

RESEARCH ARTICLE

Effect of Health Education Intervention about Emergencies on the Knowledge and Ability of Parents in Handling Children with Emergency Condition

Ni Luh Putu Inca Buntari Agustini*, Yustina Ni Putu Yusniawati, Putu Atika Parwati

Nursing Department, Institute Teknologi dan Kesehatan Bali, Bali, Indonesia.

***Corresponding Author:** Ni Luh Putu Inca Buntari Agustini

Abstract

Introduction: Emergency is an unexpected and often dangerous situation requiring immediate action, accurate, and correct action to save lives. Delays in conducting emergency assistance often occur in children, adults and the elderly, where the consequences of the delay are permanent disability and even death. Emergency for children becomes an important concern because children are not used to expressing uncomfortable conditions in an emergency condition. Emergency conditions which often occur in children are febrile convulsion, choking and cardiac arrest. The purpose of this study was to identify the differences in parents' knowledge before and after given education about febrile convulsion, choking, and cardiac resuscitation. **Method:** This research employed Pre-Experiment with One Group Pre-test Post-test design. The sample of this research was 70 parents who have children under five years. The sampling technique was used total sampling technique. Univariate analysis was used to determine the demographic data of respondents. Bivariate analysis was used to determine the differences in parents' knowledge before and after given the education. **Results:** The research revealed that (Febrile convulsion $P 0,000 < \alpha = 0,05$), (Choking $P 0,000 < \alpha = 0,05$), and (Cardiac arrest $P 0,000 < \alpha = 0,05$). **Conclusion:** There is an effect of giving education toward parents' knowledge in handling children with emergency conditions. It is recommended that further activities and training on emergencies should be carried out steadily since emergencies can occur anywhere. So, it is important for parents to know the right guidance.

Keywords: *Emergency, Health education, Febrile seizures, Choking, Cardiac arrest.*

Introduction

An Emergency is a sudden condition that requires a quick, appropriate and correct action to be able to save lives. "*Time saving is live saving*" is a philosophy held by emergency services, which means the safety of lives depend on the timeliness of assistance.

Delays in emergency relief often occur in children, adults and the elderly, where the consequences that can result from delays are permanent disability and even death. In an effort to overcome prehospital delays, it is necessary to have a quick first response from all parties who are aware of emergency events. The community is the part most often dealing with emergencies; however, the community still believes that the assistance

of an emergency is the duty of the health workers. Therefore, this is what makes frequent delays in carrying out emergency relief which results in high casualties [1].

Emergency situation, when occurred in children requires a high concern as children are not accustomed to expressing the conditions of discomfort that are felt even if it is an emergency condition. World Health Organization in 2008 states that more than 2000 children worldwide die every day as a result of unintentional injuries [2]. Data obtained from the American Academy of Pediatrics emergency is most often experienced by children namely choking, febrile convulsion and cardiac arrest.

Choking is a respiratory disorder caused by a blockage in the inner airway, usually caused by food and small toys in children [3, 4]. Febrile seizure is a seizure that occurs when body temperature has increased (rectal temperature) above 38°C is caused by a process in the extra cranium. Cardiac arrest is the cessation of cardiac mechanical activity, this is a clinical diagnosis characterized by loss of consciousness, palpable pulses and breathing stops [2].

The American Academy of Pediatrics (2010) revealed that there were around 17,537 children over the age of 3 who were very dangerous to have choked, 59.5% were related to food, 31.4% were choking due to foreign objects and 9.1% were unknown causes [5]. Incidence in the United States found cases for children aged <1 year by 11.6%, occurred in children aged 1 to 2 years by 36.2% and occurred in children aged 2 years to 4 years by 29.4%.

It is estimated that foreign body choking is responsible for 7% of sudden deaths in children under the age of 4 years. In the United States, one child dies and more than 10,000 children are treated in the emergency unit every five days due to choking on foreign objects. Preliminary studies conducted by researchers after the interview, the results revealed that parents did not know how to handle choking, febrile seizures and cardiac arrest in children.

If parents did not know and did not have the ability to do emergency treatment, it would affect the inability of parents to provide help when the child had an emergency and would have a high impact on death for children [6]. Thus, this study had an effort to reduce those problems by increasing parental knowledge and the ability of parents to deal with febrile seizures, choking and cardiac arrest in children. The aim of this research was to find out the effect of providing health information and training on children's emergencies on the knowledge and ability of parents in managing child emergencies (febrile convulsions, choking, and cardiac arrest).

Method

The research design applied in this study was Pre-Experiment with One Group Pre-test Post-test design. The population of this study was all parents in the village who had children under five years old. The sample inclusion criteria were (1) Parents who attended health education activities at the time the Posyandu was held, (2) Parents who were willing to become respondents by signing an informed consent, (3) Parents who could read and write and were able to communicate well, (4) Parents who have children under ≥ 5 years. Exclusion criteria were as follows: (1) Parents who left the research site when providing emergency information and training took place, (2) Parents who resigned during the process of providing health information and emergency training.

The sampling technique was used total sampling technique. Data collection was done by collecting parents who had children under five during posyandu activities, parents were given informed consent as a sign of agreement to be a research respondent, then after counseling, a post-test was conducted by giving a questionnaire in the handling of choking emergencies, febrile seizures, and cardiac arrest.

Data analysis was performed using SPSS 17. Independent t-test was used to compare the mean value of parental knowledge in emergencies at pre-test and post-test groups. A paired sample t-test was used to compare the mean value of parents' ability to perform emergency actions at pre-test and post-test in groups. Independent t-tests and Chi-square were also used to analyze the demographic characteristics of respondents. The Pearson product-moment correlation was carried out for the test-retest reliability test. Approval and permission to conduct the study obtained from the Provincial Investment Board and research ethics commission (492/UN14.2.2.VII.14/LP/2019).

Results

Table 1: Demographic Data of Respondents

Characteristic	n	%
Age		
20-30 Years	6	8.6
31-40 Years	11	15.7
41-50 Years	32	45.7

Characteristic	n	%
51-60 Years	21	30
Sex		
Female	70	100
Latest Education		
Not Graduated	2	2.9
Primary School	16	22.9
Junior High School	17	24.3
Senior High School	29	41.4
University	6	8.5
Marriage Status		
Married	70	100

A total 70 respondents were included in this study. The majority were female and married and the latest education of the parents mostly was in senior high school 17(41.1%) (See on Table 1)

Table 2: The results of the identification of research variables

Variable	Pre-test (%)	Post-test (%)
Febrile Convulsions		
Good	0	64
Relatively good	21	36
Less	79	0
CPR		
Good	0	67
Relatively good	47	33
Less	53	0
Choking		
Good	0	67
Relatively good	21	33
Less	79	0

Based on the table above, the pre-test score for febrile seizures was obtained, respondents with less score consisted of 55 (79%) respondents, and a sufficient score consisted of 15 (21%) respondents. the febrile seizure post-test results obtained by respondents with a good score consisted of 45 (64%) respondents, and a sufficient score consisted of 25 (36%) respondents. The table above also shows the CPR pre-test score, that is, the respondents who get a less score are 37 (53%)

respondents and the sufficient score is 33 (47%) respondents. CPR post-test scores obtained 47 (67%) of respondents received a good score and 23 (33%) of respondents received a sufficient score. The table above also shows the score of the pre-test choking, respondents who have a less score are 55 (79%) respondents and sufficient score are 15 (21%) respondents. Post-test scores choked, respondents who had good scores are 47 (67%) and sufficient scores are 23 (33%) respondents (See on Table 2).

Table 3: The effect of providing health information and training on children's emergencies

			Post Febrile Convulsions Pre-Febrile Convulsions	Post Cpr Pre Cpr	Choking Post Choking Pre
Z			-7.381 ^a	-7.035 ^a	-7.302 ^a
Asymp. Sig. (2-tailed)			.000	.000	.000
Monte Carlo Sig. (2-tailed)	Sig.		.000	.000	.000
	95% Confidence Interval	Lower Bound	.000	.000	.000
		Upper Bound	.000	.000	.000
Monte Carlo Sig. (1-tailed)	95% Confidence Interval	Lower Bound	.000	.000	.000
		Upper Bound	.000	.000	.000
	Sig.		.000	.000	.000

From the table above the test results obtained $p < 0.05$ where $p = 0.000$ which means that there is an effect of health education on the knowledge of parents in emergency management (febrile convulsions $p = 0.000$, CPR $p = 0.000$, and choking $p = 0.000$) (See on table 3)

Discussion

The Effects of Health Education on Parents' Knowledge about Choking

The results of the study show that there is an influence of health education regarding handling foreign objects choking on parents' knowledge about choking. The significant difference in the average parent's knowledge in this study was strongly influenced by the methods of delivering the material and the method of health education [7,8]. When health education was carried out, it was not only active material providers but parents were also active in answering and giving questions concerning how to handle foreign objects choking on children. Parents' knowledge about handling foreign objects choking on children has increased after being given health education.

Parents agreed that more education at both the related risk of choking and practice to overcome choking is needed [3,4,9,10]. The results of the study showed that there was an influence of health education about handling foreign objects choking on children towards the knowledge of parents about choking. Handling of foreign objects choking was given in order to reduce deaths due to foreign body choking event [11,12].

The Effect of Health Education on Parental Knowledge About Cardio Pulmonary Resuscitation (CPR)

The results of the study show that there is an influence of health education regarding knowledge about CPR. Knowledge could be influenced by several factors, namely education, information/ mass media, social, cultural, economic, environmental and age [13,14]. One of the factors that influence the knowledge of pulmonary resuscitation is information, by getting new information through training. Training is a learning process by carrying out a series of activities in increasing knowledge and skills outside the education system that applies in a relatively short time, so as to be able to have professional performance in their field [15].

Researchers were of the opinion that the knowledge of cardiac pulmonary resuscitation after being given basic life support training with the referral method has increased from ignorance to knowing and being able to do first aid in cardiac

pulmonary resuscitation in drowning victims [16]. Basic life support is very important to maintain the condition of the victim when experiencing cardiac arrest and stopping if not done quickly and precisely can cause death to the victim. This was consistent with the results of the study obtained that there was an increase in the knowledge and ability of parents in performing cardiac pulmonary resuscitation to their children after providing first aid treatment information to the emergency (Rachna *et al.*, 2017; Míguez-Navarro *et al.*, 2018).

The Effect of Health Education on Parental Knowledge about Febrile Convulsions

The results of the study show that health education about febrile convulsions was effective against parental attitudes in handling emergency febrile seizures in children.

Health education is a process in improving health status, by motivating targets so they can behave in accordance with health values. Significant differences in the average parental attitudes in this study are strongly influenced by the methods of delivering the material and methods of health education [18]. When health education is given, it is not only active material providers, but respondents are also active in giving questions and answers concerning how to deal with the emergence of febrile seizures in children.

The attitude of parents about emergency management of febrile convulsions in children experienced a high increase after the provision of health education [19]. This research method used the lecturing method. This method was used to look at the background of targets from various levels of education. The lecture method could help the interaction between parents in delivering or asking about how to deal with the emergence of febrile convulsions in children.

The results of the study showed that health education about febrile convulsions in children was effective with parental attitudes in handling the emergency of febrile convulsions in children. Fever management is intended to prevent injury, reduce body temperature and prevent infection [20].

Parents usually did not know about additional injuries that would occur to their children if they did not know how to properly handle children with febrile convulsions [21]. After providing health education about febrile convulsions parents become aware of the worst effects that would occur to their children if they could not handle or were late in providing help. Providing health education to parents of children influenced the attitude of parents in handling febrile convulsions in children [22].

References

1. Ainiyah N, Ahsan A, Fathoni M (2015) The Factors Associated with The Triage Implementation in Emergency Department. *J. Ners.*, 10(1):147-57.
2. Sminkey L (2008) World report on child injury prevention. *Inj. Prev.*, 14(1):69.
3. Abdullat EM, Ader-Rahman HA, Al Ali R, Hudaib AA (2015) Choking among infants and young children. *Jordan J. Biol. Sci.*, 8(3):205-9.
4. AlQudehy Z (2015) Parental Knowledge of Foreign Body Aspiration: A Comparative Study between Saudis and Other Nations. *J. Otolaryngol. Res.*, 2(1):0-7.
5. Gardner HG, Baum CCR, Dowd MD, Durbin DR, Lichenstein R, Quinlan KP, et al (2010) Policy statement - Prevention of choking among children. *Pediatrics*, 125(3):601-7.
6. Arief YS, Nursalam N, Ugrasena IDG, Devy SR, Savage E (2018) The Development of Model Family-Centered Empowerment on Caring for Children with Leukemia. *J. Ners.*, 13(1):98.
7. Rohman, Nursalam, Sukartini T, Abdullah RA (2019) The relationship between knowledge and spirituality with the prevention behavior of infection transmission in PLWHA. *Indian J Public Heal Res Dev* [Internet]. 10(8):2817-22. Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85073547061&doi=10.5958%2F0976-5506.2019.02300.3&partnerID=40&md5=9cee8b89cc32dc674f37b92d48921d29>
8. Kusnanto, Anggreni YRD, Nimah L, Arifin H (2019) Knowledge and the “magibung” tradition related to the dietary self-management of diabetes mellitus. *Indian J Public Heal Res Dev* [Internet]. 10(8):2595-9. Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85073548406&doi=10.5958%2F0976-5506.2019.02259.9&partnerID=40&md5=d761e676afca1409e7fd30097b55e719>
9. El Seifi OS, Mortada EM, Abdo NM (2018) Effect of community-based intervention on knowledge, attitude, and self-efficacy toward home injuries among Egyptian rural mothers having preschool children. *PLoS One*, 13(6):1-12.
10. Jannah N, Sukartini T, Hidayat AAA (2019) Discharge planning model with approach of method in improving patients' readiness for discharge in hospitals. *Indian J Public Heal Res Dev* [Internet]. 10(1):288-92. Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85062822199&doi=10.5958%2F0976-5506.2019.00057.3&partnerID=40&md5=7fa74a1adaf5599cbb7f34c9fd0fab3>
11. Ozdogan S, Sahin G, Avci O, Duran NB, Atli B, Akinci N, et al (2015) Mothers' Knowledge on Foreign Body Aspiration. *Yeditepe Med J.*, 11(36):935-44.
12. Sonavane R, Kasthuri A, Kiran D (2016) A study to evaluate the effectiveness of first aid training on mothers among under 15 years children in a rural area of South India. *Int J Community Med. Public Heal.*, (December):603-6.
13. Rondhianto, Kusnanto, Melaniani S (2018) The effect of diabetes self-management education, based on the health belief model, on the psychosocial outcome of type 2 diabetic patients in Indonesia. *Indian J.*

Conclusion

There were effects of providing health education to the knowledge of parents in the management of emergency seizures, fever, cardiac arrest, and choking. The research suggests that counseling and training activities on emergencies continue to be carried out on an ongoing basis so that the public is increasingly exposed to emergency handling, given that emergency conditions most often occur outside the hospital (pre hospital).

- Public Heal. Res. Dev. [Internet]. 9(11):1718-23. Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85058189457&doi=10.5958%2F0976-5506.2018.01691.1&partnerID=40&md5=9668cd68074639b7c95daf2825fe1c35>
14. Sukartini T, Theresia Dee TM, Probowati R, Arifin H (2020) Behaviour model for diabetic ulcer prevention. J Diabetes Metab Disord [Internet]. Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85077524044&doi=10.1007%2Fs40200-019-00484-1&partnerID=40&md5=366f854905efc390c4fe177d328a7dc1>
15. Míguez-Navarro C, Ponce-Salas B, Guerrero-Márquez G, Lorente-Romero J, Caballero-Grolimund E, Rivas-García A, et al (2018) The Knowledge of and Attitudes Toward First Aid and Cardiopulmonary Resuscitation Among Parents. J. Pediatr. Nurs., 42:e91-6.
16. Apriyanto Y, Sunarno A (2010) Parameter Teknis Cardio-Pulmonary Resuscitation (CPR) dengan Travelling Time 20, 40, dan 60 Km/Jam. J. Ners., 5(1):21-8.
17. Rachna K, Sheetal V, Parth M, Aashinee M, Abhijeet M, Shailee M, et al (2017) Impact of training on knowledge and attitude regarding first aid among students of schools of Ahmedabad. Natl J Community Med., 8(7):380-4.
18. Karra AKD, Anas MA, Hafid MA, Rahim R (2019) The Difference Between the Conventional Warm Compress and Tepid Sponge Technique Warm Compress in the Body Temperature Changes of Pediatric Patients with Typhoid Fever. J. Ners., 14(3):321-6.
19. Kwak AR, Kim JS (2014) Caregivers' Knowledge, Concerns and Management of Pediatric Febrile Convulsions. Child Heal. Nurs. Res., 20(3):149.
20. Chiabi A, Nguefack S, Monkam RT, Enoh J, Dongmo FN, Bilo'o LL, et al (2018) Practices of mothers towards infant seizures in Yaounde, Cameroon. J. Med. Res., 4(2):102-5.
21. Qomariah SN, Prameswari RD, Astutik Z, Rahayuningrum LM, Twistandayani R, Bakar A (2019) Counseling improves parental attitudes for prevention of dengue hemorrhagic fever (DHF) shock in tropical coastal area. Indian J Public Heal Res Dev [Internet]. 10(8):2671-5. Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85073506927&doi=10.5958%2F0976-5506.2019.02272.1&partnerID=40&md5=f4112107311b869eb0013482a2bc978f>
22. Widodo W, Sumardino S, Rifai A (2017) Competence of the Civil Service Police Unit (CSPU) in providing Emergency First Aid Assistance. J. Ners., 12(2):296-300.