

## Factors Affecting the Safety Care Practice of Childcare Teachers

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### Abstract

*In this study, an attempt was made to provide basic data for the development of programs that can improve safety care practices in the future by identifying factors that influence childcare teachers' safety care practices. 134 childcare teachers participated, and the survey results were analyzed using SPSS WIN 21.0 statistical program. As a result of this study, there was a significant positive correlation between safety knowledge and attitude. There was no significant correlation with knowledge and safety care practices. It was found that safety attitude had a significant positive correlation with safety care practice.. The factor influencing safety care practice was attitude toward safety, and the explanatory power of the model was 46.1%. In order to improve the level of safety care practices of childcare teachers, a program that can be practically utilized through customized education tailored to the needs of childcare teachers and each field rather than simply imparting knowledge is absolutely essential.*

**Keywords:** Attitude , Care, Childcare Teacher, Knowledge, Safety, Practice

## 1. INTRODUCTION

According to the Ministry of Health and Welfare's 2021 childcare statistics [1], the use of childcare facilities is increasing every year from 53.2% in 2015 to 76.1% in 2021. In the current society, the number of infants and toddlers living in daycare centers is increasing according to changes in the social and family environment, and the time they spend in daycare facilities is naturally longer [2]. Infants and toddlers are easy to be exposed to dangerous situations because they have a tendency to challenge rather than avoid dangerous situations while engaging in egocentric thinking, immersion in the virtual world, or impulsive behavior [3]. As a result, safety accidents are easy to occur, so in order to prevent accidents, it is important to practice safety care by childcare teachers, who are the main care providers. According to data received by the Consumer Risk Monitoring System [4], the number of child safety accidents was 18,494 in 2020, a positive figure, down 25.9% from 24,971 in 2019. However, compared to the total population, the proportion of infants and toddlers is 12.2%, but the number of safety accidents is relatively high at 26.4% [5]. A lot of attention is needed to prevent safety accidents in infants and toddlers. This is because, due to the development of medical technology, the number of deaths due to diseases during infants and toddlers is decreasing, but the deaths due to accidents are relatively high [6]. In addition, according to the current status of safety accident hazard causes, slipping (32.3%), falling (22.4%), and harm caused by food intake (7.2%) rank high [5]. This is because the cause of safety risk is an

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accident that can be prevented in advance through the attention of caregivers around and appropriate preventive actions. Lastly, since infants and toddlers can live with disabilities for the rest of their lives due to accidents that occurred during this period [7], it is necessary to pay much attention to the safety of children and to continuously reduce the incidence. In foreign countries, recognizing the seriousness of these safety accidents in infants and toddlers and the need for preventive policies, countries are cooperating with related experts to activate active preventive measures [6]. In Korea as well, the importance of various institutional policies is being emphasized in order to recognize that childcare teachers' safety practice care behavior is an essential item that they must have and to cultivate related competencies [8]. In order to protect infants and toddlers from safety, it is necessary to improve the physical and institutional environmental factors that cause accidents [6]. As one of the institutional policies for such improvement, childcare facility evaluation and certification was implemented in 2005. It has been proven through previous studies that the childcare facility evaluation and certification system not only improved the quality of service and environmental management, but also improved management capabilities related to safety [9]. So in order to protect infants and toddlers, it is necessary to improve the policy system as well as provide safety education tailored to their accidents. According to Article 31 of the Child Welfare Act, five safety-related educations (prevention of sexual violence and child abuse, prevention and prevention of disappearance and abduction, prevention of misuse of drugs, safety in preparation for disasters, and traffic safety) are regularly provided. It is also written that relevant matters must be reported.

The recent experiences of various safety accidents have brought an opportunity to change the perception of the necessity and importance of inspection and education on the safety system in our society. As a result, it can be seen that the safety awareness of public health teachers, the human resources of daycare centers, has risen significantly [8]. However, if childcare teachers do not practice safety care, safety accidents cannot be prevented even with high safety awareness [10,11].

Therefore, in this study, an attempt was made to provide basic data for the development of programs that can improve safety care practices in the future by identifying factors that influence childcare teachers' safety care practices.

## **2. PURPOSE**

This study was attempted to provide basic data for developing educational programs for childcare teachers by convergence and complex analysis of factors affecting the safety care practices of childcare teachers working in childcare facilities.

The specific goals are as follows.

First, the general characteristics of childcare teachers are identified.

Second, the knowledge, attitude, and level of childcare teachers' safety care practices were identified.

Third, the correlation between knowledge, attitude, and safety care practices of childcare teachers was investigated.

Fourth, factors affecting the safety care practices of childcare teachers were identified.

## **3. RESEARCH METHOD**

### **3.1 Study Design**

This study is a descriptive research study to identify factors that affect the safety care practices of childcare teachers working in childcare facilities.

### 3.2 Study Subject

This study was conducted with childcare teachers working at a public daycare center in S city. The number of subjects in this study was .05 with a significance level of .05 and an effect size (d)=.2 using the G power 3.1.9.2 program. , power (1-  $\beta$ ) of .90, and 7 predictors, the number of subjects required for multiple regression analysis was 128. Considering the dropout rate of 20%, 148 questionnaires were distributed and 139 copies were collected. 134 copies were used for analysis, excluding 6 copies that responded insincerely.

### 3.3 Research Tool

#### 3.3.1 Safety Knowledge

In order to measure the safety knowledge of childcare teachers, the tool used in the study of Eom [11] was used. This questionnaire consisted of a total of 14 questions, and 1 point was given for a correct answer, and 9 points were given for an incorrect answer. The higher the score, the higher the safety knowledge was evaluated. In the study of Eom [11] Cronbach's  $\alpha = .69$ , and in this study, Cronbach's  $\alpha = .72$ .

#### 3.3.2 Safety Attitude

In order to measure the safety attitudes of childcare teachers, the tools used in the study of Eom [11] were used. Scores range from 1 to 5 on a 5-point Likert scale ranging from 1 "not at all" to 5 "always" , with higher scores indicating higher safety attitudes. In the study of Eom [11] Cronbach's  $\alpha = .76$ , and in this study, Cronbach's  $\alpha = .80$ .

#### 3.3.3 Safety Care Practice

In order to measure safety care practices, a tool developed by the Living Health and Safety Coalition [12] was used. With a total of 22 items, the higher the score, the higher the safety care practice score. The reliability at the time of development of the tool was Cronbach's  $\alpha = .80$  and Cronbach's  $\alpha = .79$  in this study.

### 3.4 Data Analysis

The collected data were analyzed using SPSS WIN 21.0 statistical program. Frequency analysis was used to understand the general characteristics of the study subjects, and descriptive statistics were used to understand the subjects' knowledge, attitudes and safety care practices. Pearson correlation analysis was conducted on the correlation between childcare teachers' safety knowledge, attitude, and safety care practice. Multiple regression analysis was performed to identify factors affecting safety care practices.

## 4. RESULT

### 4.1 General Characteristics

The gender of the subjects was 134 (100%) women, and the age of the subjects was 94 (70.14%) under 30 years old. All participants received safety-related training. The area with the highest demand was disaster safety.

Table 1. General characteristics of participants

**Table 1. General Characteristics**

Variables	Categories	N(%)
Gender	Femalen	134(100%)
	Male	0(0%)
Age	Under 30 years	94(70.14%)
	31 ~ 40 years	23(17.42%)
	41 ~ 50 years	17(12.44%)
Safety training experience	Yes	134(100%)
	No	0(0%)
Education need	Life safety	7(4.96%)
	Traffic safety	10(7.46%)
	Vi safety	4(2.98%)
	Drug and Cyber abuse	21(15.67%)
	Disaster safety	45(33.58%)
	Occupational safety	8(2.23%)
	Emergency treatment	39(33.12%)

#### 4.2 Safety Knowledge, Attitude and Safety Care Practices of Childcare Teachers

Table 2 shows childcare teachers' safety knowledge, attitude, and safety care practice scores. As a result, the knowledge about safety was averaged 11.12 points ( $\pm 0.18$ ) out of 14 points, and the attitude was found to be 2.13 points ( $\pm 0.04$ ) out of 5 points on the average of all questions. The safety care practice was 3.86 points ( $\pm 0.41$ ) out of an average of 4 points for all literacy.

**Table 2. Safety Knowledge, Attitude, Safety Care Practice of Childcare Teacher**

Variables	Min	Max	Range	Mean $\pm$ SD
Safety knowledge	6	14	1-14	11.12 $\pm$ 0.18
Safety attitude	1.64	5.0	1-5	2.13 $\pm$ 0.04
Safety care practice	1.86	4.0	1-4	3.86 $\pm$ 0.41

#### 4.3 The Relationship between the Subject's Knowledge, Attitude and Safety Care Practices

Table 3 shows the results of analyzing the relationship between childcare teachers' safety knowledge, attitude, and safety care practices. There was a significant positive correlation between knowledge and attitude about safety ( $r=.18$ ,  $p=.036$ ) and there was no significant correlation with safety care practices ( $r=.10$ ,  $p=.231$ ). Attitude towards safety was found to have a significant positive correlation with safety care practices ( $r=.61$ ,  $p<.001$ )

**Table 3. The Relationship between the Subject's Knowledge, Attitude and Safety Care Practice**

Variables	Safety knowledge r(p)	Safety attitude r(p)	Safety performance r(p)
Safety knowledge	1		
Safety attitude	.18* (.036)	1	
Safety performance	.10 (.231)	.61* (<.001)	1

\* p&lt;.05

#### 4.4 Factors Affecting Safety Care Practice

Table 4 shows the results of multiple regression analysis to identify factors that influence childcare teachers' safety care practices. The independent variable used in the regression analysis was a variable that had a difference in safety performance according to general characteristics and a variable that had a correlation with it. The regression model of this study was statistically significant ( $F=75.00$ ,  $p<.001$ ). The Durbin-Watson value was 2.120, close to 2, and it was confirmed that there was no autocorrelation. VIF) did not exceed 10, confirming that all variables had no problem of multicollinearity. As a result of regression analysis, the independent variable attitude ( $\beta =.605$ ,  $t=8.61$ ,  $p<.001$ ) was found to have a significant effect, and the explanatory power of the model was 46.1%.

**Table 4. Factors Affecting Safety Care Practice**

Variables	B	SE	$\beta$	t	Adj.R2
Constant	1.84	0.27		6.81 (<.001)	.461
Safety attitude	0.57	0.06	0.61	8.61 (<.001)	

Durbin-Watson 2.120,  $F=75.008$ ,  $p<.001$ 

## 5. DISSCUSSION

The purpose of this study is to confirm the knowledge, attitude and level of safety care practices of childcare teachers working in childcare facilities, and to converge and complexly identify factors affecting safety care practices to raise the level of safety management practice ability. It was intended to provide the necessary basic data.

As a result of this study, as for the safety education that childcare teachers working in childcare facilities wanted to receive, education related to disaster safety was the highest at 33.58%. These results are believed to be due to the fact that a lot of various social and natural disasters are occurring in the vicinity, and in particular, the severity of the disaster has increased as we are facing a crisis that has not been experienced before due to COVID-19. These findings are consistent with the research results of Seo & Jung [13] conducted on caregivers. Currently, many experts predict that many social changes will occur before and after COVID-19[14]. To keep pace with these changes, it is thought that direct preventive measures are needed not only at the national level, but also at the national level, as to what preparations and countermeasures should be prepared for nursery teachers who are taking care of infants and toddlers in daycare facilities.

As a result of this study, the safety knowledge of childcare teachers was 11.12 out of 14, and the correct answer rate was 78.571%. Comparing from 2015, when the seven safety standards for childcare facilities were announced, 68% in Eom [11], 64.9% in Bang[15], and 62.55% in Jeong & Sung [6], research conducted before 2015. higher than the results of this study. However, in the study result of Yoon et al [7] 80% was similar to the result of this study. In order to prevent accidents that can occur in infancy and early childhood, the government announced the 7 standard plans for safety education as an intervention, and as a result, the knowledge about safety is improved[16] In line with the government's policy, it is considered necessary to develop a continuous education program that can maintain and improve teachers' safety knowledge scores in childcare facilities.

In this study, the safety attitude of childcare teachers was 2.13 out of 5, which is similar to the 2.12 point of the study by Eom [11]. There are not many previous studies on childcare teachers' safety attitudes, so comparison is limited, but according to the rational behavior theory, a positive attitude change must precede a change in behavior [17]. Therefore, it is thought that it is necessary to develop a program that can positively change attitudes along with the delivery of correct knowledge when planning a program because efforts to change positive attitudes must be preceded for behavior change.

As a result of this study, the childcare teacher's score for safety care practice was 3.86 out of 5. This study result is slightly higher than the study result of Oh et al [18] with 3.44 and Jeong & Sung [6] with 3.41, and similar to the study of Yoon et al [7] with 3.74. According to these research results, it is judged that the time when the government announced the 7 major safety standards was slightly higher than in 2015. In reality, since the main manpower who directly takes care of infants and toddlers is the childcare teacher, the recognition that he is a key person in relation to the ability to perform safety care should be emphasized. Therefore, in addition to the policies currently implemented by the government, a more practical education program that can be directly performed by childcare teachers should be developed, and in particular, it is necessary to develop an education program focusing on practical skills.

In the results of this study, there was a significant correlation between safety knowledge and safety attitude. The results of this study are the same as those of previous studies[11, 19].

In other words, safety accidents in childcare facilities can occur due to various reasons, such as developmental characteristics of infants and toddler, insufficient safety care practice or lack of safety education.

In order to prevent this, it is judged that it can be prevented by raising the level of correct knowledge and positive attitude of childcare teachers and putting it into practice. In the results of this study, there was no significant correlation between safety knowledge and safety care practice. The results of this study are the same as those of previous studies[7,18]. Based on the results of this study and previous studies, it can be seen that knowledge increase is not directly related to behavior change. In other words, it is thought that the importance of patient safety should be emphasized through periodic and systematic education rather than a one-time education program for simple knowledge increase. In the main contents of education for childcare teachers, it is necessary to develop and apply educational methods that can be practically used for the safety of infants and toddlers through more diverse methods rather than repetitive and infusion-type education for simple knowledge transfer. In the results of this study, the factors affecting the safety care practices of childcare teachers were also found to be related to safety attitude with 46.1% explanatory power. Comparison is limited because there are not many previous studies, but it is consistent with the research results Jeong & Seong[6]. No one can deny that one of the essential skills required for childcare teachers, who spend the most time with infants and toddlers in childcare facilities, to protect the safety of infants and young children, is a positive attitude and safe care practice. In the face of this reality, it is now necessary to develop and apply an educational program that can improve their performance rather than discussing their importance. In particular, it should be

recognized that it is difficult to induce a change in attitude in a short period of time during program development[20]. Therefore, it is considered necessary to develop the program under a systematic plan.

## 6. CONCLUSION

As a result of this study, childcare teachers were most interested in disaster-related safety education, and there were significant positive correlations between childcare teachers' safety attitude, safety care practice and safety knowledge and attitude, but safety knowledge and safety care practice had a significant correlation. The factor influencing safety care practice was attitude toward safety, and the explanatory power of the model was 46.1%. In order to improve the level of safety care practices of childcare teachers, a program that can be practically utilized through customized education tailored to the needs of childcare teachers and each field rather than simply imparting knowledge is absolutely essential. Based on the results of this study, for future research, research that can verify the effectiveness as well as development of an educational program suitable for childcare teachers is suggested. In addition, I would like to suggest the development of a customized organizational safety culture for the creation of a safety culture for childcare facilities, and continuous research focused on policy establishment or practice.

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