Medically Hospitalized Patients With Eating Disorders and Somatoform Disorders in Pediatrics: What Are Their Similarities and Differences and How Can We Improve Their Care?

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A B S T R A C T

OBJECTIVES: The purpose of the current study is to describe the demographic and clinical characteristics and health care use of medically hospitalized patients with eating disorders (ED) and somatoform disorders (SFD) in a pediatric setting and to use the findings to explore opportunities for improved care.

METHODS: Retrospective chart reviews of 125 patients with SFD and 125 patients with ED ($N = 250$) seen at a tertiary pediatric facility over a 12- and 19-month period, respectively.

RESULTS: Patients in both groups were predominantly girls, white, came from households with above average incomes, and had academic pressures, internalizing coping styles, and high rates of anxiety disorders. Compared with SFD patients, ED patients had longer medical admissions ($P < .001$), more depressive disorders ($P < .01$), higher lifetime rates of suicidal ideation and self-injurious behaviors ($P < .05$), and were more frequently discharged to intensive psychiatric treatment programs ($P < .001$). SFD patients were referred later to psychiatry ($P < .001$), had more emergency department visits ($P < .001$) and more visits to other hospitals ($P < .05$) and also had higher rates of learning difficulties ($P < .001$), bullying ($P < .05$), and trauma ($P < .01$) compared with ED patients.

CONCLUSIONS: Identifying overlapping features and key differences in the clinical characteristics and health care use of patients with primary psychiatric disorders like ED and SFD, who are frequent users of medical services, is the first step toward developing innovative, integrated hospital-based care approaches and clinical pathways that can reduce service utilization and improve patient outcomes.

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Studies have revealed that close to 10% of pediatric hospitalizations within the United States are for primary mental health diagnoses,[1] and that inpatient admissions for mental health problems among youth increased 24% from 2007 to 2010,[2] thus highlighting the substantial burden of pediatric mental illness. Eating disorders (ED) are one of the most common causes of hospitalizations due to a primary mental health diagnosis seen in free-standing children's hospitals in the United States[1] and accounted for 5.5% of the pediatric hospitalizations with a primary mental health diagnosis at free-standing children's hospitals in 2009.[1] Patients with ED, particularly anorexia nervosa, have the highest mortality rate of any psychiatric disorder[3] and tend to have medical hospitalizations as a result of complications from their illness, such as cardiac dysrhythmias, malnutrition, hypotension, and hypokalemia.[4] Similarly, patients with somatoform disorders (SFD) are at risk for frequent hospitalizations because of their physical symptoms and place a significant burden on the health care delivery system, with twice the inpatient medical care use and twice the medical care costs of nonsomatizing patients.[5] Patients with SFD constituted 13% of medically hospitalized youth seen by an inpatient psychiatric consultation service at a free-standing children's hospital in 2010 and 2011[6] and were the third most common referral (anxiety and depressive diagnoses being the most common).[7]

Admission to the hospital is associated with greater functional impairment compared with the outpatient setting,[4,6] and inpatient pediatric mental health has been identified as a priority area for national quality measurement and improvement.[1,8] Understanding the characteristics of patients with primary psychiatric disorders like ED and SFD, who are often medically hospitalized in pediatric settings, is the first step toward establishing foundational knowledge to guide future quality improvement and integrated care efforts. Although it is well documented that patients with ED and SFD have higher rates of health care use across multiple health care settings compared with the general population[5,9] and that psychological factors, such as denial, poor motivation, alexithymia (ie, difficulty identifying and verbally expressing feelings), and limited insight affect their health care use,[10–13] it is not known if they use services with the same rates and patterns. Furthermore, although other similarities can be gleaned from separate studies of patients with ED and patients with SFD (eg, female preponderance,[6,14] age of presentation in adolescence,[4,6] increased risk of ED and SFD in the offspring of parents with anxiety and depressive disorders[15,16]), it remains unclear how much biopsychosocial characteristics overlap between these 2 patient groups. As such, the current study aims to describe the demographic and clinical characteristics and health care use of medically admitted children, adolescents, and young adults with ED and SFD at a tertiary teaching pediatric facility. Findings will be used to explore possibilities for innovative hospital-based care pathways that can improve patient outcomes and reduce health care use.

METHODS

Setting

The current study was conducted at a large, urban, tertiary, academic pediatric center in the United States. The psychiatry consultation service (PCS) at Boston Children's Hospital consults to all inpatient medical and surgical units and receives referrals from >20 services each year. Specific hospital-wide protocols stipulate referral to the PCS within 24 hours of identifying any patient with ED or SFD concerns in the hospital setting. On referral, PCS clinicians (child psychiatry and psychology attending staff and trainees) conduct psychiatric interviews with patients and parents/guardians separately (when developmentally indicated). For all patients, PCS evaluation procedures involve routinely screening for several characteristics, including: developmental, social, and academic histories; temperament and coping styles; trauma and bullying histories; and patient and family psychiatric histories. These are documented in the electronic medical record using a standardized evaluation template.

Medical Record Review

Retrospective chart reviews were conducted of 125 medically hospitalized patients with SFD and 125 medically hospitalized patients with ED ($N = 250$) seen by the PCS from 2012 to 2013 over a 12-month and 19-month period, respectively. Patients were identified from a tracking database in which all PCS consultations are recorded. A priori power analysis indicated a total sample size of 220 patients needed for 0.95 power ($\alpha = 0.05$). For each group, consecutive patients were included in the sample in reverse chronological order from 2013 until 125 charts were obtained. Referral rates were higher for patients diagnosed with SFD (14.8%) than patients diagnosed with ED (9.9%) per the *Diagnostic and Statistical Manual of Mental Disorders* (DSM), *Fourth Edition, Text Revision.*[17] SFD diagnoses included: pain disorder ($n = 42$), conversion disorder ($n = 39$), undifferentiated somatoform disorder ($n = 22$), somatoform disorder not otherwise specified ($n = 19$), and somatization disorder ($n = 3$). There were no SFD patients diagnosed with body dysmorphic disorder or hypochondriasis. ED diagnoses included: anorexia nervosa ($n = 69$), bulimia nervosa ($n = 1$), and eating disorder not otherwise specified ($n = 55$). Patients with comorbid SFD and ED ($n = 5$) and patients in the custody of child protective services were excluded from the study.

The institutional review board of the facility approved the study. Two research assistants trained in medical chart reviews (inter-rater reliability, $\kappa > 0.80$) abstracted de-identified data from the electronic medical records (primarily PCS and admitting service notes) using a standardized data form developed in Research Electronic Data Capture (REDCap), which is a Web-based application designed to support research data entry.[18] Information entered into REDCap included: demographics; patient medical and psychiatric characteristics; family medical and psychiatric characteristics; patient

developmental, academic, and social characteristics; and health care use. For patients who had multiple medical admissions during the study period, only data from the most recent admission was included to avoid replication of information.

Statistical Analysis

Descriptive analyses, χ^2 tests, and t tests were performed using SPSS version 19 (IBM SPSS Statistics, IBM Corporation). For χ^2 analyses, the likelihood ratio test rather than the Pearson χ^2 test was used when warranted as a method of statistical adjustment. Similarly, for our t test comparisons, we used the Levene's test to determine whether equal variances should be assumed. Because this study was exploratory in nature, multiple univariate analyses were conducted to identify which specific outcome variables differed across these 2 populations and to inform future research directions, including development of multivariate models.[19]

RESULTS
Demographic and Academic Characteristics

The mean age of ED (14.9 years, range: 8–26 years) and SFD patients (14.6 years, range: 6–23 years) was similar, with both groups of patients consisting predominantly of white girls (Table 1). There were some demographic differences, with more boys in the SFD group (29.6%) compared with the ED group (13.6%) and more minority/nonwhite patients in the SFD group (24.8%) as compared with the ED group (11.2%). Although the median household income of both groups was higher than the national average ($53 482) reported by the US Census Bureau,[20] ED patients came from households with higher median income compared with SFD patients (Table 1). Both patient groups had similar rates of private and public insurance coverage.

More than half of ED patients (54.4%) were reported as having high academic achievement (eg, honors, straight A's), whereas more than half of SFD patients (56.0%) were reported as having a history of learning difficulties/disabilities, with

TABLE 1 Demographic and Academic Characteristics of Patients Diagnosed With ED or SFD (Mean $\pm$ SD or n [%])

	ED	SFD	t, χ^2
Patient demographics			
Age at consult (y)	14.9±2.9	14.6±3.3	0.59
Race/ethnicity (Nonminority versus minority patients)			7.83**
White (not Hispanic or Latino)	111 (88.8)	94 (75.2)	
African American	1 (0.8)	14 (11.2)	
Asian	4 (3.2)	1 (0.8)	
Hispanic/Latino	4 (3.2)	5 (4.0)	
Other	2 (1.6)	10 (8.0)	
Unknown	3 (2.4)	1 (0.8)	
Sex			9.45**
Girl	108 (86.4)	88 (70.4)	
Boy	17 (13.6)	37 (29.6)	
Median household income (US dollars)	$93 390 ± $66 414	$77 494 ± $29 895	2.38***
Insurance coverage at admission			1.13
State/federal insurance	24 (19.2)	30 (24)	
Private insurance	99 (79.2)	94 (75.2)	
Other	2 (1.6)	1 (0.8)	
Academics/learning interventions			
High academic achievement	56 (54.4)	37 (31.9)	11.28*
Learning disability/learning difficulties	25 (20)	70 (56)	27.37*
Receipt of learning intervention	24 (19.2)	61 (48.8)	24.40*
Individualized education plan	10 (8)	28 (22.4)	10.06**
504 plan	2 (1.6)	16 (12.8)	11.73*
Home schooling	2 (1.6)	9 (7.2)	4.66***
Other intervention (special classroom, 1:1 aide, etc)	6 (4.8)	27 (21.6)	15.40*

*$P \leq .001$; **$P \leq .01$; ***$P < .05$, all two-tailed.

48.8% of SFD patients requiring learning interventions (eg, individual education plans, home schooling) (Table 1).

Medical Characteristics and Medical Health Care Use

SFD patients reported higher rates of family history of medical illness, including more maternal caregivers with a history of similar physical symptoms as seen/reported in their child, and also had higher rates of comorbid medical diagnoses compared with ED patients (Table 2).

Both groups had similar rates of previous inpatient medical admissions at the study facility during the previous year, however, SFD patients had more emergency department visits in the previous year and higher rates of visits to other hospitals for medical

evaluation during the month before admission compared with ED patients (Table 2).

During the target hospitalization, the majority of ED patients were admitted to/referred by the adolescent medicine service (73.6%), whereas SFD patients were admitted under a wider range of services, most frequently hospitalist and neurology teams (39.2% each). ED patients were referred earlier to the PCS, had longer admissions, more laboratory tests, and more cardiac tests/procedures conducted compared with SFD patients (Table 2). SFD patients had more neurology procedures/imaging and more medical specialty consults (eg, pain, gastroenterology, endocrine services) during their hospitalizations compared with ED patients (Table 2). Both patient groups had similar rates of gastrointestinal tests/procedures

TABLE 2 Medical Characteristics and Medical Health Care Use of Patients Diagnosed With ED or SFD (Mean ± SD or n [%])

	ED	SFD	t, χ^2
Medical characteristics			
Family history of medical illness	51 (44)	81 (69.8)	15.82*
Biological mother similar physical symptoms	1 (0.8)	27 (21.6)	27.19*
Biological father similar physical symptoms	1 (0.8)	4 (3.2)	1.84
History of comorbid medical conditions	65 (52)	111 (88.8)	40.62*
Total No. of medical comorbidities	0.90 ± 1.21	2.82 ± 2.17	−8.63*
Medical health care use			
Previous health care use			
Inpatient medical admission at current facility (within 1 y before admission)	0.35 ± 0.83	0.46 ± 1.24	−0.81
Emergency department visits at current facility (within 1 y before admission)	0.22 ± 0.55	0.99 ± 1.72	−4.81*
Visit to different hospital (within 1 month before admission)	51 (41.5)	65 (54.2)	3.93***
Current admission health care use			
Primary admitting service			
Adolescent medicine	92 (73.6)	2 (1.6)	136.52*
Critical care step down/intermediate care program	1 (0.8)	2 (1.6)	2.00
Endocrinology	2 (1.6)	0 (0)	2.81
Gastroenterology	1 (0.8)	13 (10.4)	10.80**
General pediatrics/hospitalist	18 (14.4)	49 (39.2)	18.05*
General surgery	1 (0.8)	1 (0.8)	0.00
Hematology	0 (0)	2 (1.6)	2.77
Neurology/epilepsy	1 (0.8)	49 (39.2)	57.18*
Neurosurgery	0 (0)	1 (0.8)	1.38
Orthopedics	1 (0.8)	1 (0.8)	0.00
Pain treatment	0 (0)	4 (3.2)	5.58***
Pulmonary	1 (0.8)	0 (0)	1.40
Rheumatology	0 (0)	1 (0.8)	1.38
Toxicology	6 (4.8)	0 (0)	8.52**
Time from admission to consultation request (d)	1.18 ± 1.05	1.72 ± 1.45	−3.37*
Length of inpatient medical admission (d)	7.2 ± 5.2	4.5 ± 4.1	4.55*
Total No. of laboratory tests	47.81 ± 18.31	38.89 ± 28.46	2.95**
Total No. of imaging/procedures	1.88 ± 1.70	1.98 ± 1.93	−0.42
No. of cardiac tests/procedures	1.53 ± 1.36	0.45 ± 0.80	7.66*
No. of neurology tests/procedures	0.02 ± 0.15	0.38 ± 0.63	−6.06*
No. of gastrointestinal tests/procedures	0.03 ± 0.22	0.06 ± 0.35	−0.86
No. of gynecology tests/procedures	0.00 ± 0.00	0.01 ± 0.09	−1.00
Medical specialty consults			
Pain treatment service	0 (0)	36 (28.8)	33.08*
Neurology	3 (2.4)	25 (20.0)	19.47*
Gastroenterology	6 (4.8)	15 (12.0)	4.21***
Cardiology	8 (6.4)	7 (5.6)	0.07
Endocrine	0 (0)	6 (4.8)	4.27***
Other specialty consults			
Nutrition	105 (84.0)	23 (18.4)	107.65*
Child life	37 (29.6)	19 (15.2)	7.46**
Social work	16 (12.8)	36 (28.8)	9.71**
Integrative therapies	9 (7.2)	4 (3.2)	2.03
Enteral tube placement	17 (13.6)	9 (7.2)	2.75

*$P \leq .001$; **$P \leq .01$; ***$P < .05$, all two-tailed.

(eg, endoscopies) and enteral feeding (eg, via nasogastric/gastric/nasojejunal/jejunal tubes) during hospitalization.

Mental Health Characteristics and Mental Health Care Use

Both populations reported similar rates of a family history of mental illness and similar temperamental styles (more than half were described as having anxious temperaments and avoidant and internalizing coping styles), however, ED patients were more often described as perfectionistic, with higher rates of anxious temperament and internalizing coping styles (Table 3). SFD patients reported higher lifetime rates of bullying (36.0%) and trauma (33.6%) than ED patients (21.8% and 18.5% respectively). Overall rates of comorbid psychiatric diagnoses[17] were similar in both groups, with the most common comorbid psychiatric diagnosis being anxiety disorders (42.8%). Compared with SFD patients, ED patients had more total comorbid psychiatric diagnoses, higher rates of depressive disorders, higher lifetime rates of suicidal ideation and self-injurious behaviors, and lower psychiatric functioning per Children Global Assessment Scale (CGAS)[21] scores during their admission (Table 3).

More than half of both patient groups had received some psychiatric treatment before their medical admission; however, ED patients had higher rates of past psychiatric treatment than SFD patients (Table 3). Specifically, more ED patients had previously received treatment in intensive psychiatric treatment programs (with the majority being ED-specific programs) compared with SFD patients.

During the identified hospitalization, both populations were prescribed psychotropic medications for psychiatric symptoms (eg, anxiety, depression, agitation) at similar rates, although SFD patients were more frequently additionally prescribed psychotropic medications (eg, benzodiazepines, mood stabilizers, tricyclic antidepressants) for physical symptoms (eg, pain, nausea) (Table 3). More than half of ED patients (52.8%) were discharged to psychiatric higher levels of care (inpatient, residential, partial hospitalization

TABLE 3 Mental Health Characteristics and Mental Health Care Use of Patients Diagnosed With ED or SFD (Mean ± SD or n [%])

	ED	SFD	t, χ^2
Mental health characteristics			
Family history of mental illness	99 (81.1)	90 (76.3)	0.85
Biological mother history of mental illness	56 (46.3)	48 (40.7)	0.76
Biological father history of mental illness	41 (33.9)	38 (33.3)	0.008
Patient temperament			
Perfectionistic tendency	63 (80.8)	29 (41.4)	24.28*
Anxious, sensitive temperament	102 (87.2)	65 (60.2)	21.39*
Avoidant coping style	23 (65.7)	38 (52.1)	1.80
Internalizing coping style	81 (94.2)	74 (75.5)	12.03*
Disruptive externalizing behaviors	22 (20)	13 (11.4)	3.14
History of bullying	24 (21.8)	40 (36.0)	5.43***
History of trauma	22 (18.5)	42 (33.6)	7.20**
Total No. of comorbid psychiatric diagnoses	1.21±1.21	0.87±0.96	2.44***
No comorbid diagnoses	44 (35.2)	55 (44.0)	2.02
≥1 comorbid diagnoses	81 (64.8)	70 (56)	2.02
Anxiety disorders	54 (43.2)	53 (42.4)	0.02
Depressive disorders	43 (34.4)	21 (16.8)	10.17*
Disruptive disorder	10 (8.0)	10 (8.0)	0.00
Mood disorder	6 (4.8)	5 (4.0)	0.10
Substance abuse	6 (4.8)	1 (0.8)	2.35
Other psychiatric diagnoses	6 (4.8)	8 (6.4)	0.30
Developmental disorder	0 (0)	4 (3.2)	2.29
Psychosis	0 (0)	0 (0)	N/A
History of suicidality	49 (39.2)	38 (30.4)	2.13
History of suicidal ideation	44 (36.4)	29 (23.8)	4.58***
History of self-injurious behavior	31 (25.4)	18 (15)	4.06***
History of suicide attempt	17 (14)	8 (6.5)	3.78
Patient CGAS	41.78±12.61	47.24±10.30	−3.72*
Mental health care use	99 (79.2)	84 (67.2)	4.59***
Previous psychiatric treatment			
Outpatient, individual	66 (52.8)	63 (50.4)	0.14
Outpatient, family	3 (2.4)	1 (0.8)	0.25
School counseling	9 (7.2)	12 (9.6)	0.47
In-home therapy	1 (0.8)	5 (4.0)	1.54
Intensive outpatient program	13 (10.4)	0 (0)	13.71*
Partial program	11 (8.8)	9 (7.2)	0.22
Inpatient/residential facility	41 (32.8)	16 (12.8)	14.20*
Previous psychiatric medications	47 (37.6)	45 (36)	0.07
Other past psychiatric treatment	7 (5.6)	10 (8.0)	0.57
Current psychiatric treatment			
Current psychotropic medications (psychiatric symptoms)	67 (53.6)	58 (46.4)	1.30
Current psychotropic medications (pain/medical symptoms)	20 (16.1)	76 (60.8)	18.24*
Psychiatric disposition from current admission			
Outpatient therapy/intensive outpatient program	58 (46.4)	93 (74.4)	20.49*
Partial program	11 (8.8)	23 (18.4)	4.90***
Residential facility	17 (13.6)	2 (1.6)	12.82*
Inpatient medical: psychiatric facility	38 (30.4)	7 (5.6)	26.04*
Patient/family discharged against medical advice	1 (0.8)	0 (0)	0.00

*$P \leq .001$; **$P \leq .01$; ***$P < .05$, all two-tailed. N/A, not applicable.

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programs) as compared with a quarter of SFD patients (25.6%).

DISCUSSION

To our knowledge, this is the first study to compare demographic, clinical, and health care use patterns of medically hospitalized patients with ED and SFD in a pediatric setting. Our findings reveal that the typical patient who is medically hospitalized with an ED or SFD at a tertiary pediatric institution in the United States is a temperamentally anxious, adolescent, white girl, from an above average income household, who has academic pressures, an internalizing and avoidant coping style, and a family history of mental illness. Ethnic disparities in health care access and treatment delivery may explain the higher rates of white patients with SFD and ED who access hospital services at a tertiary pediatric center.[22] Furthermore, bulimia and binge-eating disorders, which are increasingly prevalent in US Hispanic and African American minority groups,[23] less frequently result in medical hospitalization.[24,25]

Socioeconomically, the above-average household incomes in our sample is of interest because studies show that families from low income zip codes have more disability and greater hospital use[26] and previous studies describe somatization as common in low-income adults.[27] The current study was conducted at a facility with a wide catchment area across multiple states, and therefore, our income findings are less likely to be solely due to geographic location; factors related to the pediatric age group, treatment setting (ie, inpatient versus community), and/or the disorders themselves likely also play a contributory role. Specifically, existing research indicates that pediatric patients with SFD who are medically hospitalized in a tertiary hospital setting in the United States come from families with above-average household incomes[6] and that anorexia nervosa is more common among families of high socioeconomic status.[28] Recent studies on youth from affluent communities highlight certain vulnerabilities in this group, with perceived parental/societal pressures to achieve academically and/or in extracurricular activities resulting in poor adolescent adjustment and psychological difficulties.[29,30] Our findings have implications for families, health care providers, and school personnel in these communities because early identification of "at risk" youth can facilitate targeted interventions to prevent hospitalizations.

One-third of ED patients in the current study had used inpatient and/or residential psychiatric hospitalization before their medical admission, and even more (44%) were discharged to inpatient/residential levels of care after their admission, whereas SFD patients used psychiatric treatment programs much less frequently (but more frequently presented to different medical facilities and emergency departments). For ED patients, the pattern of service use may be a result of more severe psychiatric symptoms (as evidenced by lower CGAS scores, more depression, and suicidality), requiring ongoing weight restoration and psychotherapeutic interventions in a structured/supervised setting. For SFD patients, nonattribution of psychological contributory factors to their symptoms, family resistance to psychiatric care, and preference for medical assessment and interventions likely play a role.[5,13] Despite these factors, the fact that SFD patients were discharged to psychiatric inpatient/residential treatment programs at a rate 6 times lower than ED patients is likely also a reflection of the lack of intensive psychiatric treatment programs locally, regionally, and nationally for patients with severe SFD as compared with available programs for patients with ED. When SFD patients develop symptoms severe enough to warrant medical hospitalization, early referral to psychiatry may be the only opportunity to implement comprehensive multidisciplinary management and reduce iatrogenic interventions. A recent pediatric study revealed that earlier referral to psychiatry consultation–liaison services for patients with a wide array of diagnoses, including SFD and ED, resulted in shorter lengths of stay and lower hospital charges regardless of illness severity.[7]

From an evidence-based treatment perspective, randomized controlled trials have identified family-based therapy and cognitive behavioral therapy as effective outpatient treatments for ED and SFD patients, respectively[31,32]; however, there is a lack of studies regarding effective psychosocial treatment approaches that can be implemented for patients with ED or SFD during medical admissions. With average admission lengths of >1 week for ED patients and close to 5 days for SFD patients, our study highlights opportunities for brief psychosocial interventions in the hospital setting that can improve health outcomes and reduce recurrent hospitalizations and emergency department visits. Given the similarities/overlap in demographics, family context, stressors, and coping styles identified in hospitalized ED and SFD patients, shared management principles can be standardized and implemented during their admissions. These include interventions that address internalizing, perfectionistic, avoidant and/or anxious tendencies; explore school and social stressors; provide psychoeducation about the mind–body connection; encourage expression of emotions; and reduce denial and build a level of insight and competency for patients and families that facilitates adaptive coping and increased resilience.

Identifying a core team of inpatient providers (eg, hospitalist or adolescent medicine teams) to work collaboratively with psychiatry consultation–liaison services in the management of ED and SFD patients can minimize care fragmentation, provider inconsistencies, and reactive team responses and establish a framework for organized, structured, planned, and proactive multidisciplinary treatment in the pediatric hospital setting. Similar integrated care approaches using primary care providers and mental health clinicians as the core management team for patients with ED and SFD have shown successful outcomes in outpatient settings.[33,34] For patients who require ongoing intensive management after acute medical hospitalization, integrated medical–psychiatric treatment programs (inpatient, residential, or partial/day hospital programs) should be considered. Such medical–psychiatric programs, where patients with different diagnoses like ED and SFD can

also participate in shared group and milieu therapies while having their physical/medical needs monitored, have been associated with high patient satisfaction and decreased stigma in adult studies.[35] These programs have the potential to reduce the care disparities seen in pediatric patients with ED and SFD and efficiently use limited health care resources.

Several limitations should be considered when interpreting the findings from this study and designing future research. Generalizability is limited given the relatively small sample from 1 tertiary pediatric US institution. The retrospective chart review was conducted by abstracting data from medical records using a standardized data collection form. Future research should include standardized patient- and parent-reported measures that examine quality of life, barriers and facilitators to treatment, and health outcomes of pediatric patients diagnosed with ED and SFD and should also use prospective, longitudinal designs to assess long-term health care costs associated with both of these disorders. Research assessing predictors of health care use in SFD and ED patients will facilitate early identification of high-risk patients and the development of interventions to mitigate and ameliorate the impact on the health care system. Finally, DSM, *Fourth Edition, Text Revision* diagnostic criteria were used for patients in this study; future research should examine whether using DSM, *Fifth Edition* diagnostic criteria for both patient groups yields different results.

CONCLUSIONS

The current study reveals considerable overlap in demographic and biopsychosocial characteristics of hospitalized patients with ED and SFD in the pediatric setting and highlights patterns of health care use that have quality improvement implications for medical and mental health providers. The findings lay the foundation for exploring systemic changes and developing standardized hospital-based service models and care pathways for patients with ED and SFD that can improve patient outcomes and reduce health care use.

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