

Characteristics of Child Abuse Cases Referred to a Hospital-Based Child Protection Teams in Korea and the Role of Psychiatric Intervention

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Purpose: Child protection teams (CPTs) have been implemented in hospital settings to effectively intervene in cases of child abuse. We investigated the changes in child abuse reporting rates and examined whether there was an increase in follow-up psychiatric outpatient visits. Furthermore, we aimed to identify the characteristics of children referred to CPTs and the factors that significantly influenced psychiatric outpatient visits.

Materials and Methods: We retrospectively reviewed cases of patients under 18 years old who were referred to the CPT from 2014 to 2021. We examined the demographic and clinical characteristics of the abused children, reporting rates, and linkage to psychiatric outpatient visits.

Results: This study included 108 child abuse cases. The average age was 7.3 years, with the highest incidence among adolescents (40.7%) and infants & toddlers (39.8%). Physical abuse was the most common abuse type (75.9%). In the infant & toddler group, the injuries resulting from abuse were more severe compared to other groups. There was a significant increase in both the number of child abuse interventions and reports to the National Child Protection Agency ($p < 0.01$). However, psychiatric outpatient visits did not increase proportionally. Psychiatric intervention within the CPT was a significant predictor of subsequent psychiatric outpatient visits (odds ratio=17.985, $p=0.006$).

Conclusion: CPTs have enhanced the reporting and management of child abuse cases in Korean hospitals. Psychiatric intervention within CPT plays a crucial role for subsequent psychiatric outpatient visits. Since the infant and toddler group is more vulnerable to severe injuries, psychiatric intervention within the CPT should be conducted for all age groups.

Key Words: Child abuse, psychiatric emergency services, child protective services

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INTRODUCTION

Since the enactment of the Act on Special Cases concerning the Punishment of Child Abuse Crimes in 2014, the number of child abuse reports has surged from 17791 in 2014 to 53932 in 2021 in Korea. However, the reporting rate among those obligated to report child abuse remains at a mere 28.2%, considerably lower compared to 58% in the United States and 68% in Japan.^{1,2} Notably, medical staff have contributed to only 1% of all reports in the past 5 years.² This is significantly lower compared to the 12.2% reporting rate by medical personnel in the United States in 2021.³ Particularly, since abused children may

visit the hospital for injuries resulting from abuse, a hospital visit can provide an opportunity to identify child abuse. Therefore, the low reporting rate of 1% by medical staff poses a significant challenge in the early detection and intervention of child abuse cases.

To address this issue, 62 hospitals in South Korea have established hospital child protection teams (CPTs) to safeguard children from abuse or neglect by receiving reports of suspected abuse or neglect, conducting investigations, and intervening as necessary.⁴ However, in the 2020 Korean government audit, a survey of the 62 hospitals operating CPTs revealed that only 39 were actively functioning, and child abuse was still inadequately reported by medical staff.⁵ There were few studies providing specific descriptive data or assessing the effectiveness of CPTs. Previous studies have explored the demographic information of the victims, types of abuse, and characteristics of the perpetrators involved in CPT interventions.^{4,6-13} Choi, et al.⁹ analyzed a total of 47 abuse victims referred to the CPT, revealing that the age group of 13 years and older was the most prevalent, with physical abuse being the most common form of abuse. Furthermore, Choi, et al.¹⁰ investigated the specific types of physical abuse, revealing that superficial injuries, such as bruises and hematomas, account for approximately 80% of the cases.

In Korea, children who have experienced abuse are referred to the National Child Protection Agency (NCPA) after undergoing CPT assessments. Ha, et al.¹⁴ conducted the Kiddie-Schedule for Affective Disorders and Schizophrenia-Present and Lifetime Version-Korean Version (K-SADS-PL-K) on 62 abused children referred to the NCPA, demonstrating that 50.8% of them had psychiatric disorders. This emphasizes the necessity of psychiatric intervention for abused children. A considerable proportion of childhood psychiatric disorders are linked to child abuse,¹⁴⁻¹⁸ and children with mood disorders who have endured child abuse exhibit an earlier onset, more frequent relapses, higher morbidity, and increased instances of suicidal thoughts and attempts.^{19,20} Given these findings that emphasize the connection between child abuse and psychiatric issues,^{14,21,22} it is crucial to examine the implementation of psychiatric interventions within the CPT. Moreover, for psychiatric problems stemming from abuse, evidence-based treatments (i.e., parenting education, parent-child interaction therapy, and two-generation care) can be effectively administered in psychiatric outpatient settings.²³⁻²⁶ Hence, it is essential to investigate whether the abused child receives psychiatric outpatient treatment after CPT intervention.

Therefore, the primary aim of our study was to enhance previous research by characterizing the general profiles of abused children referred to a CPT. Second, we aimed to evaluate the effectiveness of the CPT by analyzing the reporting rates and trends in referrals to both NCPA and psychiatry outpatient clinics. Third, we aimed to investigate whether the subjects of the CPT were adequately connected with the psychiatry out-

patient clinic. Additionally, we identified factors contributing to dropout from follow-up psychiatric outpatient visits. We hypothesized that the group that received psychiatric interventions within the CPT framework was more likely to be directed to the psychiatric outpatient clinic.

MATERIALS AND METHODS

Study population and procedure

This study involved a retrospective review of medical charts conducted by a tertiary university hospital in Seoul, Korea. In the context of our study, child abuse was defined as any recent act or failure to act by a parent or caretaker that results in death, serious physical or emotional harm, sexual abuse or exploitation; or an act or failure to act that presents an imminent risk of serious harm.²⁷ We categorized child abuse into physical abuse, emotional abuse, sexual abuse, neglect, and multiple types, in accordance with the regulations stipulated by the NCPA.^{1,2} Our study encompassed subjects aged 18 years and younger who were referred to and intervened by the CPT via the emergency room, outpatient department, and ward at a tertiary hospital in Seoul from March 2014 to November 2021. We excluded cases where the occurrence of abuse was uncertain due to insufficient data collected. This study received approval from the Institutional Review Board of Severance Hospital, Yonsei University College of Medicine, and the requirement for informed consent was waived due to the retrospective nature of the study (IRB number; 4-2021-1368).

CPT

The CPT, known as Stop Abuse for Everyone (SAFE), was established as a permanent organization at a tertiary university hospital, Yonsei University Health System, in 2010 and has been in operation since 2014. The team comprised staff from related departments (i.e., family medicine, psychiatry, urology, pediatrics, obstetrics and gynecology, neurosurgery, ophthalmology, surgery, pediatric orthopedic surgery, medical records team, legal team, social work team, PR team, hospital administration department, and nursing team). When a patient with suspected abuse is identified, the medical staff activate the in-hospital CPT. Additionally, reports are made to the police. Through collaborative consultations, a medical evaluation is conducted for injuries related to abuse, while a social worker simultaneously performs psychosocial assessment. Psychiatrists interview the abuse victim and the caregiver to assess factors related to the abuse and stabilize the victim in case medical staffs or social workers request consultations. Once the victim's safety is ensured, they are discharged.

Methods

Two pediatric psychiatrists thoroughly reviewed the charts of individuals intervened upon by the CPTs from March 23, 2014,

to November 12, 2021. To understand the effectiveness and impact of the CPT, we conducted a time-series analysis. This analysis tracked the changes in the total number of cases managed by the CPT, the frequency of abuse reports made by medical staff, and the count of cases referred for the psychiatric outpatient clinic. We scrutinized the trends in these three aspects over time, seeking to understand the underlying reasons for these differences. We aimed to statistically clarify the impact of variables expected to influence psychiatric outpatient visits.

The cases were then categorized into four age groups according to their developmental stage: infant & toddler (0–2 years old), preschooler (3–6 years old), school-age child (7–11 years old), and adolescent (12–18 years old). We investigated the gender, psychiatric history, presence of developmental disorders among children-adolescents who experienced abuse, types of abuse, and offenders, based on their age. Also, we divided the participants into two groups: those who received psychiatric intervention in the CPT and those who did not. We analyzed the sociodemographic and clinical differences between the two groups. After CPT interventions, we conducted a chart review to understand the reasons for the loss of follow-up with our hospital's psychiatric outpatient department.

Statistical analysis

To investigate the clinical characteristics of abused children based on age and differences in clinical features according to psychiatric intervention within the CPTs, we utilized the chi-square test or Fisher's exact test. For time-series analysis, we conducted a simple regression analysis on the annual differences in the number of individuals intervened by CPTs, the number of individuals reported to NCPA, and the number of individuals visiting psychiatric outpatient departments. To examine the variables influencing psychiatric outpatient visits, we employed logistic regression analysis. We considered a p value less than

0.05 to be statistically significant. All statistical analyses were conducted using SPSS software (version 26.0, IBM Corp., Armonk, NY, USA).

RESULTS

Demographic and clinical characteristics

During the study period, 245 cases were identified via CPT records. Of these, 134 cases were excluded due to the subjects being over 18 years old. Furthermore, three cases were excluded due to incomplete data (uncertainty of being abused, lack of sufficient information). Consequently, 108 children were included in the study, constituting 44.1% of the total 245 cases. The mean age of the subjects was 7.3 years. The incidence was highest in adolescent group ($n=44$, 40.7%), followed by infant & toddler ($n=43$, 39.8%), preschooler ($n=13$, 12.0%), and school-age child ($n=8$, 7.41%) groups (Table 1). There was an equal distribution of genders, with 54 females (50.0%) and 54 males (50.0%). The majority of abuse was offended by parents ($n=86$, 79.6%), non-parental caregiver ($n=7$, 6.5%) and non-caregiver ($n=15$, 13.9%), with no significant difference by age group. Furthermore, among the offenders who were parents, there were 38 cases of abuse by fathers, 24 by mothers, and 24 by both parents.

The most common type of abuse was physical abuse ($n=82$, 75.9%), followed by neglect ($n=12$, 11.1%), sexual abuse ($n=9$, 8.3%), and multiple types of abuse ($n=5$, 4.6%). No cases were classified solely as emotional abuse. However, emotional abuse was accompanied by other types of abuse and was classified as multiple abuse. When analyzing the differences in types of abuse by age group, physical abuse was primarily observed in the infant & toddler and adolescent groups. Neglect, mainly in the form of medical neglect, was predominantly reported in the

Table 1. General Characteristics by Age Group ($n=108$)

Variables	Total ($n=108$)	0–2 year ($n=43$)	3–6 year ($n=13$)	7–11 year ($n=8$)	12–18 year ($n=44$)	p
Gender						0.263
Female	54 (50.0)	18 (33.3)	6 (11.1)	3 (5.6)	27 (50.0)	
Male	54 (50.0)	25 (46.3)	7 (13.0)	5 (9.3)	17 (31.5)	
Type of abuse						0.048*
Physical	82 (75.9)	33 (40.2)	10 (12.2)	7 (8.5)	32 (39.0)	
Sexual	9 (8.3)	1 (11.1)	2 (22.2)	0 (0.0)	6 (66.7)	
Neglect	12 (11.1)	9 (75.0)	1 (8.3)	0 (0.0)	2 (16.7)	
Multiple	5 (4.6)	0 (0.0)	0 (0.0)	1 (20.0)	4 (80.0)	
Abuse perpetrator						0.109
Parents	86 (79.6)	36 (41.9)	10 (11.6)	6 (7.0)	34 (39.5)	
Non-parental caregivers	7 (6.5)	5 (71.4)	1 (14.3)	1 (14.3)	0 (0.0)	
Non-caregivers	15 (13.9)	2 (13.3)	2 (13.3)	1 (6.7)	10 (66.7)	
Psychiatric illness history	18 (16.6)	0 (0.0)	4 (22.2)	2 (11.1)	12 (66.7)	<0.001
Neurodevelopmental disease	9 (8.3)	0 (0.0)	1 (11.1)	2 (22.2)	6 (66.7)	0.015

Data are presented as n (%).

* $p<0.05$, in Fisher's exact test.

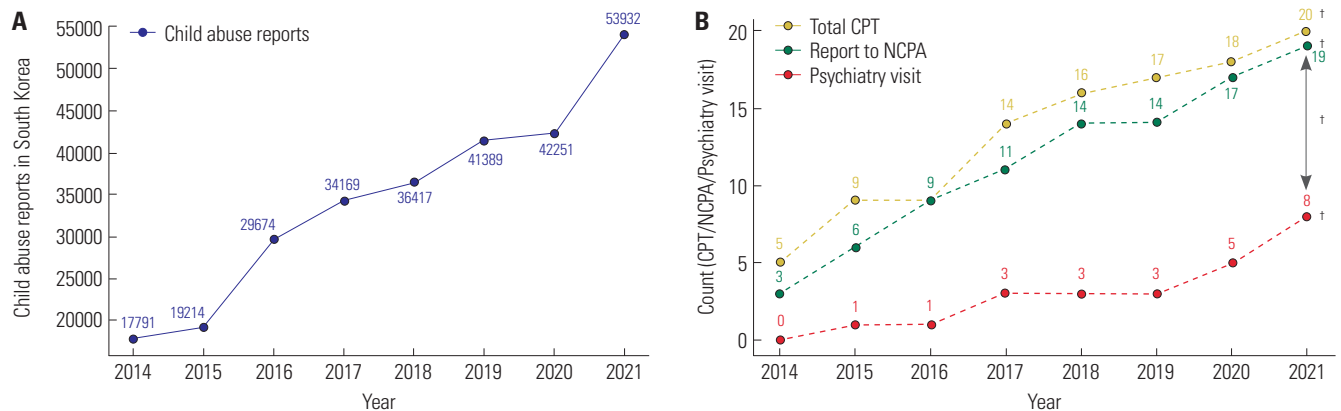


Fig. 1. The left graph (A) illustrates the annual number of child abuse reports in South Korea from 2014 to 2021, showing a steady increase over time. The right graph (B) presents the trends in total child protection team (CPT) referrals, reports to the National Child Protection Agency (NCPA), and psychiatry outpatient visits during the same period. The data indicate a rise in all three categories, with a particularly significant gap between CPT referral and psychiatry outpatient visits following CPT intervention. $^{\dagger}p<0.01$, in simple regression analysis test.

infant & toddler group. The main reasons for referrals to the CPT due to physical abuse were skin injuries, such as contusions and abrasions. In the infant & toddler group, the injuries resulting from abuse were more severe, with numerous instances of cerebral hemorrhage and fractures. Five individuals died after CPT intervention, and among them, four belonged to the infant & toddler group; three died due to medical neglect, while one died from a traumatic brain hemorrhage. In the adolescent group, although there were many instances of abuse in the head region, these were mostly concussions and not as severe as those in the infant & toddler group. Eight cases showed no significant physical damage, but physical abuse was revealed after taking a comprehensive history, prompted by their unusual behavior (i.e., psychomotor agitation, clinging to mother, drug intoxication, restricted mood and affect, and irritability).

Analysis of interventions made by CPT

After the initiation of CPT, there was a significant increase in the number of child abuse interventions carried out by the CPT ($p<0.01$) (Fig. 1). Similarly, the number of child abuse reports made to the NCPA by the CPT also saw a significant increase ($p<0.01$). However, there was only a slight increase in psychiatric outpatient visits among the subjects of abuse. Over time, the gap between the number of reports and psychiatric outpatient visits significantly widened ($p<0.01$).

Among those referred to the CPT, a total of 70 (64.8%) received a psychiatric intervention as a part of the CPT, and a total of 98 (90.7%) were reported to the NCPA. To investigate factors that might influence psychiatric outpatient visits, we performed logistic regression with the main interventions implemented by CPT, namely “psychiatric intervention” and “reporting to National Child Protection Agency,” as independent factors (Table 2). We found that “psychiatric intervention” was a significant independent variable [odds ratio (OR)=17.985, $p=0.006$]. Among the 70 cases with psychiatric intervention, 23 individuals had outpatient follow-up visits; however, among the 38

Table 2. Logistic Regression Analysis of Factors Associated with Psychiatric Outpatient Visit

Variable	OR	β (95% CI)	<i>p</i>
Psychiatric intervention	17.985	2.890 (2.314–139.760)	0.006*
Declaration to police and/or child protection agency	1.697	0.529 (0.600–4.797)	0.319

OR, odds ratio; CI, confidence interval.

* $p<0.05$.

cases without psychiatric intervention, psychiatric follow-up visit occurred in only one case.

When comparing the sociodemographic and clinical variables between the group with psychiatric intervention and the group without, significant differences were observed in the age group of the abused child ($p<0.001$), the perpetrator ($p=0.041$), whether the person who activated the CPT was a medical doctor ($p<0.001$), and the presence of a psychiatric history ($p=0.019$). In cases without psychiatric intervention, the age group of 0–2 years was more prevalent, with a higher occurrence of both parents as perpetrators. Furthermore, the presence of psychiatric history was significantly lower (Table 3).

For the 84 individuals who did not attend a follow-up psychiatric outpatient visit, we conducted a chart review to ascertain the reasons (Table 4). We were able to determine the reason for all but three individuals. The most common reason was referral to an outside center or hospital, accounting for 23 cases (27%), followed by intervention by a specialized child protection agency in 22 cases, and referral to a sexual assault victim integration support center in one case. The second most common reason was insufficient evidence of abuse, accounting for 17 patients (20%). This category included cases where the initial assessment in the emergency department raised suspicion of physical or emotional abuse or neglect, but no further intervention was carried out due to the lack of clear evidence. Refusal of psychiatric care was another reason, with 13 instances by patients

Table 3. Clinical Characteristics by Psychiatric Intervention at CPT Activation

Variables	Total (n=108)	Psychiatric intervention (n=70)	Non-psychiatric intervention (n=38)	χ^2 /Fisher's exact test (p)
Gender				0.650 (0.42)
Female	54	37	17	
Male	54	33	21	
Age				33.117 [†] (<0.001*)
0–2 year	43	14	29	
3–6 year	13	11	2	
7–11 year	8	6	2	
12–18 year	44	39	5	
Type of abuse				5.979 [†] (0.097)
Physical	82	55	27	
Sexual	9	7	2	
Neglect	12	4	8	
Multiple	5	4	1	
Abuse perpetrator				8.238 (0.041*)
Father only	38	29	9	
Mother only	24	17	7	
Parents	24	10	14	
Others	22	14	8	
Reporter				25.729 (<0.001*)
Medical doctor	38	33	5	
Others	20	4	16	
Unknown	50	33	17	
Psychiatric illness history				5.489 (0.019*)
Yes	18	16	2	
No	90	54	36	
Neurodevelopmental disease history				2.495 (0.156)
Yes	9	8	1	
No	99	62	37	
Psychiatric outpatient clinic visit				13.019 (<0.001*)
Yes	24	23	1	
No	84	47	37	

CPT, child protection team.

* $p < 0.05$, chi-square test used unless otherwise noted; [†]Fisher's exact test used.**Table 4.** Reasons for Dropout from Follow-Up Psychiatry Outpatient Clinic (n=84)

	Value
Out-of-hospital intervention*	23 (27.3)
Insufficient evidence of abuse	17 (20.2)
Child abuse not applicable	14 (16)
Patient refusal of care	13 (15.4)
Parental refusal to care	10 (11.9)
Death of a patient	5 (5.95)
Unknown	3 (3.57)

NPCA, National Child Protection Agency.

Data are presented as n (%).

*Out-of-hospital intervention: referral to NPCA or outside hospital.

and 10 by guardians, totaling 23 cases (27%).

DISCUSSION

Our study involved a total of 108 pediatric patients who visited a tertiary university hospital and were referred to the in-hospital CPT due to suspected child abuse. The ages of the children referred were primarily under 2 years and over 12 years, together accounting for approximately 80% of the cases. However, 2020 statistics from the Ministry of Health and Welfare in South Korea showed that abused children accounted for 11.0% under the age of 3 years, 12.6% aged 4–6 years, 42% aged 7–12 years, and 34.4% aged 13 years and older.² The significantly higher proportion of preschoolers and school-age children in the national data, compared to our study, is likely due to the fact that among the mandated reporters of child abuse, school staff accounted for the highest proportion at 9.8%.² In hospital-based child abuse studies, some have reported a high number of cases involving children under 1 year old^{3,12} or with an average age of 13 years or older,^{9,14} aligning with our findings. The discrepancy in age distribution between hospital-based data and national data may stem from differences in the primary settings where abuse is identified. National statistics often reflect reports from various settings, including schools and childcare facilities where preschool and school-age children are more likely to be observed and reported.² In contrast, hospital-based studies often capture more severe cases involving infants and adolescents, who may present with visible injuries or behavioral concerns that necessitate medical attention.

Furthermore, we found a significant difference in the likelihood of psychiatric intervention based on age. Specifically, psychiatric interventions after referral were relatively infrequent in the 0–2 age group. In this group, serious injuries, such as fractures and intracranial bleeding, occurred due to abuse. Also, three individuals died due to medical neglect. This is consistent with previous studies indicating that infants and toddlers are at the highest risk of severe and fatal physical abuse and neglect.^{28,29} We assume that psychiatric interventions might have been less frequently sought for the 0–2 age group, given their preverbal state and inability to express themselves about abuse. Previous researchers have identified characteristics in children under 4 years of age that are similar to features of post-traumatic stress disorder in adults. Also, early adverse experiences may derail the victims' developmental trajectories and compromise their ability to regulate affects and manage early and future relationship problems.³⁰ Even though interviews with infant-toddler victims may not be possible, psychiatric consultations for parental intervention appear to be necessary.

Additionally, in most population-based child abuse studies, emotional abuse or neglect often emerges as the most prevalent form of child abuse.^{2,12,14} However, in our study, physical abuse was the most common type, accounting for 75.9% of cases, simi-

lar to findings in other hospital-based abuse research.^{4,9} This discrepancy can likely be attributed to hospital guidelines, which tend to prioritize the identification of physical abuse, as most cases presented to the hospital involve children who have suffered severe physical harm.^{1,15} If the subjects in our study had undergone additional screening, there may have been more instances of multiple abuses, as emotional abuse and neglect are not as noticeable as physical abuse.

We noted a year-on-year increase in the number of CPT activations. Simultaneously, there was a statistically significant rise in the number of abuse cases reported to the NCPA and referred to in-hospital psychiatry outpatient clinic. The rates of increase show a tendency to exceed the overall rate of increase in child abuse reports in South Korea during the same period. However, various factors, such as individual factors (e.g., awareness levels of mandatory reporters), social-institutional factors, and environmental factors, could have influenced the child abuse reporting rates.³¹ According to previous research, the presence of CPT can help mitigate some of pressure by systematically handling abuse cases, such as through consultation with colleagues, rather than individual decision-making, thereby enhancing the reporting of child abuse by medical staff.^{13,15} While the number of child abuse cases managed by CPTs increased, the rate of referrals to psychiatric outpatient clinics did not keep pace, raising concerns. Numerous studies have indicated that child abuse can lead to psychiatric disorders such as depression, anxiety, post-traumatic stress disorder, dissociation, oppositional behavior, suicidal and self-injurious behavior, or even more severe mental illnesses.¹⁴⁻¹⁹ Child abuse can also contribute to poor treatment response and worse prognosis of pre-existing psychiatric disorders.^{20,32} Considering that recent comprehensive psychosocial interventions performed by psychiatrists have shown promising results in child abuse treatment,^{33,34} referrals to psychiatric outpatient care are crucial. We found that psychiatric intervention within the CPT played a pivotal role in facilitating psychiatric outpatient visits, with an OR of 17.985. Early intervention by a psychiatrist (e.g., assessing the mental health status of an abused child, providing emotional stabilization, explaining future therapeutic plans for mental health) significantly increases the likelihood of subsequent psychiatric outpatient follow-up. Therefore, routine psychiatric referral for all CPT-linked subjects while in the hospital is essential for psychiatric assessment and treatment.

This study compared the clinical characteristics of cases with and without psychiatric intervention during CPT activation, identifying significant differences. Age emerged as an important factor in determining the type of intervention. Adolescents aged 12–18 years were predominantly recipients of psychiatric intervention, whereas infants aged 0–2 years were more likely to receive interventions without psychiatric involvement. This finding underscores the differing impacts of abuse across developmental stages and the need for age-specific approaches

to intervention. Reports filed by medical doctors were overwhelmingly linked to psychiatric intervention, highlighting the pivotal role of healthcare professionals in identifying mental health problems in abuse cases. Conversely, cases without psychiatric intervention were more common among children without a history of psychiatric illness, emphasizing the influence of pre-existing mental health conditions on intervention decisions. Factors such as gender, type of abuse, and neurodevelopmental disease history did not significantly affect the likelihood of psychiatric intervention. These findings highlight the importance of tailoring interventions to the specific clinical profiles of abuse victims.

Among the 108 cases included in the study, only 24 received follow-up care at the in-hospital psychiatric outpatient clinic, resulting in a dropout rate of 78%. Even after excluding 23 cases referred to other hospitals, a 56% dropout rate in outpatient follow-up was observed. We aimed to identify the reasons for dropouts from psychiatric outpatient visits and propose improvements for linking CPT with psychiatric outpatient treatment. One of the reasons was insufficient evidence of abuse. These were cases in which abuse was suspected during the initial assessment but was not definitively confirmed. Hegarty, et al.³⁵ suggested that primary care providers could be better equipped to identify abuse if they were provided with comprehensive guidelines in advance. In the same vein, Appleton, et al.³⁶ advocated for the effectiveness of a pan-European training program to equip healthcare professionals with the knowledge to handle abuse cases. In Korea, particularly within in-hospital CPTs, there appears to be a need for the implementation of a robust and continuous program to educate healthcare workers who are often the first point of contact for abuse victims. Another reason for the dropout was the refusal of psychiatric care by the guardian or patient. The offenders of the abuse, typically a parent, often deny their actions, justifying their behavior, or experiencing social difficulties associated with admitting to the abuse.³⁷ Conversely, previous study have shown that abused children produced more denials and avoidances at the first interview.³⁸ The primary reason abused victims hesitate to seek medical care may be feelings of shame.³⁹ These are psychological barriers that are challenging to overcome. Therefore, we should strive to improve the interviewers' skills in detecting abuse, ensure follow-up investigations by social services, and explore other methods to address this issue.

Our study had several limitations. First, the cases we studied were not confirmed cases of abuse, but rather cases that were reported to the CPT on suspicion of child abuse. This means there may be some discrepancies between the actual group of abuse victims and the cases we studied. However, since it has been found that reports of child abuse by medical staff tend to be quite accurate, this difference may not be substantial.⁴⁰ Second, we only studied psychiatric intervention up to the point of referral to a psychiatric outpatient clinic and did not investigate the subsequent treatment process. Also, there was no con-

firmation of receiving psychiatric treatment from other medical institutions. However, accurately following up with psychiatric patients at a tertiary university hospital can be challenging due to the high number of transfers to primary and secondary external hospitals. To overcome this issue, Ha, et al.¹⁴ tracked the progress of abused children in cooperation with the NCPA, and Song, et al.⁴ contacted children who had previously been referred to the CPT and administered a simple follow-up questionnaire. Future studies should consider these follow-up methods, which would allow for a more comprehensive discussion of the appropriateness of our CPT intervention from a psychiatric perspective.

In conclusion, our study highlights the expanding role of CPT in managing child abuse cases within a tertiary university hospital environment. After the establishment of CPT, we observed an increase in cases referred to both the CPT and the NCPA, which coincides with broader national trends in child abuse reporting. While our findings suggest an association between the establishment of CPT and increased child abuse reports. We discovered that when child abuse is suspected and CPT is activated, the execution of psychiatric intervention within CPT plays a crucial role in determining subsequent psychiatric outpatient visits. Receiving psychiatric intervention within CPT is influenced by the victim's age, psychiatric illness history, the type of perpetrator, and the involvement of medical doctors as the initial reporters. Specifically, it was confirmed that infant and toddler group is the most vulnerable, receiving fewer psychiatric interventions despite higher rates of severe injuries. As a result of our findings, we identified the crucial role of psychiatric intervention for all individuals subjected to abuse and parents. This study is significant as it proposes strategies to enhance the effectiveness of CPTs in Korea.

AUTHOR CONTRIBUTIONS

Conceptualization: Tae Sun Han, Dong Ho Song, Junghan Lee, and Keun-Ah Cheon. **Data curation:** Tae Sun Han and Yeon Sik Bang. **Formal analysis:** Tae Sun Han and Yeon Sik Bang. **Investigation:** Tae Sun Han and Yeon Sik Bang. **Methodology:** Tae Sun Han, Yeon Sik Bang, Dong Ho Song, and Junghan Lee. **Project administration:** Tae Sun Han. **Supervision:** Dong Ho Song, Junghan Lee, and Keun-Ah Cheon. **Validation:** Tae Sun Han and Yeon Sik Bang. **Writing—original draft:** Tae Sun Han and Yeon Sik Bang. **Writing—review & editing:** Yeon Sik Bang and Junghan Lee. **Approval of final manuscript:** Tae Sun Han, Yeon Sik Bang, Dong Ho Song, Junghan Lee, and Keun-Ah Cheon.

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REFERENCES

- Chang HY. [Child abuse in psychiatrist's perspective]. *J Korean Neuropsychiatr Assoc* 2019;58:277-83. Korean
- Ministry of Health and Welfare. [Child abuse & neglect Korea 2020]. Sejong: Ministry of Health and Welfare; 2021. Korean
- U.S. Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. Child maltreatment 2021 [accessed on 2024 July 1]. Available at: <https://www.acf.hhs.gov/cb/data-research/child-maltreatment>.
- Song BK, Kim DK, Park HY, Hwang JW, Kwak YH. [A multidisciplinary approach for the treatment of child abuse in Korea]. *Korean J Pediatr* 2009;52:1207-15. Korean
- Kim M. Children's rights protection agency neglects the problem of low coordination of child abuse reports by hospitals and medical personnel [Internet] [accessed on 2024 July 1]. Available at: <https://www.mdtoday.co.kr/mdtoday/index.html?no=403794>.
- Kelly P, John S, Vincent AL, Reed P. Abusive head trauma and accidental head injury: a 20-year comparative study of referrals to a hospital child protection team. *Arch Dis Child* 2015;100:1123-30.
- Fortin K, Kwon S, Pierce MC. Characteristics of children reported to child protective services for medical neglect. *Hosp Pediatr* 2016;6:204-10.
- Parmeter J, Tzioumi D, Woolfenden S. Medical neglect at a tertiary paediatric hospital. *Child Abuse Negl* 2018;77:134-43.
- Choi JT, Ahn ME, Ahn HC, Choi YM, You KC, Cho YJ, et al. [Victims of child abuse to present to the emergency department]. *J Korean Soc Emerg Med* 2000;11:111-9. Korean
- Choi YJ, Kim SM, Sim EJ, Cho DJ, Kim DH, Min KS, et al. [A clinical study of child abuse]. *Korean J Pediatr* 2007;50:436-42. Korean
- Keshavarz R, Kawashima R, Low C. Child abuse and neglect presentations to a pediatric emergency department. *J Emerg Med* 2002;23:341-5.
- Chang YC, Huang JL, Hsia SH, Lin KL, Lee EP, Chou IJ, et al. Child protection medical service demonstration centers in approaching child abuse and neglect in Taiwan. *Medicine (Baltimore)* 2016;95:e5218.
- Kobayashi Y, Tsukui M, Ichihashi Y. Child abuse prevention team activities in a general hospital in Tochigi, Japan. *Glob Pediatr Health* 2017;4:2333794X17743914.
- Ha JH, Lim SH, Joe SH. [Study on mental disorders in abused children]. *J Korean Neuropsychiatr Assoc* 2015;54:542-8. Korean
- Gilbert R, Kemp A, Thoburn J, Sidebotham P, Radford L, Glaser D, et al. Recognising and responding to child maltreatment. *Lancet* 2009;373:167-80.
- Kolko DJ, Kolko RP. Psychological impact and treatment of physical abuse of children. In: Jenny C, editor. *Child abuse and neglect*. Philadelphia (PA): W.B. Saunders; 2011. p.476-89.
- Chandan JS, Thomas T, Gokhale KM, Bandyopadhyay S, Taylor J, Nirantharakumar K. The burden of mental ill health associated with childhood maltreatment in the UK, using The Health Improvement Network database: a population-based retrospective cohort study. *Lancet Psychiatry* 2019;6:926-34.
- Maclean MJ, Sims SA, O'Donnell M. Role of pre-existing adversity and child maltreatment on mental health outcomes for children involved in child protection: population-based data linkage study. *BMJ Open* 2019;9:e029675.
- Cheon J, Oh D, Lee J, Ahn J, Song DH, Cheon KA. Increasing trend and characteristics of Korean adolescents presenting to emergency department for self-harm: a 5-year experience, 2015 to 2019. *Yonsei Med J* 2020;61:614-22.
- Lippard ETC, Nemeroff CB. The devastating clinical consequences

- of child abuse and neglect: increased disease vulnerability and poor treatment response in mood disorders. *Am J Psychiatry* 2020; 177:20-36.
21. Sullivan PM, Knutson JF. Maltreatment and disabilities: a population-based epidemiological study. *Child Abuse Negl* 2000;24: 1257-73.
 22. Maclean MJ, Sims S, Bower C, Leonard H, Stanley FJ, O'Donnell M. Maltreatment risk among children with disabilities. *Pediatrics* 2017;139:e20161817.
 23. Hensler D, Sadler BL, Wilson C. Kauffman best practices project final report: closing the quality chasm in child abuse treatment. San Diego (CA): Chadwick Center for Children and Families, Children's Hospital-San Diego; 2004.
 24. Silverman WK, Ortiz CD, Viswesvaran C, Burns BJ, Kolko DJ, Putnam FW, et al. Evidence-based psychosocial treatments for children and adolescents exposed to traumatic events. *J Clin Child Adolesc Psychol* 2008;37:156-83.
 25. Shipman K, Taussig H. Mental health treatment of child abuse and neglect: the promise of evidence-based practice. *Pediatr Clin North Am* 2009;56:417-28.
 26. Constantino JN. Child maltreatment prevention and the scope of child and adolescent psychiatry. *Child Adolesc Psychiatr Clin N Am* 2016;25:157-65.
 27. Martin A, Bloch MH, Volkmar FR. Lewis's child and adolescent psychiatry: a comprehensive textbook. 5th ed. Philadelphia (PA): Lippincott Williams & Wilkins; 2018.
 28. Connell-Carrick K, Scannapieco M. Ecological correlates of neglect in infants and toddlers. *J Interpers Violence* 2006;21:299-316.
 29. Henry MK, Wood JN. What's in a name? Sentinel injuries in abused infants. *Pediatr Radiol* 2021;51:861-5.
 30. Osofsky JD, Cohen G, Drell M. The effects of trauma on young children: a case of 2-year-old twins. *Int J Psychoanal* 1995;76(Pt 3):595-607.
 31. Schols MW, de Ruiter C, Öry FG. How do public child healthcare professionals and primary school teachers identify and handle child abuse cases? A qualitative study. *BMC Public Health* 2013;13:807.
 32. Seok JH, Lee KU, Kim W, Lee SH, Kang EH, Ham BJ, et al. Impact of early-life stress and resilience on patients with major depressive disorder. *Yonsei Med J* 2012;53:1093-8.
 33. Zeanah CH, Larrieu JA, Heller SS, Valliere J, Hinshaw-Fuselier S, Aoki Y, et al. Evaluation of a preventive intervention for maltreated infants and toddlers in foster care. *J Am Acad Child Adolesc Psychiatry* 2001;40:214-21.
 34. Constantino JN, Ben-David V, Navsaria N, Spiegel TE, Glowinski AL, Rogers CE, et al. Two-generation psychiatric intervention in the prevention of early childhood maltreatment recidivism. *Am J Psychiatry* 2016;173:566-73.
 35. Hegarty KL, Gunn JM, O'Doherty LJ, Taft A, Chondros P, Feder G, et al. Women's evaluation of abuse and violence care in general practice: a cluster randomised controlled trial (weave). *BMC Public Health* 2010;10:2.
 36. Appleton JV, Bekaert S, Hucker J, Zlatkute G, Paavilainen E, Schecke H, et al. A pan-European review of good practices in early intervention safeguarding practice with children, young people and families: evidence gathering to inform a multi-disciplinary training programme (the ERICA project) in preventing child abuse and neglect in seven European countries. *Int J Child Maltreat* 2023;6:119-30.
 37. Isaacs D. Induced illness in children. *J Paediatr Child Health* 2015; 51:1049-50.
 38. Leander L. Police interviews with child sexual abuse victims: patterns of reporting, avoidance and denial. *Child Abuse Negl* 2010;34: 192-205.
 39. Richardson K. Dissecting disbelief: possible reasons for the denial of the existence of ritual abuse in the United Kingdom. *Int J Crime Justice Soc Democr* 2015;4:77-93.
 40. Paek SH, Kwak YH, Noh H, Jung JH. A survey on the perception and attitude change of first-line healthcare providers after child abuse education in South Korea: a pilot study. *Medicine (Baltimore)* 2019;98:e14085.