



Utilizing trauma admissions as an opportunity to identify developmental and behavioral concerns



Stephanie K. Serres, Catherine Chen*

Department of Surgery, Boston Children's Hospital, Harvard Medical School, Boston, MA, USA

ARTICLE INFO

Article history:

Received 3 February 2017

Received in revised form

1 May 2017

Accepted 3 July 2017

Keywords:

Pediatric

Trauma

Behavioral concerns

Developmental delays

ABSTRACT

Background: Developmental and behavioral problems are often underdiagnosed in the pediatric population, and are risk factors for injury from trauma. Early intervention for these concerns yields improved outcomes. No prior research has screened for these difficulties during pediatric trauma admissions.

Methods: The current study utilized "The Survey of Wellbeing of Young Children" (SWYC) to assess for possible areas of concern by parent report. Concerns were compared to the presence of screening documented in their pediatrician's last well-child visit note.

Results: Of the 27 participants, 59.3% had developmental, behavioral, parental, or familial concerns. Overall, 46.2% of pediatricians had formally screened for concerns at the child's last well child visit, resulting in 25.9% being identified with new concerns found on the SWYC.

Conclusions: Pediatric trauma admissions provide an important opportunity to screen for behavioral and developmental concerns in a population that is at risk for these concerns and that could greatly benefit from having problems identified.

© 2017 Elsevier Inc. All rights reserved.

1. Introduction

Overall, 10–13% of children have some type of developmental delay, yet only 2–3% of children receive early intervention services.^{1–5} Frequently these delays are under-identified leading to missed opportunities to intervene in the child's life at an early age.⁶ The importance of earlier identification and intervention cannot be overstated, with data showing that earlier identification leads to significantly improved outcomes.^{7–11} Examples of improved outcomes include improved academic achievement, school readiness, IQ scores, and social interactions, as well as decreased need for special education enrollment in school.⁷ The responsibility to identify delays often falls on the primary care physician. In fact, in 2006, the American Academy of Pediatrics recommended that all children between the ages of 0 and 3 have developmental screening as part of their routine well-child visit via standardized screening tools.¹² Developmental screening was further encouraged when the Affordable Care Act mandated that insurance cover developmental screening.¹³

Developmental delays and behavioral problems, as well as other factors such as socio-economic status and parental substance abuse, are known risk factors for injury from trauma.¹⁴ Despite this, to our knowledge no prior study has considered systematically evaluating patients admitted with traumatic injuries for developmental or behavioral concerns. The current study aimed to provide a framework of comprehensive care for pediatric trauma patients. This would allow for an opportunity to screen patients that may otherwise be missed by routine well child visits, particularly within the context of a broader focus on screening as part of preventative care. Specifically, this study aimed to determine the prevalence of recent outpatient screening in the pediatric trauma population, and whether systematic screening in the trauma setting would lead to identification of previously undetected developmental or behavioral concerns. Secondly, the study considered parental and familial concerns within this population.

2. Materials and methods

2.1. Study cohort

We included patients between 1 and 65 months of age who were hospitalized following a traumatic injury between March 2016 and December 2016. This age range was chosen due to the

* Corresponding author. Department of Surgery, Children's Hospital Boston, Harvard Medical School, 300 Longwood Ave. Fegan-3, Boston, MA, 02115, USA.

E-mail addresses: sbezner@bidmc.harvard.edu (S.K. Serres), catherine.chen@childrens.harvard.edu (C. Chen).

importance of identifying delays at an early age, as well as the limited age range of the study measure, the “The Survey of Well-being of Young Children” (SWYC).¹⁵ Patients involved in state custody evaluations due to concern for nonaccidental trauma were excluded.

2.2. Study design

This prospective descriptive study included children admitted following a traumatic injury at a single center, Boston Children's Hospital. All patients meeting inclusion criteria during the study time-period were given the opportunity to participate in the study. Custodial parents of patients were approached by a physician in person and given the opportunity to participate while the patient was hospitalized. Those that were unable to be contacted during their hospitalization due to personnel limitations were sent a study packet via mail following their discharge. No incentives were provided for participation in the study. Following completion of the written study measures, the SWYC was scored and assessed for any developmental delays or behavioral concerns. The patient's pediatrician's office was contacted to obtain a copy of the last well child visit note for comparison with study findings. The pediatrician was also provided with screening results to provide any necessary follow-up. Institutional review board approval was obtained for the study.

2.3. Study materials

The current study utilized the SWYC (found at theswyc.org), which is a parent-report screening tool aimed at children between 1 and 65 months that assesses for cognitive, language, motor, social, emotional, and behavioral milestones, as well as autism and family factors.^{15–17} There are varying versions of the survey for different ages based on norms, and the survey takes less than 15 min to complete.¹⁶

To screen for developmental delays, each form includes a 10-question developmental milestone checklist that asks specific developmental questions to determine if the child engages in age appropriate behaviors. Behavioral problems are screened through questions asking about the child's behavior. Two questions on the instrument directly ask if the parent has concerns about the child's development or behaviors. Further questions address issues related to family concerns.

The SWYC was developed by utilizing components from previously validated developmental screening measures, and validated against comparable measures. Overall, the sensitivity for the SWYC was 76% and specificity was 77%.¹⁸ This measure was chosen due to its brevity and public availability.

Participants also completed the Child Health Ratings Inventory Parent Report - Demographics (CHRI – General), which assesses information relating to the family's structure, socioeconomic status, resource utilization, and health care coverage.¹⁹ Additional questions provided in an addendum to the demographics sheet assessed for prior developmental screening, whether the child is regularly seen by a pediatrician, if they have ever completed a developmental checklist, and contact information of their child's primary care provider.

2.4. Outcomes and statistical analysis

The SWYC for each patient was scored according to the age appropriate SWYC scoring algorithm,¹⁸ and it was determined if the patient was “at risk” for any of the developmental or behavioral concerns (as defined by the SWYC manual available online at theswyc.org). We used the Mann-Whitney *U* test to compare age.

We utilized the Fisher's exact test and the chi-squared test to compare proportions of patient characteristics between those enrolled in the study and those who did not enroll, as well as between those who had concerns identified on the SWYC and those who did not.

The α value was set at 0.05, and all statistical tests were 2 tailed. Statistical analyses were performed using SAS Enterprise Guide v. 7.1 (SAS Institute, Cary, NC).

3. Results

3.1. Study population

During the study enrollment period, 92 children who met the study's age criteria were admitted following a traumatic injury. Eleven of these patients were excluded due to circumstances that were being investigated for nonaccidental trauma, leaving 81 patients for the study. Of these, parents of 46 patients were asked to participate via a mailed packet due to study personnel limitations, and 5 packets were returned (10.9% participation rate by mail). Parents of 34 patients were approached in person to participate in the study, and of these, 22 participated (64.7% participation rate in person). One patient was unable to be contacted in person or by mail. In total, the parents of 27 children chose to participate in the study (23 mothers and 4 fathers). Parents of 23 participants were married or living with their partner, 2 were divorced, separated, or widowed, and 2 were never married. Patients in the included cohort were nearly evenly split by gender (female = 51.9%), and median age was 38 months (range: 1–64 months). Importantly, no statistical differences in demographics were found between those who participated in the study and those who did not (Table 1).

3.2. Types of trauma

The mechanism of trauma in the vast majority of cases was a fall (88.9%), whether it was the patient falling (74.1%) or the patient being dropped by the caregiver (14.8%). Other mechanisms of injury included being a pedestrian struck by automobile, crush injury, and vascular injury secondary to rubber bands. Injuries were primarily orthopedic in 15 (55.6%) patients, neurologic/neurosurgical in 11 (40.7%) patients, and otorhinolaryngologic in 1 (3.7%) patient.

3.3. Patient interaction with pediatricians

Parents of all 27 patients reported having a pediatrician and 96.3% reported that they were seen regularly by their pediatrician. Parents of approximately half (48.1%) indicated that they had previously told their pediatrician about a concern they had about their child's behavior or development; however, only 25.9% were aware of their pediatrician formally screening for a behavioral or developmental problem. Previously, 3 parents (11.1%) had been told that their child had a developmental delay or behavioral problem. Five patients (18.5%) had previously received services through the Early Intervention Program, but only 1 patient (3.7%) was currently receiving services.

3.4. Pediatrician screening

Overall, 46.2% (12/26) of pediatrician notes referenced formal screening for concerns (one pediatrician did not provide a note). The pediatricians had previously screened through the PEDStest ($n = 6$, www.pedstest.com), the Modified Checklist for Autism in Toddlers (M-CHAT, $n = 1$, mchatscreen.com), and the Ages and Stages Questionnaire (ASQ, $n = 1$, agesandstages.com), not specified

Download English Version:

<https://daneshyari.com/en/article/5731211>

Download Persian Version:

<https://daneshyari.com/article/5731211>

[Daneshyari.com](https://daneshyari.com)