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Analysis of Daycare Center Teacher's Safety Management

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Abstract: This study analyzed performance degree of safety management in nursery facilities targeting nursing teachers who are in charge of childcare for infants and proposed the following alternative. In case of inspection on gas pipeline, hose and safety condition of installation, it was appeared to be deeply related to the type of facility. Suggested improvement plan based on survey results analysis shown in study results is as follows. First, there is a need to acquaint with means of inspection on gas use facilities such as gas pipeline, hose and safety condition of installation. Second, it is necessary to reinforce penalty followed by not conducting regular gas check and to highlight the necessity of regular check in various angles. Lastly, there is a need of regular inspection of convenience facilities for safety such as handles in slopes, anti-sliding device for stairs and stair railings.

Key words: Nursery facility, safety management, teacher, regular gas check, convenience facility for safety

INTRODUCTION

There is a need to notice that children death rate by accident in Republic of Korea is the third highest among OECD nations (Yun, 2016). Assuring the safety of indoor and outdoor environment of nursery facilities where infants spend many time and live ultimately began to be understood as a child's right and duty of nursing teachers and nursing facilities (Ahn, 2006).

In the reality where sense of safety and safety education of nursing facilities are desperately required like this, we can sympathize with high importance of examining actual condition of the current state of inspection on safety done by nursing teachers in charge of nursing infants and of suggesting the following improvement point and direction of child safety education. Therefore, this study will examine sense of safety management in nursery facilities targeting nursing teachers who are in charge of childcare for infants and will propose the following alternative.

Ko (2014) studied and arranged the law related to danger management in nursing facility that appeared in special law about facilities safety management. Kim (2007) suggested actual condition of safety accidents in nursing facilities and its improvement plan targeting teachers in national and private daycare centers in Seoul and Gyeonggi. Kim and Sev (2000) examined various reference and statistics and suggested problems of safety accidents and safety management in nursing facilities and the counterplan. Do *et al*. (2015) suggested development plan for safe nursery and education environment for infants and also suggested about safety management in nursery facilities and kindergartens. Park (2011) examined knowledge about actual condition of safety environment of infant nursing rooms, degree of proficiency of a teacher in charge of infant class in means of managing safety accident and coping methods when safety accident occurs through study on management by teachers followed by experience of infant safety accident in nursing rooms in a daycare center. Lee (2015) stated that sense of safety related to food, transportation, animals and plants, personal relations, drugs, plays, missing and kidnap appeared to be high. However, sense of fire safety and disaster evacuation safety appeared to be low, according to a study on infant safety targeting teachers in nursing facilities in Gyeonggi. Lee and Lee (2006) conducted a research study on practice of safety management in nursing facilities, targeting childcare center managers in Jeonlabuk-do. According to Choi *et al*. (2014), sense of safety and sense of safety knowledge and

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safety education are relatively high among teachers in nursery facilities. As Infant Care Act is constantly revised, specific regulations such as health care, treatment, prevention, meals, safety deduction business, prevention, facilities prepared for emergency disaster and safety management on vehicles are made. Hwang (2005) suggested that in case of safety of nursing facilities and accidents occurring at the facilities at the current state, safety accidents occur followed by structural problems of nursing facilities and equipments, lack of safety device in nursing facilities and problems with physical environment inappropriate for infants.

Through existing studies examined, we can see that importance of management and inspection on physical environment for prevention from safety accidents and accidents, systematic programs for safety education, sense of safety of teachers in charge, etc., are required for general safety management for infants. Therefore, for successful safety management for infants, we can examine from studies concentrated only in a minority of regions the actual condition of safety inspection at current state, targeting teachers in daycare centers in several regions. Then, based on the analysis, we can suggest the significance of this study as a role of research for development of systematic safety management program.

MATERIALS AND METHODS

Targets for this study were daycare center teachers in Seoul, Daejeon, Daegu, Busan, Gwangju, Chungbuk, Gyeongbuk and Gyeongnam. Surveys were conducted via mail. Questionnaire was composed referring to safety inspection at current state table and relevant questions suggested in the study by Yeong-Sun Yoon. Composed survey was edited and supplemented through consultation from 3 safety education experts. The survey is composed of 27 questions about safety inspection and management of daycare centers.

RESULTS AND DISCUSSION

Analysis result: Table 1 shows current state of daycare center's safety inspections. Table 2 shows daycare center's education about safety checks. Table 3 shows no correlation in most items. However, some private daycare centers built before 2005 sit on 1-2 or 2-3 floors or close to restaurants, making gas and pipe installation hard. As proposed by Park (2009), action should be taken fast. Table 4 shows no correlation of safety checks for 6 items by area type.

Table 1: Current state of daycare center's safety inspections: inspections completed

Variables	Frequency	Percent
Electric appliance checks of classroom, etc., before the end of work		
Yes	129	98.5
No	2	1.5
Safety inspections by safety inspection organizations		
Yes	124	96.9
No	4	3.1
The number of times		
Once a month	67	56.8
Once in 3 months	27	22.9
Once in 6 months	12	10.2
Once a year	12	10.2
Never in a year	0	0.0
Gas checks by cooks before the end of work		
Yes	126	97.7
No	3	2.3
Safety checks for installation of gas pipes and hoses		
Yes	122	97.6
No	3	2.4
The number of times		
Once a month	86	72.9
Once in 3 months	28	23.7
Once in 6 months	4	3.4
Once a year	0	0.0
Never in a year	0	0.0
Regular checks by the korea gas safety corporation		
Yes	117	93.6
No	8	6.4
The number of times		
Once a month	65	57.0
Once in 3 months	25	21.9

Table 1: Continue

Variables	Frequency	Percent
Once in 6 months	19	16.7
Once a year	5	4.4
Never in a year	0	0.0
Regular inspections for safety of handrails for slopes		
Yes	98	81.7
No	22	18.3
The number of times		
Once a month	55	47.8
Once in 3 months	38	33.0
Once in 6 months	13	11.3
Once a year	9	7.8
Never in a year	0	0.0

Table 2: Daycare center's education about safety checks: the number of training sessions

Variables	Frequency	Percent
Teaching 'not to put your hand or anything else in an outlet'		
Once a month	99	77.3
Once in 3 months	27	21.1
Once in 6 months	0	0.0
Once a year	2	1.6
Never in a year	0	0.0
Teaching 'not to touch electric products if your hand is wet'		
Once a month	101	78.9
Once in 3 months	23	18.0
Once in 6 months	2	1.6
Once a year	2	1.6
Never in a year	0	0.0
Teaching 'not to touch gas appliances'		
Once a month	93	72.7
Once in 3 months	29	22.7
Once in 6 months	5	3.9
Once a year	1	0.8
Never in a year	0	0.0
Teaching 'not to touch anything that can burn your skin'		
Once a month	102	80.3
Once in 3 months	24	18.9
Once in 6 months	0	0.0
Once a year	1	0.9
Never in a year	0	0.0

Table 3: Correlation analysis of safety checks by institution type: a cross check

		Institution types					
Variables	Types	Company (%)	Private	Home	Total	Q (χ^2/df)	CR (p-value)
Electric devices (before leaving)							
Yes	Frequency	12.0	107.0	8.0	127.0	0.373	0.830
	Type/total	9.4	84.3	6.3	100.0		
No	Frequency	0.0	2.0	0.0	2.0		
	Type/total	0.0	100.0	0.0	100.0		
Total	Frequency	12.0	109.0	8.0	129.0		
	Type/total	9.3	84.5	6.2	100.0		
Safety checks by (professionals)							
Yes	Frequency	12.0	103.0	7.0	122.0	2.698	0.260
	Type/total	9.8	84.4	5.7	100.0		
No	Frequency	0.0	3.0	1.0	4.0		
	Type/total	0.0	75.0	25.0	100.0		
Total	Frequency	12.0	108.0	8.0	126.0		
	Type/total	9.5	84.1	6.3	100.0		
Cook's gas checks (before leaving)							
Yes	Frequency	12.0	104.0	8.0	124.0	0.574	0.750
	Type/total	9.7	83.9	6.5	100.0		
No	Frequency	0.0	3.0	0.0	3.0		
	Type/total	0.0	100.0	0.0	100.0		
Total	Frequency	12.0	107.0	8.0	127.0		
	Type/total	9.4	84.3	6.3	100.0		

Table 3: Continue

Variables	Types	Institution types: Company (%)	Private	Home	Total	Q (χ^2/df)	CR (p-value)
Installation checks (gas pipes/hoses)							
Yes	Frequency	11.0	102.0	7.0	120.0	6.088	0.048
	Type/total	9.2	85.0	5.8	100.0		
No	Frequency	1.0	1.0	1.0	3.0		
	Type/total	33.3	33.3	33.3	100.0		
Total	Frequency	12.0	103.0	8.0	123.0		
	Type/total	9.8	83.7	6.5	100.0		
Regular checks (Gas Safety Corp)							
Yes	Frequency	12.0	97.0	7.0	118.0	1.419	0.492
	Type/total	10.3	83.6	6.0	100.0		
No	Frequency	0.0	6.0	1.0	7.0		
	Type/total	0.0	85.7	14.3	100.0		
Total	Frequency	12.0	103.0	8.0	123.0		
	Type/total	9.8	83.7	6.5	100.0		
Handrail checks (for slopes)							
Yes	Frequency	8.0	86.0	3.0	97	6.298	0.043
	Type/total	8.2	88.7	3.1	100.0		
No	Frequency	4.0	15.0	2.0	21.0		
	Type/total	19.0	71.4	9.5	100.0		
Total	Frequency	12.0	101.0	5.0	118.0		
	Type/total	10.2	85.6	4.2	100.0		

Table 4: Correlation analysis of daycare center's safety checks by area type: a cross check

Variables	Types (%)	Area types: Urban	Rural	Total	Q (χ^2/df)	CR (p-value)
Electric devices (before leaving)						
Yes	Frequency	97.0	31.0	129.0	0.705	0.433
	Type/total	75.9	24.2	100.0		
No	Frequency	1.0	1.0	2.0		
	Type/total	50.0	50.0	100.0		
Total	Frequency	98.0	32.0	130.0		
	Type/total	75.4	24.8	100.0		
Safety checks (by professionals)						
Yes	Frequency	93.0	30.0	123.0	0.01	1.000
	Type/total	75.6	24.4	100.0		
No	Frequency	3.0	1.0	4.0		
	Type/total	75.0	25.0	100.0		
Total	Frequency	96.0	31.0	127.0		
	Type/total	75.6	24.4	100.0		
Cooks' gas checks (before leaving)						
Yes	Frequency	96.0	29.0	125.0	3.016	0.145
	Type/total	76.8	23.2	100.0		
No	Frequency	1.0	2.0	3.0		
	Type/total	33.3	66.7	100.0		
Total	Frequency	97.0	31.0	128.0		
	Type/total	75.8	24.2	100.0		
Installation checks (gas pipes/hoses)						
Yes	Frequency	92.0	29.0	121.0	0.40	0.68
	Type/total	76.0	24.0	100.0		
No	Frequency	2.0	1.0	3.0		
	Type/total	66.7	33.3	100.0		
Total	Frequency	94.0	30.0	124.0		
	Type/total	75.8	24.2	100.0		
Regular checks (Gas Safety Corp)						
Yes	Frequency	88.0	29.0	116.0	0.03	1.000
	Type/total	75.9	24.1	100.0		
No	Frequency	6.0	2.0	8.0		
	Type/total	75.0	25.0	100.0		
Total	Frequency	94.0	30.0	124.0		
	Type/total	75.8	24.2	100.0		
Handrail checks (for slopes)						
Yes	Frequency	72.0	25.0	97.0	1.469	0.77
	Type/total	74.2	25.8	100.0		
No	Frequency	19.0	3.0	22.0		
	Type/total	86.4	13.6	100.0		
Total	Frequency	91.0	28.0	119.0		
	Type/total	76.5	23.5	100.0		

CONCLUSION

This study analyzed the performance degree of safety management targeting teachers working in nursing facilities. The analysis is on whether safety inspection of nursing facilities is held or not and the number of safety education conducted at nursing facilities. Also, it analyzed the correlation of safety inspection depending on type and region of the facilities. Most of the nursing facilities were conducting safety inspection through professional organization along with self-inspection. However, safety condition or inspection on gas pipelines and hose installations, regular inspection by Korea Gas Safety Corporation and regular inspection on dangerous condition of handles in slopes appeared to be relatively insufficient compared to inspection on electric appliances. Also, we could see that most of the nursing facilities regularly conduct safety education for their infants. In case of inspection on safety condition of gas pipelines and installation of hoses, it appeared to be deeply relevant to the type of facility. This is because there are cases which daycare centers are installed with other facilities for different use and operating in case of daycare centers established before the amendment of Infant Care Act in 2005.

The improvement plans suggested based on the analysis of the survey result shown in this study are as follows. First of all, it is necessary to teach how to check facilities using gas (Anonymous, 2004). Second of all, it is necessary to impose penalties on negligence of regular gas inspections and make sure that salience is given to the necessity of regular gas inspections. Finally, it is necessary to carry out regular inspections of facilities for safety and convenience.

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