Original Article

The Effect of Therapeutic Play Training on Communication with Children in Pre-Hospital Emergency Health Services

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Abstract
Playing with a child is one of the easiest and most effective ways to establish communication. However, illness or injury can lead to negative emotions and stress in a child, making it challenging for them to adapt to treatment during pre-hospital care. The use of therapeutic communication and play in pre-hospital settings facilitates the identification of the patient's current conditions, the assessment of identified situations, and the implementation of pre-hospital care approaches based on these evaluations. The paramedic program included 40 students in the first grade and 40 students in the second grade. The second-grade students received 16 hours of theoretical and 16 hours of practical therapeutic play training from a play therapist. The second-grade students who participated in the training applied therapeutic play techniques in communication with children. Then, The Medical Procedure Fear Scale was administered to all students during their internships in emergency services or ambulance settings with children aged 4-9. The data obtained in the research were analyzed using SPSS 22.0 statistical software. Paramedic students who received therapeutic play training and used therapeutic play in communication with children had lower fear scale scores compared to those who did not receive therapeutic play training and did not use therapeutic play in communication with children. The study concluded that gender and the applied field of the scale did not affect the scale scores, while age was identified as an influential factor. The entire healthcare team, especially paramedics working in emergency health services, should have sufficient knowledge, skills, and experience about children's developmental periods, therapeutic play, and its types.

Key Words: Therapeutic play, pre-hospital, emergency care, paramedic

Introduction

Emergency health services constitute a health sector dedicated to minimizing morbidity and mortality resulting from abrupt traumas like illnesses, accidents, and injuries. Accomplished by proficient healthcare professionals, this domain encompasses pre-hospital emergency health interventions, ensuring the secure transportation of patients to the hospital, and encompasses all interventions conducted within the emergency department (Simsek et al., 2019).

Although there is insufficient data on the profile of patients admitted to emergency departments in Turkey, there are various studies conducted in cities and hospitals. For example, in a retrospective study conducted at Van State Hospital, the data of 32,800 patients admitted to the emergency department were evaluated, and it was observed that 23% of these patients were pediatric patients (Kose et al., 2011). In the United States, an average of 322.8 million people apply to the emergency department annually, and 27% are children under 18 (Cottrell et al., 2015). It is even more difficult to obtain these data before the hospital. A study conducted in the field observed that pre-hospital pediatric calls accounted for approximately 10% of all

emergency medical services requests for assistance (Drayna et al., 2015). As observed in the research, encountering pediatric patients in emergency health services is less common than encountering adults. This situation reduces the experience of healthcare workers and makes it difficult for them to gain experience. This inexperienced situation causes stress for healthcare workers. A study conducted with ambulance nurses reported that nurses had less experience caring for children and that this situation caused stressful feelings in them (Nasstrom et al., 2023).

Child care in emergency health services, especially in the pre-hospital ambulance, requires a multifaceted approach to care. The attachment and sensitive communication between the child and the parent also affect emergency workers. Many factors, such as incomplete language development of young children, stress experienced by the child, fear of separation from parents, pain due to acute illness, and trauma, negatively affect the communication between the health worker and the child (Oberg et al., 2015).

In a study conducted by the Pediatric Emergency Care Applied Research Network (PECARN) to develop a pediatric-specific pre-hospital research agenda, the top 10 clinical priorities were (1) airway management, (2) respiratory distress, (3) trauma, (4) asthma, (5) head injury, (6) shock, (7) pain, (8) seizures (9) respiratory arrest, and (10) C-spine immobilization. No priority was given to psychological trauma or communication related to the ambulance environment in the child (Foltin et al., 2010).

It is essential to take a good history to make the correct diagnosis in emergencies encountered with children. The patient's history is taken from the child if the child's age and condition are appropriate (Avan, 2020). Effective communication with the child should be ensured to take a history. There may be fear and uneasiness in the child due to the disease. Healthcare professionals should recognize these fears and provide communication-based on trust.

Playing is one of the most effective ways for children to cope with stressors and establish healthy communication. Because by playing games, children can manage their fears and worries and express themselves more easily (Pekyigit et al., 2021). Freud stated that events or situations that cause discomfort in the child are repeated with play so that the child relaxes and gains control over the situation. Through play, the child establishes his/her world by moving away from real life. According to Freud, play is the child's instincts and emotions that the child reflects outward without realizing it. The child tries to overcome this traumatic situation by reflecting on the traumatic events he/she has experienced in the game and animating them (Inci, 2017). Piaget's play theory is based on cognitive development. For him, play is a way of putting the assimilated information into the system, that is, adaptation. Play is the most appropriate tool for the child to structure knowledge. Play is a form of learning that facilitates the child's adaptation to the outside world, allows him/her to explore his/her environment and communicate with his/her surroundings, and provides the child with new experiences, skills, social roles, and sexual identity. Through play, children learn to use their intelligence, develop a sense of curiosity, explore their environment, acquire knowledge, and make choices. Children acquire basic vital skills that will enable them to survive with the skills they gain through play (Celik Yakar, 2019; Genc & Cakmak Tolan, 2021; Yayan & Zengin, 2018).

Therapeutic play is a play technique that reduces the child's stress and prejudice due to being ill and facilitates coping with this situation (Yigit et al., 2019).

Aim: Our study aimed to examine the effectiveness of therapeutic play training given to paramedic students in communicating with children in emergency health services.

Methods

Type of Study: This study primarily used a descriptive, comparative and relationship-seeking research model. Ethics committee permission for the research was obtained from Gedik University Ethics Committee with the number of E-56365223-050.04-2024.137548.3.

Financial issues: The research is financed within the scope of Gedik University Scientific Research Project.

Population and Sample: No population and

sample selection were made in the study. The study included 40 first-grade and 40 second-grade students in the paramedic program. Second-grade students were given 16 hours of theoretical and 16 hours of applied therapeutic play training by a play therapist. Those students who participated in the training used therapeutic play techniques in communication with children. Students were given a therapeutic play bag. The therapeutic play bag included toys that would not threaten the child's health, could be disinfected, and facilitated the child's self-expression. The toys included a baby (baby bottle, bed) mother-father, girl-boy, grandmother, grandfather figures, authority figures (police, soldier), playhouse and household items (kitchen, table, chair, food), kitchen utensils (fork, spoon, knife, glass), two telephones, puppets (animals; wild and domestic, human figures), animals, trains and airplanes, cars, doctor's equipment, softball, repair tools, cubes for building towers, pencils, paints, paper, toy money, musical instruments, clamps, handcuffs.

Ethics: Permission was obtained from the families of the children, and from the hospital.

Instruments of data collection:

The Medical Procedure Fear Scale, for which permission for use was obtained from the scale developer, was administered by all students to children aged 4-9 years during their internship in the emergency department or ambulance setting. The Medical Procedure Fear Scale (MPFS) was developed by Marion Bloom et al. in 1985 to measure children's fears about medical procedures and applications. Medical fears were addressed as 29 questions. The scale consists of four sub-dimensions. The reliability of the Medical Procedure Fear Scale, the consistency coefficient Cronbach α=0.93 for the whole test, and the validity of the scale was found to be 0.78. The reliability and validity study of the scale in Turkey was conducted by Alak. The total number of questions on the scale was 29; the lowest score was 29, and the highest was 87. The scale is a Likert-type scale with three options. For each item in the scale, the child is asked to choose one of the statements: "not afraid at all" (1), "a little afraid" (2), and "very afraid" (3). A child who scored 0-29 points on the scale was considered not afraid at all; a child who scored between 29-58 points was considered a little afraid; and a child who scored between 58-87 points was considered very afraid.

Statistical analysis: The data obtained in the study were analyzed using SPSS 22.0 statistical software. Descriptive characteristics of the participants were determined using frequency and percentage analyses, and mean and standard deviation statistics were used to examine the scale. The kurtosis and skewness values were analyzed to determine whether the research variables fit the normal distribution. It was not determined that the variables showed normal distribution. Non-parametric methods were used to analyze the data. Mann-Whitney U test was used to examine the differences in scale levels between bivariate groups according to the descriptive characteristics of the employees. Kruskal Wallis test were used for groups with three or more variables.

Results

Descriptive information of the participants is presented in Table 1.The research included 40 (50%) first-grade students and 40 (50%) second-grade students. Therapeutic play education was provided to the second-grade students, while the first-grade students were not included in the training. Of the students, 43 (53.8%) utilized the Medical Procedure Fear Scale in an ambulance, and 37 (46.3%) used it in the emergency department. Among the children assessed with the scale, 22 (27.5%) were 4 years old, 10 (12.5%) were 5 years old, 12 (15%) were 6 years old, 13 (16.3%) were 7 years old, 11 (13.8%) were 8 years old, and 12 (15%) were 9 years old. Out of the children assessed with the scale, 44 (55%) were female, and 36 (45%) were male (Table 1).

Children's Medical Procedure Fear Scale average score was determined to be 51.5125±17.16856 (Min=29; Max=76). The average score for procedural items was 16.4875±4.87825 (Min=9; Max=24), for environmental items was 13.0250±5.69916 (Min=7; Max=21), for personal items was 7.8000±3.39918 (Min=4; Max=12), and for interpersonal items was 14.2000±4.03278 (Min=9; Max=22) (Table 2).

Therapeutic play training was compared in terms of scale scores, revealing a mean rank total score of 20.50 for the group that received

training and 60.50 for the group that did not receive training in children's Medical Procedure Fear Scale. A statistically significant difference was detected between the mean scores of the group that received training and the group that did not receive training ($p<0.05$). The scale scores administered by the group that received training were significantly lower than those administered by the group that did not receive training ($p<0.05$).

When comparing procedural item scale scores based on the receipt of therapeutic play training, the mean rank total score for procedural items in the group that received training was found to be 20.70, while it was 60.30 for the group that did not receive training. A statistically significant difference was observed between the mean scores of the group that received training and the group that did not receive training for procedural item scale scores ($p<0.05$). The procedural item scale scores administered by the group that received training were significantly lower than those administered by the group that did not receive training ($p<0.05$). When comparing environmental item scale scores based on the receipt of therapeutic play training, the mean rank total score for environmental items in the group that received training was found to be 20.50, while it was 60.50 for the group that did not receive training. A statistically significant difference was observed between the mean scores of the group that received training and the group that did not receive training for environmental item scale scores ($p<0.05$). The environmental item scale scores administered by the group that received training were significantly lower than those administered by the group that did not receive training ($p<0.05$).

When comparing personal item scale scores based on the receipt of therapeutic play training, the mean rank total score for personal items in the group that received training was found to be 20.50, while it was 60.50 for the group that did not receive training. A statistically significant difference was observed between the mean scores of the group that received training and the group that did not receive training for personal item scale scores ($p<0.05$). The personal item scale scores administered by the group that received training were significantly lower than those administered by the group that did not receive training ($p<0.05$).

When comparing interpersonal item scale scores based on the receipt of therapeutic play training, the mean rank total score for interpersonal items in the group that received training was found to be 20.90, while it was 60.10 for the group that did not receive training. A statistically significant difference was observed between the mean scores of the group that received training and the group that did not receive training for interpersonal item scale scores ($p<0.05$). The interpersonal item scale scores administered by the group that received training were significantly lower than those administered by the group that did not receive training ($p<0.05$) (Table 3).

When comparing scale scores based on the child's gender, the total mean score for the Medical Procedure Fear Scale applied to female children was found to be 38.70, while for male children, it was 42.69. No statistically significant difference was observed between the averages of scale scores applied to female and male children ($p > 0.05$).

When comparing operational substance scale scores based on the child's gender, the ordinal mean score for the applied scale to female children was found to be 39.19, while for male children, it was 42.10. No statistically significant difference was observed between the averages of operational substance scale scores applied to female and male children ($p > 0.05$).

When comparing environmental substance scale scores based on the child's gender, the ordinal mean score for the applied scale to female children was found to be 37.73, while for male children, it was 43.89. No statistically significant difference was observed between the averages of environmental substance scale scores applied to female and male children ($p > 0.05$).

When comparing personal substance scale scores based on the child's gender, the ordinal mean score for the applied scale to female children was found to be 37.10, while for male children, it was 44.65. No statistically significant difference was observed between the averages of personal substance scale

scores applied to female and male children ($p > 0.05$).

When comparing interpersonal substance scale scores based on the child's gender, the ordinal mean score for the applied scale to female children was found to be 39.33, while for male children, it was 41.99. No statistically significant difference was observed between the averages of interpersonal substance scale scores applied to female and male children ($p > 0.05$) (Table 4).

When comparing scale scores based on the child's age, statistically significant differences were found in the averages of total scale scores and operational substance scores ($p < 0.05$). It is observed that as the child's age increases, the scores obtained from the scale decrease. However, when comparing environmental substance, personal substance, and interpersonal substance scale scores based on the child's age, no statistically significant differences were found in the mean scale scores ($p > 0.05$) (Table 5).

When comparing scale scores based on the administered field of the scale, no statistically significant differences were found in the mean scores of total scale scores, operational substance, environmental substance, personal substance, and interpersonal substance scores ($p > 0.05$) (Table 6).

Table 1. Descriptive Characteristics

Groups	Frequancy(n)	Percent (%)
The Students' Grade		
1st grade	40	50
2nd grade	40	50
Status of receiving therapeutic play training		
Yes	40	50
No	40	50
Where the scale is applied		
Ambulance	43	53.8
Emergency Department	37	46.3
Age of the child to whom the scale is applied		
4	22	27.5
5	10	12.5
6	12	15
7	13	16.3
8	11	13.8
9	12	15
Gender of the Child to whom the Scale is Applied		
Girl	44	55
Boy	36	45

Table 2. Children's Medical Procedure Fear Scale Score Averages

	N	Mean	Sd	Min.	Max.	Kurtosis	Skewness
MPFS Total	80	51.5125	17.16856	29.00	76.00	-1.819	0.070
Transactional	80	16.4875	4.87825	9.00	24.00	-1.503	-0.075
Environmental	80	13.0250	5.69916	7.00	21.00	-1.801	0.126
Personal	80	7.8000	3.39918	4.00	12.00	-1.853	0.023
Interpersonal	80	14.2000	4.03278	9.00	22.00	-1.275	0.284

Table 3. Comparison of Scale Scores According to the Status of Receiving Therapeutic Game Training

Scale and sub-dimensions	Status of Receiving Therapeutic Play Training	N	Rank Average	U	p
MPFS Total	No	40	60.50		
	Yes	40	20.50	0.000	0.000
	Total	80			
Transactional	No	40	60.30		
	Yes	40	20.70	8.000	0.000
	Total	80			
Environmental	No	40	60.50		
	Yes	40	20.50	0.000	0.000
	Total	80			
Personal	No	40	60.50		
	Yes	40	20.50	0.000	0.000
	Total	80			
Interpersonal	No	40	60.10		
	Yes	40	20.90	16.000	0.000
	Total	80			

Table 4. Comparison of Scale Scores According to the Gender of Children to whom the Scale is Applied

Scale and sub-dimensions	Child's gender	N	Rank Average	U	p
MPFS Total	Girl	44	38.70		
	Boy	36	42.69	713.000	0.444

	Total	80			
Transactional	Girl	44	39.19		
	Boy	36	42.10	734.500	0.577
	Total	80			
Environmental	Girl	44	37.73		
	Boy	36	43.89	670.000	0.227
	Total	80			
Personal	Girl	44	37.10		
	Boy	36	44.65	642.500	0.138
	Total	80			
Interpersonal	Girl	44	39.33		
	Boy	36	41.93	740.500	0.617
	Total	80			

Table 5. Comparison of Scale Scores According to the Age of the Children to whom the Scale was Applied

Scale and sub-dimensions	Child's age	N	Rank Average	x^2	p
MPFS Total	4	22	55.82		
	5	10	52.30		
	6	12	41.79	23.997	0.000
	7	13	30.46		
	8	11	24.77		
	9	12	26.58		
	Total	80			
Transactional	4	22	56.73		
	5	10	52.75		
	6	12	43.38	27.962	0.000
	7	13	28.96		
	8	11	22.59		
	9	12	26.58		
	Total	80			
Environmental	4	22	50.61		
	5	10	48.85		
	6	12	38.79		
	7	13	32.12	10.207	0.070
	8	11	33.00		

	9	12	32.67		
	Total	80			
Personal	4	22	46.48		
	5	10	47.85		
	6	12	44.21		
	7	13	36.04	6.712	0.243
	8	11	30.00		
	9	12	34.17		
	Total	80			
Interpersonal	4	22	51.61		
	5	10	45.35		
	6	12	40.13	10.783	0.56
	7	13	37.19		
	8	11	31.50		
	9	12	28.29		
	Total	80			

Table 6. Comparison of Scale Scores According to the Area Used by the Scale

Scale and sub-dimensions	Where is the Scale Applied?	N	Rank Average	U	p
MPFS Total	Ambulance	43	40.45		
	Emergency department	37	40.55	793.500	0.985
	Total	80			
Transactional	Ambulance	43	39.35		
	Emergency department	37	41.84	746.000	0.631
	Total	80			
Environmental	Ambulance	43	39.91		
	Emergency department	37	41.09	773.500	0.828
	Total	80			
Personal	Ambulance	43	41.34		
	Emergency department	37	39.53	759.500	0.722
	Total	80			
Interpersonal	Ambulance	43	40.73		
	Emergency department	37	40.23	785.500	0.923
	Total	80			

Discussion

The study findings were discussed with studies of other professionals since there is no study in the literature evaluating the effectiveness of the therapeutic game used by paramedics.

In this study, the fear scale scores of paramedic students who received therapeutic play training and used therapeutic play in communication with children were lower than those of paramedic students who did not receive therapeutic play training and did not use therapeutic play in communication with children. When the literature was examined in a study, the effect of the training given by using clowns in a hospital environment on the anxiety levels of children and parents in the preoperative period was examined, and the mean scores of children and parents on the anxiety scale before and after the clown visit changed significantly (Teksoz & Ocakci, 2014). A study examining the effect of preoperative therapeutic play on fear and anxiety levels in play-age children found that children in the therapeutic play group experienced less fear than children in the non-play group (Celik Burcu).

Similarly, in other studies, it has been stated that the application of therapeutic play in children reduces the level of fear (Tural, 2012; Coskunturk & Gozen, 2018; Derleyen, 2018). In an experimental study conducted with 60 preschool children, it was found that play dough consisting of a dentist set had a reducing effect on dental fear (Uluisik, 2019). In a randomized controlled study conducted with 60 children in the 8-12 age group who applied to the hospital for circumcision surgery, it was found that therapeutic play applied before the surgical operation was effective in reducing anxiety and fear related to the procedure (Ayhan, 2019). In the literature, it is reported that play is an effective method to reduce anxiety, fear, and negative emotions of sick children, contributes to their recovery by relaxing children both physically and emotionally, enables children to express their feelings and knowledge about their illness, facilitates communication between the child and the health worker, and is, therefore, necessary to provide holistic and quality care (Caleffi et al., 2016; Li et al., 2016; Godino-Iáñez et al., 2020). Many studies support the findings of this study. It has been reported that play activities with sick children are effective in reducing anxiety, fear, and stress (Tural, 2012; Li et al., 2016; Silva et al., 2017; Coskunturk & Gozen, 2018; Derleyen, 2018). Therapeutic communication and play give hope to the child and increase the child's ability to cope with stress. From this point of view, therapeutic play has an important role in establishing healthy communication with children; as a result, forming a sense of trust in the child has an important place in the child's compliance with the treatment.

In this study, the scores of paramedic students who received therapeutic play training and used therapeutic play in communication with children in all sub-dimensions of the fear scale were lower than those of paramedic students who did not receive therapeutic play training and did not use therapeutic play in communication with children. In a study with similar results to this study, when the mean scores obtained from the sub-dimensions of the medical procedure fear scale were compared between children with and without therapeutic play, significant results were found in all sub-dimensions of the scale. The scale sub-dimension scores of the children in the therapeutic play group were found to be lower (Demirel, 2017). Another study reported that while there was a significant difference between the mean scores of procedural fear, personal fear, and interpersonal fear, the mean scores of environmental fear did not change. This was associated with the lack of therapeutic play (Ataman, 2006).

In this study, no significant difference was found in the scale subscale mean scores and total scale scores according to the gender of the child to whom the scale was applied. When the literature was examined, it was explained in one study that there was no statistically significant difference between the groups when the scores of the children according to gender were compared between the groups and that the use of therapeutic play was effective in reducing anxiety during needle procedures in both genders (Isler, 2022). Another study explained that there was no statistically significant difference between the Therapeutic Play Group and the Routine Treatment Group in girls and boys when the

mean Child Fear Scale score differences were examined according to gender (Kirkan, 2022). In another similar study, it was observed that there was no significant difference between the mean anxiety scores of the experimental and control groups according to gender (Yanik, Ayyildiz, 2019). In this study, similar to the literature, no significant relationship was found between gender and children's fear of medical procedure scores.

In this study, it was observed that as the child's age increased, the scale score decreased. Foxman reported that there was a difference between the fears of younger children and older children (Foxman, 2004). In a study in which therapeutic play was used, no statistically significant difference was found between the Therapeutic Play Group and the Routine Treatment Group in the 3-5 and 6-8 age groups (Kirkan, 2022). In contrast to our study, in a study conducted with children aged 3-6 years receiving nebulizer treatment, when the findings of the age, gender, diagnosis, use of nebulizer at home, and duration of use were evaluated, it was observed that the groups were similar in terms of the ages of the children in the experimental and control groups and there was no statistical difference (Yanik & Ayyildiz, 2019). In a study evaluating the effect of toys on fear and anxiety about vascular access in children, it was found that the groups were similar regarding sociodemographic characteristics when compared to the experimental and control groups (Karaca, 2019).

In this study, when the scale scores were compared depending on the area in which the scale was administered, no statistically significant difference was found between the mean scores of the scale total scores and the scale transactional item, environmental item, personal item, and interpersonal item scores. There is no study in the literature to discuss this finding. However, it is known that ambulances and emergency rooms of hospitals are more frightening, scary, and stressful areas for children than other areas of hospitals. When a child gets sick, is restricted, and stays in an ambulance, which is a foreign environment, it may cause the child to feel violence, anger, irritability, loss of control, anxiety, and stress. Healthy communication and play in the ambulance environment are key for the sick child to feel trust and to express his/her feelings. In this case, the concept of therapeutic play comes to the fore (Avan, 2020).

Conclusion: Therapeutic play is considered an effective method to improve the quality of treatment and care in emergency health services and facilitate health service delivery. For children receiving emergency healthcare services, play has benefits such as allowing the child to relax and calm down helping to reduce the stress caused by the ambulance and emergency service environment. In addition to these, it also has benefits such as making the child feel safe in environments where the child has not been before, allowing the child to make choices and keep control in situations related to him/herself, helping the child learn and prepare for interventions in the field of emergency health services. The entire healthcare team, especially paramedics working in emergency health services, should have sufficient knowledge, skills, and experience about children's developmental periods, therapeutic play, and its types. In their interventions, they should include therapeutic play, which is an important technique in providing effective communication with the child.

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