health care team."	"That means taking part in every decision about your child's health care. Research shows that parents who are more involved with their child's care tend to get better results. Some specific tips, based on the latest scientific evidence about what works best, follow."
2. "Make sure that all of your child's doctors know about everything your child is taking and his or her weight. This includes prescription and over-the-counter medicines, and dietary supplements such as vitamins and herbs."	"At least once a year, bring all of your child's medicines and supplements with you to the doctor. "Brown bagging" your child's medicines can help you and your doctor talk about them and find out if there are any problems. Knowing your child's

	medication history and weight can help your doctor keep your child's records up to date, which can help your child get better quality care."
3. "Make sure your child's doctor knows about any allergies and how your child reacts to medicines."	"This can help you avoid getting a medicine that can harm your child."
4. "When your child's doctor writes you a prescription, make sure you can read it."	"If you can't read the doctor's handwriting, your pharmacist might not be able to either. Ask the doctor to use block letters to print the name of the drug."
5. "When you pick up your child's medicine from the pharmacy, ask: Is this the medicine that my child's doctor prescribed?"	"A study by the Massachusetts College of Pharmacy and Allied Health Sciences found that 88 percent of medicine errors involved the wrong drug or the wrong dose."
6. "Ask for information about your child's medicines in terms you can understand—both when the medicines are prescribed and when you receive them at the hospital or pharmacy."	• "What is the name of the medicine? • What is the medicine for? • Is the dose of this medicine appropriate for my child based on his or her weight? • How often is my child supposed to take it, and for how long? • What side effects are likely? What do I do if they occur? • Is this medicine safe for my child to take with other medicines or dietary supplements? • What food, drink, or activities should my child avoid while taking this medicine? • Is the dose of this medicine appropriate for my child based on his or her weight?

	• When should I see an improvement?”
7. “If you have any questions about the directions on your child's medicine labels, ask.”	“Medicine labels can be hard to understand. For example, ask if "four doses daily" means taking a dose every 6 hours around the clock or just during regular waking hours.”
8. “Ask your pharmacist for the best device to measure your child's liquid medicine. Also, ask questions if you're not sure how to use the device.”	“Research shows that many people do not understand the right way to measure liquid medicines. For example, many use household teaspoons, which often do not hold a true teaspoon of liquid. Special devices, like marked oral syringes, help people to measure the right dose. Being told how to use the devices helps even more.”
9. “Ask for written information about the side effects your child's medicine could cause.”	“If you know what might happen, you will be better prepared if it does-or, if something unexpected happens instead. That way, you can report the problem right away and get help before it gets worse. A study found that written information about medicines can help people recognize problem side effects. If your child experiences side effects, alert the doctor and pharmacist right away.”
Hospital Stays 10. “If you have a choice, choose a hospital at which many children have the procedure or surgery your child needs.”	“Research shows that patients tend to have better results when they are treated in hospitals that have a great deal of experience with their condition. Find out how many of the procedures have been performed at the hospital. While your child is in the hospital, make sure he or she is always wearing an identification bracelet.”

11. “If your child is in the hospital, ask all health care workers who have direct contact with your child whether they have washed their hands”	“Hand washing is an important way to prevent the spread of infections in hospitals. Yet, it is not done regularly or thoroughly enough. A study found that when patients checked whether health care workers washed their hands, the workers washed their hands more often and used more soap.”
12. “When your child is being discharged from the hospital, ask his or her doctor to explain the treatment plan you will use at home.”	“This includes learning about your child's medicines and finding out when he or she can get back to regular activities. Research shows that at discharge time, doctors think people understand more than they really do about what they should or should not do when they return home.”
Other Steps You Can Take 14. “Speak up if you have questions or concerns.”	“You have a right to question anyone who is involved with your child's care.”
15. “Make sure that you know who (such as your child's pediatrician) is in charge of his or her care.”	“This is especially important if your child has many health problems or is in a hospital.”
16. “Make sure that all health professionals involved in your child's care have important health information about him or her.”	“Do not assume that everyone knows everything they need to. Don't be afraid to speak up.”
17. “Ask a family member or friend to be there with you and to be your advocate. Choose someone who can help get things done and speak up for you if you can't.”	
18. “Ask why each test or procedure is being done.”	“It is a good idea to find out why a test or treatment is needed and how it can help. Your child could be better off without it.”
19. “If your child has a test, ask when the results will be available.”	“If you don't hear from the doctor or the lab, call to ask about the test results.”

20. “Learn about your child's condition and treatments by asking the doctor and nurse and by using other reliable sources”	“Ask your child's doctor if his or her treatment is based on the latest scientific evidence.”

2.6.2 Speak up- Prevent Errors in your child’s care

The key contents for family caregiver to know and point out detail as following[31]:

Table 2 Speak up- Prevent Errors in your child’s care

1.“ What can you do to prepare for your child’s visit to the doctor’s office or hospital?”	“It is helpful to write down the following information: • Your child’s medical history. Include vaccinations, allergies, current health problems, and the dates of any surgeries and hospital visits. • A list of your child’s medicines. Include prescription and over-the-counter medicines, vitamins and herbs. Be sure to include the amount your child takes. • General questions you have about your child’s health. Share this information with your child’s doctor and other caregivers.”
2.What should you ask the doctor?	“Find out about all the tests and treatments for your child’s illness or injury. Ask how a treatment will help your child. Understand that more tests or treatments are not always better for your child.”
3.What if you do not understand what the doctor is saying?	“Tell the doctor you do not understand. Ask more questions. By asking questions you are helping the doctor understand what you need. Tell the doctor if you need someone who speaks your language.”
4. How can you help prevent your child	“Remind caregivers to wash or clean their

from getting an infection?	hands before touching your child. Hand washing helps prevent infection. Remind caregivers to wear clean gloves when they do tasks such as taking blood, touching wounds or examining your child's private parts."
5.Taking medicine safely What can you do to make sure it is safe for your child to take a new medicine?	"Tell the doctor or nurse your child's current weight or ask them to weigh your child (in kilograms). Medicines for children are based on weight. Ask the following questions: • Why does your child need a new medicine? How will it help? • What are the names of the medicine? • Is there written information about the medicine? • What does the medicine look like? Is it a liquid or a pill? What color is the medicine? • How do I give my child this medicine? You should be able to repeat the instructions back to the caregiver. • What are the side effects? Remind the doctor or caregiver about your child's allergies and reactions to any medicines in the past. Tell the doctor or caregiver if you do not understand any information or if you have questions. When you get the medicine, check the label for your child's name, the correct medicine name, amount and directions."
6.Can you cut or crush pills or put them in food if your child has trouble swallowing them?	"Ask the doctor or pharmacist. Some medicines may not work or may be harmful if cut or crushed. Ask if the medicine comes in a liquid or can be given another way."
Having a medical or laboratory test 7.What are medical and laboratory tests?	"Medical tests include X-rays, MRIs and CT scans. Lab tests include blood tests and urine samples."

8.What should you ask about medical and lab tests?	“Ask why your child needs a test. Find out which test will be done and what your child should be prepared for during the test. Find out if you can be with your child during the test. Ask if your child can eat or drink before the test.”
9.Are there any risks with medical or lab tests?	“X-rays and CT scans use radiation. Some patients have received too much radiation. Ask how they will make sure your child gets the right amount of radiation for their size. MRIs use strong magnets. Metal can be pulled into the MRI machine and injure the patient. Make sure to remove all metal, like jewelry and hair clips. If there are any metal objects you are not sure about, ask the staff. Also ask what has been done to make sure your child is safe during the test.”
10.What should you do if your child is having a blood test or other lab test?	“Ask to see the label on the container that your child’s sample is put into. The label should have your child’s name and birth date or another piece of information. See that the container is immediately sealed.”
11.What should you do if your child is having an X-ray, MRI or CT scan?	“Ask if your child will be given a contrast agent. This is a liquid that makes organs and blood vessels easy to see on X-rays and other tests. Tell staff if your child has had problems with contrast agents before. Immediately alert staff if your child begins to itch or have trouble breathing after getting a contrast agent.”
Going to the hospital 11.What is one of the first things you should do to help prevent errors in the hospital?	“Check your child’s identification band. Make sure the information on the band is correct. Make sure caregivers check the band and ask your child’s name before giving any medicine, test or treatment. Caregivers should also ask

	for your child's birth date or other identifying information."
12.Can you stay with your child overnight at the hospital?	"Check with the hospital. Most hospitals will let a parent stay overnight. It is important that you or someone you trust be with your child whenever possible to be their advocate."
13.Your child needs to get an IV. What is this?	"An IV is a way to give medicine directly into the vein. An IV should not be left in any longer than necessary to avoid infection. Ask when the IV will be removed. Tell caregivers if the IV area is painful, red or puffy."
14.Here are some tips to help you while your child is in the hospital:	• "Write down information. As an example, write down medicine names, amounts and what they are for. You may also want to save test results, tips and information from your caregiver. • Immediately tell caregivers if your child is in pain. They should check your child regularly for pain. • Your child may be moved to another floor or department. Check that your child gets the correct medicines and treatments after the move. Alert caregivers if you think there is any confusion. • Ask visitors who are ill to call instead or come back when they are well. Your child can easily catch illnesses. • All staff should wear an identification badge. Ask to see a badge if you cannot see it."
Having a safe operation 15.What can you do to help keep your child safe before going to the hospital?	"Ask that any sedatives (sleep medicines) be given at the hospital and not at home before going to the hospital. Talk to the surgeon and others who will operate on your child. Ask how much experience they have performing the operation. It is important that you are

	confident in the ability of the people who will operate on your child."
16.What can you do to help keep your child safe before the operation?	"Talk to the surgeon about the part of your child's body that will be operated on. Ask the surgeon to mark the part to be operated on while you are in the room. This will make sure it is the correct part. Make sure the surgeon marks only the correct part and nowhere else. Ask if you can stay with your child until the sedatives (sleep medicines) begin working and your child falls asleep."
17.What can you do to help keep your child safe after the operation?	"Ask if pediatric specialists will be caring for your child in the recovery area."
18.What can you do to make sure your child is safe after leaving the hospital?	"Ask about the care your child will need at home. Get written instructions. Get the names and phone numbers of people to call if you have questions or in case of an emergency."

2.6.3 World Health Organization strategies of enhancing patient engagement for safer primary care

Cultural and social norms impact on the engagement process and what is appropriate and feasible in one context may not be acceptable in another. However, the underpinning principles of recognizing the value of patients, families, caregivers and wider communities as partners in care are important across all contexts. Strategies that World Health Organization Member States could consider prioritizing in order to enhance patient engagement for safer primary care include[17]:

Table 3 World Health Organization strategies of enhancing patient engagement for safer primary care

1. “Educating health care providers about patient engagement”	▪ “educating health care providers to involve patients, both at the organizational and individual level; ▪ including patient engagement and safety in educational curricula at undergraduate and postgraduate level; ▪ developing a learning culture, rather than a blaming culture.”
2. Supporting patients to become actively involved	▪ “encouraging patients to report on safety incidents, near misses and safety concerns; ▪ actively promoting patient feedback systems; ▪ giving feedback to patients on follow-up actions taken about the issues they raised; ▪ considering legislation that supports patients and their families to engage in issues relevant for their safety; ▪ providing patients with appropriate, accurate and up-to-date information about treatment and safety issues in a user-friendly language and format.”

3. Broadening the ways in which patients are involved	▪ "exploring alternative ways of communicating with patients, such as telephone, e-mail and online video calls; ▪ putting in place systems to facilitate patient access to their health records; ▪ involving patient advocates, where appropriate, to support the engagement of patients at the direct care, organizational and policy level; ▪ supporting the work of patient-led voluntary associations; ▪ considering campaigns aimed at raising public awareness about the need for and benefits from the strengthened engagement of patients and their relatives in patient safety in primary care."
4. Recognizing the importance of communities	▪ "adapting engagement strategies to the local social and cultural context; ▪ recognizing that patients are part of social groups, families and communities and that these broader networks can be a positive force for change."
5. Providing an enabling and	▪ "encourage and facilitate

supportive environment	interaction among health care professionals, and engagement with patients and families; ▪ promoting open disclosure about safety incidents to patients; ▪ linking patient feedback systems to organizational systems for learning and improvement, similar to staff-initiated incident reports; ▪ providing information and support for self-care such as counselling, peer support groups and coaching; ▪ designating and supporting patient safety champions or advocates, where appropriate, to help facilitate patient engagement; ▪ setting up mechanisms for patient engagement at the systems level.”

2.6.4 Patient safety of usual care in the hospital

According to the standard of the hospital that required patient safety an internal process. Patient safety standards described in part II under the requirement of the risk management process. The hospitals in Thailand follow Healthcare Accreditation (HA). The guideline of patient safety that professional staff must adhere to is based on International Patient Safety Goals (IPSG) and Thailand Patient Safety

Goals (PSG): SIMPLE. This guideline was used widely and key contents of patient safety goals presented respectively as follow:

International Patient Safety Goal including 6 goals defined by the International Joint Commission [75]

Goal One -Identify patients correctly.

Goal Two Improve effective communication

Goal Three Improve the safety of high-alert medications.

Goal Four Ensure safe surgery.

Goal Five Reduce the risk of health care-associated infections.

Goal Six Reduce the risk of patient harm resulting from falls.

Thailand defined patient safety guideline and implement following **SIMPLE** guideline. The main contents as follow [76]:

Safe Surgery: SSI Prevention, Safe Anesthesia, Correct Procedure and Correct Site, Surgical Safety Checklist

Infection Control: Hand Hygiene, Prevention CAUTI, VAP, Central Line Infection

Medication and Blood Safety: Safe from ADE, High-Alert Drug, Safe from medication error, LASA, Medication Reconciliation, Tackling Antimicrobial Resistance, and Blood safety

Patient Care Process: Patient Identification, Communication (SBAR, Handovers, Critical Test Result, Verbal order, Abbreviation), Proper Diagnosis, and Preventing common complication (Pressure Ulcer, Falls)

Line, Tubing, Cathether: Mis-connection

Emergency Response: Sepsis, Acute Coronary Syndrome, Maternal and Neonatal Morbidity, and Response to the deteriorating patient/RRT

2.7 Related study

Table 4 Related study in hospitalized children

Author, Year, Title, Method, and Findings
[21] Tarini, B.A., P. Lozano, and D.A. Christakis (2009) Title: Afraid in the hospital: parental concern for errors during a child's hospitalization. Method: A cross-sectional study was conducted in parents of children admitted in general medical ward, to determine proportion of parents concerned about medical errors during a child's hospitalization and association between this concern and parental self-efficacy with physician interaction. Findings: Self-efficacy was independently associated with parental report about the need to watch over a child's care. Parent with higher level of self- efficacy with physician interactions may feel more comfortable communicating with physicians, which in turn may temper parent's concerns about medical errors during hospitalization.
[49] Aini, S.N., S. Mulatsih, and P.S. Lasmani (2017) Title: Parents involvement in child care in an Arab pediatric setting Method: A descriptive cross-sectional study with convenient sample in main caregiver at the bedside of the child both medical and surgical cases. Purpose of study to measure parent's activities performed in caring for their hospitalized child, and to evaluate parent's actual participate level at the pediatric settings in Jordan. Findings: Parents have moderate mean score of actual participation in their child's care. They provided care through activities of daily living, comforting, and advocating, but no interest in providing technical task for children. They were able to comfort their child when upset and during painful procedure.
[7] Cox, E.D., et al (2013) Title: Parent perceptions of children's hospital safety climate Method: A quantitative study was conducted with parents of child hospitalization on general pediatric hospitalist, pulmonology, hematology and

Author, Year, Title, Method, and Findings
oncology. To measure parent's perception of safety climate in children's hospitals and examine association between perception of safety and their need to watch over their child's care. Findings: Parents viewed the safety climate in positively and the most positively viewed was parent communication openness. They need to watch over care was significantly inversely related to overall perceptions of safety. After adjusted models, parent need to watch over care was significantly associated with the child having been hospitalized for breathing problem, compared to all other reasons for admitted.
[50] Aini, S.N., S. Mulatsih, and P.S. Lasmani (2017) Title: The Effect of Education on Parents' "Speak Up" Knowledge Regarding Patients Safety in Hospital. Method: A quasi experimental study using one group pre-test and post-test design in parents of children being treated in children wards at public hospital. The independent variable was knowledge, and dependent variable is Speak up education program. Findings: Mean score of parents speak up knowledge increased after the intervention. The highest mean being in relation to prevention of infection by hand washing. In area of care advocacy, medicine explanation, insertion area infection, hospital accreditation and the health personnel who are in-charge of the care was not increased.
[56] Cox, E.D., et al (2017) Title: A Family-Centered Rounds Checklist, Family Engagement, and Patient Safety: A Randomized Trial. Method: A Clustered randomized trial involved 298 families with both acute and chronic disease, to examine the impact of the Family-Center Rounds Checklist intervention, a checklist and associated provider training, on performance of FCR element, family engagement and patient safety. Findings: The intervention significantly improved the total number of checklist

Author, Year, Title, Method, and Findings
elements performed and significantly increased the likelihood that families were asked for questions, the health care team was asked the questions and the health care team read back the order during FCRs. Adjusted models demonstrated no significant intervention effect in family engagement and parent perception of safety. However, the performance of particular FCR checklist elements improve parent perceptions of two safety climate domains. Parent views of staff communication openness significantly increased with the proportion of FCRs in which the family was asked for question and the health care team gave assessment of their child's progress or asked the family if they had any questions.
[60] Cox, E.D., et al (2017) Title: Are Parents Who Feel the Need to Watch Over Their Children's Care Better Patient Safety Partners? Method: A prospective observational study was performed in parents of children at 61-bed academic children's hospital including both acute and chronic disease admissions. The study objective to understand parent's performance of recommended safety behavior in medication awareness and hand hygiene, and to examine this performance related to parent's need to watch over their child's care to ensure mistake are not made. Findings: Less than fifty percent of parent reported needing to watch over care, most parents reported frequently asking providers for drug names or dose. Fewer parent asked to check drug or infusion accuracy or to show or read aloud medication labels. It was reported that few parents remind providers to wash hands. However, they would be comfortable asking and likely to speak up if a provider did not. After adjusting, parent who agreed they need to watch over their child were significantly more likely to have asked a provider for the names of drug and to check drug or infusion accuracy. To advise parents of specific behaviors they can perform to reduce the risk of harm to their child during hospital staying.

Author, Year, Title, Method, and Findings
[12] Rosenberg, R.E., et al. (2016) Title: Parents' Perspectives on "Keeping Their Children Safe" in the Hospital. Method: A qualitative study with semi-structured interviewed was conducted with parents and caregivers of children in medical and surgical unit children's service urban tertiary care academic medical center. Interview questions probed parent's perspective of their definition of hospital safety, role and interactions with health care professionals in preventing harm, and factors affecting parent participation in safety activities and behaviors. Findings: Parents viewed the term 'hospital safety' as both avoiding harm and assurance of comfort. They interpreted safety in the hospital broadly to include not only safety from falling, getting the right dosage, the right nurse and being in the right place but also issues of child comfort, timely diagnosis and medication side effect monitoring. They viewed as protector for child during hospitalization, is both their right and their job. To interaction with healthcare staff to prevent harm including 2 behaviors; specific independent (keeping track of events, medication, communication about safety rule) and interdependent as watching over both the child and the care given. There stated that many factors influence parent participation in safety practice including interpersonal skill, variation in individual and situation capacity to participate, previous experience and knowledge, and personal style.

From previous study indicated that parents or family caregivers need to involve in care process of hospitalized children. Even though findings mentioned there have many factors related with such as intrapersonal factor including knowledge, capacity, ability as self-efficacy to be partner with health care professional to taking care their child. Most of the studies used a cross-sectional study survey and qualitative study. A few findings that were experimental studied but

there could be key evidence for this study. There have emphasized that the patient and family role is important issue to consider in area of improvement. Moreover, in the interested and challenged area as ‘patient and family engagement in promoting safety’ is still in its infancy and novel idea. The acceptability of which from patient and family perspective is largely unknown. Therefore, to identify where family caregiver of hospitalized children engagement or involvement in safety may be possible and should be addressed to trial for enhancing their behavior.

CHAPTER III
RESEARCH METHODOLOGY

3.1 Research Design

A quasi experimental study with intervention and control group was conducted among family caregivers of hospitalized children from two public hospitals.

3.2 Study area

The study area was paediatric wards of public hospital where have been verifying of healthcare quality accreditation (HA) in North-Eastern, Thailand. Roi-Et hospital provides health care services and has been setting the hospital safety and quality hospital. There are the centred tertiary care and the co-operate settings for medical practicing, and commit vision to be a leading National Center Hospital with quality and standards of care at the international level. This has 820 patient beds and response for patient approximate 320,000 people per year. Based on the top disease of the pediatric inpatients' statistic found that the first critical diagnosis was the respiratory diseases, reported annually 975 cases.

Area of study for control group, Mahasarakham hospital, was selected by a purposive technique. Both of the intervention and control settings are provincial hospitals where support for tertiary care with 500-1,000 patient bed and have similar context in terms of administration under Ministry of Public Health, North-East,

Thailand. For pediatric wards of both hospitals were similar in terms of mainly diagnosed that is respiratory disease and separate service area by age of the children.

3.3 Study period

The study period conducted during hospital staying of hospitalized children within 3 months.

3.4 Study population

The population of this study was the family caregivers of hospitalized children with respiratory disease (Bronchitis, Pneumonia, Asthma, RSV, croup syndrome) who admitted in paediatric wards at tertiary public hospital. The number of pediatrics inpatients was approximate 1,000 cases annual and average 80 cases monthly. They had length of stay between 3-7 days.

3.5 Sample size and sampling technique

Sample size calculation:

According to this study, it is the first study about family caregiver engagement in promoting safety of hospitalized children in Thailand. It is lack of related previous study and used the same measurement tools. Therefore, sample size based on Cohen table was used [77]. The medium effect size was 0.5, for the reason was medium effect size represents an effect likely to be visible to the naked eye of the careful observer. It has since been noted in effect size survey that it approximates the average size of observer effect in the various fields. Power of 0.80 for the probability of rejecting a false null hypotheses and defined alpha 0.05 (type I error). According to statistical analysis use independent t-test for independent mean,

sample size of this study based on Cohen table was 64. Added 25% for expected dropout rate to compensate for dropout. Therefore, sample size for each of groups were 80 and total sample size was 160 participants.

3.6 Sampling technique

Family caregivers of hospitalized children in paediatrics ward who met the inclusion criteria were selected by consecutive sampling.

Inclusions criteria were following:

1. Family caregiver was female including mother, grandmother and aunt with ages 35-60 years old who self-identified as caregiver for hospitalized children ages 3-7 years old and admitted in paediatric wards in the morning and was evaluated length of stay at least 3 day with respiratory disease (Bronchitis, Pneumonia, Asthma, RSV, croup syndrome).

2. Family caregiver who able to participate and give informed consent.

3. Family caregiver who able writing and reading in Thai languages.

4. Family caregiver who had mobile phone.

Exclusions criteria are following:

1. Family caregivers of hospitalized children with re-admit in period of collecting data

2. Family caregivers of hospitalized children who was transferred from intensive care unit or from the inpatient unit of another hospital.

3. Family caregivers of the hospitalized child need special care from his/her caregiver

4. Family caregiver of the hospitalized child who had the vital signs changed

5. Family caregivers of children who were admitted in pediatric ICU

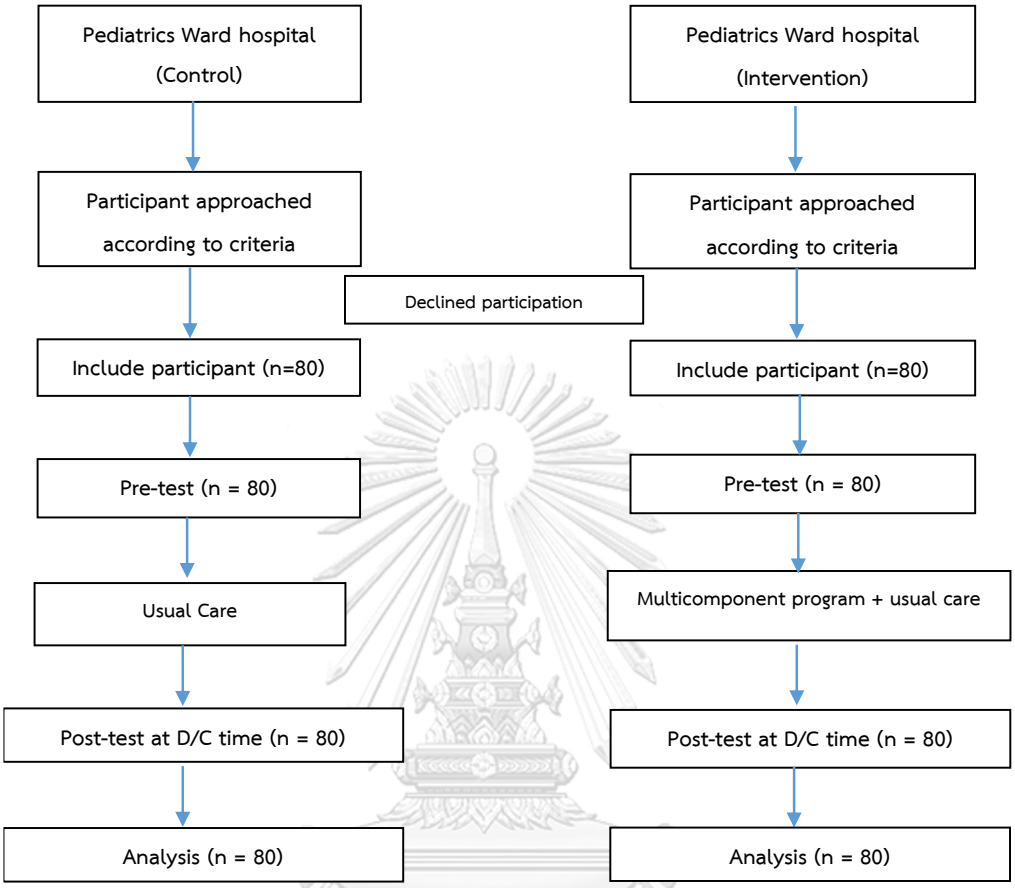


Figure 1 Flow diagram of the participants through each stage of the study

3.7 Procedure and Materials

A quasi experiment was conducted from family caregiver of hospitalized children in paediatric wards of tertiary public hospital. The participants were recruited by consecutive sampling with inclusion criteria. According to intervention program was separated in the morning and afternoon at the same day. So, to enhance effectiveness of intervention and want to limit participant, three participants were selected in the morning and they were attendant for education section in the afternoon. After nurse facilitator assessed the symptoms of the child and suggested

that the family caregiver who able to participate. Family caregivers of hospitalized children were notified they could be sample and informed about benefit, purpose and process of study that they had to involve and were asked to participate in the study by the researcher. Then, participants gave informed consent and were asked to do a pre-test questionnaire to complete baseline with face to face method by a research assistant. Data collection on pre-test varied between 20-30 minutes for each participant.

The details of procedure and material for intervention group and control group as follow:

3.8 Intervention program

The interventions to engage patients in safer care, one of categories is educating patients and health care providers for safer health care. There are largely revolve around providing patient information or education and has been a proliferation of educational programs seeking to engage patients in safety improvement. Leaflets, videos and other educational materials have been found to encourage patients to raise concerns about the safety of the care they receive [17]. The intervention should provide written or verbal support for patients or encourage directly from healthcare professionals can both help to encourage a patient's sense of control belief in participating in the safety of care [78]. The studies have mentioned that parents requested for promoting culture of invitations to participate in safety practices by pamphlets, poster. In addition, moving nurse or healthcare staff

change of shift to the patient bedside to support patient and family engagement and partnering with patient also was stated. Therefore, the intervention should be multi-component of media and personal [12, 19, 39].

Empowering and encouraging patients to speak up, for example when something does not seem right or when a symptom is inadequately explained, can be fundamental to improving patient safety. Family members play a key role as advocate and informal carers and therefore supporting and educating them can help to improve safety. In order to examine effects of intervention on family caregiver's knowledge, self-efficacy and engagement in promoting safety of hospitalized children. This study set up the multi-component intervention programme materials consist of 1) leaflet 2) poster 3. safety talk training by video and 4) SMS alert.

For the intervention group, hospitalized children received hospitalised standard care with following Patient Safety Goal guideline of Thailand which provided by health care professional staff in paediatric ward. Family caregiver was approached or communicated regarding with usual care services from health care professional staff. Additionally, to examine intervention program, family caregivers in the intervention group were given "ARM contents" via above materials which provided by the researcher.

The content of "ARM" was developed by the researcher based on Speak Up: Prevent Errors in Your Child's Care [31] and 20 Tips to Help Prevent Medical Error in Children [32]. For "ARM", by the reason that meaning of ARM as family caregiver arm

to hug and protect their child from any harms. Therefore, the researcher transcribed and grouped contents that link to this word. This abbreviation is representation of key safety related behaviors of family caregiver that act to promote safety of hospitalized children during care process and hospital staying. “ARM” is the process that need family caregiver take action to engage for child’s safety. Table 5 shows detail of ARM contents as follows.

Table 5 Details of contents in instruments

A, represent for Advocate to Ask	R, represent for Report and Response	M, represent for Monitoring and Make sure
-Ask, the doctor and nurse about your child's condition and treatments -Ask, how a treatment will help your child -Ask, when the IV will be removed. -Ask doctor or nurse to explain the treatment plan you will use at home -Ask a family member or friend to be there with you -Ask, what are the names of the medicines -Ask, what side effects	-Tell child’s health information with child’s doctor and nurse and other staff -Tell your child's medication history and weight -Tell the doctor or nurse about your child’s allergies and reactions to any medicines in the past. -Tell the doctor or nurse if you do not understand any information or if you have questions. -Tell nurse if the IV area is painful, red or puffy -Response and answer to	-Taking part in any situation and decision about your child's care and during hospital stay -Always check your child’s identification band. -Make sure caregivers check the band and ask your child’s name before giving any medicine, test or treatment -If you don't hear from the doctor or the lab, call to ask about the test results. -While staying with your

A, represent for Advocate to Ask	R, represent for Report and Response	M, represent for Monitoring and Make sure
are likely and what do you do if they occur -Ask, how do you give medicine for child -Ask, how often is the child supposed to take medicines, and for how long -Ask, the medicine safe for your child to take with other medicines or dietary supplements -Ask, what food, drink, or activities should your child avoid while taking this medicine -Ask why your child needs a test -Ask why each test or procedure is being done -Ask what has been done to make sure your child is safe during the test -Ask to see the label on the container that your child's sample is put into	question from doctor or nurse on clinical rounds -Response to prevent infection by wash or clean your hands every time before and after touch your child and wear a mask to prevent infection or contamination to a child -Remind doctor or nurse to wash or clean their hands	child, speak up if you have questions or concerns. -Make sure that you know who is your child's pediatrician -Always monitor child's symptoms in order to report on clinical rounds -Always observe to see the label on the container that your child's sample is put into

A, represent for Advocate to Ask	R, represent for Report and Response	M, represent for Monitoring and Make sure
-If your child has a test, ask when the results will be available. -If your child has a test Ask which test will be done and what your child should be prepared for during the test. -Ask if your child can eat or drink before the test		

Participants were given the multi-component program respectively as follow (Table 6):

Leaflet - after hospitalized children were diagnosed and admitted in the pediatric ward and the child got treatment. Before the intervention will be performed, the researcher and nurse facilitator approached the family caregiver explained the purpose and detail of the study. Asked participant for participation and giving informed consent. The research assistant completed a pre-test at baseline by face to face method for 30 minutes. Then the researcher gave leaflets and explained about the benefit of the instrument and how to act as engagement in promoting the safety of their child. They can read leaflets by themselves and free to learn.

Poster- after gave leaflets, the researcher pasted the poster on childbed in order to remind the family caregiver about their role. 15 minutes were spent on giving leaflets and posters.

Safety talk training-video – This session was conducted at the childbed. The researcher gave education to each of the family caregivers through safety talk training with video in the afternoon. This session was run between 30-45 minutes. The researcher self-demonstrated as a health educator in the paediatric ward. This role to encourage and empower caregiver to engage in promoting the safety of hospitalized children. The detail of activities in this section as follows:

1. Educating as coaching through video (length of playing 4 minutes) for demonstrating possible role in which family caregiver can act to involve with healthcare staff in promoting safety for hospitalized children.

2. Sharing, the researcher acted as a mediator to talk about family caregivers' experiences of unsafe events and reflect on their opinion.

3. Question-Answer, this part opened for the family caregiver to ask about concern issues. Whereas, the researcher able to asked to confirm their understanding of the key point of safety-related behaviours for hospitalized children.

SMS Alert – In the morning of the next every day before the clinical round, the family caregiver received SMS alert 1 time by the researcher to remind them to engage in promoting safety of their child care. They received SMS at the same time until their child discharged.

End point – the researcher followed a time discharge with in-charge or nurse facilitator. The family caregivers were asked to participate in the post-test. The research assistant also used face to face method to complete the post-test.

Table 6 Procedure of intervention for each participant

Process	Detail	Responsibility person
1. Developing content of Leaflet, Poster, Video	-To develop the valid content	Researcher and team
2.Preparing team for data collection	-Make understanding with paediatric wards staff In the intervention and control hospitals, 2 nurses facilitator and 1 research assistant were recruited -The researcher trained by coaching to nurse facilitator and research assistant along together by slide presentation at meeting time and discussed about appropriate method and rechecked their understanding by demonstration	Researcher and Head of ward to lead meeting
3. Intervention Implementation		
Participants recruitment	-Nurse facilitator assessed the symptoms of the child	Researcher, Nurse facilitator

Process	Detail	Responsibility person
	and suggested that the family caregiver who able to participate. -Family caregiver were asked to participate in the study by the researcher -Researcher explained and notified all of procedure and participant roles -Family caregiver gave informed consent	
Baseline complete (30 minutes)	Research assistant used face to face method to collect data for pre-test	Research assistant
Education with written material (in the morning) (15 minutes)	After pre-test -Family caregiver was explained and taught about active role to involve in promote patient safety that contained on leaflet - poster was pasted in the child bedside area	Researcher
Education with Verbal (in the afternoon at the ward's area, where is allowed by the hospital) (30-45 minutes)	Family caregiver was taught through coaching technique, Activities including; ▪ Safety talk training with video	Researcher

Process	Detail	Responsibility person
	▪ Sharing ▪ Q&A	
SMS alert In the next day until discharged	Family caregiver received SMS alert to remind to read leaflet or poster during hospitalization staying of a child	
Post-test (30-45 minutes)	Before hospitalized children discharge the research assistant collected data for post-test by face to face method	Research assistant

3.9 Measurement Tools

A structured questionnaires were developed and consisted of six main parts as follows:

Part I Questionnaire about family caregivers' characteristics

The question was developed by researcher based on literature review. 6 items were open and close-ended question about caregivers' socio-demographic; age, marital status, education level, relationship to the child and experienced in hospitalization, experienced in unsafe event.

Part II Questionnaire about hospitalized children characteristics

The question was developed by researcher base on literature review. 4 items were open and closed-end question about hospitalized children; age, condition of illness, length of stay, number of previous hospitalizations.

Part III Questionnaire about caregiver's knowledge regarding promoting safety of hospitalized children

The questionnaire was developed by researcher base on literature review on active role in participation in promote patient safety 'Speak Up: Prevent Errors in Your Child's Care [31]and 20 Tips to Help Prevent Medical Error in Children' [32]. There were closed end question of active role knowledge that linked with intervention contents. 25 items of questions were developed at the first time to ask caregivers and scoring for answering to assess caregiver's knowledge in each of item was "true or false", 1 score for correct answer, and 0 for incorrect answer.

The level of knowledge score was separated to 3 levels and defined low scores of knowledge at 60% or below [79]. Therefore, level of caregiver's knowledge about engagement in promoting patient safety was as following:

Percent of knowledge (range of scoring)	meaning
≤ 60 % (score 0 - 15)	level of caregiver's knowledge is a low
61 -79% (score 16 - 20)	level of caregiver's knowledge is a moderate
≥ 80 % (score 21 -25)	level of caregiver's knowledge is a high

Part IV Questionnaire about caregiver's perceived self-efficacy of patient – professional staff interactions in promoting safety for hospitalized children.

10 items of questions were developed base on general self-efficacy question and use Pediatric Adaptation of the Perceived Efficacy in Patient-Physician Interactions (PEPPI) Scale [21, 80] that had Cronbach's alpha score = 0.91. The response to each question was a 5-point likert scale ranged from 1-5 where 1 represents 'not at all confident' and 5 represent 'very confident'.

The range of score was separated to 3 level calculated by class interval and range [81]

Scores	meaning
1.00 – 2.33	family caregiver's self-efficacy is a low level
2.34 – 3.66	family caregiver's self-efficacy is a moderate level
3.67- 5.00	family caregiver's self-efficacy is a high level

Part V Questionnaire about caregiver's engagement in promoting safety of hospitalized children

The questionnaire was developed follow from Patients' willingness to participate in a range of safety-related behaviours reliability [51] and [82] that Cronbach's alpha score was ranged from 0.65-0.86. In addition, some items were developed from The Index of Parent Participation/Hospitalized Children Actual Activities –reliability = 0.91 [49]. The questionnaires were added in some of items in order to more cover essential details about child's safety based on Speak Up:

Prevent Errors in Your Child's Care [31] and 20 Tips to Help Prevent Medical Error in Children'[32]. 39 items were developed to ask family caregiver engagement in promoting safety for hospitalized children. A 5-point rating scales were used to assess family caregiver level of agreement on how they would be to act for each of items (score ranged from 1 to 5: Definitely not, Probably not, Not sure, Probably yes, Definitely yes; the higher score, the more engage in promoting safety of hospitalized children).

The range of score was separated to 3 level calculated by class interval and range [81]

Scores	meaning
1.00 – 2.33	family caregiver's engagement in promoting safety of hospitalized children is a low level
2.34 – 3.66	family caregiver's engagement in promoting safety of hospitalized children is a moderate level
3.67- 5.00	family caregiver's engagement in promoting safety of hospitalized children is a high level

***Part VI:** Addition question for participant in the intervention group

For post-test, a structured questionnaire was added is one part. Only the participants in the intervention group were asked opened-end question about recommendation for intervention tools or suggestion for new tools in their opinion.

3.10 Validity and Reliability

Validity:

Three experts who have experience in the area of quality and safety management or representatives from Healthcare Accreditation Organization and pediatrician or nurse administer in pediatric wards at the hospital to examine construct and content validity of questionnaires. Calculation Index of item Objective Congruence (IOC) score to confirm internal consistency of questionnaire, the value of IOC score was 0.97. Thirty family caregivers of hospitalized children in another hospital were asked to comment on the simplicity, readability and clarity of items for ensure about face validity. For contents on leaflet, poster, and video were examined by the ethical committee of the intervention hospital.

Reliability:

To pretest the reliability of the questionnaire and to ensure face validity, Thirty family caregivers of hospitalized children in another public hospital were carried out. The Kuder-Richardson 20 (KR-20) was used to measure internal consistency of knowledge, and the Cronbach's alpha coefficient was used to measure internal consistency of self-efficacy, and engagement questions. The satisfactory value was considered ≥ 0.70. There were measured scores 0.75, 0.89, and 0.81 respectively.

3.11 Data collection

- The researcher sent the letters to hospital directors for permission and to make understanding about all of the procedures with family caregiver of hospitalized children in pediatric wards.

- In each of hospitals, the researcher coordinated with pediatric wards for make understanding of procedure with head of ward staff and recruited 2 nurse facilitators. The criteria of nurse facilitator was who volunteer to facilitated and have work experienced at least 6 month on pediatric ward. The research assistant who has experienced in research and volunteer to participate was recruited.
- The researcher trained nurse facilitator to understand how to arrange case in to group of the study and trained research assistant about how to approach and collect data by face to face method
- Participants were given information to know the purpose and procedure of the study by the researcher and then gave informed consent to participate in the study
- Participants in the control and intervention groups were used face to face method for a pre-test
- The researcher followed hospitalized children's chart with ward staff to know time of discharge. Participants in the control and intervention groups were competed a post-test questionnaire after their children were allowed from physicians to discharge.

- Use face to face interview method to collect data at hospital staying and discharge time, in order give the opportunity to ask if participants did not understand, to reduce missing data.

3.12 Data analysis

All analyses was conducted using SPSS version 22, *p*-values < 0.05 was considered as statistically significant. The normality of the data was examined by Kolmogorov-Smirnov test. In case the output showed no normality data. The Mann-Whitney U-test and Chi-square were used to test homogeneity between the groups (Table 7).

Table 7 Statistical analysis

Statistics test	Independent Variable	Dependent Variable	Objective
Frequency, Percentage	-categorical 1.education, 2.marital status, 3.relationship to the child, 4.condition of child' illness, 5.experience in hospitalization and 6.experience about unsafe event)	-categorical 1.Level of knowledge score, 2.level of self-efficacy score and 3.level of engagement score	Describe characteristics
Mean and standard deviation	continuous -family caregiver's age -child's age -length of stay -number of previous hospitalization	continuous 1.knowledge score, 2. self-efficacy score 3.engagement score	Describe characteristics, Level of score of outcome

Statistics test	Independent Variable	Dependent Variable	Objective
Pair t-Test	categorical defined group : before-1 and after-2	Continuous 1.knowledge score, 2. self-efficacy score 3.engagement score	to test the difference within group
Independent sample t-test	categorical defined group: control-1 and intervention-2	Continuous 1.knowledge score, 2. self-efficacy score 3.engagement score	to compare between the control group and the intervention group
The Analysis of Covariance (ANCOVA)	-categorical defined group: control-1 and intervention-2 -continuous Length of stay	Continuous 1.knowledge score, 2. self-efficacy score 3.engagement score	To adjust the confounding variable that could effect on outcomes, to prove effect of the intervention program

3.13 Ethical consideration

This study was approved by The Research Ethics Review Committee for Research Involving Human Research Participants, Health Sciences Group, Chulalongkorn University, Thailand (COA No.165/2019). There were approved by the study settings included The Ethics Review Committee of Mahasarakam Hospital (COA No.62/024) and The Ethics Review Committee of Roi-Et Hospital (COA No.051/2562).

All participants received verbal information and written informed consent for participation. The participants who cannot present during data collection they had the right to reject participation all the time.

CHAPTER IV
RESEARCH RESULTS

This chapter presented research results conducted with a quasi-experimental study from August to October 2019. The intervention was a “multi-component program” that included leaflet, poster, video and SMS alert. The researcher implemented the intervention program with the family caregivers in the intervention group through the education approach. Research assistant collected pre-test and post-test by questionnaires in both the intervention group and the control group. Measurement outcomes were knowledge in promoting safety of hospitalized children, self-efficacy of patient-professional interactions in promoting safety of hospitalized children, and engagement in promoting safety of hospitalized children. The results were arranged by characteristics of participants and main outcomes as follows:

1.Socio-demographic characteristics of family caregivers and hospitalized children.

2.Level of family caregiver’s knowledge in promoting safety of hospitalized children.

3.Level of family caregiver’s perceived self-efficacy of patient-professional interactions in promoting safety of hospitalized children.

4.Level of family caregivers engagement in promoting safety of hospitalized children.

5.Comparison effect of the multi-component program on family caregiver’s knowledge, self-efficacy, and engagement in promoting the safety of hospitalized children between and within the groups.

4.1 Socio-demographic characteristics of family caregivers and hospitalized children

Table 8 Baseline comparison on socio-demographic characteristics of participants (n=160)

Socio-demographic characteristics	**Intervention group n (%)**	**Control group n (%)**	***p*-value**
Age of family caregiver (years) Mean±SD	42.40±7.93	44.63±8.57	0.122[a]
Education			0.504[b]
Primary school	19 (23.75)	22 (27.5)	
Elementary school	10 (12.5)	14 (17.5)	
Secondary school	12 (15.0)	15 (18.75)	
High school	24 (30.0)	15 (18.75)	
Bachelor	15 (18.75)	14 (17.5)	
Marital status			0.214[c]
Single	6 (7.5)	12 (15.0)	
Married	71 (88.75)	63 (78.75)	
Separate, Divorce, Widowed	3 (3.75)	5 (6.25)	
Relationship to child			0.191[c]
Mother	50 (62.5)	40 (50.0)	
Grandmother	27 (33.75)	33 (41.25)	
Aunt	3 (3.75)	7 (8.75)	
Experience in hospitalization			0.273[b]
Yes	63 (78.75)	57 (71.25)	
No	17 (21.25)	23 (28.75)	
Experience of unsafe event in hospital			0.072[b]
Yes	20 (25.0)	11 (13.75)	
No	60 (75.0)	69 (86.25)	
If fall/slip	1 (1.25)	1 (1.25)	0.304[c]
infection	8 (10.0)	3 (3.75)	
misidentification	2 (2.5)	2 (2.5)	
medical error	3 (3.75)	4 (5.0)	
wrong site/wrong case surgery	1 (1.25)	0 (0.0)	

Socio-demographic characteristics	**Intervention group n (%)**	**Control group n (%)**	***p*-value**
environment	5 (6.25)	1 (1.25)	
Age of Hospitalized child (years) Mean ±SD	4.78±1.54	5.06±1.52	0.122[a]
Severity of illness			0.919[c]
low	4 (5.0)	3 (3.75)	
middle	57 (71.25)	56 (70.0)	
high	19 (23.75)	21 (26.25)	
Length of stay (days) Mean±SD	3.83±1.01	3.50 ±0.79	0.016[a]*
Number of previous admission (times) Mean±SD	1.73±1.48	1.55±1.71	0.259[a]

[a] Test differences between groups by Mann-Whitney U-test, [b] Test differences between groups by Chi-square test, [c] Fisher's exact test
*significance difference $p < 0.05$.

Table 9 Score of family caregiver's knowledge, perceived self-efficacy, and engagement in promoting safety of hospitalized children at baseline (n=160)

Outcome variables	Intervention (n=80)		Control (n=80)		*p*-value[a]
	Mean ± SD	Min-Max	Mean ± SD	Min-Max	
Knowledge	16.40 ± 3.38	10.00 -23.0	16.43 ± 3.20	10.00 -23.0	0.943
Self-efficacy	3.64 ± 0.30	2.90 - 4.20	3.65 ± 0.27	3.00 - 4.20	0.704
Engagement					
-Advocate to ask	3.58 ± 0.50	2.15 – 4.55	3.61 ± 0.33	2.60 – 4.25	0.644
-Report and response	3.81 ± 0.27	3.30 – 4.50	3.82 ± 0.25	3.20 – 4.40	0.766
-Monitoring and make sure	3.45 ± 0.48	2.11 – 4.56	3.47 ± 0.56	2.56 – 4.78	0.776
-Overall	3.61 ± 0.34	3.08 – 4.21	3.63 ± 0.26	3.05 – 4.23	0.616

[a] Test differences between groups by Independent sample t-test

In total, 160 surveys were completed and 100% response rate in the intervention and control group. The data regarding socio-demographic characteristics of family caregiver and hospitalized child are showed in **Table 8**. Most of participant are mothers (56.1%) who have married (83.75) and mean of age is around 42 years in the intervention group and 44 years in the control group. Their educational level is mostly primary school (24%) and high school (24%). The majority (75%) had experience in hospitalization but 80.6% they had no experience of unsafe event in hospital. For hospitalize child, their mean of age was 4-5 years in both group. Childs' severity of illness perceived by their family caregivers was moderate level (70.6%). Hospitalized child's length of stay (LOS) was calculated based on admit and discharge periods that mean of LOS around 3 days in both group. In addition, the number of previous admission average around 1-2 times; 1.73 ± 1.48 in the intervention group and 1.55 ± 1.71 in the control group. There were no differences between the intervention group and the control group with respect to age of family caregiver, educational level, marital status, relationship to child, experience in hospitalization, experience of unsafe event in hospital, age of hospitalized child, severity of child illness and number of previous admission except the length of stay of the intervention group that was significantly more likely to have a long length of stay (*p*-value=0.016).

Table 9 showed comparison results of baseline scores that there were no differences of knowledge, self-efficacy, and engagement of family caregivers between the intervention group and the control group.

4.2 Level of family caregiver's knowledge in promoting safety of hospitalized children

Table 10 Level of family caregiver's knowledge in promoting safety of hospitalized children (n=160)

Knowledge level	Level	Intervention n (%)	Control n (%)
Before	Low	33 (41.3)	30 (37.5)
	Moderate	38 (47.5)	39 (48.8)
	High	9 (11.3)	11 (13.8)
After	Low	1 (1.3)	8 (10.0)
	Moderate	1 (1.3)	39 (48.8)
	High	78 (97.5)	33 (41.3)

Knowledge of family caregivers in promoting safety of hospitalized children was separated into 3 levels, including low (≤ 60%; 0-15), moderate (60-79%; 16-20), and high (≥ 80%; 21-25). **Table 10** revealed that at baseline assessment, nearly half of the family caregivers in the intervention group had knowledge at a moderate level (38 participants; 47.5%). After they were given a multi-component program, their knowledge score was at a high level (78 participants; 97.5%). For the control group, even the number of the high level increased (11 participants 13.8% versus 33 participants 41.3%) but nearly half of the family caregivers had knowledge at a moderate level at the endpoint (39 participants; 48.8%).

4.3 Level of family caregiver's perceived self-efficacy of patient-professional interactions in promoting safety of hospitalized children

Table 11 Level of family caregiver's perceived self-efficacy of patient-professional interactions in promoting safety of hospitalized children (n=160)

Self-efficacy level	Level	Intervention n (%)	Control n (%)
Before	Low	-	-
	Medium	38 (47.5)	33 (41.3)
	High	42 (52.5)	47 (58.8)
After	Low	-	
	Medium	1 (1.3)	13 (16.3)
	High	79 (98.8)	67 (83.8)

The score of family caregiver's perceived self-efficacy of patient-professional interactions in promoting safety of hospitalized children was divided into 3 levels, consist of low (mean score 1.00-2.33), moderate (mean score 2.34-3.66), and high (mean score 3.67-5.00). **Table 11** showed half of the family caregivers in the intervention group and the control group perceived self-efficacy at a high level, 42 participants 52.5% and 47 participants 58.8% respectively at baseline. After the intervention program, the result in the intervention group showed 79 participants (98.8%) that most of them perceived self-efficacy at a high level. Also, 67 participants (83.8%) in the control group had a score of perceiving self-efficacy at a high level. Surprisingly, both the intervention group and the control group had no participant perceived self-efficacy at a low level.

4.4 Level of family caregivers engagement in promoting safety of hospitalized children

Table 12 Level of family caregivers engagement in promoting safety of hospitalized children (n=160)

Engagement level	Level	Intervention n (%)	Control n (%)
Before	Low	-	-
	Medium	46 (57.5)	52 (65.0)
	High	34 (42.5)	28 (35.0)
After	Low	-	
	Medium	-	8 (10.0)
	High	80 (100.0)	72 (90.0)

The level of family caregiver's engagement in promoting safety of hospitalized children was divided into 3 levels, including low (mean score 1.00-2.33), moderate (mean score 2.34-3.66), and high (mean score 3.67-5.00). **Table 12** demonstrated that at baseline, half of the participants in the intervention and the control group indicate their engagement in promoting safety of hospitalized children at a moderate level (46 participants (57.5% and 52 participants (65.0%)) respectively. After implemented the multi-component program, the total of the family caregivers in the intervention group assessed engagement scores at a high level (80 participants (100.0%). And interestingly, the majority of participants in the control group assessed engagement scores at a high level (72 participants (90.0%).

4.5 Comparison effect of the multi-component program on family caregiver's knowledge, self-efficacy, and engagement in promoting the safety of hospitalized children between and within group

*Table 13 Comparison of family caregiver's knowledge in promoting safety of hospitalized children before and after intervention **between group** (n=160)*

Time	Group	Mean± SD	t	df	p - value[a]	95% CI
Before	Intervention	16.40 ± 3.38	0.07	158	0.943	-0.99, 1.06
	Control	16.43 ±3.20				
After	Intervention	23.77±1.60	-11.32	158	<0.001*	-5.09, -3.58
	Control	19.43 ±3.02				

[a]The differences between groups reported by Independent sample t-test, *significance difference p<0.001

*Table 14 Comparison of family caregiver's knowledge in promoting safety of hospitalized children before and after intervention **within group***

Group	Time	Mean± SD	$\overline{D}$	t	df	p -value[b]	95%CI
Intervention	Before	16.40 ±3.38	-7.37	-19.0	79	<0.001*	-8.14, -6.60
	After	23.77 ±1.60					
Control	Before	16.43 ±3.20	-3.0	-7.57	79	<0.001*	-3.78, -2.21
	After	19.43 ±3.02					

[b] The differences within group reported by Pair sample t-test, $\overline{D}$ = before –after, *significance difference p<0.001

The scores of knowledge in promoting safety of hospitalized children of 160 family caregivers were moderate level (Mean=16.418, SD=3.286). **Table 13** showed the result at baseline of knowledge in both the intervention group and control group were moderate level (Mean=16.40, SD=3.38 and Mean=16.43, SD=3.20) respectively.

There were no differences of knowledge in promoting safety of hospitalized children between family caregivers in the intervention group (Mean=23.77) and the control group (Mean=19.43) (t_{158} = 0.07, *p*-value = 0.943). After a multi-component was conducted in the intervention group, the results showed that family caregivers in the intervention group (Mean=23.77) had a higher knowledge score than the control group (Mean=19.43). Thus, the knowledge score in the intervention group was statistically significantly higher than the control group (t_{158} = -11.32, *p*-value < 0.001).

Table 14 showed that in the intervention group, the post-test mean score of knowledge were statistically significantly higher than the pre-test mean score (t_{79} = -19, *p-value*<0.001). Surprisingly, the result in the control group showed the knowledge score tends to increase and the post-test mean score were statistically significantly higher than the pre-test mean scores (t_{79}= -7.59, *p*-value<0.001).

Table 15 Comparison of family caregiver's perceived self-efficacy of patient-professional interactions in promoting safety of hospitalized children before and after intervention ***between group*** *(n=160)*

Time	Group	Mean± SD	t	df	p - value[a]	95% CI
Before	Intervention	3.64 ± 0.31	0.38	158	0.704	-0.07, 0.11
	Control	3.66 ± 0.27				
After	Intervention	4.30 ± 0.30	-5.08	158	<0.001*	-0.39,-0.17
	Control	4.02 ± 0.41				

[a]The differences between groups reported by Independent sample t-test, *significance difference *p*<0.001

Table 16 Comparison family caregiver's perceived self-efficacy of patient-professional interactions in promoting safety of hospitalized children before and after intervention ***within group***

Group	Time	Mean± SD	$\overline{D}$	t	df	*p* -value[b]	95%CI
Intervention	Before	3.64 ± 0.31	0.66	-16.45	79	<0.001*	-0.74,-0.58
	After	4.30 ± 0.30					
Control	Before	3.66 ± 0.27	-0.35	-7.20	79	<0.001*	-0.45, -0.25
	After	4.02 ± 0.41					

[b] The differences within group reported by Pair sample t-test, $\overline{D}$=before-after, *significance difference *p*<0.001

At baseline, 160 family caregivers have assessed their perceived self-efficacy of patient-professional interactions in promoting the safety of hospitalized children. **Table 15** showed family caregivers perceived self-efficacy were at a moderate level in both the intervention and the control group (Mean=3.64, SD=0.31, and Mean=3.66, SD=0.27) respectively. There were no differences in self-efficacy between family caregivers in the intervention group (Mean=3.64) and the control group (Mean= 3.66) (t_{158}= 0.38, *p-value*=0.704). After the intervention program, the result indicated that the self-efficacy score of family caregivers in the intervention group (Mean =4.30) was higher than the control group (Mean 4.02). Thus, the self-efficacy score in the intervention group statistically significantly differed from the control group (t_{158} = -5.08, *p*-value < 0.001).

Table 16 the result of the intervention group showed there were significant differences of self-efficacy compared the post-test mean scores to pre-test mean scores (t_{79}= -16.45, *p-value* <0.001). Moreover, there were also significant differences within the control group (t_{79}= -7.20, *p*-value<0.001).

Table 17 Comparison of family caregiver engagement in promoting safety of hospitalized children before and after intervention ***between group*** *(n=160)*

Time	Group	Mean± SD	t	df	p - value[a]	95%CI
Advocate to Ask						
Before	Intervention	3.58 ± 0.50	0.46	158	0.64	-0.10, 0.16
	Control	3.61 ± 0.33				
After	Intervention	4.61 ± 0.26	-16.37	158	<0.001*	-0.79, -0.62
	Control	3.90 ± 0.28				
Report and Response						
Before	Intervention	3.81 ± 0.27	0.29	158	0.76	-0.07,0.09
	Control	3.82 ± 0.25				
After	Intervention	4.48 ± 0.19	-18.84	158	<0.001*	-0.67,-0.55
	Control	3.87 ± 0.21				
Monitoring and Make sure						
Before	Intervention	3.45 ± 0.48	0.28	158	0.77	-0.14, 0.18
	Control	3.47 ± 0.56				
After	Intervention	4.76 ± 0.25	-19.16	158	<0.001*	-1.03, -0.84
	Control	3.82 ± 0.35				
Overall						
Before	Intervention	3.61 ± 0.34	0.50	158	0.62	-0.07,-0.12
	Control	3.63 ± 0.26				
After	Intervention	4.61 ± 0.20	-25.75	158	<0.001*	-0.79,-0.68
	Control	3.87 ± 0.15				

[a]The differences between groups reported by Independent sample t-test, *significance difference *p*<0.001, U= Mann-Whitney U value

Table 18 Comparison of family caregiver engagement in promoting safety of hospitalized children before and after intervention ***within group*** *(n=160)*

Group	Time	Mean± SD	$\overline{D}$	t	df	*p* -value[b]	95%CI
Advocate to Ask							
Intervention	before	3.58 ± 0.50	-1.03	-21.70	79	<0.001*	-1.12,-0.93
	After	4.61 ± 0.26					
Control	before	3.61 ± 0.33	-0.28	-7.44	79	<0.001*	-0.36,-0.21
	After	3.90 ± 0.28					
Report and Response							
Intervention	before	3.81 ± 0.27	-0.67	-19.72	79	<0.001*	-0.74,-0.60
	After	4.48 ± 0.19					
Control	before	3.82 ± 0.25	-0.04	-1.64	79	0.104	-0.09, 0.09
	After	3.87 ± 0.21					
Monitoring and Make sure							
Intervention	before	3.45 ± 0.48	-1.31	-22.62	79	<0.001*	-1.43,1.20
	After	4.76 ± 0.25					
Control	before	3.47 ± 0.56	-0.35	-6.29	79	<0.001*	-0.46, -0.24
	After	3.82 ± 0.35					
Overall							
Intervention	before	3.61 ± 0.34	-1.00	-26.39	79	<0.001*	-1.07,-0.92
	After	4.61 ± 0.20					
Control	before	3.63 ± 0.26	-0.23	-7.58	79	<0.001*	-0.30,-0.17
	After	3.87 ± 0.15					

[b] The differences within group reported by Pair sample t-test, $\overline{D}$ = before-after, *significance difference *p*<0.001

The family caregivers reported a mean score of engagement in promoting safety for hospitalized children in the intervention and control group were moderate level (Mean=3.62, SD=0.30). **Table 17** showed there were no differences in the total score in the family caregiver's engagement in promoting safety for hospitalized children between the intervention group (Mean=3.61) and the control group

(Mean=3.63) (t_{158}= 0.50, *p*-value = 0.62) and in each of dimensions. In addition, found that the dimension of report and response had a mean score was a high level at the baseline (the intervention group Means = 3.81, SD= 0.27 and the control group Mean= 3.81, SD=0.25). The comparison between groups after the multi-component program was done, the results revealed that the score in each dimension and overall in the intervention group higher than in the control group. There were statistically significant differences between intervention and control groups in both total scores and in each dimension (*p-value*<0.001). The mean score of monitoring and make dimension was highest at the endpoint in the intervention group (Mean =0.77, SD=0.33).

Table 18 showed comparison results of within-group, the post-test mean score were statistically significantly higher than the pre-test mean score in overall (t_{79}= -26.39, *p*-value<0.001) and in each dimension in the intervention group. However, in the control group was also significant differences (t_{79}=7.58, *p-value* <0.001). Except the dimension of report and response in the control group had no difference between before and after *(t_{79}=-1.64, p*-value =0.104).

Table 19 The Analysis of Covariance (ANCOVA) for adjusting confounding factor on effect of the multi-component program (n=160)

Outcomes	Post-test Intervention group Mean (SD)	Post-test Control group Mean (SD)	F	p-value	Partial Eta Square
Knowledge	23.81 (1.61)	19.47 (3.02)	123.487	<0.001*	0.442
Self-efficacy	4.30 (0.30)	4.02 (0.40)	23.50	<0.001*	0.131
Engagement	4.62 (0.21)	3.88 (0.15)	646.86	<0.001*	0.806
Advocate to ask	4.61 (0.27)	3.91 (0.28)	256.96	<0.001*	0.622
Report and response	4.49 (0.19)	3.87 (0.21)	349.38	<0.001*	0.691
Monitoring and make sure	4.77 (0.25)	3.83 (0.35)	354.80	<0.001*	0.695

**p*-value < 0.001

Table 19 showed the Analysis of Covariance was performed to see the guanine effect of multi-component program. Post-test mean of knowledge, self-efficacy and engagement of the intervention and the control group were compared by adjusting for confounding factor. Length of stay was found a significant difference between the groups at baseline. Thus, it was accounted as confounding factor into this analysis. After adjusted covariate, the results showed that there were a statistically significant difference between adjusted means of knowledge between the groups (F=124.7, *p*-value < 0.001). There were statistically significant differences in self-efficacy post-test score between the groups when adjusted for the length of stay (F=644, *p-value* < 0.001). The engagement score (overall) in post-test remained

significant differences between the intervention group and control group in the analysis of covariance adjusting for the length of stay (F=23.88, *p-value* < 0.001). In addition, the difference in each dimension remained significant. Family caregivers in the intervention group still have more engagement than in the control group even controlled the length of stay.

The additional result of the opened-end question about recommendations for intervention tools or suggestions for new tools in the intervention group. There were twenty percent that the family caregivers expressed their opinion as follows: 1) The contents in leaflet poster and video made understanding to play a role for safety. 2) Some of them mentioned that this is the first time to get the knowledge to promote safety for their child. 3) The video presentation made it interesting and should longer. 4) Sharing and talking with the researcher about the experience in an unsafety event enhanced awareness of safety. 5) Materials were benefits especially for an older family caregiver, such as a grandmother. 6) Hospitals should provide safety leaflet not only for caregivers in pediatric wards but also in other patient wards. 7) Even though, some of the safety-related behaviors are difficult and family caregivers felt reluctant to practice. For example to remind doctors and nurses to wash their hands or to wear hygiene masks. They stated that it could reflect what they should observe and remind themselves.

CHAPTER V
DISCUSSION

5.1 Summary of findings

The multi-component program was employed and aimed to enhance the family caregiver's knowledge, self-efficacy, and engagement in promoting safety of hospitalized children. The participants in the intervention group were given the multi-component program and received usual care. 160 family caregivers completed questionnaires and a 100% response rate in the intervention and control group. The findings showed baseline characteristics of participants in both groups were similar except the hospitalized child's length of stay, which the intervention group was significantly more likely to have a long length of stay. Knowledge, self-efficacy, and engagement in both the intervention and the control group were similar at baseline.

Knowledge in promoting safety was a moderate level in both the intervention group and the control group at baseline. The scores in the intervention group increased to a high level after implemented the multi-component program. There were significant differences of knowledge between the intervention group and the control group and within group. The family caregivers in both groups perceived self-efficacy at baseline at a moderate level. The multi-component improved the score of self-efficacy of patient-professional interactions in promoting safety of hospitalized children in the intervention group to a high level. There were significant differences in self-efficacy between the groups and within group. The baseline overall score of

engagement in promoting safety was a moderate level in both the intervention group and the control group. Also, the dimension of an advocate to ask and monitoring-make sure was a moderate level. The dimension of the report and response was a high level at baseline. After implemented the multi-component program, the engagement scores in overall and in each dimension increased to a high level. There were statistically significant differences between intervention and control groups in both total scores and in each dimension ($p<0.001$). In addition, the analysis of covariance (ANCOVA) was performed to adjust the possible confounding factor which showed at baseline characteristics. After adjusted the length of stay, the results showed that post-test score of knowledge, self-efficacy, and engagement were statistically significant differences between the intervention and the control group. This demonstrated that the improvement of score in the intervention group derived from the multi-component program.

This chapter discussed with the results based on the main research objectives. We investigate the effects of the multi-component program in the intervention group. The findings within the intervention group indicated that knowledge, perceive self-efficacy and engagement of family caregivers compared before to after have improvement. The control group was used to verify the effect of the intervention. The finding showed significant differences between the intervention group and the control group. The effect of multi-component was confirmed. Therefore, the results were mainly discussed based on different outcomes within the

intervention group. For the control group, there was found a significant difference within the group which was also discussed, respectively.

Although, family and parent involvement/engagement has been documented. A study in this form has not previously been conducted. It lack of related previous study that used multi-component in which consists of leaflet, poster, video and demonstrated role of staff and SMS alert. For discussion, we need to look up a few studies on patient safety fields for linking benefits and results in each material. The present findings were explained by either results of some previous studies or related statements. Therefore, the findings were discussed arrange with outcomes variables in the conceptual framework as follows:

5.2 Discussion

5.2.1 The effect of multi-component program on family caregiver's knowledge regarding promoting safety of hospitalized children

There were significant differences between the knowledge of family caregivers in the intervention and the control group after the multi-component program was conducted. This finding indicated that knowledge of family caregivers in the intervention group was improved. This by the fact of this study at baseline, family caregivers misunderstood of some items. After family caregivers were educated through the multi-component program. The present finding showed that these items were improved. For instance, it is only responsibility of doctor and nurse to take care and treat the child at hospital staying, family caregivers can notify to doctor and nurse on only clinical round to know about something wrong to a child, family

caregiver no need to remind doctor and nurse about they had washed their hands and wear a clean mask or not, no need to know doctor about the special training and experience that qualifies to treat a child's illness and family caregiver can trust on nurse 's medication administration are safe without their double-check (Appendix II). The education approach affected knowledge of family caregivers, which similar to previous study found that significant differences in parents speak up knowledge regarding patient safety [50].

The intervention materials directly affected to family caregiver knowledge. There are some studies stated that knowledge should be utilized more effective when promoting safe care and provide resources such as a poster, a patient guide to educate and encourage patient and family involvement. Providing well-informed is needed for family caregivers to be a vigilant partner in harm prevention for their child [37, 83]

The findings were supported by previous studies stated that well-designed printed and electronic information materials such as leaflets and poster can help to improve knowledge of patients and family caregivers [12, 84]. In addition, the researcher acts as a health educator for encouraging through Safety Talk training activities included educating via video, sharing, questioning - answering with friendly language for laypeople. These can enhance family caregivers accompanied and interested in safety issues. The activities made family caregivers get more insight into their role. This in line with one study found that a video was an important

educational tool for increasing patients and family knowledge of the role they can play during a hospital stay [85]. Safety talk is likely teaching, this aimed to clear about their doubt and make understanding beyond read a leaflet, a poster by themselves.

5.2.2 The effect of multi-component program on family caregiver's self-efficacy of patient –professional staff interactions in promoting safety for hospitalized children

Generally, it seemed to be difficult for the patient and family caregiver to express feelings and interact with professional staff in a hospital. The question about family caregiver perceived their self-efficacy to interact with doctor and nurses were assessed before and after the multi-component program was conducted. Most of the self-efficacy score at baseline was between a moderate to a high level. There was only one item at a low level; the ability of family caregivers to suggest something that would be better for a child to a nurse or doctor (mean = 2.26). After the program implemented, the score of each item increased to a high level, some items much increased. For instance, ability to know what questions to ask a doctor and nurse (mean = 3.71 vs 4.70), ability to explain current health concern(s) about a child to a doctor and nurse (mean =3.98 vs 4.57), ability to ask a doctor and nurse for more information if don't understand (mean = 3.75 vs 4.45) and ability to freely speak up if see something does not seem right and may negatively affect to child's

care (mean = 3.98 vs 4.68) (Appendix III). These present findings indicate that the self-efficacy of family caregivers were improved.

There were several reasons to explain, the family caregivers were given education through both written tools and personnel coaching. We can assume that it help to persuade and provoke family caregivers to get insight knowledge and confidence in which possible roles they can play. This is in line with Melo et al. found that parents expressed some specific concerns affected participation including teaching and supervision provided by staff [86]. In addition, this was supported by Cox et al. suggested that it needs to advise parents of specific behaviors they can perform to interact with staff [60]. In healthcare services under medical paternalistic pattern, knowledge is fundamental for patients and families to interact with healthcare professionals. Lack of knowledge and experience could make incompetence to act [49, 87]. With materials, leaflets and posters were simple tools to raise family caregivers' knowledge. In addition, the role of the researcher as healthcare educator staff to coach and make them have more confident and believed in their ability. The researcher coached and demonstrated via video and talk training to motivate and elicit their right and possible role to interact with staff. This activity support and make them concern for hospitalized child safety. This consistent with the previous study recommended that professional interaction was important to temper family caregivers' concerns about medical errors [13, 21]. If they were provided information and opportunity to ask and talk with healthcare staff,

they would feel comfortable and confident in conversation [88]. However, Horn et al. assessed by the same measurement tools found that there was no significant difference in parent self-efficacy between intervention and usual care group [89].

It seems like empowerment should be a key feature of any intervention to raise the patient's sense of self-efficacy in performing safety-related behaviors [24]. This intervention of the study supported the ability to observe, protect and raise self-efficacy of family caregivers to interact for their child. Although it is a paucity study, this is the first study that has echoed that a multi-component program can improve the self-efficacy of the family caregiver in order to interact with a healthcare professional for safety of the hospitalized child. We believed that the rise of self-efficacy leads to a collaborative process to make safer care.

5.2.3 The effect of multi-component program on family caregiver's engagement in promoting safety of hospitalized children

The finding showed a statistically significant difference of engagement in promoting safety between the intervention and control group. Engagement in promoting safety is safety-related behavior that family caregivers need to take an active role to be a vigilant partner with professional staff. This promoting safety for hospitalized children includes three dimensions advocated to ask, the report – response, and monitor- make sure. The results demonstrated that the multi-component program enhanced the engagement of family caregiver in promoting safety for hospitalized children in each dimension and overall. We can explain that

the intervention program is as educational resources that positively affected on knowledge. Because leaflets and posters are tools that family caregivers can read all the time. These help them have more knowledge and understand their possible roles to engage in promoting safety [83]. There were mentioned that knowledge influences on the engagement [19]. In addition, the researcher acted as a provider to provide information and coach family caregivers by video to know and understand their possible role during taking care of hospitalized children. Similarly, some studies stated that video was an educational resource that easy to learn and understand. It could attract and increase their opportunity to gain more knowledge and the ability to actively involve in related safety issues for their child. In addition, there was a study found that leaflet and video increased attitude towards patient involvement in safety [90-93]. This was supported by strategies stated that need to encourage and facilitate interaction, and engagement between health care professionals and patients-families to promote safer care together. Also agreed with the study stated that healthcare providers' facilitation of family caregiver engagement influenced on their role [17]. These support family-centered approach that respects the central role of families and empowers them to be involved in the child care process [62, 94, 95].

However, this study was in contrast with the result of a previous study that a family-centered round checklist had no effect on family engagement and parent perception of safety [56]. There are some reasons that could explain this difference; our intervention mixed instruments both written tools and personnel roles to

improve the engagement of family caregivers that not emphasized only the clinical round. Importantly, the measurement tool has differed in terms of items and contents. Despite similar parental involvement, one study used family center round concept found that a significant association with higher levels of involvement, but it did not specify on patient safety-related behaviors [96]. In contrast with Latta et al. found that parents like being invited to participate, and ask their opinion or question by physicians or nurses [94]. Whereas, our study emphasized family caregiver's knowledge to play an active role. Another study used simulation-based education and brochure found that these tools improved parental management of fever [97]. Whereas our study similar use simulation via safety talk, video, and leaflet to enhance parent's engagement in promoting safety for hospitalized children.

The findings showed significant differences in each dimension of engagement, this can be explained by the fact that our combination intervention illustrated a possible role for family caregivers. Expert' views stated that both patient and family caregivers can promote safe care in any way. They can help to correct medication use safely, participate in infection control, observe and check the care process, monitor treatment, and provide information and share opinion during the care process [83]. Thus, their behaviors after received the multicomponent program were presumed that they have learned and understood, and believed that they can do following safety-related behaviors. This consistent with Biasibetti et al. concluded that if the family caregiver understands the importance of safe care, they will do a

good practice and become a partner in making the safety of the hospitalized children [98].

The dimension of advocated to ask was safety-related behaviors in direct care level of engagement [19]. Some of the family caregivers seemed did not know they can act to engage in promoting safety for the child. Comparing the engagement score at baseline to after the multi-component program was conducted, we can see they assessed a quite low score at a moderate level and then score increased at the endpoint to a high level, respectively. For instance, engage for asking doctor and nurse about the removal of medical equipment (mean = 2.90 vs 4.56), asking about a test will be done and what they should prepare (mean =2.75 vs 4.21), asking about some kind of food that child can eat or drink before the test (mean=2.80 vs 4.40), and asking about procedures during the test which makes a safety for a child (mean =2.97 vs 4.35 and, asking about side effects are likely to occur and how to deal with it (mean=3.07 vs 4.53) (Appendix IV). The present finding is opposite with [49] found that family caregivers unable to ask about reason of test or treatment. Ericsson et al. found that it was easier for patient and family to ask questions if they are encouraged to do so by healthcare staff [99]. Cox et al. found that family caregivers not feel comfortable speak up or ask during clinical rounds even nurses presented issues that they can raise to staff [56]. We could explain that knowledge is needed and a key influence factor for engagement [19]. If family caregivers lack of knowledge, they did not know which question they can ask and which role possible

to act. It made them hesitated to involve in the child care process [62, 88, 95]. For these findings indicated that the material sources of the program have effects on family caregivers' understanding and active roles. Family caregivers have emotional concern during the child care process is another possible reason to explain this above finding.

The dimension of report and response, this dimension emphasized an active role to report and respond about medical history information of the child, the question and occurrence event to healthcare staff. Most of items of engagement scores were at a high level at baseline except some items that challenge for safety-related behavior. These could be presumed that some behaviors derived from healthcare staff interaction. Such as doctor and nurse asked family caregivers about a child's medical history, drug allergy, general information. It is their right and role to respond to a question to a doctor or nurse [13]. This consistent with related study found that physicians mentioned that patient and family concern about their safety and be active participants [95]. They can notice changes and validate information such as medication administration. For the item of the responsibility to prevent infection by wearing a clean mask when closing up a child. For this point, the score at baseline was at a low level (mean=1.56). It showed that family caregivers have no concern. After implemented the multi-component program, they responded and the score increased at a high level but quite a low score (mean=3.85). Although they knew about the benefit of wearing, some family caregivers gave the reasons to

explain that it quite interrupted them to inhale. They believed that their child was not contagious disease. So that is the cultural traditional background of them that we need to account to solve in the future study. The most challenges safety-related behavior was to remind the doctor or nurses to wash their hands. It was item that the engagement scores no change of the level (mean =1.35 and 1.75) (Appendix IV). It contradicted with Cox et al. found the survey reported that most parents report being comfortable asking a doctor or nurses to wash their hands [60]. To the present knowledge, it could explain that as known as under medical paternalism in Thailand. Due to the culture, people trust and believed in medical knowledge and respect for healthcare staff personality [24]. They are reluctant to play this role because they fear and worry about negative interactions in which the doctor or nurse will treat their child later. They thought that they could interrupt during the care process [88, 95]. Moreover, A systematic reviewed article stated that hand washing was an individual's belief that staff hand hygiene did not pose an infection risk for them, so patient and family unwilling to respond to this behavior [52]. In fact, someone mentioned that they strongly believed that healthcare staff always follow the medical standard and guidelines. Both issues are difficult and challenge for promoting family caregivers to do so. Thus, it indicated that the multi-component program can improve their knowledge but still to improve their challenges roles. There should be addressed to seek leverage tactics for improving challenge behaviors in further study.

The dimension of monitoring and make sure, this dimension focus on family caregiver play a role to check and make sure in some procedure that related to child safety. The multi-component program can enhance family caregivers to engage in this dimension. There were changed in the engagement scores from a moderate level to a high level. For instance, checking a child's hospital identification bracelet (mean= 3.15 vs 4.91), ensuring doctor and nurse checked the band and ask a child's name before giving any medicine, test or treatment (mean=2.53 vs 4.87), ensuring the corrective label on the container of child's sample (mean=2.28 vs 4.80), and monitoring the result of the test (mean =3.15 vs 4.41) (Appendix IV). These findings can be explained that family caregivers have more knowledge and confidence. The intervention supported and demonstrated that this active role possible and easy to do for child safety. It helps to clear about some behaviors which could do more. The safety-related behaviors of this dimension were not processes which can learn by interaction with healthcare staff. It depends on their knowledge about what behavior they can act. Although, World Health Organization suggested that it was the responsibility of healthcare professionals to ensure corrective identification of patient [100]. Also patient and family have to know how they can ensure own safety. It was contradict with the previous study which interested in an education program to healthcare staff, not for patients and families [101]. Therefore, we can assume that this multi-component program positively affected on monitoring and make sure for family caregivers to promote safety of the hospitalized child.

Up to date, this is a trend to consider in designing new engagement interventions is the spread of patient-owned mobile devices. There was mentioned that mobile phone and tablet computer is new approaches and tools for providing information and increasing patients' engagement in their care [15]. The present study uses a mobile phone to be a channel for receiving an SMS alert. The safety video was presented on a tablet in order family caregivers to get insight more knowledge of promoting safety for the child. The SMS alert can be regarded as a reminder and stimulus for family caregivers. It is an important tactic that can support family caregivers to adhere during the intervention program. This also helps program embedded in recognition of family caregivers while staying with a child in the hospital. SMS alerted the family caregiver had empathized on an active role in safety-related behavior while they were staying with a child. Despite this component rare in a study about patient safety. This finding is the first to assume that family caregivers were alerted to act in safety concerns by SMS and made positive outcomes.

The finding showed family caregivers' knowledge, self-efficacy and engagement have a significant difference within the control group. There are several factors that could explain this result. It is possible that family caregivers get experience after admission and during a child's hospital staying. They faced with the real situation. This is based on the fact that some processes occurred after the admission process. For instance, medication administration, asking about their

concern and confusion, asking about the result of laboratory tests, throughout procedures before discharge. Notably, there were stated that historical knowledge [49, 95] and family caregivers' prior experience with health services influence on their behavior during hospitalization [21, 67, 102]. If they have a good experience, it would have lower medical errors and more prevention in harm [103]. These might trigger participants in the control group to know and understand which event they must concern and involve. In addition, family caregivers mostly stayed with their child during the hospital staying. They could learn by interaction with healthcare providers, with the procedures after admission [83, 86, 88, 95, 102], and their emotional concern during the child care process might affect their eager behaviors [88, 95]. Moreover, some family caregivers in the control group gave the reason that items of questionnaires triggered them to act as safety-related behaviors. The length of stay of hospitalized in the control group was average at 3.50 days. It might be a reason to support family caregiver learning. There was considered that length of stay could be both barriers and facilitators associated with interactions of parents and provider staff [29, 66].

Even though there is a similar characteristic in terms of accredited by Hospital Accreditation. But internal organization factors and personalities of healthcare staff varied and cannot control. The possible reason such as two study areas has different workloads which might relate to the duration of time services. Healthcare staff may be adhered to or comply with patient safety goal standards not exactly the

same. Therefore, the role of healthcare professionals might affect on family caregivers' self-efficacy and engagement. This finding of the self-efficacy score in the control group slightly increased. It could be explained that family caregivers have a positive health care experience with the provider. It can enhance family caregivers to be confident in their roles [104]. However, the cultural issues, such as norm and belief that family caregiver in both groups relied on healthcare professional staff could be influence on their safety related behaviors in which they can act and involve during care process and hospital staying.

CHAPTER VI

CONCLUSION

6.1 Conclusion

This study was the first in Thailand that challenge to change in terms of cultural, norm and belief of lay family caregiver to medical paternalism. The results of this study showed successful outcomes. It can be concluded that the multi-component program is beneficial to enhance knowledge's family caregivers and encourage them in order to engage in promoting safety for hospitalized children. The leaflet and poster made family caregivers had more knowledge about the possible roles that can be and it's free to read. Safety talk training seems a new one on pediatrics wards. The activities can persuade family caregivers to pay attention to safety for their children. Moreover, they can engage in promoting safety with healthcare professionals. All of the dimensions of safety-related behaviors; advocate to ask, report-response and monitoring-make sure had improvement. Importantly, it can be assumed from this study that demonstration by a healthcare professional's role is a key part to raise family caregivers to be a partner in promoting safety. Knowledge, self-efficacy, and engagement have a relation to each other. Therefore, this indicated that the healthcare services system in the present time and the future need to provide supporting material and strategies in order to improve the involvement of family caregivers in promoting safety for hospitalized children during the care process. Giving knowledge, skills, and making an opportunity for the family

caregiver to understand important roles and ability to play are key factors for their engagement. It is recommended that the family caregiver's role to engage in the child care process should be reinforced by both education material guiding and healthcare provider staffs.

6.2 Strengths of the study

1. In the current study, one aspect of the intervention was safety talk training, which was the new technique on pediatric wards may differences from previous studies.

2. Five materials were mixed to improve family caregiver roles, which showed positive outcomes. These never used in the previous studies.

3. This study adds new knowledge of patient safety, which can account to be a part of safety in hospitalized children. The measurement tools were developed by the researcher and used for this study for the first time. This is a part of creating tools for the measurement of involvement in patient safety.

6.3 Limitation of the study

The limitation of the study as follows;

1. Participants were recruited by purposive sampling and emphasized criteria on the age of both family caregiver (35-60 years old) and hospitalized child (3-7 years old), also with respiratory group diseases. Thus, the results cannot be generalized beyond the group.

2. The research assistant collect data on pre-test and post-test by face to face interviews with a questionnaire. It could make family caregivers respond a self-representation bias answers that cannot verify their behaviors in promoting safety for the child. The Participants maybe not act as their answers and it was just their desire by received knowledge.

3. The intervention was only conducted on hospital staying of hospitalized children. Consequently, it results in the short term effect which we cannot conclude our intervention has sustainability.

4. There are significant differences within the control group which several factors could explain. Thus, we cannot place that alone our intervention was strongly effective on family caregivers' knowledge, self-efficacy and engagement in promoting safety.

5. This study used the multi-component programs, they were mixed and we did not evaluate which materials of intervention that participant preferred. Therefore, we could not assume that which one is better. There are all areas of future study.

6.4 Recommendations

This study has important implications as follows;

Recommendations for further research

1. The method of evaluation to verify family caregivers' engagement behavior by professional staff's view or using the observation technique should be considered.

2. The randomized control trial design in a single hospital might be better in order to make homogeneity family caregivers under the context of organization and provider's services, these should be mainly considered.

3. The intervention should be to leverage more sophisticated tools or tactics to push patient engagement of family caregivers as possible as acts in factual situations in challenge behavior. In an imagine such as Voice to alert which family caregiver can press to alert or remind healthcare staff to wash their hand on clinical round and treatment.

4. Expanding study in family caregivers of other patients, special patients to know differences of the result.

Recommendations for policy and practice

1. Education material such as safety posters, a leaflet about a family caregiver or a parent's roles for promoting safety for hospitalized children should be provided in the pediatric wards. It is not complicated and inexpensive publication tools that a hospital can support and laypeople can access. Safety videos should be provided and launch via television of the hospital.

2. It is quite difficult for healthcare staff to educate about family caregivers' role in promoting safety. However, Healthcare staff is still the important persons for engagement of patient and family. Thus, the study or course training to be activator or motivator for family caregiver in promoting safety of pediatric care should be provided for new generation of healthcare staff.

6.5 Benefit and Application

1. The finding of study is first empirical information about family caregiver's engagement in promoting safety of hospitalized children and identify where family caregiver engagement may be possible.

2. This information could be particularly useful to provide optimizing standard of procedure for both healthcare provider and family caregiver to be greater partnership for children during hospitalization

3. This study is evidence base for further research of caregiver involvement in promoting safety in other areas of patients.

4. The finding could be part of stimulate social knowledge and awareness on caregiver’s roles and responsibilities to be the safety vigilance in healthcare services system.

APPENDIX

Appendix A The Ethical Approval Documents

AF 02-12

The Research Ethics Review Committee for Research Involving Human Research Participants, Health Sciences Group, Chulalongkorn University
Jamjuree 1 Building, 2nd Floor, Phyathai Rd., Paturnwan district, Bangkok 10330, Thailand,
Tel/Fax: 0-2218-3202, 0-2218-3409 E-mail: eccu@chula.ac.th

COA No. 165/2019

Certificate of Approval

Study Title No. 102.1/62 : EFFECTS OF MULTICOMPONENT PROGRAM ON FAMILLY CAREGIVER'S ENGAGEMENT IN PROMOTING SAFETY OF HOSPITALIZED CHILDREN: A QUASI EXPERIMENTAL STUDY

Principal Investigator : MISS PATARAPORN YUBONPUNT

Place of Proposed Study/Institution : College of Public Health Sciences, Chulalongkorn University

The Research Ethics Review Committee for Research Involving Human Research Participants, Health Sciences Group, Chulalongkorn University, Thailand, has approved constituted in accordance with Belmont Report 1979, Declaration of Helsinki 2013, Council for International Organizations of Medical Sciences (CIOM) 2016, Standards of Research Ethics Committee (SREC) 2013, and National Policy and guidelines for Human Research 2015.

Signature: ..... (Associate Prof. Prida Tasanapradit, M.D.) Chairman

Signature: ..... (Assistant Prof. Nuntaree Chaichanawongsaroj, Ph.D.) Secretary

Date of Approval : 21 June 2019 Approval Expire date : 20 June 2020

The approval documents including;

1) Research proposal
2) Participant Information Sheet and Consent Form
3) Researcher
4) Questionnaire

Protocol No. 102.1/62
Date of Approval 21 JUN 2019
Approval Expire Date 20 JUN 2020

The approved investigator must comply with the following conditions:

1. *The research/project activities must end on the approval expired date of the Research Ethics Review Committee for Research Involving Human Research Participants, Health Sciences Group, Chulalongkorn University (RECCU). In case the research/project is unable to complete within that date, the project extension can be applied one month prior to the RECCU approval expired date.*
2. *Strictly conduct the research/project activities as written in the proposal.*
3. *Using only the documents that bearing the RECCU's seal of approval with the subjects/volunteers (including subject information sheet, consent form, invitation letter for project/research participation (if available).*
4. *Report to the RECCU for any serious adverse events within 5 working days*
5. *Report to the RECCU for any change of the research/project activities prior to conduct the activities.*
6. *Final report (AF 02-14) and abstract is required for a one year (or less) research/project and report within 30 days after the completion of the research/project. For thesis, abstract is required and report within 30 days after the completion of the research/project.*
7. *Annual progress report is needed for a two- year (or more) research/project and submit the progress report before the expire date of certificate. After the completion of the research/project processes as No. 6.*

โรงพยาบาลมหาสารคาม
หนังสือฉบับนี้ให้ไว้เพื่อแสดงว่า

โครงการวิจัยเรื่อง	:	ผลของโปรแกรมพหุองค์ประกอบต่อผู้ดูแลในครอบครัวเพื่อการส่งเสริมความปลอดภัยของผู้ป่วยเด็ก: การศึกษากึ่งทดลอง Effects of multicomponent program on family caregiver 's engagement in promoting safety of hospitalized children: A quasi experimental study
	:	วิจัยด้านสังคมศาสตร์/ มานุษย์วิทยา (SOCIAL/ANTHROPOLOGICAL STUDY)
เลขที่โครงการวิจัย	:	MSKH_REC ๖๒-๐๒-๐๑๙
ผู้วิจัยหลัก	:	นางสาวภัทรพร ยุบลพันธ์
สังกัดหน่วยงาน	:	วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย
เอกสารรับรอง	:	๑. แบบเสนอเพื่อขอรับการพิจารณาจริยธรรมการวิจัยในมนุษย์ ๒. โครงการวิจัยฉบับสมบูรณ์ ๓. หนังสือยินยอมตนให้ทำการวิจัยหรือเอกสารชี้แจงผู้เข้าร่วมการวิจัย ๔. แบบการเก็บรวบรวมข้อมูล/โปรแกรมหรือกิจกรรม

ได้ผ่านการรับรองจากคณะกรรมการจริยธรรมการวิจัยในมนุษย์โรงพยาบาลมหาสารคาม โดยยึดหลักเกณฑ์ตามคำประกาศเฮลซิงกิ (Declaration of Helsinki) และแนวทางการปฏิบัติการวิจัยทางคลินิกที่ดี (ICH GCP) และขอให้รายงานความก้าวหน้าของโครงการวิจัยทุก ๖ เดือน และส่งรายงานฉบับสมบูรณ์หากดำเนินโครงการเสร็จสิ้น

ให้ไว้ ณ วันที่ ๑๑ เดือน กรกฎาคม พ.ศ. ๒๕๖๒

(นายประเสริฐ ศรีสารคาม)
ประธานคณะกรรมการจริยธรรมการวิจัยในมนุษย์
โรงพยาบาลมหาสารคาม

COA No ๖๒/๐๒๔ — วันที่รับรอง : วันที่ ๑๑ เดือน กรกฎาคม พ.ศ. ๒๕๖๒
MSKH_REC ๖๒-๐๒-๐๑๙ — วันหมดอายุ : วันที่ ๑๐ เดือน กรกฎาคม พ.ศ. ๒๕๖๓

สำนักงานคณะกรรมการจริยธรรมการวิจัยในมนุษย์
ชั้น ๒ อาคารศูนย์แพทยศาสตร์ศึกษาชั้นคลินิก โรงพยาบาลมหาสารคาม ๑๖๘ ถนนผดุงวิถี ตำบลตลาด อำเภอเมือง จังหวัดมหาสารคาม ๔๔๐๐๐ โทรศัพท์ ๐ ๔๓๗๔ ๐๙๙๓ ต่อ ๔๒๐ โทรสาร ๐ ๔๓๗๑ ๑๔๓

คณะกรรมการวิจัยและจริยธรรมวิจัย โรงพยาบาลร้อยเอ็ด

Research and Research Ethics Committee of Roi - et Hospital

สำนักงานวิจัย โรงพยาบาลร้อยเอ็ด ๑๑๑ ถ.รณชัยชาญยุทธ ต.ในเมือง อ.เมือง จ.ร้อยเอ็ด ๔๕๐๐๐

Research Office Roiet Hospital 111 Ronnachaichanyut Road, Tambon Naimaung Amper Maung, Roiet 45000 Thailand Tel [illegible]

เลขที่ใบรับรอง RE๐๕๑/๒๕๖๒

เอกสารรับรองจริยธรรมวิจัยในมนุษย์

โครงการวิจัยเรื่อง : ผลของโปรแกรมพหุองค์ประกอบต่อผู้ดูแลในครอบครัวเพื่อการส่งเสริมความปลอดภัยของผู้ป่วยเด็ก : การศึกษากึ่งทดลอง

ผู้วิจัย : นางสาวภัทรพร ยุบลพันธ์

หน่วยงานที่สังกัด : วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย

ได้ผ่านการพิจารณาของคณะกรรมการจริยธรรมการวิจัยในมนุษย์ โรงพยาบาลร้อยเอ็ดแล้ว โดยยึดหลักเกณฑ์ตามคำประกาศเฮลซิงกิ (Declaration Helsinki's) โดยให้ดำเนินการวิจัยเรื่องข้างต้นได้

โดยให้ผู้วิจัยรับเงื่อนไขที่เสนอดังต่อไปนี้

๑.ให้ส่งรายงานความก้าวหน้าทุก ๖ เดือน

๒. ให้แจ้งคณะกรรมการจริยธรรมวิจัยในกรณีที่แก้ไขเปลี่ยนแปลงโครงการวิจัยหรือหยุดโครงการก่อนกำหนด

๓. รายงานเหตุการณ์ที่ไม่พึงประสงค์ที่ร้ายแรงหรือที่ไม่คาดคิด

๔. รายงานข้อมูลข่าวสารที่คณะกรรมการพิจารณาจริยธรรมวิจัยควรได้รับระหว่างดำเนินการวิจัย

๕. ส่งรายงานฉบับสมบูรณ์เมื่อเสร็จสิ้นโครงการวิจัย

(นายณรงค์ชัย สังซา)

ประธานคณะกรรมการจริยธรรมวิจัยโรงพยาบาลร้อยเอ็ด

(นายชลวิทย์ หลาวทอง)

ผู้อำนวยการโรงพยาบาลร้อยเอ็ด

รับรองวันที่ ๒ ตุลาคม ๒๕๖๒ (ใบรับรองมีระยะเวลา ๑ ปี หลังจากวันที่อนุมัติ)

คณะกรรมการจริยธรรมวิจัย โรงพยาบาลร้อยเอ็ด

สำนักงาน : สำนักงานวิจัย โรงพยาบาลร้อยเอ็ด ๑๑๑ ถ.รณชัยชาญยุทธ ต.ในเมือง อ.เมือง จ.ร้อยเอ็ด ๔๕๐๐๐

โทร. [illegible]

Appendix B Questionnaire (English version)

Please answer the question that matches your personal information as much as possible

Part I: Family caregiver characteristics

1. Age.....years

2. Education Level

☐ 1. Primary School ☐ 2. Elementary School

☐ 3. Secondary School ☐ 4. High school ☐ 5.Bachelor

3. Marital Status

☐ 1. single ☐ 2. married ☐ 3. separated ☐ 4. divorced ☐ 5. widowed

4. Relationship to the child

☐ 1.mother ☐ 2. grandmother ☐ 3. aunt

5.Experience in hospitalization

☐ 1. No ☐ 2.Yes

6.Experience about unsafety event

☐ 1. No ☐ 2.Yes

( ) Fall

( ) Infection

( ) Miss-identification

( ) Medication error

( ) Wrong site of surgery

( ) Environment (e.g. fire, controversy, electricity, cleanness)

Part II: Hospitalized children characteristics

7. Age .....

8. Condition of child's illness ☐ 1. Low ☐ 2. Middle ☐ 3. High

9. Length of stay.....

10.Number of previous hospitalization.....

Part III: Family caregiver's knowledge of engagement in promoting safety of hospitalized children

Please mark ✓ in the blank that match your understanding as much as possible.

Items	true	false
1. Caregivers can ask doctor and nurse if they have questions or concerns about disease and condition		
2. It is responsibility of doctor and nurse only to take care and treat the child at hospital staying		

Items	true	false
3. Caregivers can notify to doctor and nurse only on clinical round to know about something wrong to child		
4. Caregivers can tell a doctor or nurse if you think they has confused your child with another child		
5. Caregiver have a right to know the name of doctor and nurse and all staff who give treatment		
6. Caregiver no need protest doctor and nurse about they had wash their hands and wear clean mask or not		
7. Caregiver can make sure doctor or nurse checks child's wristband and asks name before he or she gives medicine or treatment		
8. No need to know doctor about the special training and experience that qualifies him or her to treat your child's illness		
9. Caregiver no need to remember information about child's symptom and condition before come to hospital.		
10. Caregiver no need to read all medical forms and make sure understand them before sign anything.		
11. Caregiver can allow relative or families to get involve in decision making and communicate with doctor and nurse when you are stressed		
12. Caregivers and families no need to involve at all of care process		
13. Caregiver can trust on nurse 's medication administration are safe and without their double check		
14. Caregiver have to ask in anytime about medicine which your child get and why		
15. Caregiver can ask about the side effects of all medicines and also effect of medicine		
16. Caregiver no need to tell doctors and nurses about allergies, or negative reactions that your child have had to other medicines in the past		
17. Caregivers do not have to consider the quality of health care, before receiving services from the public or private hospital		
18. Caregiver need to know and find out whether hospital or other health care organization is "accredited" that patient safety and quality standards are followed		
19. Caregiver and family member no need to know about child's care plan		

Items	true	false
and their responsibility of care		
20. Caregiver can ask doctor and nurse about objectives of investigation or take more medicine		
21. In case the child has to refer to other hospital, Caregivers do not need to request a copies medical records go along together		
22. Caregiver can ask for a second opinion. If you are unsure about the best treatment for your child's illness, talk with one or two additional doctors.		
23. Caregiver have to wait for the doctor and nurse notify about the result and meaning of laboratory test without hurry ask first		
24. Caregiver can tell nurse all the time about worrying of child's symptom at while bedside staying		
25. Caregivers do not need to ask doctor if your child will need therapy or medicines after leave the hospital and when they can resume activities like school, play.		

Part IV :Family caregiver's perceived self-efficacy of patient-professional interactions in promoting safety of hospitalized children

Written instructions: "These questions ask about how confident you feel when you talk with a health care staff about your child's health."

Note:

5 = Very confident: feel the confidence to be able to follow the question

4 = Somewhat confident: feel somewhat the confident to be able to follow the question

3 = Not sure: feel not sure to be able to follow the question

2 = Somewhat unconfident: feel somewhat no confident to be able to follow the question

1 = Not at all confident: feeling no confident to be able to follow the question

Perceived Efficacy in Patient-Professional Interactions	5 Very confident	4 Somewhat confident	3 Not sure	2 Somewhat unconfident	1 Not at all confident
1. How confident are					

Perceived Efficacy in Patient-Professional Interactions	5 Very confident	4 Somewhat confident	3 Not sure	2 Somewhat unconfident	1 Not at all confident
you in your ability to get a doctor and nurse to pay attention to what you have to say?					
2. How confident are you in your ability to know what questions to ask a doctor and nurse?					
3. How confident are you in your ability to ask a doctor and nurse's question about your child?					
4. How confident are you in your ability to understand what a doctor tells you?					
5. How confident are you in your ability to explain current health concern(s) about your child to a doctor and nurse?					
6. How confident are you in your ability to ask a doctor and nurse for more information if you don't understand what he or she said?					
7. How confident are you in your ability to be able to participate with					

Perceived Efficacy in Patient-Professional Interactions	5 Very confident	4 Somewhat confident	3 Not sure	2 Somewhat unconfident	1 Not at all confident
doctor and nurse in care process of your child					
8. How confident are you in your ability to freely speak up if you see something does not seem right and may negatively affect to your child's care					
9.How confident are you in your ability to question the decisions or actions of healthcare providers					
10. How confident are you in your ability to suggest to a nurse or doctor a different way time of doing something that you think would be better for your child					

Part V :Family caregiver's engagement in promoting safety of hospitalized children

Please mark ✓ in the blank that match your opinion as much as possible.

Note:

5 = Definitely yes: definitely done followed the question

4 = Probably yes : probably done followed the question

3 = Not sure: not sure have done followed the question

2 = Probably no: probably not done followed the question

1 = Definitely no: definitely not done any followed the question

Items	Definitely yes =5	Probably yes =4	Not sure =3	Probably not =2	Definitely not =1
Advocate to Ask					
1. Do you ask the doctor and nurse about your child's condition and treatments					
2. Do you ask the doctor and nurse how a treatment will help your child					
3. Do you ask doctor and nurse: When the medical equipment will be removed?					
4. Do you ask a family member or friend to be there with you					
5. Do you ask doctor or nurse to explain the treatment plan you will use at home					
6. Do you ask what are the names of the medicine					
7. Do you ask, what side effects are likely and what do you do if they occur					
8. Do you ask, how do you give medicine for child					
9. Do you ask, how often is the child supposed to take medicines, and for how long					
10. Do you ask, what food, drink, or activities should your child avoid while taking this medicine					
11. Do you ask, the medicine safe for your child to take with other medicines or dietary					

Items	Definitely yes =5	Probably yes =4	Not sure =3	Probably not =2	Definitely not =1
supplements					
12. Do you ask why each test or procedure is being done					
13. Do you ask what has been done to make sure your child is safe during the test					
14. Do you ask when the test results will be available					
15. Do you ask doctor /nurse about what the result mean for your care					
16. Do you ask which test will be done and what your child should be prepared for during the test					
17. Do you ask if your child can eat or drink before the test					
18. Do you ask a doctor/nurse: How long your child be in hospital?					
19. Do you ask a doctor/nurse: When can your child return to normal activities					
20. Do you asked the nurse or doctor to explain something that you did not understand					
Report and Response					
21. Do you tell child's health information with child's doctor and nurse and other staff					
22. Do you tell your child's medication history and weight					

Items	Definitely yes =5	Probably yes =4	Not sure =3	Probably not =2	Definitely not =1
23. Do you tell the doctor or nurse about your child's allergies and reactions to any medicines in the past					
24. Do you tell the doctor or nurse if you do not understand any information or if you have questions.					
25. Do you tell your worry to doctor or nurse?					
26. Do you tell nurse if the IV area is painful, red or puffy					
27. Do you response and answer to question from doctor or nurse on clinical rounds					
28. Do you response to prevent infection by wash or clean your hands every time before and after touch your child					
29. Do you response to prevent infection by wear clean mask when you are close up your child					
*30. Do you remind doctor or nurse to wash or clean their hands					
Monitoring and Make sure					
31. Do you make sure you understand the instruction when your child are admitted?					
32. Do you taking part in any					

Items	Definitely yes =5	Probably yes =4	Not sure =3	Probably not =2	Definitely not =1
situation and decision about your child's care					
33. Do you always check your child's hospital identification bracelet					
34. Do you make sure doctor and nurse check the band and ask your child's name before giving any medicine, test or treatment					
35. Do you observe to see the label on the container that your child's sample is put into					
36.If you don't hear from the doctor or the lab, do you call to ask about the test results					
37.While staying with your child, do you speak up if you have questions or concerns					
38. Do you make sure that you know who is your child's pediatrician					
39. Do you always monitor child's symptoms in order to report on clinical rounds					

Part VI: Recommendation about intervention tools or suggestion for new tools from family caregiver's opinion

.....

.....

Appendix C Questionnaire (Thai version)

เอกสารแนบ ก.2

แบบคัดกรองผู้มีส่วนร่วมการวิจัย

เรื่องผลของโปรแกรมพหุองค์ประกอบต่อผู้แลในครอบครัวเพื่อการส่งเสริมความปลอดภัยของผู้ป่วยเด็ก: การศึกษากึ่งทดลอง

ผู้มีส่วนร่วมวิจัยลำดับที่.....

ลักษณะของผู้มีส่วนร่วมในการวิจัย เกณฑ์การคัดเข้า และเกณฑ์การคัดออก ดังนี้

เกณฑ์คัดเข้า

☐ 1. ผู้ดูแลในครอบครัวที่เป็นผู้หญิง ได้แก่ แม่ ย่าหรือยาย และป้าหรือน้าหรืออา ที่มีอายุระหว่าง 35-60 ปี

☐ 2. ผู้ดูแลในข้อ 1 ระบุว่าเป็นผู้ดูแลหลักของผู้ป่วยเด็กอายุระหว่าง 3-7 ปี ที่เข้ารับการรักษาในหอผู้ป่วยเด็กในตอนเข้าด้วยกลุ่มโรคระบบทางเดินหายใจ (โรคหลอดลมอักเสบ ปอดบวม หอบหืด การติดเชื้อไวรัสอาร์เอสวี กลุ่มโรคที่มีระบบทางเดินหายใจส่วนต้นอุดกั้นเฉียบพลันจากการติดเชื้อ) และได้รับการประเมินจำนวนวันการนอนโรงพยาบาลอย่างน้อย 3 วัน

☐ 3. ผู้ดูแลในครอบครัวผู้ที่สามารถมีส่วนร่วมและให้ความยินยอมเข้าร่วมในการศึกษา

☐ 4. ผู้ดูแลในครอบครัวที่สามารถเขียนและอ่านภาษาไทย

☐ 5. ผู้ดูแลในครอบครัวที่มีโทรศัพท์มือถือ

เกณฑ์คัดออก

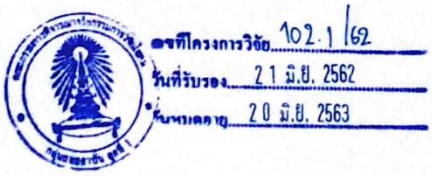
☐1. ผู้ดูแลในครอบครัวที่เคยเป็นผู้มีส่วนร่วมในการวิจัย ที่ผู้ป่วยเด็กต้องกลับมารักษาซ้ำในช่วงระยะเวลาของการเก็บรวบรวมข้อมูล

☐2. ผู้ดูแลในครอบครัวของผู้ป่วยเด็กที่รับย้ายมาจากหอผู้ป่วยหนักหรือจากรับย้ายมาจากหอผู้ป่วยในของโรงพยาบาลอื่น

☐3. ผู้ดูแลในครอบครัวของผู้ป่วยเด็กที่จำเป็นต้องดูแลพิเศษ

☐4. ผู้ดูแลในครอบครัวของผู้ป่วยเด็กที่มีการเปลี่ยนแปลงของสัญญาณชีพ

☐5. ผู้ดูแลในครอบครัวของผู้ป่วยเด็กที่นอนพักรักษาที่ห้องผู้ป่วยหนัก



แบบสอบถามเพื่อการศึกษาวิจัยเรื่อง

ผลของโปรแกรมพหุองค์ประกอบต่อผู้ดูแลในครอบครัวเพื่อการส่งเสริมความปลอดภัยของผู้ป่วยเด็ก : การศึกษากึ่งทดลอง

<u>ส่วนที่ 1</u> ข้อมูลลักษณะส่วนบุคคลของผู้ดูแลในครอบครัว

กรุณาให้คำตอบที่ตรงกับข้อมูลส่วนบุคคลของท่านมากที่สุด

1. อายุ..... ปี

2. ระดับการศึกษา

☐ 1. ประถมศึกษาตอนต้น ☐ 2.ประถมศึกษาตอนปลาย

☐ 3. มัธยมศึกษาตอนต้น ☐ 4. มัธยมศึกษาตอนปลาย ☐ 5. ปริญญาตรีขึ้นไป

3. สถานภาพสมรส

☐ 1. โสด ☐ 2. แต่งงาน ☐ 3. แยกกันอยู่ ☐ 4. หย่า ☐ 5.หม้าย

4. ความเกี่ยวข้องกับผู้ป่วยเด็ก

☐ 1. แม่ ☐ 2.ย่า-ยาย ☐ ป้าหรือน้าหรืออา

5.ประสบการณ์การนอนโรงพยาบาล

☐ 1. ไม่เคย ☐ 2. เคย

6.ประสบการณ์เกี่ยวกับเหตุการณ์ไม่พึงประสงค์ในโรงพยาบาล

☐ 1. ไม่เคย ☐ 2. เคย และโปรดระบุ.....

( ) พลัดตก หกล้ม

( ) การติดเชื้อ

( ) การระบุหรือชี้บ่งผู้ป่วยผิดคน

( ) ความผิดพลาดเกี่ยวกับยา

( ) การผ่าตัดผิดพลาด

( ) สิ่งแวดล้อม (เช่น ไฟไหม้ การทะเลาะวิวาท ความสะอาดทั่วไป)

เลขที่โครงการวิจัย 102.1/62

วันที่รับรอง 21 มิ.ย. 2562

วันหมดอายุ 20 มิ.ย. 2563

ส่วนที่ 2 ข้อมูลลักษณะส่วนบุคคลและการเจ็บป่วยของผู้ป่วยเด็ก

7. อายุ.....ปี

8. ท่านคิดว่าความรุนแรงของการเจ็บป่วยของบุตรหลานอยู่ในระดับใด

☐ 1. น้อย ☐ 2. ปานกลาง ☐ 3. มาก

9. จำนวนวันนอน.....วัน

10. จำนวนครั้งของการนอนโรงพยาบาลที่ผ่านมา.....ครั้ง

ส่วนที่ 3 แบบสอบถามความรู้ของผู้ดูแลเกี่ยวกับการมีส่วนร่วมในการเสริมสร้างความปลอดภัยของผู้ป่วยเด็ก

กรุณาทำเครื่องหมาย ✓ ในช่องว่างแต่ละข้อตามความรู้ความเข้าใจของท่าน

คำถาม	ถูก	ผิด
1. ผู้ดูแลสามารถถามแพทย์ พยาบาล ถ้ามีคำถามหรือข้อสงสัยเกี่ยวกับโรคและอาการของบุตรหลาน		
2. เป็นหน้าที่ความรับผิดชอบของแพทย์และพยาบาลเท่านั้นในการดูแลและรักษาผู้ป่วยเด็กขณะที่นอนโรงพยาบาล		
3. หากมีเหตุการณ์ผิดปกติบางอย่างเกิดขึ้นกับผู้ป่วยเด็ก ผู้ดูแลสามารถแจ้งแพทย์พยาบาลในเวลาเยี่ยมไข้เท่านั้น		
4. ผู้ดูแลสามารถพักทั้งได้ หากรู้สึกว่าแพทย์ หรือ พยาบาลมีความสับสนในผู้ป่วยเด็กที่ท่านดูแลกับผู้ป่วยเด็กคนอื่น		
5. ผู้ดูแลมีสิทธิ์ที่จะทราบชื่อของแพทย์และพยาบาลที่ให้การดูแลรักษาบุตรหลาน		
6. ผู้ดูแลไม่จำเป็นต้องเตือนแพทย์และพยาบาลเกี่ยวกับการล้างมือ การใส่หน้ากากอนามัย เพื่อป้องกันผู้ป่วยเด็กจากการติดเชื้อ		
7. ผู้ดูแลสามารถตรวจสอบให้แน่ใจว่าแพทย์หรือพยาบาลได้ตรวจสอบสายรัดข้อมือของผู้ป่วยเด็ก และถามชื่อก่อนที่จะให้การรักษาหรือให้ยา		
8. ผู้ดูแลไม่จำเป็นต้องรู้ว่าแพทย์ได้รับการฝึกอบรมพิเศษและมีประสบการณ์ในการรักษาความเจ็บป่วยของบุตรหลาน		
9. ผู้ดูแลไม่จำเป็นต้องรู้และจดจำข้อมูลเกี่ยวกับอาการของบุตรหลานก่อนเข้าพักรักษาในโรงพยาบาล		

เอกสารโครงการวิจัย 102.1/62
วันที่รับรอง 21 มิ.ย. 2562
วันหมดอายุ 20 มิ.ย. 2563

คำถาม	ถูก	ผิด
10. ก่อนลงนามยินยอมรับการรักษา ผู้ดูแลไม่จำเป็นต้องอ่านและทำความเข้าใจในเอกสารทางการแพทย์ต่าง ๆ เกี่ยวกับการรักษาของบุตรหลาน		
11. ผู้ดูแลสามารถให้คนในครอบครัวได้มีส่วนร่วมในการตัดสินใจและการสื่อสารกับแพทย์และพยาบาล หากรู้สึกว่าตนเองกำลังมีความเครียด		
12. ผู้ดูแลและคนในครอบครัวไม่จำเป็นต้องมีส่วนร่วมในทุกกระบวนการรักษาของบุตรหลาน		
13. ผู้ดูแลสามารถไว้วางใจในการบริหารยาของพยาบาลว่ามีความปลอดภัยและไม่ต้องมีการตรวจสอบอีกครั้ง		
14. ผู้ดูแลควรถามเกี่ยวกับชื่อยาและจุดประสงค์ของการได้รับยาทุกครั้งที่บุตรหลานของท่านจะได้รับยา		
15. ผู้ดูแลสามารถถามเกี่ยวกับผลข้างเคียงของยาและผลของการใช้ยาในบุตรหลาน		
16. ผู้ดูแลไม่จำเป็นต้องบอกแพทย์และพยาบาลเกี่ยวกับโรคภูมิแพ้หรือปฏิกิริยาเชิงลบที่บุตรหลานของท่านมีจากยาอื่น ๆ ในอดีต		
17. ผู้ดูแลไม่ต้องพิจารณาการได้รับรองคุณภาพมาตรฐานการดูแลสุขภาพ ก่อนเข้ารับบริการจากโรงพยาบาลทั้งภาครัฐหรือเอกชน		
18. ผู้ดูแลจำเป็นต้องรู้ว่าโรงพยาบาลที่เข้ารับบริการ "ได้ผ่านการรับรองคุณภาพและความปลอดภัย" และมีการปฏิบัติตามมาตรฐาน		
19. ผู้ดูแลและบุคคลในครอบครัวไม่จำเป็นต้องรู้เกี่ยวกับแผนการดูแลรักษาและบทบาทของตนเองในการดูแลบุตรหลาน		
20. ผู้ดูแลสามารถสอบถามแพทย์และพยาบาลเกี่ยวกับวัตถุประสงค์ของการส่งตรวจหรือการปรับขนาดยา การให้ยาชนิดใหม่		
21. ในกรณีที่ผู้ป่วยเด็กต้องย้ายไปพักรักษาที่โรงพยาบาลอื่น ผู้ดูแลไม่ต้องขอสำเนาประวัติการรักษาจากโรงพยาบาลเดิมไปด้วย		
22. หากผู้ดูแลไม่แน่ใจเกี่ยวกับวิธีการรักษาที่ดีที่สุดสำหรับการเจ็บป่วยของบุตรหลาน สามารถพูดคุยขอคำปรึกษากับแพทย์อื่นๆ นอกเหนือจากแพทย์ที่ให้การรักษาอยู่		
23. ผู้ดูแลต้องรอตามระยะเวลาที่แพทย์และพยาบาลจะแจ้งผลตรวจจากห้องปฏิบัติการและการแปลผลการตรวจโดยไม่ต้องรีบสอบถามก่อน		
24. ผู้ดูแลสามารถบอกพยาบาลได้ตลอดเวลาเกี่ยวกับความกังวลในอาการของบุตรหลานขณะที่อยู่ข้างเตียง		

คำถาม	ถูก	ผิด
25. ผู้ดูแลไม่ต้องสอบถามถึงความจำเป็นที่บุตรหลานจะต้องรักษาต่อหรือทานยาหลังจากออกจากโรงพยาบาล และสอบถามว่าเมื่อไหร่ที่บุตรหลานจะสามารถทำกิจกรรมได้ตามปกติ เช่น ไปโรงเรียน เล่น		

<u>ส่วนที่ 4</u> แบบสอบถามการรับรู้ความสามารถของตนเองในการปฏิสัมพันธ์กับแพทย์และพยาบาล เพื่อส่งเสริมความปลอดภัยของผู้ป่วยเด็ก

คำชี้แจง : "คำถามเหล่านี้ถามว่า ระดับความมั่นใจที่ท่านรู้สึกเมื่อท่านพูดคุยกับแพทย์ พยาบาลเพื่อการมีส่วนร่วมในการดูแลรักษาผู้ป่วยเด็ก"

โปรดทำเครื่องหมาย ✓ ในช่องที่สอดคล้องกับระดับความรู้สึกมั่นใจของท่านในแต่ละข้อคำถาม

5 = มั่นใจมาก หมายถึง รู้สึกมั่นใจมากที่จะสามารถปฏิบัติตามข้อคำถามนั้นได้

4 = ค่อนข้างมั่นใจ หมายถึง รู้สึกค่อนข้างมั่นใจที่จะสามารถปฏิบัติตามข้อคำถามนั้นได้

3 = ไม่แน่ใจ หมายถึง ไม่แน่ใจที่จะสามารถปฏิบัติตามตามข้อคำถามนั้นได้

2 = ไม่ค่อยมั่นใจ หมายถึง รู้สึกไม่ค่อยมั่นใจที่จะสามารถปฏิบัติตามข้อคำถามนั้นได้

1 = ไม่มั่นใจเลย หมายถึง รู้สึกไม่มั่นใจเลยที่จะสามารถปฏิบัติตามข้อคำถามนั้นได้

การรับรู้ความสามารถของตนเองของผู้ดูแล เกี่ยวกับการปฏิสัมพันธ์กับแพทย์และพยาบาล	5 มั่นใจมากที่สุด	4 ค่อนข้างมั่นใจ	3 ไม่แน่ใจ	2 ค่อนข้างไม่มั่นใจ	1 ไม่มั่นใจเลย	เหตุผล
1. ท่านมั่นใจในความสามารถของตนเองระดับใด ที่จะทำให้แพทย์และพยาบาลสนใจในสิ่งที่ท่านพูด						
2. ท่านมั่นใจในความสามารถของตนเองระดับใดว่าท่านรู้ว่าควรถามคำถามใดบ้างกับแพทย์และพยาบาล						
3. ท่านมั่นใจที่จะถามแพทย์และพยาบาลเกี่ยวกับอาการของบุตรหลาน						
4. ท่านมั่นใจว่าท่านสามารถเข้าใจสิ่งที่แพทย์ พยาบาลได้บอก หรือ อธิบายได้						

เอกสารโครงการวิจัย 102.1/62
วันที่รับรอง 21 มิ.ย. 2562
วันหมดอายุ 20 มิ.ย. 2563

การรับรู้ความสามารถของตนเองของผู้ดูแล เกี่ยวกับการปฏิสัมพันธ์กับแพทย์และพยาบาล	5 มั่นใจมากที่สุด	4 ค่อนข้างมั่นใจ	3 ไม่แน่ใจ	2 ค่อนข้างไม่มั่นใจ	1 ไม่มั่นใจเลย	เหตุผล
5. ท่านมั่นใจว่าท่านสามารถอธิบายอาการของลูกหลานที่ท่านกังวลใจแก่แพทย์ พยาบาลได้						
6. ท่านมั่นใจว่าท่านสามารถถามแพทย์และพยาบาลในสิ่งที่ท่านไม่เข้าใจเพื่อขอข้อมูลเพิ่มเติม						
7. ท่านมั่นใจว่าตนเองสามารถมีส่วนร่วมกับแพทย์ พยาบาลในกระบวนการรักษาบุตรหลาน						
8. ท่านมั่นใจว่าท่านสามารถบอกกับแพทย์ พยาบาล เมื่อท่านพบสิ่งผิดปกติที่อาจมีผลเสียต่อการรักษาบุตรหลานของท่าน						
9. ท่านมั่นใจว่าท่านจะถามแพทย์ และพยาบาล ถึงเหตุผลในการตัดสินใจหรือการให้การรักษาพยาบาล						
10. ท่านมั่นใจที่จะเสนอแนะต่อแพทย์และพยาบาลเกี่ยวกับวิธีการรักษาที่ท่านเห็นว่าน่าจะดีกว่าสำหรับบุตรหลานของท่าน						

<u>ส่วนที่ 5</u> แบบสอบถามการมีส่วนร่วมในการเสริมสร้างความปลอดภัยแก่ผู้ป่วยเด็ก

โปรดทำเครื่องหมาย ✓ ในช่องที่สอดคล้องกับระดับความคิดเห็นในการปฏิบัติของท่านมากที่สุด

5 = ปฏิบัติแน่นอน หมายถึง ท่านได้ปฏิบัติอย่างเสมอตามข้อความในคำถาม

4 = ปฏิบัติบางครั้ง หมายถึง ท่านปฏิบัติตามข้อความในคำถามเป็นบางครั้ง

3 = ไม่แน่ใจที่ปฏิบัติ หมายถึง ท่านไม่แน่ใจที่จะปฏิบัติตามข้อความในคำถาม

2 = อาจจะไม่ได้ปฏิบัติ หมายถึง ท่านอาจจะไม่ได้ปฏิบัติตามข้อความในคำถาม

1 = ไม่ได้ปฏิบัติตามเลย หมายถึง ท่านไม่ได้ปฏิบัติเลยตามข้อความในคำถาม

คำถาม	ปฏิบัติแน่นอน 5	ปฏิบัติบางครั้ง 4	ไม่แน่ใจที่จะปฏิบัติ 3	อาจจะไม่ได้ปฏิบัติ 2	ไม่ปฏิบัติเลย 1
• ตัวแทนในการสอบถาม					
1. ท่านถามแพทย์และพยาบาลเกี่ยวกับอาการป่วยและวิธีการรักษาของบุตรหลาน					
2.ท่านถามแพทย์และพยาบาลว่าวิธีการรักษาจะมีผลดีต่อบุตรหลานอย่างไร					
3.ท่านถามแพทย์และพยาบาล เมื่อใดแพทย์ พยาบาลจะถอดอุปกรณ์ทางการแพทย์ เช่น เครื่องช่วยหายใจ สายน้ำเกลือออกจากบุตรหลานของท่าน					
4.ท่านขอให้สมาชิกในครอบครัวหรือเพื่อนมาอยู่เป็นเพื่อนท่าน ขณะบุตรหลานได้รับการรักษาในโรงพยาบาล					
5.ท่านขอให้แพทย์ พยาบาลอธิบายเกี่ยวกับแผนการดูแลบุตรหลานต่อที่บ้าน					
6.ท่านถามหรือสังเกตชื่อของแพทย์พยาบาล ที่ให้การดูแลรักษาบุตรหลาน					
7.ท่านถามแพทย์ พยาบาล เกี่ยวกับผลข้างเคียงของยาที่อาจเกิดขึ้น รวมถึงวิธีการที่ท่านต้องปฏิบัติเมื่อเกิดเหตุนั้น					
8.ท่านสอบถามถึงวิธีการให้ยาแก่บุตรหลาน กรณีที่ท่านต้องปฏิบัติเอง					
9.ท่านถามแพทย์ พยาบาล เกี่ยวกับความถี่ และระยะเวลาที่บุตรหลานต้องกินยา					

7

คำถาม	ปฏิบัติแน่นอน 5	ปฏิบัติบางครั้ง 4	ไม่แน่ใจที่จะปฏิบัติ 3	อาจจะไม่ได้ปฏิบัติ 2	ไม่ปฏิบัติเลย 1
10.ท่านถามเกี่ยวกับ อาหาร เครื่องดื่ม หรือกิจกรรม ที่บุตรหลานของท่านควรหลีกเลี่ยงในขณะที่มีการกินยา					
11.ท่านถามเกี่ยวกับความปลอดภัยของยา หากต้องทานร่วมกับยาอื่น ๆ หรืออาหารเสริม					
12.ท่านถามถึงเหตุผล ความจำเป็นที่ต้องส่งตรวจทางห้องปฏิบัติการ หรือหัตถการต่าง ๆ					
13.ท่านถามเกี่ยวกับการปฏิบัติการต่างๆ ต่อบุตรหลานระหว่างการตรวจเพื่อให้แน่ใจถึงความปลอดภัย					
14.ท่านถามถึงรายงานผลการตรวจทางห้องปฏิบัติการ					
15.ท่านถามแพทย์ พยาบาล จากผลการตรวจ จะต้องให้การดูแลบุตรหลานอย่างไร					
16. ท่านถามเกี่ยวกับชนิดของการส่งตรวจ และสิ่งที่ท่านต้องเตรียมบุตรหลานในการตรวจนั้นๆ					
17.ท่านถามเกี่ยวกับสิ่งที่บุตรหลานสามารถกินหรือดื่มได้ก่อนส่งตรวจ					
18. ท่านถามเกี่ยวกับระยะเวลาที่บุตรหลานต้องนอนพักรักษาที่โรงพยาบาล					
19.ท่านถามแพทย์ พยาบาลถึงช่วงเวลาที่บุตรหลานจะหายป่วยและกลับคืนสู่อาการปกติ					
20.ท่านขอให้แพทย์ พยาบาล อธิบายในสิ่งที่ท่านยังไม่เข้าใจ					

รหัสโครงการวิจัย 162.1/62
วันที่รับรอง 21 มิ.ย. 2562
วันหมดอายุ 20 มิ.ย. 2563

คำถาม	ปฏิบัติแน่นอน 5	ปฏิบัติบางครั้ง 4	ไม่แน่ใจที่จะปฏิบัติ 3	อาจจะไม่ได้ปฏิบัติ 2	ไม่ปฏิบัติเลย 1
• การรายงานและการตอบสนอง					
21. ท่านบอกเล่าอาการและข้อมูลสุขภาพของบุตรหลานแก่แพทย์ พยาบาล และเจ้าหน้าที่ที่เกี่ยวข้อง					
22.ท่านแจ้งแพทย์ พยาบาล ถึงประวัติการได้รับยาและน้ำหนักตัวของบุตรหลาน					
23.ท่านบอกแพทย์หรือพยาบาลเกี่ยวกับประวัติการแพ้ต่างๆและปฏิกิริยาต่อยาของบุตรหลาน					
24.ท่านบอกแพทย์ พยาบาล เมื่อท่านไม่เข้าใจข้อมูล หรือท่านมีข้อสงสัย					
25.ท่านบอกแพทย์หรือพยาบาลถึงสิ่งที่ท่านรู้สึกเกี่ยวกับอาการเจ็บป่วยของบุตรหลาน					
26.ท่านบอกพยาบาลเมื่อบุตรหลานรู้สึกปวดบริเวณที่ให้น้ำเกลือ หรือบริเวณนั้นมีลักษณะแดงหรือบวม					
27.ท่านตอบคำถามแพทย์ พยาบาล ขณะที่มีการตรวจเยี่ยมอาการ					
28.ท่านป้องกันการติดเชื้อโดยการล้างหรือทำความสะอาดมือทุกครั้งก่อนและหลังสัมผัสบุตรหลาน					
29.ท่านป้องกันการติดเชื้อโดยการสวมใส่หน้ากากทุกครั้งที่จะสัมผัสหรือใกล้ชิดบุตรหลาน					

คำถาม	ปฏิบัติแน่นอน 5	ปฏิบัติบางครั้ง 4	ไม่แน่ใจที่จะปฏิบัติ 3	อาจจะไม่ได้ปฏิบัติ 2	ไม่ปฏิบัติเลย 1
30.*ท่านจะช่วยเตือนแพทย์ พยาบาล ให้ล้างมือก่อนการสัมผัสบุตรหลานของท่าน					
• **การติดตามและสร้างความมั่นใจ**					
31.ท่านมั่นใจว่าท่านเข้าใจคำแนะนำเมื่อบุตรหลานต้องเข้าพักรักษาในโรงพยาบาล					
32.ท่านมีส่วนร่วมในการตัดสินใจเกี่ยวกับการรักษาของบุตรหลานในทุกสถานการณ์					
33.ท่านตรวจสอบป้ายข้อมือที่ระบุชื่อและนามสกุลของบุตรหลานของท่านอยู่เสมอ					
34.ท่านสังเกตว่าแพทย์ พยาบาล ตรวจสอบป้ายข้อมือและถามชื่อของบุตรหลานของท่านก่อนที่จะให้ยาหรือการรักษา					
35.ท่านจะตรวจสอบว่า ชื่อบนฉลากติดกับภาชนะเก็บสิ่งส่งตรวจของบุตรหลานตรงกับชื่อของบุตรหลานท่าน					
36.กรณีที่ท่านยังไม่ทราบผลการตรวจจากแพทย์ ท่านจะซักถามถึงผลการตรวจ					
37.ในขณะที่เฝ้าบุตรหลาน หากมีข้อสงสัยเกี่ยวกับอาการ หรือการรักษาพยาบาล ท่านจะบอกกับแพทย์หรือพยาบาล					

คำถาม	ปฏิบัติแน่นอน 5	ปฏิบัติบางครั้ง 4	ไม่แน่ใจที่จะปฏิบัติ 3	อาจจะไม่ได้ปฏิบัติ 2	ไม่ปฏิบัติเลย 1
38.ท่านมั่นใจว่า ท่านทราบว่าใครเป็นแพทย์เจ้าของไข้บุตรหลานของท่าน					
39.ท่านสังเกต ติดตามอาการของบุตรหลานอยู่เสมอเพื่อเป็นข้อมูลแจ้งแพทย์พยาบาลเมื่อถึงเวลาตรวจเยี่ยมอาการในแต่ละวัน					

ส่วนที่ 6 ข้อเสนอแนะ ความคิดเห็นของผู้ดูแลผู้ป่วยเด็ก ต่อรูปแบบ วิธีการที่ใช้ในการศึกษาครั้งนี้

.....

.....

.....

ผู้วิจัยขอขอบพระคุณเป็นอย่างยิ่งที่ท่านสละเวลาในการตอบแบบสอบถามนี้

เอกสารโครงการวิจัย 102.1/62
วันที่รับรอง 21 มิ.ย. 2562
โดยคณะฯ 20 มิ.ย. 2563

Appendix D Descriptive results: Family caregiver's knowledge of engagement in promoting safety of hospitalized children between intervention and control group

Items of knowledge	Intervention group		Control group	
	Pre (%)	Post (%)	Pre (%)	Post (%)
1. Caregivers can ask doctor and nurse if they have questions or concerns about disease and condition	100	100	98.75	100
2. It is responsibility of doctor and nurse only to take care and treat the child at hospital staying	61.25	95	57.5	61.25
3. Caregivers can notify to doctor and nurse only on clinical round to know about something wrong to child	55	96.25	55	75
4. Caregivers can tell a doctor or nurse if you think they has confused your child with another child	85	100	92.5	95
5. Caregiver have a right to know the name of doctor and nurse and all staff who give treatment	91.25	100	83.75	96.25
6. Caregiver no need protest doctor and nurse about they had wash their hands and wear clean mask or not	23.75	76.25	32.5	42.5
7. Caregiver can make sure doctor or nurse checks child's wristband and asks name before he or she gives medicine or treatment	68.75	100	65	85
8. No need to know doctor about the special training and experience that qualifies him or her to treat your child's illness	35	85	37.5	53.75
9. Caregiver no need to remember information about child's symptom and condition before come to hospital.	82.5	95	76.25	86.25
10. Caregiver no need to read all medical	66.25	93.75	68.75	73.75

forms and make sure understand them before sign anything.				
11. Caregiver can allow relative or families to get involve in decision making and communicate with doctor and nurse when you are stressed	88.75	100	68.75	96.25
12. Caregivers and families no need to involve at all of care process	65	95	66.25	65
13. Caregiver can trust on nurse ‘s medication administration are safe and without their double check	18.75	92.5	16.25	32.5
14. Caregiver have to ask in anytime about medicine which your child get and why	53.75	98.75	52.5	87.5
15. Caregiver can ask about the side effects of all medicines and also effect of medicine	65	100	57.5	96.25
16. Caregiver no need to tell doctors and nurses about allergies, or negative reactions that your child have had to other medicines in the past	81.25	96.25	87.5	91.25
17. Caregivers do not have to consider the quality of health care, before receiving services from the public or private hospital	48.75	96.25	51.25	61.25
18. Caregiver need to know and find out whether hospital or other health care organization is “accredited” that patient safety and quality standards are followed	86.25	97.5	82.5	98.75
19. Caregiver and family member no need to know about child’s care plan and their responsibility of care	76.25	98.75	77.5	83.75
20. Caregiver can ask doctor and nurse about objectives of investigation or take more medicine	68.75	98.75	73.75	95
21. In case the child has to refer to other hospital, Caregivers do not need to request a copies medical records go along together	75	100	76.25	75

22. Caregiver can ask for a second opinion. If you are unsure about the best treatment for your child's illness, talk with one or two additional doctors.	55	95	71.25	86.25
23. Caregiver have to wait for the doctor and nurse notify about the result and meaning of laboratory test without hurry ask first	18.75	70	26.25	26.25
24. Caregiver can tell nurse all the time about worrying of child's symptom at while bedside staying	97.5	100	100	100
25. Caregivers do not need to ask doctor if your child will need therapy or medicines after leave the hospital and when they can resume activities like school, play.	72.5	97.5	68.75	80

Note: Percentage (%) = percentage of correct answer

Appendix E Descriptive results: Family caregiver's perceived self-efficacy of patient-professional interactions in promoting safety of hospitalized children between intervention and control group

Items of self-efficacy	Intervention group		Control group	
	Pre	Post	Pre	Post
1. How confident are you in your ability to get a doctor and nurse to pay attention to what you have to say?	3.4750	4.1000	3.6875	3.9375
2. How confident are you in your ability to know what questions to ask a doctor and nurse?	3.7125	4.7000	3.7875	3.9500
3. How confident are you in your ability to ask a doctor and nurse's question about your child?	4.2375	4.7875	4.0625	4.3500
4. How confident are you in your ability to understand what a doctor tells you?	4.0500	4.4375	4.125	4.2250
5. How confident are you in your ability to explain current health concern(s) about your child to a doctor and nurse?	3.9875	4.5750	3.9625	4.3125
6. How confident are you in your ability to ask a doctor and nurse for more information if you don't understand what he or she said?	3.7500	4.4500	3.9125	4.1000
7. How confident are you in your ability to be able to participate with doctor and nurse in care process of your child	3.7375	4.1750	3.7875	4.0250
8. How confident are you in your ability to freely speak up if you see something does not seem right and may negatively affect to your child's care	3.9875	4.6875	3.9625	4.2500
9.How confident are you in your ability to question the decisions or actions of healthcare providers	3.2125	3.8500	3.225	3.9750
10. How confident are you in your ability to suggest to a nurse or doctor a different way	2.2625	3.2500	2.075	3.0250

time of doing something that you think would be better for your child				

Appendix F Descriptive results: Family caregiver's engagement in promoting safety of hospitalized children between intervention and control group

Items of self-efficacy	Intervention group		Control group	
	Pre	Post	Pre	Post
Advocate to Ask				
1. Do you ask the doctor and nurse about your child's condition and treatments	4.53 (0.50)	4.83 (0.37)	4.36 (0.53)	4.66 (0.52)
2. Do you ask the doctor and nurse how a treatment will help your child	3.81 (0.76)	4.50 (0.57)	3.90 (0.77)	4.12 (0.70)
3. Do you ask doctor and nurse: When the medical equipment will be removed?	2.90 (1.14)	4.56 (0.49)	2.77 (0.12)	3.42 (0.85)
4. Do you ask a family member or friend to be there with you	3.27 (1.37)	4.50 (0.74)	2.78 (0.25)	3.53 (1.12)
5. Do you ask doctor or nurse to explain the treatment plan you will use at home	3.77 (1.04)	4.60 (0.58)	4.13 (0.00)	4.30 (1.03)
6. Do you ask what are the names of the medicine	3.31 (1.10)	4.83 (0.37)	3.16 (0.03)	3.92 (0.75)
7. Do you ask, what side effects are likely and what do you do if they occur	3.07 (1.09)	4.53 (0.54)	3.13 (0.07)	3.45 (0.69)
8. Do you ask, how do you give medicine for child	3.98 (0.77)	4.72 (0.44)	4.07 (0.61)	4.16 (0.62)
9. Do you ask, how often is the child supposed to take medicines, and for how long	3.90 (0.86)	4.75 (0.66)	3.98 (0.62)	4.07 (0.61)
10. Do you ask, what food, drink, or activities should your child avoid while taking this medicine	4.22 (0.92)	4.73 (0.44)	4.21 (0.72)	4.38 (0.78)
11. Do you ask, the medicine safe for your child to take with other medicines or dietary supplements	3.72 (0.91)	4.56 (0.52)	3.98 (0.81)	4.20 (0.91)

12. Do you ask why each test or procedure is being done	4.07 (0.75)	4.67 (0.47)	4.05 (0.77)	4.16 (0.81)
13. Do you ask what has been done to make sure your child is safe during the test	2.97 (1.09)	4.35 (0.59)	2.66 (0.11)	3.21 (0.77)
14. Do you ask when the test results will be available	3.82 (0.85)	4.58 (0.52)	3.93 (0.71)	4.06 (0.75)
15. Do you ask doctor /nurse about what the result mean for your care	3.72 (0.87)	4.61 (0.53)	3.85 (0.81)	3.88 (0.71)
16. Do you ask which test will be done and what your child should be prepared for during the test	2.75 (1.11)	4.21 (0.70)	2.83 (0.86)	3.17 (0.86)
17. Do you ask if your child can eat or drink before the test	2.80 (1.10)	4.40 (0.68)	2.77 (0.82)	3.06 (0.78)
18. Do you ask a doctor/nurse: How long your child be in hospital?	3.43 (0.91)	4.73 (0.47)	3.57 (0.99)	3.82 (0.82)
19. Do you ask a doctor/nurse: When can your child return to normal activities	3.60 (0.88)	4.81 (0.42)	3.77 (0.85)	4.01 (0.56)
20. Do you asked the nurse or doctor to explain something that you did not understand	4.03 (0.75)	4.75 (0.43)	4.38 (0.62)	4.41 (0.68)
Report and Response				
21. Do you tell child's health information with child's doctor and nurse and other staff	4.77 (0.44)	4.97 (0.15)	4.82 (0.41)	4.82 (0.41)
22. Do you tell your child's medication history and weight	4.77 (0.42)	4.98 (0.11)	4.87 (0.33)	4.90 (0.30)
23. Do you tell the doctor or nurse about your child's allergies and reactions to any medicines in the past	4.72 (0.44)	4.98 (0.11)	4.88 (0.31)	4.87 (0.33)
24. Do you tell the doctor or nurse if you do not understand any information or if you have questions.	4.10 (0.58)	4.75 (0.43)	4.35 (0.59)	4.42 (0.59)
25. Do you tell your worry to doctor or nurse?	4.12 (0.58)	4.82 (0.38)	4.28 (0.57)	4.32 (0.59)
26. Do you tell nurse if the IV area is painful, red or puffy	3.98 (0.72)	4.97 (0.15)	3.78 (0.89)	3.78 (0.79)

27. Do you response and answer to question from doctor or nurse on clinical rounds	4.56 (0.61)	4.97 (0.15)	4.55 (0.52)	4.81 (0.42)
28. Do you response to prevent infection by wash or clean your hands every time before and after touch your child	4.20 (0.43)	4.80 (0.40)	4.03 (0.64)	4.21 (0.80)
29. Do you response to prevent infection by wear clean mask when you are close up your child	1.56 (0.65)	3.85 (0.73)	1.53 (0.72)	1.38 (0.51)
*30. Do you remind doctor or nurse to wash or clean their hands	1.35 (0.63)	1.75 (0.81)	1.15 (0.45)	1.18 (0.47)
Monitoring and Make sure				
31. Do you make sure you understand the instruction when your child are admitted?	3.97 (0.67)	4.70 (0.46)	4.22 (0.47)	4.48 (0.71)
32. Do you taking part in any situation and decision about your child's care	3.98 (0.66)	4.63 (5.50)	3.83 (0.64)	4.15 (0.50)
33. Do you always check your child's hospital identification bracelet	3.15 (1.30)	4.91 (0.28)	2.71 (1.43)	3.88 (0.67)
34. Do you make sure doctor and nurse check the band and ask your child's name before giving any medicine, test or treatment	2.53 (1.28)	4.87 (0.36)	2.81 (1.26)	2.93 (1.11)
35. Do you observe to see the label on the container that your child's sample is put into	2.28 (1.09)	4.8 (0.43)	2.53 (1.31)	2.80 (0.94)
36.If you don't hear from the doctor or the lab, do you call to ask about the test results	3.15 (0.95)	4.41 (0.63)	3.07 (0.91)	3.42 (0.68)
37.While staying with your child, do you speak up if you have questions or concerns	4.05 (0.61)	4.86 (0.44)	4.11 (0.59)	4.25 (0.58)
38. Do you make sure that you know who is your child's pediatrician	3.56 (1.02)	4.77 (0.42)	3.52 (0.77)	3.86 (0.74)
39. Do you always monitor child's symptoms in order to report on clinical rounds	4.37 (0.53)	4.92 (0.26)	4.45 (0.52)	4.65 (0.47)

Appendix G Intervention tools

3.5 ติดตามผลการตรวจวิเคราะห์และวินิจฉัยโรคจากแพทย์หรือห้องปฏิบัติการ หากท่านรู้สึกว่ารอนานเกินไป

3.6 ในขณะที่เฝ้าดูแลบุตรหลานที่ข้างเตียง หากพบความผิดปกติ หรือข้อสงสัย ให้สอบถามหรือแจ้งพยาบาลทันที

3.7 ติดตาม เฝ้าดูแลอาการของบุตรหลานอย่างสม่ำเสมอเพื่อให้รู้ถึงอาการปัจจุบันและรายงานต่อแพทย์และพยาบาลเมื่อถึงเวลาเยี่ยมไข้

บุตรหลานปลอดภัย
ผู้ปกครองสุขใจ
เจ้าหน้าที่สบายใจ

แนวปฏิบัติประกอบการศึกษาที่ทดลองเกี่ยวกับการมีส่วนร่วมของผู้ดูแลในการส่งเสริมความปลอดภัยของผู้ป่วยเด็ก

ออกแบบโดย
นางสาวพัทรพร ยุบลพันธ์
นิสิตปริญญาเอก วิทยาลัยวิทยาศาสตร์สาธารณสุข
จุฬาลงกรณ์มหาวิทยาลัย
ข้อมูลเพิ่มเติม ข้อเสนอแนะ
โทร.062-1935514

แนวปฏิบัติเพื่อความปลอดภัยของผู้ป่วยเด็กที่นอนโรงพยาบาล

ผู้ปกครองคือคนสำคัญต่อการร่วมดูแลผู้ป่วยเด็ก การมีส่วนร่วมของท่านในกระบวนการดูแลจะช่วยให้ท่านเข้าใจแนวทางการรักษา ช่วยป้องกันความเสี่ยงสร้างความปลอดภัยแก่บุตรหลาน

หลักที่ 1
เป็นผู้แทนเพื่อการสอบถามข้อมูล

1.1 การวินิจฉัยโรคและวิธีการรักษา

1.2 การได้รับยา น้ำเกลือผ่านเส้นเลือดและเวลาที่ต้องถอดออก

1.3 สอบถามรายละเอียดเกี่ยวกับยาที่บุตรหลานได้รับ อาทิ ชื่อยา ผลข้างเคียงและ วิธีการปฏิบัติ จำนวนครั้งและระยะเวลาที่ต้องกินยา การใช้ยาร่วมกับอาหารเสริม หรือยาตัวอื่นๆ กิจกรรม อาหารที่ต้องหลีกเลี่ยง รวมถึงวิธีการให้ยาที่บ้าน

1.4 ขอให้สมาชิกในครอบครัว นอกจากตัวท่าน ร่วมอยู่เฝ้าดูแลบุตรหลาน

กรณีที่บุตรหลานต้องมีการส่งตรวจวิเคราะห์โรคเพิ่มเติม สอบถาม >>>

1.5 สอบถามความจำเป็นที่บุตรหลานของท่านต้องมีการทดสอบทางห้องวิเคราะห์โรค หรือเอกซเรย์ วิธีการทดสอบแต่ละขั้นตอนที่จะถูกดำเนินการ สังเกตดูฉลากบนภาชนะบรรจุตัวอย่างว่าเป็นชื่อและนามสกุลของบุตรหลานที่ต้องส่งตรวจ สิ่งที่ท่านต้องเตรียมพร้อมให้แก่บุตรหลานก่อนการได้รับการตรวจวิเคราะห์ เช่นการกินอาหารหรือดื่มน้ำ ดื่มนม และสอบถามเวลาที่สามารถทราบผลการตรวจวิเคราะห์

1.6 สอบถามหมอหรือพยาบาลถึงวิธีการดูแลบุตรหลานที่ต้องปฏิบัติที่บ้าน

หลักที่ 2

รายงานและตอบสนองต่อแพทย์ พยาบาล

2.1 แจ้งข้อมูลของบุตรหลานแก่แพทย์ และพยาบาล และเจ้าหน้าที่ที่เกี่ยวข้อง ได้แก่ ประวัติการใช้ยา น้ำหนัก การแพ้ต่าง ๆ และยาที่มีปฏิกิริยาต่อบุตรหลาน

2.2 แจ้งแพทย์ หรือพยาบาล หากท่านไม่เข้าใจข้อมูลที่ได้รับ หรือมีคำถามสงสัย

2.3 แจ้งพยาบาลหากพบว่าบริเวณที่บุตรหลานใส่สายน้ำเกลือ ดูเหมือนจะทำให้เกิดการเจ็บปวด แดง หรือบวม

2.4 ท่านจำเป็นต้องตอบสนองและตอบคำถามขณะที่แพทย์ พยาบาลมาเยี่ยมไข้บุตรหลานในแต่ละรอบ

2.5 ท่านจำเป็นต้องตอบสนองในการป้องกันการติดเชื้อ โดยการสวมหน้ากากอนามัย ล้างหรือทำความสะอาดมือทุกครั้งก่อนและหลังสัมผัสบุตรหลาน

หลักที่ 3

ติดตามและตรวจสอบ

3.1 มีส่วนร่วมในทุกสถานการณ์ที่จะทำได้และเป็นตัวแทนในการตัดสินใจเกี่ยวกับแผนการดูแลของบุตรหลาน

3.2 สังเกตป้ายชื่อ หรือสอบถามโดยตรงเพื่อให้รู้ว่าใครคือบุคลากรแพทย์ที่ให้การดูแลรักษาบุตรหลาน

3.3 ตรวจสอบสายรัดข้อมือของบุตรหลานอย่างสม่ำเสมอเพื่อการระบุตัวตนของผู้ป่วยถูกต้อง และสังเกตว่าแพทย์หรือพยาบาล ได้ตรวจสอบดูสายรัดข้อมือและถามชื่อของบุตรหลานก่อนให้การรักษาให้ยา และ การส่งตรวจวิเคราะห์

3.4 สังเกตดูฉลากบนภาชนะที่บรรจุทุกครั้ง ที่ต้องส่งตัวอย่างของบุตรหลานไปตรวจวิเคราะห์โรค

แนวปฏิบัติสำหรับผู้ดูแลในครอบครัว
เพื่อร่วมสร้างเสริมความปลอดภัยแก่ผู้ป่วยเด็กที่นอนโรงพยาบาล

➢ เป็นผู้แทนบุตรหลานเพื่อการสอบถามข้อมูลต่างๆ

- *การวินิจฉัยโรคและวิธีการรักษา*
- *การได้รับยา น้ำเกลือผ่านเส้นเลือด*
- *รายละเอียดเกี่ยวกับยาที่บุตรหลานได้รับ อาทิ ชื่อยา ผลข้างเคียงและวิธีการปฏิบัติ*
- *รายละเอียดเกี่ยวกับการตรวจวิเคราะห์โรค*

"บุตรหลานปลอดภัย ผู้ปกครองสุขใจ เจ้าหน้าที่สบายใจ"

➢ รายงานและตอบสนองต่อแพทย์ พยาบาล

- *แจ้งข้อมูลของบุตรหลานแก่แพทย์ และพยาบาล และเจ้าหน้าที่ที่เกี่ยวข้อง ได้แก่ ประวัติการใช้ยา น้ำหนัก การแพ้ต่าง ๆ และยาที่มีปฏิกิริยาต่อบุตรหลาน*
- *แจ้งแพทย์ หรือพยาบาล หากท่านไม่เข้าใจข้อมูลที่ได้รับ หรือมีคำถามสงสัย*
- *แจ้งพยาบาลหากพบว่าบริเวณที่บุตรหลานใส่สายน้ำเกลือ ดูเหมือนจะทำให้เกิดการเจ็บปวด แดง หรือบวม*
- *ตอบคำถามขณะที่แพทย์ พยาบาลมาเยี่ยมไข้บุตรหลานในแต่ละรอบ*
- *ตอบสนองในการป้องกันการติดเชื้อ โดยการสวมหน้ากากอนามัย ล้างหรือทำความสะอาดมือทุกครั้งก่อนและหลังสัมผัสบุตรหลาน*

➢ ติดตามและตรวจสอบ

- *มีส่วนร่วมในทุกสถานการณ์เท่าที่จะทำได้และเป็นตัวแทนในการตัดสินใจเกี่ยวกับแผนการดูแล*
- *สังเกตป้ายชื่อ หรือสอบถามโดยตรงเพื่อให้รู้ว่าใครคือกุมารแพทย์ที่ให้การดูแลรักษา*
- *ตรวจสอบสายรัดข้อมือของบุตรหลานอย่างสม่ำเสมอเพื่อการระบุตัวตนของผู้ป่วยถูกต้อง*
- *สังเกตดูฉลากบนภาชนะที่บรรจุทุกครั้ง ที่ต้องส่งตัวอย่างของบุตรหลานไปตรวจวิเคราะห์โรค (ถ้ามี)*
- *ติดตามผลการตรวจวิเคราะห์และวินิจฉัยโรคจากแพทย์หรือห้องปฏิบัติการ หากท่านรู้สึกว่ารอนานเกินไป*
- *ขณะที่เฝ้าดูแลบุตรหลานที่ข้างเตียง หากพบความผิดปกติ หรือข้อสงสัย ให้สอบถามหรือแจ้งพยาบาลทันที*
- *ติดตาม เฝ้าดูแลอาการของบุตรหลานอย่างสม่ำเสมอเพื่อให้รู้ถึงอาการปัจจุบันและรายงานต่อแพทย์และพยาบาลเมื่อถึงเวลาเยี่ยมไข้*

ออกแบบโดย นางสาวภัทรพร ยุบลพันธ์ นิสิตปริญญาเอก วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย ข้อมูลเพิ่มเติม ข้อเสนอแนะ โทร.062-1935514

REFERENCES

1. Fitzsimons, J. and D. Vaughan, *Top 10 Interventions in Paediatric Patient Safety.* Current Treatment Options in Pediatrics, 2015. **1**(4): p. 275-285.
2. WorldHealthOrganization. *Patient safety: About us*. 2018 [cited 2018 Apr 14]; Available from: http://www.who.int/patientsafety/about/en/.
3. Sheard, L., et al., *Evaluating the PRASE patient safety intervention - a multi-centre, cluster trial with a qualitative process evaluation: study protocol for a randomised controlled trial.* Trials, 2014. **15**(1): p. 2282.
4. Jha, A.K., et al., *The global burden of unsafe medical care: analytic modelling of observational studies.* BMJ Quality & Safety, 2013. **22**(10): p. 809.
5. American Academy of Pediatrics, *Principles of Pediatric Patient Safety: Reducing Harm Due to Medical Care.* Pediatrics, 2011. **127**(6): p. 1199.
6. Mark, B.A., D.W. Harless, and W.F. Berman, *Nurse staffing and adverse events in hospitalized children.* Policy Polit Nurs Pract, 2007. **8**(2): p. 83-92.
7. Cox, E.D., et al., *Parent perceptions of children's hospital safety climate.* BMJ Qual Saf, 2013. **22**(8): p. 664-71.
8. Daniels, J.P., et al., *Identification by families of pediatric adverse events and near misses overlooked by health care providers.* CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne, 2012. **184**(1): p. 29-34.
9. Kaushal, R., et al., *Medication errors and adverse drug events in pediatric inpatients.* Jama, 2001. **285**(16): p. 2114-20.
10. Slonim, A.D., et al., *Hospital-reported medical errors in children.* Pediatrics, 2003. **111**(3): p. 617-21.
11. Herrin, J., et al., *Patient and family engagement: a survey of US hospital practices.* BMJ Quality & Safety, 2016. **25**(3): p. 182.
12. Rosenberg, R.E., et al., *Parents' Perspectives on "Keeping Their Children Safe" in the Hospital.* J Nurs Care Qual, 2016. **31**(4): p. 318-26.
13. Bsharat, S., *Parent's Involvement in Preventing Errors and Maintaining the*

Safety of their Hospitalized Child in Pediatric Department. Biomedical Journal of Scientific & Technical Research, 2018. **2**(5).

14. Schwappach, D.L., *Review: engaging patients as vigilant partners in safety: a systematic review.* Med Care Res Rev, 2010. **67**(2): p. 119-48.
15. Prey, J.E., et al., *Patient engagement in the inpatient setting: a systematic review.* Journal of the American Medical Informatics Association, 2014. **21**(4): p. 742-750.
16. CenterforAdvancingHealth, *A new definition of patienr engagement -What is engage and why is it important.* Patient Education and Couceling, 2010. **78**(3): p. 350-356.
17. WorldHealthOrganization. *Patient Engagement: Technical Series on Safer Primary Care*. 2016 [cited 2019 Feb 10]; Available from: https://www.who.int/patientsafety/topics/primarycare/technical_series/en/.
18. Weingart, S.N., et al., *Hospitalized patients' participation and its impact on quality of care and patient safety.* International Journal for Quality in Health Care, 2011. **23**(3): p. 269-277.
19. Carman, K.L., et al., *Patient and family engagement: a framework for understanding the elements and developing interventions and policies.* Health Aff (Millwood), 2013. **32**(2): p. 223-31.
20. Barello, S., et al., *eHealth for Patient Engagement: A Systematic Review.* Front Psychol, 2015. **6**: p. 2013.
21. Tarini, B.A., P. Lozano, and D.A. Christakis, *Afraid in the hospital: parental concern for errors during a child's hospitalization.* J Hosp Med, 2009. **4**(9): p. 521-7.
22. Committee On Hospital Care, I.F.P.F.-C.C., *Patient- and family-centered care and the pediatrician's role.* Pediatrics, 2012. **129**(2): p. 394-404.
23. Ottosen, M.J., *PARENT PERCEPTIONS OF PATIENT SAFETY CULTURE IN THE NEONATAL INTENSIVE CARE UNIT.* UT SON Dissertations (Open Access), 2015.
24. Davis, R.E., et al., *An examination of opportunities for the active patient in improving patient safety.* J Patient Saf, 2012. **8**(1): p. 36-43.
25. Cervone, D., *The architecture of personality.* Psychol Rev, 2004. **111**(1): p. 183-

204.

26. Harper, F.W., et al., *Longitudinal study of parent caregiving self-efficacy and parent stress reactions with pediatric cancer treatment procedures.* Psychooncology, 2013. **22**(7): p. 1658-64.

27. TheRoyalCollegePediatriciansofThailand. *Acute Respiratory Infection in Children*. n.d. [cited 2018 Dec 6]; Available from: http://www.thaipediatrics.org/attchfile/CPG1.pdf.

28. Emukule, G.O., et al., *Predicting mortality among hospitalized children with respiratory illness in Western Kenya, 2009-2012.* PLoS One, 2014. **9**(3): p. e92968.

29. Pongjaturawit, Y. and R.C. Harrigan, *Parent participation in the care of hospitalized child in Thai and Western cultures.* Issues Compr Pediatr Nurs, 2003. **26**(3): p. 183-99.

30. Rattanapibun, K., C. Kongsaktrakul, and A. Patoomwan, *Parent Participation in the Care of Hospitalized Children.* Ramathibodi Nursing Journal, 2013. **17**(2): p. 232-247.

31. TheJointCommission. *Prevent Errors in Your Child's Care*. 2019 [cited 2019 Feb 5]; Available from: https://www.jointcommission.org/resources/for-consumers/speak-up-campaigns/infant-and-childrens-health/.

32. AgencyforHealthcareResearchandQuality. *20 Tips to Help Prevent Medical Error in Children*. 2002 [cited 2019 Feb 5]; Available from: https://archive.ahrq.gov/consumer/20tipkid.htm.

33. WHORegionalOfficeforEurope. *Patient safety*. 2017 [cited 2017 Nov 9]; Available from: http://www.euro.who.int/en/health-topics/Health-systems/patient-safety/patient-safety.

34. Emanuel, L., et al., *Advances in Patient Safety What Exactly Is Patient Safety?*, in *Advances in Patient Safety: New Directions and Alternative Approaches (Vol. 1: Assessment)*, K. Henriksen, et al., Editors. 2008, Agency for Healthcare Research and Quality: Rockville (MD).

35. WorldHealthOrganization. *Definitions of Key Concepts from the WHO Patient*

Safety Curriculum Guide. 2011; Available from: http://www.who.int/patientsafety/education/curriculum/course1a_handout.pdf.

36. Panagioti, M., et al., *Patient-reported safety incidents in older patients with long-term conditions: a large cross-sectional study.* BMJopen, 2017. **7**(e013524).
37. Khan, A., et al., *Parent-Reported Errors and Adverse Events in Hospitalized Children.* JAMA Pediatr, 2016. **170**(4): p. e154608.
38. Stockwell, D.C., et al., *Adverse Events in Hospitalized Pediatric Patients.* Pediatrics, 2018. **142**(2).
39. Bonnie Fleming-Carroll, A.M.S.D.V.M.K.M. and S. Kim, *Patient Safety in a Pediatric Centre: Partnering with Families.* Healthcare Quarterly, 2006. **9**(Sp): p. 96-101.
40. Gruman, J., et al., *From patient education to patient engagement: implications for the field of patient education.* Patient Educ Couns, 2010. **78**(3): p. 350-6.
41. Grande, S.W., et al., *A classification model of patient engagement methods and assessment of their feasibility in real-world settings.* Patient Educ Couns, 2014. **95**(2): p. 281-7.
42. Graffigna, G., et al., *Measuring patient engagement: development and psychometric properties of the Patient Health Engagement (PHE) Scale.* Front Psychol, 2015. **6**: p. 274.
43. Dubrovsky, A.S., et al., *"We Should Talk"-Moving knowledge into action by learning to engage patients, families, and healthcare staff to communicate for patient safety.* Healthc Manage Forum, 2016. **29**(4): p. 141-5.
44. Sign up to Safety Patient Engagement in Patient Safety Group and Y.Q.a.S.R.G.a.V.R. Ltd. *Patient Engagement in Patient Safety: A Framework for the NHS*. 2016 [cited 2018 Dec 7]; Available from: https://www.england.nhs.uk/signuptosafety/wp-content/uploads/sites/16/2016/05/pe-ps-framwrk-apr-16.pdf.
45. Rawlett, K., *Journey from Self-Efficacy to Empowerment.* Health Care, 2014. **2**(1): p. 1.
46. Wikipedia. *Self-Efficacy*. 2019 [cited 2019 Mar 26]; Available from:

https://en.wikipedia.org/wiki/Self-efficacy#Social_cognitive_theory.

47. Tschannen-Moran, M. and P. McMaster, *Sources of Self-Efficacy: Four Professional Development Formats and Their Relationship to Self-Efficacy and Implementation of a New Teaching Strategy.* The Elementary School Journal, 2009. **110**(2): p. 228-245.

48. Karner Kohler, A., et al., *Patient empowerment and general self-efficacy in patients with coronary heart disease: a cross-sectional study.* BMC Fam Pract, 2018. **19**(1): p. 76.

49. Raghad Abdelkader, I.K., Suha Kridli, Diana Arabiat, Intima Alrimawi, *Parents-involvement-in-childs-care-in-an-arab-pediatric-setting.* Health Science Journal, 2016. **10**(4.10).

50. Aini, S.N., S. Mulatsih, and P.S. Lasmani, *The Effect of Education on Parents' "Speak Up" Knowledge Regarding Patients Safety in Hospital.* Jurnal Ners, 2017. **12**(2): p. 189.

51. Davis, R.E., M. Koutantji, and C.A. Vincent, *How willing are patients to question healthcare staff on issues related to the quality and safety of their healthcare? An exploratory study.* Quality and Safety in Health Care, 2008. **17**(2): p. 90.

52. Doherty, C. and C. Stavropoulou, *Patients' willingness and ability to participate actively in the reduction of clinical errors: A systematic literature review.* Social Science & Medicine, 2012. **75**(2): p. 257-263.

53. Lyons, M., *Should patients have a role in patient safety? A safety engineering view.* Qual Saf Health Care, 2007. **16**(2): p. 140-2.

54. Shields, L., I. Kristensson-Hallstrom, and M. O'Callaghan, *An examination of the needs of parents of hospitalized children: comparing parents' and staff's perceptions.* Scand J Caring Sci, 2003. **17**(2): p. 176-84.

55. Toomey, S.L., et al., *The Development of a Pediatric Inpatient Experience of Care Measure: Child HCAHPS<sup>®</sup&gt.* Pediatrics, 2015. **136**(2): p. 360.

56. Cox, E.D., et al., *A Family-Centered Rounds Checklist, Family Engagement, and Patient Safety: A Randomized Trial.* Pediatrics, 2017. **139**(5).

57. Center for Advancing Health, *A new definition of patienr engagement -What is engage and why is it important.* 2010.
58. Soderback, M. and K. Christensson, *Care of hospitalized children in Mozambique: nurses' beliefs and practice regarding family involvement.* J Child Health Care, 2007. **11**(1): p. 53-69.
59. Soderback, M. and K. Christensson, *Family involvement in the care of a hospitalised child: a questionnaire survey of Mozambican family caregivers.* Int J Nurs Stud, 2008. **45**(12): p. 1778-88.
60. Cox, E.D., et al., *Are Parents Who Feel the Need to Watch Over Their Children's Care Better Patient Safety Partners?* Hosp Pediatr, 2017. **7**(12): p. 716-722.
61. Shields, L., J. Young, and D. McCann, *The needs of parents of hospitalized children in Australia.* J Child Health Care, 2008. **12**(1): p. 60-75.
62. Aarthun, A., K.A. Øymar, and K. Akerjordet, *Parental involvement in decision-making about their child's health care at the hospital.* Nursing open, 2018. **6**(1): p. 50-58.
63. Tourigny, J., C. Chapados, and R. Pineault, *Determinants of parental behaviour when children undergo day-care surgery.* J Adv Nurs, 2005. **52**(5): p. 490-7.
64. Lam, L.W., A.M. Chang, and J. Morrissey, *Parents' experiences of participation in the care of hospitalised children: a qualitative study.* Int J Nurs Stud, 2006. **43**(5): p. 535-45.
65. Abuqamar, M., D.H. Arabiat, and S. Holmes, *Parents' Perceived Satisfaction of Care, Communication and Environment of the Pediatric Intensive Care Units at a Tertiary Children's Hospital.* J Pediatr Nurs, 2016. **31**(3): p. e177-84.
66. Jangland, E., et al., *The impact of an intervention to improve patient participation in a surgical care unit: a quasi-experimental study.* Int J Nurs Stud, 2012. **49**(5): p. 528-38.
67. Abdelkader, R., et al., *Socio-demographic correlates of parents' participation in care of a hospitalized child: A perspective from a developing country.* J Child Health Care, 2016. **20**(3): p. 374-83.
68. Hopia, H., et al., *Child in hospital: family experiences and expectations of how nurses can promote family health.* J Clin Nurs, 2005. **14**(2): p. 212-22.

69. Coyne, I. and S. Cowley, *Challenging the philosophy of partnership with parents: a grounded theory study.* Int J Nurs Stud, 2007. **44**(6): p. 893-904.
70. Romaniuk, D., L. O'Mara, and N. Akhtar-Danesh, *Are parents doing what they want to do? Congruency between parents' actual and desired participation in the care of their hospitalized child.* Issues Compr Pediatr Nurs, 2014. **37**(2): p. 103-21.
71. Davis, R.E., et al., *Patient involvement in patient safety: what factors influence patient participation and engagement?* Health Expectations : An International Journal of Public Participation in Health Care and Health Policy, 2007. **10**(3): p. 259-267.
72. Gomes, A.L.A., et al., *Association of self-efficacy of parents/caregivers with childhood asthma control parameters.* Rev Esc Enferm USP, 2017. **51**: p. e03282.
73. Peterson, A.M., et al., *Parent caregiver self-efficacy and child reactions to pediatric cancer treatment procedures.* J Pediatr Oncol Nurs, 2014. **31**(1): p. 18-27.
74. Hibbard, J.H., et al., *Can patients be part of the solution? Views on their role in preventing medical errors.* Med Care Res Rev, 2005. **62**(5): p. 601-16.
75. JointCommissionInternational. *International Patient Safety Goals*. 2019 [cited 2020 Nov 04]; Available from: https://www.jointcommissioninternational.org/standards/international-patient-safety-goals/.
76. TheHealthcareAccreditationInstitute. *Overview in 2P Safety in New HA Standard and Risk Management*. 2018 [cited 2020 Nov 04]; Available from: http://203.157.144.198/web/depboard/uploads/478_20180717_114441_4.pdf.
77. Cohen, J., *A Power Primer.* Psychological Bulletin, 1992. **112**(1): p. 155-159.
78. Davis, R., et al., *Predictors of hospitalized patients' intentions to prevent healthcare harm: A cross sectional survey.* International Journal of Nursing Studies, 2012. **49**(4): p. 407-415.
79. Bloom, B.S., *Handbook on Formative and Summative Evaluation of Student Learning*. 1971, New York: McGraw-Hill.

80. Maly, R.C., et al., *Perceived efficacy in patient-physician interactions (PEPPI): validation of an instrument in older persons.* J Am Geriatr Soc, 1998. **46**(7): p. 889-94.

81. John W. Best, J.V.K., *Research in Education*. 8th ed. 1998, United State of America: Allyn & Bacon.

82. Davis, R.E., N. Sevdalis, and C.A. Vincent, *Patient involvement in patient safety: How willing are patients to participate?* BMJ Quality & Safety, 2011. **20**(1): p. 108.

83. Sahlstrom, M., et al., *Patient participation in patient safety still missing: Patient safety experts' views.* Int J Nurs Pract, 2016. **22**(5): p. 461-469.

84. Coulter, A., *Patient engagement--what works?* J Ambul Care Manage, 2012. **35**(2): p. 80-9.

85. Pinto, A., et al., *A qualitative exploration of patients' attitudes towards the 'Participate Inform Notice Know' (PINK) patient safety video.* International Journal for Quality in Health Care, 2013. **25**(1): p. 29-34.

86. Melo, E.M.d.O.P.d., et al., *The involvement of parents in the healthcare provided to hospitalzed children.* Revista latino-americana de enfermagem, 2014. **22**(3): p. 432-439.

87. Severinsson, E. and A.L. Holm, *Patients' Role in Their Own Safety—A Systematic Review of Patient Involvement in Safety.* Open Journal of Nursing, 2015. **05**(07): p. 642-653.

88. Aarthun, A., K.A. Øymar, and K. Akerjordet, *How health professionals facilitate parents' involvement in decision-making at the hospital: A parental perspective.* Journal of Child Health Care, 2017. **22**(1): p. 108-121.

89. Horn, I.B., et al., *Randomized trial of a health communication intervention for parents of children with asthma.* J Asthma, 2014. **51**(9): p. 989-95.

90. Davis, R.E., et al., *Patients' and health care professionals' attitudes towards the PINK patient safety video.* J Eval Clin Pract, 2012. **18**(4): p. 848-53.

91. Greysen, S.R., et al., *Tablet computers for hospitalized patients: a pilot study to improve inpatient engagement.* J Hosp Med, 2014. **9**(6): p. 396-9.

92. Jackson, G.P., et al., *A technology-based patient and family engagement*

consult service for the pediatric hospital setting. J Am Med Inform Assoc, 2018. **25**(2): p. 167-174.

93. Davis, R.E., et al., *Patients' attitudes towards patient involvement in safety interventions: results of two exploratory studies.* Health Expectations : An International Journal of Public Participation in Health Care and Health Policy, 2013. **16**(4): p. e164-e176.
94. Latta, L.C., et al., *Parental responses to involvement in rounds on a pediatric inpatient unit at a teaching hospital: a qualitative study.* Acad Med, 2008. **83**(3): p. 292-7.
95. Schenk, E.C., et al., *Perspectives on Patient and Family Engagement With Reduction in Harm: The Forgotten Voice.* J Nurs Care Qual, 2019. **34**(1): p. 73-79.
96. Ladak, L.A., et al., *Family-centered rounds in Pakistani pediatric intensive care settings: non-randomized pre- and post-study design.* Int J Nurs Stud, 2013. **50**(6): p. 717-26.
97. Tork, H., *The effectiveness of simulation-based education on parental management of fever for young children: A quasi-experimental study.* International Journal of Applied Research, 2016. **2**: p. 1094-1098.
98. Biasibetti, C., et al., *Communication for patient safety in pediatric hospitalizations.* Rev Gaucha Enferm, 2019. **40**(spe): p. e20180337.
99. Ericsson, C., et al., *Can patients contribute to safer care in meetings with healthcare professionals? A cross-sectional survey of patient perceptions and beliefs.* BMJ Qual Saf, 2019. **28**(8): p. 657-666.
100. De Rezende, H.A., M.M. Melleiro, and G.T. Shimoda, *Interventions to reduce patient identification errors in the hospital setting: a systematic review protocol.* JBI Evidence Synthesis, 2019. **17**(1).
101. Hain, P.D., et al., *An intervention to decrease patient identification band errors in a children's hospital.* Qual Saf Health Care, 2010. **19**(3): p. 244-7.
102. Raghad Hussein. Abdelkader, et al., *Jordanian Parents' Needs While Their Child is Hospitalized.* Jordan Medical Journal, 2012. **46**(1).
103. Sargent, S.K. and R. Waldman, *The Patient Experience and Safety.* Obstet Gynecol Clin North Am, 2019. **46**(2): p. 199-214.

104. Pediatrics., A.A.o., *Patient- and family-centered care and the pediatrician's role.* Pediatrics, 2012. **129**(2): p. 394-404.

VITA

NAME	Pataraporn Yubonpunt
DATE OF BIRTH	27 December 1984
PLACE OF BIRTH	Roi-Et Province
INSTITUTIONS ATTENDED	Faculty of Public and Environmental Health, Huachiew Chalermprakiet University, Samut Prakan, Thailand
HOME ADDRESS	28/12 Na-Ngam Sub-district Selaphum District Roi-Et 45120
PUBLICATION	1.Pataraporn Yubonpunt, Jadsada Kunno, and Kanchana Rungsihirunrat, "Engagement of Lay Female Caregiver in Promoting Safety for Hospitalized Children at Public Hospitals, Thailand: A Cross-Sectional Study," International Journal of Multidisciplinary Research and Publications (IJMRAP), Volume 3, Issue 1, pp. 49-54, 2020. 2.Proceeding of The 19th International Conference of Public Health Sciences in Collaboration with The 11th Teikyo Harvard Symposium "Contemporary Issues in Public Health" on October 2, 2019 at Mandarin Ballroom, Mandarin Hotel, Bangkok, Thailand 3.Poster Presentation in The 11th International Graduate Students Conference on Population and Public Health Sciences (IGSCPP) On July 14, 2020 (online)