

Emergency Physician Referrals to the Pediatric Crisis Clinic: Reasons for Referral, Diagnosis and Disposition

Jonathan Lee BSc, PhD¹ and Daphne Korczak MD FRCPC²

Abstract:

Objective: To describe the patient population, diagnoses, and disposition of children and adolescents referred by Pediatric Emergency Medicine (PEM) physicians to a Pediatric Psychiatric Crisis Clinic (PCC) for urgent consultation; to describe the percent agreement between PEM physician discharge diagnosis and subsequent child psychiatrist diagnoses. **Method:** Data were obtained prospectively over a one-year period for consecutive patients referred to the PCC (n=174). Patients and families were contacted for information regarding subsequent emergency department (ED) visitation following PCC consultation. **Results:** Referred patients were commonly male (63%) with a mean age of 12.2 ± 3.2 years diagnosed with adjustment disorder (29%), mood disorder (17%) and anxiety disorder (17%) and significant psychosocial stressors. Five percent of patients required hospitalization. PEM physician discharge diagnosis and child psychiatrist diagnosis were in agreement in 21% of cases. **Conclusion:** Patients referred by PEM physicians for urgent outpatient psychiatric assessment were most commonly early adolescent males. The majority of patients did not require ongoing psychiatric care. Further investigation into the differences between PEM physician and child psychiatrist diagnoses is needed to ensure patients and families receive accurate and consistent mental health information and recommendations from all members of their health care team.

Key words: child psychiatry, psychiatric emergency services, referral and consultation.

Résumé

Objectif: Décrire les patients référés par des médecins d'une clinique pédiatrique à une clinique pédopsychiatrique pour consultation en urgence; présenter le diagnostic et le congé des enfants et des adolescents; évaluer la corrélation entre le diagnostic du pédiatre et celui du pédopsychiatre. **Méthodologie:** Les données relatives à 174 patients qui se suivaient et avaient été référés en pédopsychiatrie ont été recueillies pendant un an. Les patients et les familles ont ensuite donné des informations sur leurs visites ultérieures à l'Urgence. **Résultats:** Soixante-trois pour cent des patients étaient de sexe masculin (âge moyen: $12,2 \pm 3,2$ ans); ils ont été diagnostiqués comme suit: trouble d'ajustement (29 %), trouble de l'humeur (17 %), anxiété (17 %) et graves stressseurs psychosociaux. Cinq pour cent d'entre eux ont dû être hospitalisés. Le diagnostic du pédiatre confirmait celui du psychiatre dans 21 % des cas. **Conclusion:** Les patients référés par des pédiatres pour évaluation psychiatrique en clinique externe étaient généralement de jeunes adolescents. La majorité des patients n'avait pas besoin de soins psychiatrique suivis. Il convient d'approfondir l'étude des différences entre les diagnostics de pédiatres et ceux des pédopsychiatres pour s'assurer que les patients et les familles sont correctement informés sur la santé mentale et reçoivent les recommandations appropriées de la part de tous les membres de l'équipe soignante.

Mots clés: pédopsychiatrie, urgence psychiatrique, référence et consultation

¹ Queen's Faculty of Health Sciences, Queen's University, Kingston, Ontario

² Department of Psychiatry, The Hospital for Sick Children and The University of Toronto, Toronto, Ontario

Corresponding Email: daphne.korczak@sickkids.ca

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Introduction

Rates of physician diagnosed child and adolescent psychosocial problems have risen dramatically in recent years (Breslow et al., 2000; Goldstein et al. 2007; Kelleher et al., 2000; Sills & Bland, 2002). Research investigating emergency department (ED) utilization by psychiatric patients has reported a specific increase in the proportion of child and adolescent patients presenting to the ED with psychiatric complaints, rising nearly 50% from 8.0% to 11.5% over one year (Breslow et al., 2000; Page, 2000) and increasing by 75% over a four year period across the United States (Sills and Bland 2002). Limited Canadian data similarly showed an increase in ED utilization over a four-year period by pediatric patients with mental health concerns (Newton et al., 2009). Psychiatric emergency services have been shown to serve a key function in the management of pediatric psychiatric patients (Goldstein et al., 2007) and often serve as an entry point into the healthcare system for pediatric patients seeking psychiatric care (Breslow et al., 2000; Gerson & Bassuk, 1980; Sadka, 1995).

There is presently a dearth of literature examining the use of emergency psychiatric services by child and adolescent patients (Edelsohn et al., 2003; Goldstein & Horwitz, 2006; Newton et al., 2009; Kennedy et al., 2009) and particularly of studies that are Canadian in origin. Studies to date are limited to models of emergency psychiatric consultation which occur solely within the ED at the time of ED presentation (Feiguine et al., 2000; Goldstein et al., 2007; Goldstein & Horwitz, 2006; Greenfield et al. 1995; Kennedy et al., 2009; Mahajan et al., 2007; Santiago et al. 2006). Studies of ED-based assessment have reported a modest reduction in admission rates (Greenfield et al. 1995) and duration in the ED (Mahajan et al., 2007) when a psychiatric crisis team is available to the ED. For pediatric patients, however, psychiatric consultation within the ED is potentially problematic for many reasons. Family members who provide important collateral information and ensure ongoing care may be absent. In addition, the structure of the ED itself may preclude the privacy necessary to conduct a proper psychiatric interview (Breslow et al., 2000). Further, information gathering is more time-consuming when patients present after work hours (Nadkarni et al., 2000). Thus, urgent outpatient psychiatric consultation may be a useful and cost-effective model of child and adolescent psychiatric care for non-emergent patient presentations to the ED.

An outpatient urgent care clinic consultation model allows for the rapid assessment of children and adolescents with non-emergent psychiatric complaints. At our centre we define "urgent" care as psychiatric consultation occurring

within 72 hours of ED presentation. Appointments are given to children and families by the ED physician on discharge from the ED. We found only one study that examined this type of child and adolescent emergency consultation (Parker et al., 2003). Parker et al. found that a rapid response urgent consultation model reduced admission rates to the psychiatric inpatient ward by over 90%, from 22% to 2% in one year. Similar to the model described in the present study, pediatric patients were seen in outpatient psychiatry within 48 hours of ED presentation at the discretion of the PEM physician, shifting after-hours assessments to typical daytime working hours. Although the study reported patterns of crisis service utilization, it did not examine patient characteristics, reasons for referral, diagnoses, or subsequent disposition, examined in the present study, which are important for program and resource planning.

The primary objective of the present study was to prospectively examine the pediatric patient population referred by PEM physicians for urgent psychiatric consultation, their presenting diagnoses, disposition following child psychiatric assessment, and rate of ED revisitation following consultation at an urban academic centre. The secondary objective was to determine the percent agreement between PEM physicians and child psychiatrists with respect to the presenting ED complaint.

Materials and Methods

The Pediatric Crisis Clinic (PCC) is situated within an urban, academic, tertiary care children's hospital in Toronto. The ED in our hospital sees approximately 50,000 children and families per year for all emergency needs including mental health. Patients are seen by PEM physicians and referred by the ED for emergency psychiatric assessment by a child psychiatrist. PCC assessment occurs within 72 hours, and frequently within 24-48 hours, of referral. All patients referred to the PCC over a one year period (May 2007-April 2008) were included for study participation without exclusion. Data regarding demographics, PEM physician reason for PCC referral and discharge diagnosis, child psychiatrist Axis I diagnosis, Axis IV problems, and disposition following PCC consultation were collected prospectively during the study period. Multi-axial diagnoses were determined by child psychiatrist clinical interview. Data were subsequently verified by patient hospital chart review prior to analysis by a member of the research team (JL). No discrepancies were identified between data in the prospective database and information contained in patients' charts upon review. ED revisitation data following PCC assessment was determined by structured telephone interview of the patients' parent at 4-12 months

Table 1. Patient characteristics (n=174*).

	Mean (SD)
Age	12.2 (3.2)
	N (%)
5 years and under	4 (2.3)
6 to 12 years	82 (47.1)
13 to 17 years	88 (50.6)
Sex	
Male	110 (63.3)
ED reason for PCC referral	
Suicidality	45 (25.9)
Behavioral difficulties	42 (24.1)
Depression	30 (17.2)
Anxiety	26 (14.9)
"Crisis" or "Mental Health"	20 (11.5)
Psychosis	17 (9.8)
Obsessive-Compulsive Disorder	6 (3.4)
Medication/Ingestion	5 (2.9)
Pervasive developmental disorder/Asperger's/Autism	4 (2.3)
No stated reason	3 (1.7)
School Refusal	2 (1.1)
Adjustment Disorder	2 (1.1)
Parent-Child Relational Problem	2 (1.1)
Bipolar Affective Disorder	1 (0.6)
Attention deficit hyperactivity disorder	1 (0.6)

*The number of reasons for referral exceeds 174 due to multiple reasons for referral for some patients (n=28).

following PCC assessment. Where statistical software was required, data were analyzed using SPSS v.16. Approval for this study was obtained by the Research Ethics Board at the Hospital for Sick Children (HSC).

Results

One hundred and seventy-four patients were referred to the PCC during the study period and comprised the study sample. Of those referred, 71% (n=124) consented to participate in the study's post-ED follow-up period; 14 patients (8%) refused study participation and 36 patients (21%) were unable to be contacted due to incorrect/change in contact information or home address and considered lost to follow-up. Participant

demographic data and reasons for PCC referral are presented in Table 1. Patients had a mean age of 12.2 ± 3.2 years (median 12 years of age). Nearly two-thirds (63%) of patients referred for urgent assessment were male. The most frequent reasons for PCC referral as assessed by PEM physicians were suicidality (26%), behavioral difficulties (24%), and depression (17%). Several patients had multiple reasons for referral (n=28).

Table 2 presents patient diagnoses as determined by child psychiatrists and PEM physicians and the percent agreement between PEM physician discharge diagnosis and child psychiatrist diagnosis. The most frequent Axis I disorders present in this population were adjustment disorders (29%), anxiety disorders (17%), and mood disorders (17%) following PCC consultation. All reasons for referral were considered and agreement recorded in cases where one of several ED discharge impressions matched the child psychiatrist diagnosis. Percent agreement was greatest when patients presented with symptoms of psychotic (50%), anxiety (43%), and mood (30%) disorders.

Patients commonly presented with significant contributing psychosocial stressors noted on Axis IV. Forty percent were adjusting to a new school or neighborhood (N=70), 33% were experiencing academic difficulties (N=58), and 31% were experiencing parental divorce or conflict (N=54). Twenty-four percent were experiencing peer conflict (N=41), 17% experienced ongoing bullying (N=29), 8% had parents with mental health problems (N=14), 7% had sibling conflict (N=13), 6% experienced bereavement (N=11), 5% had financial difficulty (N=8), 5% had child protection services involvement (N=8), and 4% had pending legal proceedings (N=7) at the time of ED and subsequent PCC presentation. Seventy percent (N=122) of patients presented with more than one contributing psychosocial stressor noted on Axis IV. During the period of time between ED assessment and PCC consultation, no suicide attempts or acts of violence resulting in serious harm or police involvement occurred.

At the time of PCC assessment, five percent of referred patients required psychiatric hospitalization while the majority of patients (95%) received recommendations for outpatient care. Over half of PCC referred patients were referred back to their primary care physicians or to non-psychiatric community agencies (Table 3). At the time of study follow-up, 80% (n=99) of the 124 patients who consented to be interviewed had not returned to any ED for psychological concerns.

Table 2. Percent agreement between PEM physician discharge diagnosis and child psychiatrist diagnoses (N=174*).

Diagnosis	PEM Physician	Child Psychiatrist	Number of cases (%) in Agreement
Adjustment Disorder	2	51	2 (3.9)
Anxiety Disorder	34	30	13 (43.3)
Mood Disorder	71	30	9 (30.0)
ADHD	1	19	1 (5.3)
PDD	4	12	3 (25.0)
CD/ODD	0	11	0 (0)
PCRP	2	10	0 (0)
Learning Disorder	2	9	0 (0)
Psychosis	17	8	4 (50.0)
Substance Use Disorder	5	6	0 (0)
School Refusal	2	3	0 (0)
Eating Disorder	0	2	0 (0)

ADHD = Attention-Deficit Hyperactivity Disorder, PDD = Pervasive Developmental Disorder, CD/ODD = Conduct Disorder or Oppositional Defiant Disorder, PCRP = Parent-Child Relational Problem

*Note: All Axis I diagnoses given have been included. The total number of Axis I diagnoses does not equal the number of patients assessed as some patients did not receive an Axis I diagnosis and others received more than one Axis I diagnosis.

Discussion

This study is the first to prospectively document the patient population, diagnoses and plan of care for children and adolescents directly referred by PEM pediatricians to an urgent outpatient psychiatric clinic. These data could be used to tailor healthcare resources to more specifically address patient stressors, diagnoses, and to guide resource allocation to emergency mental health services and to the community agencies into whose care children with mental health concerns are discharged. Eighty percent of patients seen in the PCC did not revisit any ED for psychological concerns during the follow-up period. This figure is similar to the overall return rate recently reported for pediatric patients presenting to the ED with mental health complaints (Newton et al, 2010). However, in contrast to the patients in the study by Newton et al, our study consisted of only those patients referred by the ED for psychiatric consultation and thus may comprise a subset of patients with more significant psychological impairment or severe illness. As such, one might have expected a higher return rate in our study. To further understand the role of the PCC and its potential impact on subsequent ED visitation for psychological complaints, examination of the patient and family perspective of PCC consultation is needed as well as

comparison between patients seen by the ED only with those referred for PCC assessment.

In our study, children and adolescents were referred most frequently for suicidality and behavioural disturbances and had significant psychosocial stressors including serious academic difficulties, parental marital conflict/breakdown, and conflictual peer relationships, including bullying at school. These results suggest that a large proportion of children referred from the ED for urgent psychiatric consultation could potentially be addressed by preventative interventions based in the school environment aimed at identifying and assisting children with academic difficulties and at mitigating detrimental effects of bullying. Furthermore, although a majority of patients were referred for suicidality, only a minority were eventually admitted after PCC consultation. Continuing medical education programs could be aimed both at increasing PEM physician understanding of factors increasing the likelihood of suicide completion and confidence in discharging patients who might be better served by more cost-effective interventions than PCC consultation.

Child psychiatrists were less likely than PEM physicians to attribute the presenting complaint to an underlying mood, anxiety, or psychotic disorder. In contrast, child psychiatrists were more likely to determine diagnoses of ADHD, PDD and

Table 3. Disposition and referral services (n=174).

Service	N (%)
Hospitalization	8 (4.6)
Primary care physician	29 (16.7)
Academic child psychiatrist	24 (13.8)
Community psychiatrist	17 (9.8)
Private therapist	23 (13.2)
Community agency	71 (40.8)
None	2 (1.1)

CD/ODD as contributing to the presenting problem and were more likely to elicit histories of significant psychosocial stressors, longstanding behavioural disturbances (ODD/CD) ADHD, and Learning Disorders. Child psychiatrists were also more likely to diagnose referred children with Adjustment Disorders secondary to Axis IV stressors than were PEM physicians. The pattern of PEM physician versus child psychiatrist diagnoses in this study is interesting. That PEM physicians were more likely to suggest a mood, anxiety or psychotic disorder in referred patients than was indeed present may be a reflection of a more general discomfort with mental health issues within Pediatrics (Fremont et al, 2008). Alternately, the diagnoses may reflect patient/family disclosed diagnoses recorded by PEM physicians for a variety of reasons which may include decreased assessment time available (Breslow et al, 2003), exhausted patients and/or family members due to assessment time of day (Nadkarni et al, 2000), lack of key collateral informant availability (Breslow et al, 2003; Nadkarni et al, 2000), environmental barriers to history-taking within the ED (Breslow et al, 2003; Nadkarni et al, 2000), or lack of specialty expertise (Fremont et al, 2008). Our findings may be a reflection of the increased time available for psychiatric assessment as compared with ED assessment, however, duration of assessment for PEM physicians or child psychiatrists was not measured in this study. Inconsistent formulations of the presenting problem may serve to disorient patients and families with respect to the validity of early onset mental illness and thus result in an additional barrier to the acceptance of already stigmatized mental health diagnosis and treatment. Thus, the discrepancy between PEM physician and child psychiatrist diagnosis requires further investigation in order to determine the reason for the specific pattern and the potential impact on the receiving patient and families.

In our study, the majority of patients assessed did not require ongoing psychiatric care and did not revisit any ED for psychological concerns at the time of the study follow-up. This finding affirms the role of the PCC as a filter, the central task of which is to triage patients to appropriate treatment settings (Breslow et al, 2003), and further suggests that the majority of children seen in crisis can be managed as outpatients. A recent Canadian study has identified several risk factors for ED revisitation for psychological concerns among youth, including female sex, older adolescent age, and initial presentation for a mood or psychotic disorder (Newton et al, 2010). Further longitudinal investigation into alternate models of ED-based psychosocial assessment and follow-up care is needed to examine both patient-based and health system outcomes in comparison to the psychiatric consultation-only model employed in the PCC. One potential model that requires investigation, for example, may allow ED-based allied health professionals to fulfill this triaging and liaison role with community agencies, thereby providing an opportunity for a more seamless and cost-effective system of care.

This study is subject to several limitations. First, data regarding emergency psychiatry consultations performed within the ED over the study period were not collected. Retrospective review of these figures suggests that referrals to the PCC comprised approximately 75% of all ED referrals to psychiatry during the study period (J. Roberge, personal communication, April 14, 2009). Data on patient demographics, presentation or disposition for patients referred for emergency psychiatric assessment were not collected during the study period, such that potential similarities or differences between patients selected for ED-based versus PCC consultation could not be explored. Comparisons between participants and those who refused participation (29%) were also not possible. Second, data on race and socioeconomic status (SES) were not collected such that differences in referral or presentation patterns based on race or SES, should they exist, could not be determined. Finally, as the follow-up telephone survey was administered over a two month period, it occurred at varying durations following the PCC assessment (range 4-12 months, mean 7 months). Each patient was contacted a minimum of 4 months post-clinic visit, however, by which time continued distress resulting from the original presenting complaint would be expected to have manifested.

In conclusion, this study finds that child and adolescent patients referred to an outpatient urgent psychiatric assessment clinic following presentation to the ED are commonly early adolescent males referred for behavioural difficulties or suicidality. This study also highlights the significant contributing role of family/peer and school conflicts in the

presentation of many children and adolescents to the ED. Future studies are needed to investigate the reasons for the differences in diagnostic impression between physicians, and the potential impact of receiving divergent mental health diagnoses on affected children and families. Further investigation into patient-based outcomes including patient and family satisfaction with care, perceived service needs and potential gaps in service delivery are also needed. As the majority of patients do not require psychiatric follow-up services, future studies of this model of care should include the investigation of the potential role of ED-based allied health professionals in identifying and managing psychosocial precipitants of presenting crises and facilitating appropriate patient disposition following discharge.

Acknowledgments / Conflicts of Interest

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