Esday, April 9, 2024 | 3:45 -5:00 pm | ROOM 308A/B

Poster Session 7: Child Trauma/Adverse Childhood Experiences

#53PeacefulKids-VanessaCowart-Oberle

Vanessa Cowart-Oberle, MS CIT, Group Facilitator, & Child Specialist

Peaceful Kids'



The St. Louis Crisis Nursery

Trauma-informed crisis intervention, 24-hour help line, strengthbased therapeutics, parenting education, community outreach, and care coordination for families.

The Mission

- "The Saint Louis Crisis Nursery is committed to the prevention of child abuse and neglect and provides trauma-informed emergency intervention, 24-hour respite care, and support to families in crisis through:
 - Short-term care for young children in a safe and nurturing environment
 - Empowering families to resolve crises and build resiliency through culturally responsive interventions
 - Equitable access to concrete support, crisis counseling, and parenting education
 - Grassroots community outreach and training to build child abuse prevention awareness
 - Advocacy for the safety and wellbeing of all children and families in our region*

Impact

"99% of children in our program remain free from abuse and neglect, have set national and even international standards for child abuse prevention in other communities throughout the world.

This year, nearly 4,000 children will call the Nursery "home" while their families weather the storms of life."

About the Book

A book edited with The St. Louis Crisis Nursery in mind with evidence-based information and interventions for families of children, toddlers to preteens, illustrated by children, to teach emotions, emotional regulation, and co-regulation, drawing from gold standards in the field:

- . TF-CBT
- . ACT
- . DBT
- Mindfulness
- · Art, music, drama techniques

Written by a survivor of trauma who has struggled with depression, OCD, and alexithymia



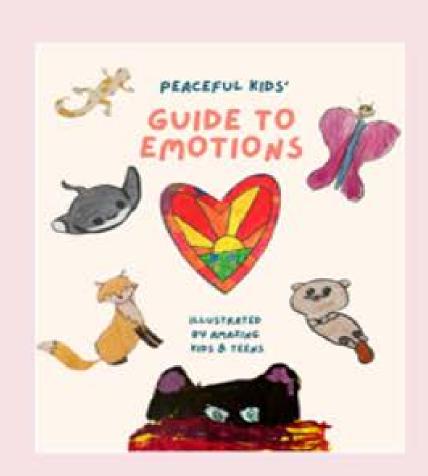
Co-created WITH kids

Application for wide range of families at various levels of education, socioeconomic status, age of children, and ability

All profits go to The St. Louis Crisis Nursery

Several copies donated to SLCN for parents & providers

Other crisis nurseries in future

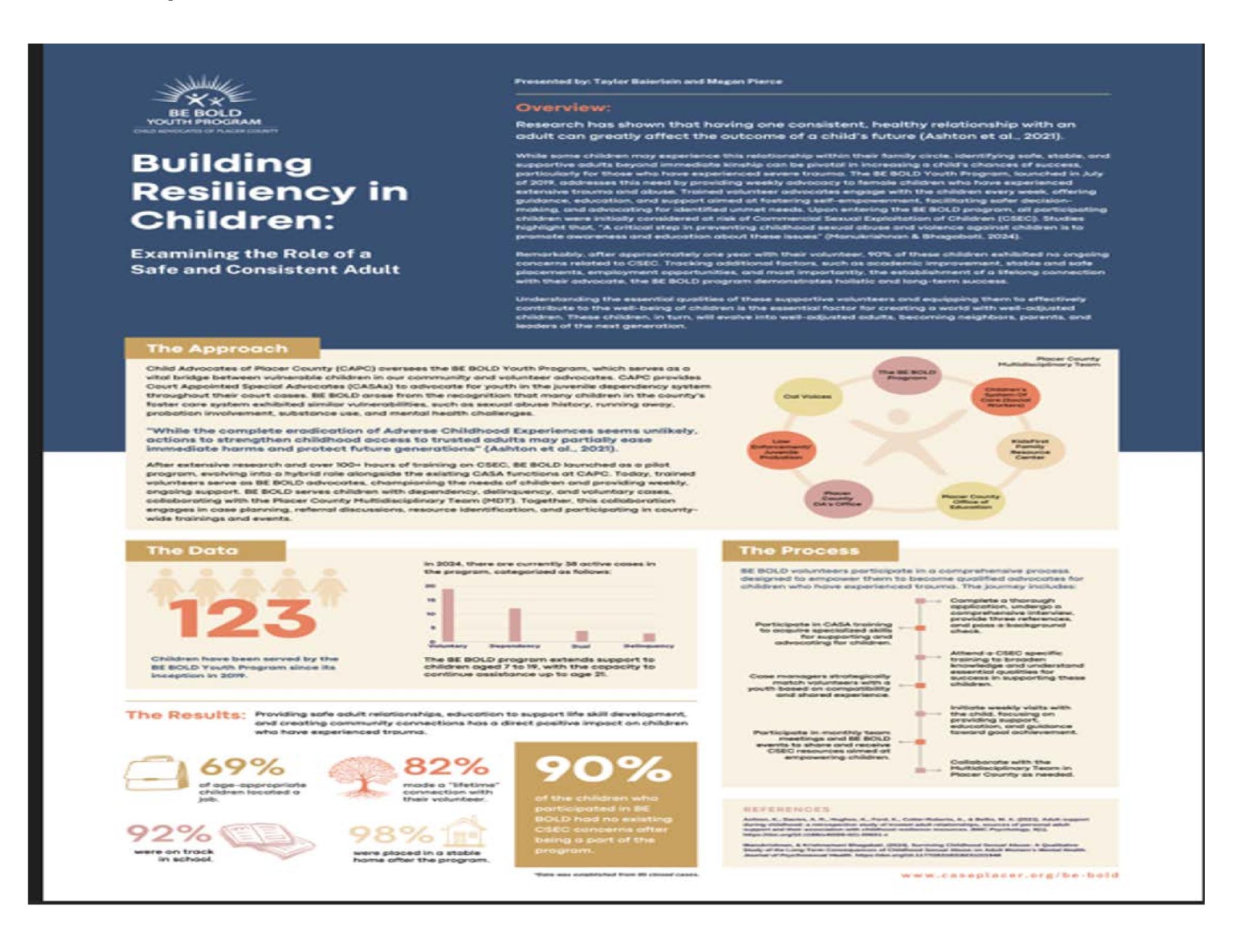




Lesday, April 9, 2024 | 3:45 -5:00 pm | ROOM 308A/B

Poster Session 7: Child Trauma/Adverse Childhood Experiences

#38 Building Resiliency in Children: Examining the Role of a Safe and Consistent Adult- Taylor Baierlein





Esday, April 9, 2024 | 3:45 - 5:00 pm | ROOM 308A/B

Poster Session 7: Child Trauma/Adverse Childhood Experiences

#14 The Effects of the Family Success Network (FSN) on Family Protective Factors against Child Maltreatment: Preliminary Findings and Implementation eterminants-Deborah Moon, Michelle Johnson-Motoyama, Ph.D., M.S.W., Nancy, Rolock, AM, PhD, Henry L. Zucker, Yiran Zhang, Jeesuo Jeon



The Effects of the Family Success Network (FSN) on Family Protective Factors against Child Maltreatment: Preliminary Findings and Implementation Determinants

UNIVERSITY

Background

Co-Authors: Michell Johnson-Motoyama, Ph.D3, Nancy Rolock, Ph.D2, David Crampton, Ph.D3, Hyunjin Lee, MSW1, Eric Gonzalez, Assistant Executive Directors, Nicole Sillaman, Executive Directors School of Social Work, University of Pittsburgh 2 Mandel School of Social Science, Case Western Reserve University 2 College of Social Work, Ohio State University 4 Ohio Children's Trust Fund

Deborah J. Moon, Ph.D., LCSW1, & Jeesoo Jeon, MSW2

Abstract

Child maltreatment is a serious public health problem that causes a substantial burden on society. The Family Success Network (FSN) is a voluntary, multi-component, community-based, family support program that seeks to prevent child maltreatment by building protective factors such as Positive Family Functioning, Parent Nurturing and Attachment with Child as well as Social and Concrete Supports for disadvantaged families. The FSN provides tailored services to families including parenting, financial literacy, and basic life skills programs, as well as concrete supports and home visiting. Services are delivered through a family coaching model built upon the core principles of relational engagement, the key to achieving intended outcomes in many health and human services interventions. With support from the U.S. Children's Bureau, the Ohio Children's Trust Fund is currently piloting FSN in three Northeast Ohio counties. In this poster, we present year 3 preliminary findings from the FSN process and outcome evaluation.

Method

The study utilizes a randomized wait-list control group design. Protective factors and caregiver relational engagement were assessed at pre and post intervention phases using validated measures. Implementation determinants were examined via focus groups and interviews with service providers, leadership, a participant, and implementation team following the initial implementation phase.

Critical Findings

- Nurturing and attachment (n=150), working alliance (n=157), and concrete support (n=151) showed a significant increase after the program.
- Other protective factors domains, social support and family functioning did not significantly change after the program.
- The majority of participants reported high (77.06%, n=131) or moderate (20%, n=34) sense of alliance with family coaches.
- Post-FSN working alliance was positively correlated with post family functioning and social support.
- According to focus groups and interviews, lived experience of the family coaches, and stigma related to existing CPS system were major facilitators of FSN implementation, positively impacting reach and engagement with families.
- Qualitative data also indicated that community characteristics, leadership capacity, professional boundaries, and families' limited exposure to prevention services could be barriers to FSN implementation.

Quantitative and Qualitative Results



1) Working alliance (post) and Family functioning (post) was positively correlated (r = .33, p < .001).

2) Working alliance (post) and Social support (post) was positively correlated (r = .24, p < .05)

Facilitators Barriers Collaboration with community agencies Community characteristics (low trust, Community resources, safety) Organization Organizational Resilience Limited leadership capacity Provider Lived experience of family coaches Maintaining professional boundaries Program FSN as a prevention program (voluntary, Limited exposure to prevention services no paperwork etc) Concrete support Environmental Complex family needs Environmental issues such as inflation, housing crisis Sociocultural Stigma associated with CPS Stigma associated with child maltreatment prevention programs

Implications and Future Directions

- FSN is a promising intervention model to engage and support families in under-resourced communities without the stigma associated with traditional Child Protective Services.
- Caregiver-provider relationship may have the potential to influence FSN outcomes. More studies are needed to examine the mechanistic value of relational engagement in maltreatment prevention programs.
- Efforts are needed to change the prevention landscape to address the stigma around child maltreatment prevention programs that can interfere with engaging families in such services as FSN.



Resday, April 9, 2024 | 3:45 - 5:00 pm | ROOM 308A/B

Poster Session 7: Child Trauma/Adverse Childhood Experiences

#21 Do We Need to Suspect Ingestion in Infants? A Fatal Fentanyl Overdose in a Non-Ambulatory Infant- Cynthia Ong, Robin Foster, MD

Do We Need to Suspect Ingestion in Infants? A Fatal Fentanyl Overdose in a Non-Ambulatory Infant

Cynthia Ong¹, Robin Foster¹

¹Virginia Commonwealth University Health, Children's Hospital of Richmond



Background

- Illicit opiate use has continued to increase in prevalence in the United States over the past few decades [1]
- Within pediatrics, opiate ingestion (47%) is the most common cause of ingestion-related fatalities ≤ 5 years old [2]
 - Child mortality ≤ 5 years old related to opiate ingestion continues to trend upwards, accounting for 24% of mortalities in 2005 to 52% of mortalities in 2018 (Figure 1)

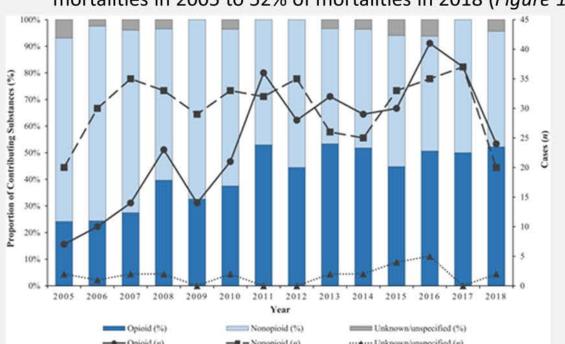


Figure 1. Ingestion-Related-Fatalities in Children ≤ 5 Years Old [2]

- One third of ingestion-related deaths were not in the care of a biological parent (grandparent, other relative, babysitter, foster care) [2]
- In Virginia in 2023, 36% of child mortality involved a history of being substance-exposed and 54% of child mortality involved parental history of substance use [3]
- With a potency one hundred times greater morphine, small doses of fentanyl pose significant risk of mortality [4]
 - Ingestion in young children is often attributed to exploration and curiosity, but there have been several cases of opiate toxicity in non-ambulatory children.
 - Fentanyl overdose in children has been reported in accidental oral ingestion or oral/skin contact with transdermal patches [5]

Case Presentation

History:

- A 7-month-old previously healthy female presented to the emergency department in cardiac arrest after being found pulseless while co-sleeping with her maternal grandmother
- The patient underwent CPR by EMS en route to the hospital and underwent intubation in the emergency department

Vital Signs:

- Initial temperature of 34.4°C requiring active rewarming
- Hypotension requiring epinephrine drip

Physical Exam:

- Pinpoint pupils prompting naltrexone administration which was followed by decerebrate posturing
- Seizure like activity prompting ceftriaxone and anti-epileptic medication loading doses (Keppra, Versed)

Imaging:

- Head CT demonstrating loss of differentiation of gray-white matter with cerebral edema consistent with anoxic brain injury
- EEG demonstrating severe background suppression

Labs:

- Urine drugs of abuse screen: positive for fentanyl
- Comprehensive urine: positive for fentanyl/norfentanyl and benzoylecgonine (cocaine)
- CBC: WBC 27, Hgb 12.2, Plt 672

Hospital Course:

- The patient was admitted to the PICU, but despite extensive resuscitation efforts met brain death criteria
- Child Protective Services (CPS) and Law Enforcement have open investigations
- Criminal prosecution is pending

Discussion

- Previous documented cases of young children with fentanyl ingestion did not have a positive history of known ingestion, but did report known family history of substance use disorder [4]
 - A low threshold to suspect opioid overdose in cases of CNS depression and respiratory depression is prudent as fentanyl overdose may require greater doses of naloxone
- Substance use in conjunction with unsafe sleep, a known risk factor for infant death, may pose an even greater risk of mortality given unintentional ingestion/exposure

Conclusions

- While substance-exposed infants are often screened by CPS to perform assessments and provide additional resources, nonprimary caretakers are not screened for substance use introducing a gap in risk assessment.
- In this time of increasing opiate drug use, it is important to universally educate all families regardless of history of prior drug use regarding potential drug exposure/ingestion and safe medication storage in the primary home and other homes where the child may be cared for.
- Additionally, education regarding safe sleep in both primary and non-primary caretakers is prudent, especially in the setting of possible substance use.

References

[1] CDC. "Understanding the Opioid Overdose Epidemic." August 8, 2023. https://www.cdc.gov/opioids/basics/epidemic.html#:~:text=The%20number%20of%20people%20who,in%202021%20involved%20an%20opioid.

[2] Christopher E. Gaw, Allison E. Curry, Kevin C. Osterhoudt, Joanne N. Wood, Daniel J. Corwin; Characteristics of Fatal Poisonings Among Infants and Young Children in the United States. Pediatrics April 2023; 151 (4): e2022059016. 10.1542/peds.2022-059016 [3] Reynolds, EJ. Office of the Children's Ombudsman 2023 Annual Report. Commonwealth of Virginia. 2023. https://rga.lis.virginia.gov/Published/2023/RD722

[4] Slingsby B, Moore JL, Barron CE. Infant and Toddler Ingestion of Illicit Fentanyl: A Case Series. Clinical Pediatrics. 2019;58(13):1449-1451. doi:10.1177/0009922819877870 [5] Slingsby B, Moore JL, Barron CE. Infant and Toddler Ingestion of Illicit Fentanyl: A Case Series. Clin Pediatr (Phila). 2019 Nov;58(13):1449-1451. doi: 10.1177/0009922819877870. Epub 2019 Sep 22. PMID: 31544503.



esday, April 9, 2024 | 3:45 -5:00 pm | ROOM 308A/B

Poster Session 7: Child Trauma/Adverse Childhood Experiences

#29 Characteristics and Trends of Pediatric Injuries in Jeju Island, South Korea: A Community level Serial Cross-sectional analysis- Sung Wook Song



over the decade.



Characteristics and Trends of Pediatric Injuries in Jeju Island, South Korea: A Community level Serial Cross-sectional analysis

Sung Wook Song

Department of Emergency Medicine, Jeju National University College of Medcine, Jeju, Korea

Sung Wook Song MD.

Department of Emergency Medicine, Jeju National University College of Medicine, 15, Aran 13 gil, Jeju-si, Jeju Special-Governing Province, 690-756, Korea.

E-mail: sungwook78@jejunu.ac.kr

ABSTRACT

This retrospective cross-sectional study analyzes the epidemiology and injury patterns of pediatric trauma on Jeju Island over a 10-year period, utilizing data from the Jeju Injury

Surveillance System (JISS). Covering 132,698 pediatric patients aged ≤18 years who visited the ED due to injuries The study reveals a distinct male predominance—boys were 1.7 times more likely to sustain injuries than girls, with the highest incidence in toddlers. There was minimal seasonal variation in injury rates, though a significant increase was observed during summer evenings and weekends. The home emerged as the most frequent injury location, and accidental injuries were the most common cause. The overall pediatric injury cases on Jeju Island indicate a rising trend over the ten-year period, with the LOWESS regression curve showing a gradual increase, the incidence rates and annual changes in pediatric injury cases across different age groups on Jeju Island over a decade. For infants, there is a significant upward trend in injury cases. Toddler injury cases display a steady increase over the years, while childhood injury cases peak mid-decade before declining. Adolescent injury cases also rise throughout the decade. Accidental injuries comprise the majority of cases, following a similar upward trajectory. Notably, self-harm/suicide cases also show an increasing trend, particularly in the latter years, while cases of assault and violence exhibit a more variable pattern, with the LOWESS regression suggesting a slight upward trend

In summary, this study provides valuable insights into the epidemiology of pediatric trauma, indicating specific temporal and demographic risk factors. These findings can inform targeted preventive strategies and resource allocation to address pediatric trauma more effectively on Jeju Island.

BACKGROUND

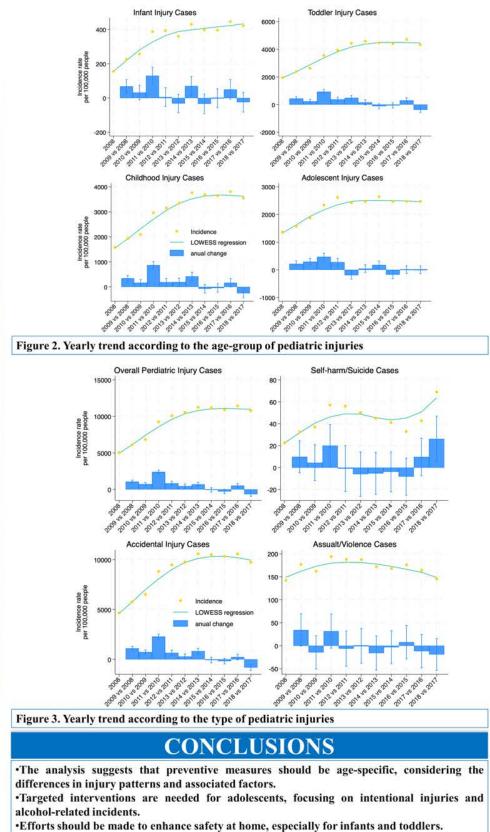
- Pediatric trauma represents a significant public health concern worldwide, impacting the well-being of children and placing a substantial burden on healthcare systems. Understanding the epidemiology and patterns of pediatric injuries is crucial for developing targeted prevention strategies and allocating resources effectively. While several studies have explored pediatric trauma in various settings, there is a need for region-specific investigations to address unique risk factors and challenges. Jeju Island, situated off the southern coast of South Korea, presents a distinctive
- environment with its own set of socio-cultural and geographical characteristics. Investigating pediatric trauma on Jeju Island is particularly pertinent, given the island's unique demographic composition and geographic isolation. To date, there has been a paucity of comprehensive studies focusing on pediatric injuries in this specific region. This study aims to fill this gap by analyzing a decade's worth of data from the Jeju Injury Surveillance System (JISS). JISS provides a valuable repository of information, allowing for a comprehensive examination of the epidemiology and injury patterns among pediatric patients aged ≤18 years who sought emergency care due to injuries.

METHODS

- This retrospective cross-sectional study analyzes the epidemiology and injury patterns of pediatric trauma on Jeju Island over a 10-year period (2008 ~ 2018), utilizing data from the Jeju Injury Surveillance System (JISS). Covering 132,698 pediatric patients aged ≤18 years who visited to the injuries in the department of emergency this hospital (Figure 1). All statistical analyses were performed using Stata 14.0 (Stata Corp, College Station, TX, USA). The results of categorical variables were summarized as frequencies and proportions. The results of continuous variables were summarized as means with standard deviations or as medians with interquartile ranges. Categorical variables were compared using chi-square tests.
- Age-adjusted incidence rates, hospitalization and mortality rates, LOWESS regression, and calculation of Years of Life Lost (YLL), to comprehensively assess the epidemiology and characteristics of pediatric trauma on Jeju Island over a 10-year period. P-values of <0.05 were considered to be statistically significant.

	All Injured Patients Jeju ED-based Injury Surveillance System January 2008 to December 2018 N=524,413								
			·	Injured patients aged over (n=391,703) Unidentified age (n=2)	**************************************				
	Analyzing Population Pediatric Injuries aged less than 18 years old N=132,708								
Infant less than a ye N=4,864		ars old 6 to		Adolescent 3 to 17 years old N=29,643					
Figure 1. Study flow	7								
		RES	ULTS						
Table1. Demographi	c characteris	tics of the stu	ıdy populatio	n					
10-	Total	Infant	Toddler	Childhood	Adolescent	n			
	(N=132,698)	(N=4,864)	(N=56,345)	(N=41,846)	(N=29,643)	P-value			
Female	49,132(37.0)	2,187(45.0)	22,969(40.8)	14,695(35.1)	9,281(31.3)	<0.001			
District						< 0.001			
Jeju-si	109,042(82.2)	4,458(91.7)	46,517(82.6)	33,750(80.7)	24,317(82.0)				
Seigwipo-si	23,655(17.8)	406(8.4)	9,828(17.4)	8,096(19.4)	5,325(18.0)				
Inhabitant						< 0.001			
Resident	109,720(82.7)	4,148(85.3)	45,701(81.1)	35,697(85.3)	24,174(81.6)				
Visitors	22,978(17.3)	716(14.7)	10,644(18.9)	6,149(14.7)	5,469(18.4)				
Alcohol-associated	1,280(1.0)	39(0.8)	361(0.6)	274(0.7)	606(2.0)	< 0.001			
Season						< 0.001			
Spring (Mar to May)	35,356(26.6)	1,205(24.8)	14,204(25.2)	11,171(26.7)	8,776(29.6)				
Summer (Jun to Aug)	37,942(28.6)	1,344(27.6)	16,022(28.4)	12,748(30.5)	7,828(26.4)				
Fall (Sep to Nov)	34,476(26.0)	1,321(27.2)	14,502(25.7)	10,619(25.4)	8,034(27.1)				
Winter (Dec to Feb)	24,924(18.8)	994(20.4)	11,617(20.6)	7,308(17.5)	5,005(16.9)	SAN DIGITAL I			
Time	- 0.1-(3.0)	221(4.5)	4 (02(2.0)	0.44/2.5%	2 4 7 0 / 7 2	< 0.001			
	light (0 to 6) 5,015(3.8)		1,683(3.0)	941(2.3)	2,170(7.3)				
Morning (6 to 12)	16,751(12.6)	832(17.1)	7,145(12.7)	4,714(11.3)	4,060(13.7)				
Afternoon (12 to 18)	46,651(35.2)	1,593(32.8)	18,185(32.3)	17,102(40.9)	9,771(33.0)				
Evening (18 to 24)	64,281(48.4)	2,218(45.6)	29,332(52.1)	19,089(45.6)	13,642(46.0)	<0.001			
Week	92 130/61 O	3 115/64 0	32,826(58.3)	25,394(60.7)	20,795(70.2)	< 0.001			
Weekday (Mon -Fri) Weekend (Sat - Sun)	50,568(38.1)	3,115(64.0) 1,749(36.0)	23,519(41,7)	16,452(39.3)	8,848(29.9)				
Mental status	20,200(30.1)	1,747(30.0)	23,317(41,7)	10,434(33.3)	0,040(23.7)	< 0.001			
	132,245(99.6)	4,850(99.7)	56,194(99.7)	41,722(99.7)	29,479(99.5)	-0.001			
Verbal response	246(0.2)	7(0.1)	94(0.2)	68(0.2)	77(0.3)				
Painful response	116(0.1)	2(0.0)	35(0.1)	33(0.1)	46(0.2)				
Unresponsiveness	91(0.1)	5(0.1)	22(0.0)	23(0.1)	41(0.1)				
ED Arrival mode	o.comonido	NEALTH	A Killing Division	ezzete Net e tilefo	THOUGHT AND	< 0.001			
EMS ambulance	13,380(10.1)	376(7.7)	3,828(6.8)	4,292(10.3)	4,884(16.5)				
Other vehicle	82,671(62.3)	3,248(66.8)	38,045(67.5)	25,501(60.9)	15,877(53.6)				
Walking	32,287(24.3)	803(16.5)	11,293(20.0)	11,566(27.6)	8,625(29.1)				
Others	4,360(3.3)	437(9.0)	3,179(5.6)	487(1.2)	257(0.9)				
ED disposition				1102 W/794BWD	- ver sammer davidi	< 0.001			
Discharge	125,261(94.4)	4,607(94.7)	54,330(96.4)	39,327(94.0)	26,997(91.1)				
Admission	5,582(4.2)	157(3.2)	1,223(2.2)	2,003(4.8)	2,199(7.4)				
Transfer	340(0.3)	13(0.3)	121(0.2)	111(0.3)	95(0.3)				
Death	52(0.04)	5(0.1)	14(0.02)	10(0.02)	23(0.1)				
Others	1,463(1.1)	82(1.7)	657(1.2)	395(0.9)	329(1.1)				

		Total	Infant		Toddler		Childhood		Adolescent		P-value
Line projective	(N	=132,698)	(N=4	,864)	(N=56	,345)	(N=41	,846)	(N=29.	,643)	P4 25733596
Location											< 0.001
Hor		,994(45.2)	3,814(78.4) 26(0.5)		34,779(61,7)		13,666(32.7)		7,735(2		
School/kinder gard Street/highw		,630(8.8)			2,499(4.4)		4,710(11.3)		4,395(1		
Public spa		,865(14.2) ,318(2.5)	459(9.4) 39(0.8)		5,098(9.1)		7,580(18.1)		5,728(1		
Commercia		,174(3.9)	150(3.1)		1,472(2.6) 2,677(4.8)		1,144(2.7) 1,408(3.4)		663(2.2) 939(3.2)		
Countryside, sea, riv		,588(15.5)	211(4.3)		6,808(12.1)		8,202(19.6)		5,367(18.1)		
Othe		,129(9.9)	165(3.4)		3,012(5.4)		5,136(12.3)		4,816(16.3)		
Activity				501.76	7.53		DATE:				< 0.001
Vital activi	ity 92.	92,825(70.0)		4,177(85.9)		43,473(77.2)		27,653(66.1)		59.1)	
Education	on 2			6(0.1)		463(0.8)		794(1.9)		.8)	
Leisure		,343(22.9)	405(8.3)		9,835(17.5)		11,310(27.0)		8,793(2	29.7)	
Others 7,447(5		,447(5.6)	276(5.7)		2,574(4.6)		2,089(5.0)		2,508(8.5)	
Intention											< 0.001
Accident	tal 123	,183(93.6)	4,641	(95.4)	53,257	(94.5)	39,976	(95.5)	26,309(88.8)	
Suici	de :	584(0.4)	1(0	.02)	3(0.01)		16(0	.04)	564(1	.9)	
Assu	alt 2	,299(1.7)	11(0.2)	83(0.2)		491(1.2)	1,717(5.8)	
Othe	ers 5	,632(4.2)	211	(4.3)	3,002(5.3)		1,363	(3.3)	1,056(3.6)	
Mechanism											< 0.001
Motor vehicle collision	on 17.	,530(13.2)	382	(7.9)	3,981(7.1)		7,626	18.2)	5,541(1	(8.7)	
Slip/Fall		,197(22.0)	1,676	(34.5)	13,891(24.7)		8,548(20.4)	5,082(1		
Blunting by objects		,253(49.2)		(29.9)	28,561(50.7)		21,004(50.2)		14,233(
Burn		,598(5.0)		16.4)	3,629(6.4)		1,458(3.5)		715(2		
Foreignbody		,719(3.6)	285(5.9)		2,765(4.9)		1,183(2.8)		486(1.6)		
Othe	ers 9.	,401(7.1)	270	(5.6)	3,518	(6.2)	2,027	(4.8)	3,586(1	(2.1)	
Injury type			2 665	(E1 9)	27 454	(49.7)	21 506	(E1 A)	14 955/	50.1)	
		480(50.1)	2,665(54.8) 669(13.8)		27,454(48.7)		21,506(51.4) 10,293(24.6)		14,855(50.1) 6,220(21.0)		< 0.001
Cuts/open wound		,370(25.2)	143(2.9)		16,188(28.7) 2,028(3.6)		3,627(8,7)		2,932(9.9)		< 0.001
Fracture		,730(6.6)	401(8.2)		6,934(12.3)		5,615(13.4)		5,403(18.2)		<0.001
Sprain or dislocation		,353(13.8)	1(0.02)		19(0.03)		27(0.06)		42(0.14)		< 0.001
Spinal cord injury		39(0.07)	18(0.4)		386(0.7)		234(0.6)		136(0.5)		<0.001
Vascular inju		774(0.6) 561(0.5)		0.4)	168(211(264(0		<0.001 <0.001
Muscle/tendon injury Intracranial injury		841(1.4)	193(4.0)		719(1.3)		563(1.4)		366(1		< 0.001
Crushing injury		55(0.05)	1(0.02)		30(0.05)		23(0.05)		11(0.04)		0.538
Traumatic amputation		72(0.05)	3(0.06)		39(0.07)		18(0.04)		12(0.04)		0.223
Minor burn		,900(4.5)	725(14.9)		3,240	(5.8)	1,297	(3.1)	638(2	.2)	< 0.001
Major burn		56(0.04)	5(0.10)		29(0.05)		17(0.04)		5(0.02)		0.019
Table 3 The age- ediatric injury	adjust	ted incid	dence,	hospita 2011	lization	2013	nortality	y rates	of spec	eial gro	oup in
ncidence rate										- Adaptivation	
Tourists injury	740.8	702.1	875.2	1,826.0	1,827.7	1,182.1	1,252.3	2,021.1	2,665.4	2,404.1	2,355.7
Household injury	1,598.0	2,145.7	2,313.1	3,131.3	3,774.1	3,835.4	3,987.0	3,600.6	3,884.7	3,836.3	3,737.6
Sports related injury	423.5	536.0	552.4	627.8	754.2	842.4	904.3	1,089.0	817.8	841.9	939.8
School/educational injury	459.2	540.1	656.1	781.5	804.5	973.7	1,146.0	1,070.7	1,045.1	1,054.9	1,067.3
	407.4	340.1	030.1	701.3	004.5	713.1	1,140.0	1,070.7	1,045.1	1,034.9	1,007.3
Iospitalization rate											
	47.3	13.4	25.3	48.2	31.8	30.0	33.3	49.4	62.9	28.2	24.9
Tourists injury	55.6	66.5	61.5	88.8	96.4	106.1	123.7	70.0	78.0	62.2	62.5
	27.7	30.2	27.8	42.5	48.8	74.1	53.8	57.7	41.3	41.2	47.0
Household injury	7.45	45.2	42.9	46.1	47.3	57.5	68.2	59.9	48.2	44.6	52.6
Household injury Sports related injury School/educational injury	32.1										
Household injury Sports related injury School/educational injury Joratlity rate							1.6	0.0	1.7	0.0	1.4
Household injury Sports related injury School/educational injury	32.1	2.3	0.0	1.6	0.0	0.0		0.0			10.00
Household injury Sports related injury School/educational injury Joratlity rate	32.1 0.8	2.3	0.0	1.6	0.0	0.0		0.8	0.0		0.0
Household injury Sports related injury school/educational injury foratlity rate Tourists injury Household injury	32.1 0.8 0.0	2.3	0.8	0.8	2.4	0.7	1.6	0.8	0.0	0.0	0.0
Household injury Sports related injury school/educational injury doratlity rate Tourists injury Household injury	32.1 0.8							0.8 0.0 0.0	0.0 0.0 0.0		0.0 0.0



*Special attention is required for tourists, emphasizing injury prevention strategies during

•These findings can inform targeted preventive strategies and resource allocation to address



esday, April 9, 2024 | 3:45 -5:00 pm | ROOM 308A/B

Poster Session 7: Child Trauma/Adverse Childhood Experiences

#2 The Implications of Adverse Childhood Experiences and Toxic Stress on Maladaptive Eating Behavior- Kaitlyn Manoogian

#15 Extrapolating and Analyzing Data For Pediatric Ingestions and their Correlates Using ICD-10 Codes: Recommendations For Improvement and Patient Care- Alissa Briggs, Kelsey Gregory, Reshma Oodal, Christina Howard, Tonya Jernigan



Extrapolating and Analyzing Data For Pediatric Ingestions and their Correlates Using ICD-10 Codes: Recommendations For Improvement and Patient Care



Alissa Briggs, PhD, Kelsey Gregory, MD, Reshma Oodal, MD, Tonya Jemigan, LCSW, Jennie Green, MD, Christina Howard, MD

ABSTRACT

Nearly 60,000 children end up in emergency departments (ED) yearly due to ingestions of substances [1]. However, this number likely underestimates the problem because ICD-10 codes assigned at ED presentation vary and sometimes fall to indicate a harmful ingestion occurred. Determining downstream effects of harmful ingestions is complicated by difficulty identifying initial ingestion cases. To describe the challenge of tracking harmful pediatric ingestions and examine potential correlates, the investigators reviewed the charts of patients given medication lock-bags after they presented to the ED for ingestion. The investigators' child protection team, Pediatric Forensic Medicine (PFM), reviewed the charts of 80 patients given lock-bags and gathered data on ICD-10 codes assigned at the time of the known ingestion presentation, as well as subsequent medical encounters. The study was approved by the institution's IRB. The study identified that 11% of harmful ingestion encounters within the study cohort lacked a ICD-10 code that would identify the encounter as involving a harmful ingestion. Twenty-five percent of patients had subsequent encounters. Of the patients with subsequent encounters, 46% had developmental delays, 15% had a diagnosis of Attention-Deficit/Hyperactivity Disorder (ADHD), and 12% had a diagnosis of Autism Spectrum Disorder (ASD).

BACKGROUND

ingestions contribute to child tatalities and near tatalities.

Children under 4 are at the greatest risk of death by poisoning. Most (61%) poisoning deaths are attributed to medications and/or Ilicit drugs [2]. Moreover, some child victims of poisoning experience significant central nervous system (CNS) and cardiorespiratory depression, which may lead to poor developmental outcomes due to hypoperfusion/hypoxia.

Recently the Kentucky Child Fatality and Near Fatality External Review Panel proposed partnerships with KY healthcare systems to specifically address overdose ingestions, which was the underlying etiology of 29% of cases reviewed from 2021 and 27% from

The investigators' child protection team, PFM, maintains a database of patients for whom medication lock bags are given for grant reporting purposes. Lock bags are provided to prevent harmful ingestion after a pediatric patient has either been in the emergency department for known ingestion or it is learned that there is high risk in the home environment for ingestion during PFM team assessment.

OBJECTIVES

- 1) Describe challenges associated with discovering the volume of harmful pediatric
- 2) Describe possible downstream effects of pediatric poisoning that health professionals should monitor and address.

METHODS

The PFM team obtained IRB approval to review the charts of patients whose family received a medication lock bag to prevent future ingestion. Lock bags were distributed between 9/24/2019 and 11/28/2023 to 80 pediatric patients.

Charts were reviewed to determine the ICD-10 code assigned at the time of harmful ingestion. If available, ICD-10 codes given before and after the harmful ingestion were also examined. When multiple codes were assigned at a visits, all codes were noted. These were recorded in an Excel spreadsheet to facilitate analysis.

Previous and subsequent ICD-10 codes were reviewed and categorized as follows: cardiac related, hearing loss, 2nd harmful ingestion, developmental delay, ADHD, ASD

RESULTS

80 patients were given medication lock bags between 9/24/2019 and 11/28/23. No lock bacs were distributed between 9/24/2019 and 8/25/20. Four patients were excluded from the analysis due to not presenting for an ingestion.

79% of patients were < 4. The average age was 2 years, 8 months. The age range was 1 month to 14 years.

Objective 1:

11% of harmful ingestion encounters lacked an ICD-10 code indicating it as such.

The alternative ICD-10 codes were:

- Encounter for examination/observation Cardiac arrest Encounter for medical screening oxamination.
- Altered montal status Generalized abdominal pain Acute respiratory failure with hypercapnia - Somnolence

Acute encephalopathy

Objective 2:

Possible correlates or downstream effects:

- 19 patients (25%) had subsequent encounters in EMR. 15 of these patients had subsequent encounters for conditions not previously
- Identified 10 of these patients had multiple subsequent ICD-10 codes in EMR.
- 4 patients had previous encounters in EMR that had the same/similar ICD-10 codes to their subsequent encounters. There was no age difference between these patients' age (3 years, 2 months) and the age of patients with subsequent encounters for conditions not previously identified (3 years, 1 month)
- 5 patients had intrauterine drug exposure. 3 of these patients had encounters for developmental delays and 1 of these patients had an encounter for cardiac related concorns.

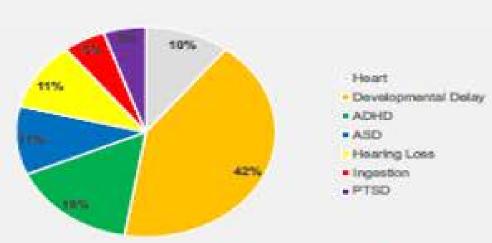


Figure 1: Percent new, subsequent ICD-10 code categories in the patient chart.

For References, Contact Information, and a PDF of the Poster:



RESULTS, Cont

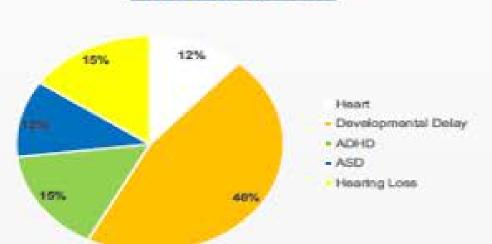


Figure 2: Percent of other ICD-10 code categories in the patient chart.

DISCUSSION

Objective 1:

Studies regarding poisoning in children often rely on review of emergency department records. The current study demonstrated that due to variability in ICD-10 coding, any study of pediatric poisoning that rolles on ICD-10 codes to generate a list of cases will unintentionally exclude a significant minority of cases.

Future studies might test the assumption that poisoning cases are under-coded by examining all pediatric emergency room visits within a distinct time frame.

When an ICD-10 code indicating a harmful ingestion was absent, codes that were provided described symptoms or indicated the encounter was for examination/observation.

Those who code patient visits to the emergency department may benefit from further education from toxicologists and child abuse pediatricians regarding best practices In coding for these encounters and the importance of being able to track and review pediatric poisoning cases.

Objective 2:

The prevalence of developmental delays and neurodevelopmental disorders among patients with an ingestion encounter exceeds the prevalence in the general population. Furthermore, 3 out of the 5 patients with intrauterine drug exposure also experienced developmental delays.

No studies were found in the literature regarding ingestions/poisonings and later: developmental delays and neurodevelopmental disorders. Many studies examine the effects of intrauterine exposure to illicit substances and neonatal abstinence syndrome.

Future research should expand to examine the developmental impact of ingestion during infancy and early childhood by substance and polysubstance. Pediatricians should consider closely monitoring the development of pediatric poisoning victims.

Because patients with developmental and neurodevelopmental disorders may be more prone to ingestion - making these disorders a risk factor rather than an outcome - future studies should develop strategies to control for existing developmental concerns or risk. factors (e.g., family history and birth history) at the time of ingestion.

Regardiess, pediatricians should educate all parents, especially parents of children with developmental delays, regarding safe medication and substance storage. Adults should also receive this education at the time of prescription.

