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Pediatric Psychosomatic Medicine: Creating a Template for Training

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Abstract

There is a critical public health problem in the United States today, the problem of childhood psychiatric disorders in youngsters with physical illnesses. Currently there is a pressing need for well-trained pediatric psychosomatic medicine practitioners as well as advanced training in the field. Yet, this training does not currently exist. This article will present the innovative Montefiore Medical Center/Albert Einstein College of Medicine (MMC/AECOM) program as a model for a training curriculum, clinical training experience, and clinical research training setting in this important and rapidly expanding area of need in pediatric mental health.

In 2003, the American Board of Medical Specialties (ABMS) approved psychosomatic medicine (PM) as a new subspecialty, the fifth official subspecialty in the field of psychiatry, joining child and adolescent psychiatry, geriatric psychiatry, addiction psychiatry, and forensic psychiatry. PM is now a designated subspecialty field in psychiatry. Despite the fact that almost 20% of children with chronic medical conditions have behavioral and emotional symptoms, a specialized training curriculum in pediatric PM has yet to be developed.[1] The pediatric PM track within the PM fellowship at Montefiore Medical Center/Albert Einstein College of Medicine is the first of its kind. The National Institute of Mental Health (NIMH) joint program with Georgetown University School of Medicine and Washington Hospital Center has offered additional pediatric psychosomatic training within the training program in PM since it began in 2007. Other sites are considering expanding their training programs to include this important new option in pediatric PM (DeMaso, personal communication 2010).

EPIDEMIOLOGY OF PSYCHIATRIC DISORDERS IN PEDIATRIC POPULATIONS

Mental disorders affect a significant proportion of children and adolescents in a society with recent estimates of overall prevalence of DSM-IV disorders in large population-based samples of children and adolescents at roughly 10%.[2, 3] Up to 20 million American children have an ongoing physical health condition with 10% having symptoms of sufficient severity

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to impact on their daily lives. Children with chronic illness and disability have a 2–5 times greater risk of having comorbid psychopathology compared with healthy controls.[4, 5] The increasing prevalence of certain childhood illnesses such as asthma[6] and diabetes[7], and the growing ability of contemporary medicine to develop life-prolonging advances will certainly result in an increasing number of children surviving to adulthood with chronic illnesses.

CURRENTLY AVAILABLE PORTALS OF ENTRY INTO PEDIATRLC PSYCHOSOMATIC MEDICINE

There are currently five training routes available for clinicians who wish to practice in the area of pediatric PM, also called pediatric consultation-liaison (C-L), each with unique strengths and weaknesses: (1) general psychiatry residency followed by child and adolescent psychiatry fellowship; (2) triple-board program; (3) post-pediatrics portal program; (4) general psychiatry training followed by fellowship in PM; (5) general psychiatry training followed by fellowship in child and adolescent psychiatry (CAP) and fellowship in pediatric PM.

These five paths have distinct advantages and disadvantages, and each will be considered in light of four of the six competency areas identified for medical training: patient care, practice-based learning and improvement, medical knowledge, and systems-based practice. It is the authors' opinion that the requirements for professionalism and interpersonal and communication skills can be adequately met in all of the five pathways.

The general psychiatry and child and adolescent psychiatry route affords the trainee the opportunity for full training in both general psychiatry and CAP, during which basic training in adult and child psychiatric consultation is obtained. With the exception of certain programs, which offer block months of pediatrics during the internship year, no formal training in pediatrics is required. In addition, the program requirements for residency education in CAP established by the Accreditation Council for Graduate Medical Education (ACGME) do not specify a minimum amount of time required for CAP trainees in consultation liaison to pediatrics, stating only that there be "supervised consultation experience with an adequate number of pediatric patients in outpatient and/or inpatient medical facilities."[8] As a result of this and other site-specific factors in CAP training program throughout the country, training in pediatric CL in CAP fellowships and opportunities for extended consultation in complex pediatric cases varies enormously. This route can be completed in 5 (fast track) or 6 years.

The triple-board program offers a 5-year, integrated curriculum in pediatrics, general psychiatry, and CAP. Triple-board residents complete 2 full years of pediatric training and thus bring extensive medical knowledge from the field of pediatrics to their role as a pediatric CL clinician. However, shortened training in general psychiatry and CAP attenuate the trainees' exposure to psychiatric patients and the systems they work in as well as the curricula in both fields. The attenuated exposure in adult psychiatry (18 months) limits the time available for the development of competency in the assessment, treatment, and referral of parents of medically ill children, an important skill for the pediatric PM practitioner.

The 6-year post-pediatric portal track includes full pediatric training, allowing the trainee to fully absorb the medical knowledge, curriculum, and patient exposure of a full pediatric residency. However, the training length in both general psychiatry and CAP is significantly shorter. Therefore, this route of training replicates the confines encountered in triple-board training.

The general psychiatry and PM fellowship allows full training in general psychiatry and PM in 5 years but very limited exposure to pediatrics and CAP. Though clinicians with this training are often the only specialists available in hospitals, they are severely limited in the pediatric and CAP medical knowledge base and unfamiliar with the systems in which pediatric and child psychiatry patients dwell.

The general psychiatry, CAP, and pediatric PM track affords the trainee the opportunity for full training in all three areas. There is no pediatric training in this track; however, opportunities for extensive consultation to pediattic patients with complex comorbidities of pediatric illness and psychiatric disorders are maximized in this training, especially during the final, PM fellowship year. In addition, the MMC/AECOM program requires the pediatric PM track fellow to complete 3 months of the 12-month training on the adult PM service, allowing the fellow to become familiar with systems based practice and diagnosis and treatment of common conditions encountered in adult PM. This training can be completed in 6 years if the fellow selects the fast track option in child psychiatry, or 7 years if full adult psychiatry residency is preferred.

WHAT IS PEDIATRIC PSYCHOSOMATIC TRAINING?

The ACGME progranl requirements for Residency Education in PM specify prior satisfactory completion of an ACGME-accredited progranl in psychiatry. The ACGME program requirements in PM do not include specific expectations for individuals who choose to focus on the pediatric population. The trainee entering the MMCI/AECOM one-year PM pediatric track fellowship training is required to have completed an ACGME-accredited program in psychiatry ati well as an ACGME-accredited 2-year program in CAP prior to entering the program.

The general program requirements for training in PM begin by defining the field and scope of the field as “encompassing the study and practice of psychiatric disorders in patients with medical, surgical, obstetrical, and neurologic conditions, particularly for patients with complex and/or chronic conditions.”[9] Expertise in the psychiatric assessment, diagnosis, and eclectic treatment of complex medically ill patients is a primary aim of training in PM. Specifically, a sophisticated understanding of the psychiatric co-morbidities in these patients, the impact of psychiatric illness on the psycho-physiologic course and prognosis of medical illnesses, the thorny problem of adherence in patients with co-morbid medical and psychiatric diagnoses, and the recognition, evaluation, and treatment of patients with somatofornl disorders are core skills to be mastered dUJing training in PM. At the MMC/AE-COM division of PM pediatric track, specific knowledge in the reciprocal impact of chronic illness on growth and development is further emphasized, as well as a sophisticated knowledge regarding symptoms of pediatric illness that can mimic psychiatric disorders. Familiarity with the medications used to treat pediatric disorders and the psychiatric symptoms they may produce as side-effects of treatment is a core competency expected in this training. The pediatric psychosomatic trainee acquires a thorough knowledge of the special issues in psychophannacology in the pediatric population with medical illness as well as the evidence base and clinical skills for nonphannacologic treatments such as cognitive-behavioral therapy (CBT), dialectical-behavioral therapy (D8T), family, and group interventions.

Interventions with the parents and families of pediatric psychosomatic patients are strongly emphasized based on our recognition of the essential role of the family in the medically ill child’s adaptation. The strong background in adult psychiatry training, which the pediatric psychosomatic clinician possesses, translates into an important competency in the assessment of parental coping and psychopathology. The pediatric psychosomatic trainee’s

understanding of the systems and interventions available in adult psychiauy allows these clinicians to effectively identify and refer parents for treatment when necessary. The background of a full training in CAP allows the pediatric psychosomatic trainee to use his/her competence in parent counseling achieved during a CAP fellowship to help parents understand how poor parenting approaches (such as overindulgence, lowered expectations, or developmentally inappropriate over-control of their child) can lead to the development of psychological problems (such as poor self esteem, poor problem-solving, oppositionality, poor social competence, or lack of achievement in their child).

The ACGME requirements for residency education in PM delineates that the curriculum must include a combination of supervised clinical experiences and fonnal didactic conferences. Didactic experiences are expected to include: the epidemiology of psychiatric illness and its treatment in medical disease; the impact of co-morbid psychiatric disorders on the course of medical illness; knowledge of treatment interventions for co-existing psychiatric disorders in the medically ill; and knowledge of the nature and factors that influence the physician-patient relationship.

MMC/AECOM CURRiCULUM

A schedule of didactic lectures, seminars, and workshops is an integral part of the training year for the pediatric psychosomatic trainee. These include:

1. A weekly case conference attended by all PM trainees in which adult psychosomatic consultations are seen and discussed with the medicine team.
2. A weekly Bioethics and Medical Humanities course culminating in a certificate.
3. A monthly joumal club, which covers topics in adult PM.
4. A weekly Pediatric Ombudsman's rounds run by the program director (a child psychiatrist with additional boards in PM) and co-led by rotating faculty in the pediatric specialties including pediatric neurology, pediatric hematology/oncology, adolescent medicine, pediatric endocrinology, pediatric transplant services, pediatric rheumatology, and pediatric gastroenterology. The CAP residents and pediatric psychology intems as well as trainees in psychiatry, pediatrics, and pediatric neurology, and pediatric social work also attend this conference. The pediatric psychosomatic trainee participates in this conference as junior faculty. Cases are co-presented by pediatric residents and child psychiatJy fellows as well as the pediatric psychosomatic resident. Cases are selected to emphasize complex presentations in which comorbid psychiatric disorders have significant impact on the relationship with the pediatric team and the course of the medical illness. In addition, the assessment and management of complex conversion and somatofoml disorders is discussed in this interdisciplinary conference.
5. monthly pediatric liaison journal club/seminar review in which topics in pediatric PM are covered, attended by trainees in CAP, adolescent medicine, and child psychology. The pediatric PM fellow acts as junior teaching faculty in this seminar. Emphasis is placed whenever possible on evidence-based treatments in the pediatric population with comorbid psychological symptoms.
6. Weekly seminar in DBT nm by attending psychologists and attended by members of the mental health team at the affiliated Children's hospital.

SUPERVISION

In the MMC/AECOM pediatric psychosomatic track, a combination of one to one supervision and didactics satisfy this curriculum. The MMC/AECOM pediatric

psychosomatic program has added a specialized reading list in pediatric PM including topics of general interest to the pediatric psychosomatic consultant as well as literature on evidence-based mental health treatments in pediatrics, which supplements the general PM syllabus. This syllabus is appended at the end of this article (see Appendix 1).

The pediatric psychosomatic fellow receives supervision from six individual supervisors on a weekly basis for hourly sessions. Three of these supervisors are experienced academic PM boarded psychiatrists, one a boarded child psychiatrist with board certification in PM, the second a dual boarded PM psychiatrist with additional boards in forensic psychiatty, geriatric psychiatry, and addiction medicine, and the third a dual-boarded PM psychiatrist with additional boards in forensic psychiatry, geriatric psychiatry, addiction, and pain medicine (the latter two are available for supervision during the three adult PM months of rotation). The fourth individual supervisor is a specialist in a pediatric field of particular clinical and research interest to the trainee. A pediatric pain specialist and an academic pediattic oncologist with research specialization in the psychosocial aspects of pediattic oncology adherence and long-tem1 outcome have held this position so far. The director of child psychology at MMC/AECOM, a specialist in DBT in adolescents, supervises the clinical and research aspects of the training year, specializing on the manualization and adaptation of the DBT curriculum for suicidal teens, to meet the needs of medically ill children and adolescents. Finally, an attending child psychologist who is assigned fulltime to the pediatric hematology/oncology service provides weekly supervision on the assessment and treatment of this population.

CLINICAL EXPERIENCE

The pediatric psychosomatic trainee spends 3 months on the adult PM service and 9 months on the Behavioral Consultation team at the Children's Hospital at Montefiore (BCT-CHAM).

During the 9-month rotation on BCT-CHAM, the trainee has the following clinical experiences:

1. Weekly consultation to the inpatient units at the Children's Hospital at Montefiore.
2. A weekly outpatient intake in the BCT-CHAM intake clinic. Under direct supervision, the fellow sees a weekly intake, referred by the pediatric services, of children with comorbid pediatric disorders and psychological/psychiatric symptoms. This intake is 3–4 sessions in duration and includes psychiatric assessment and diagnosis, brief interventions, and referral to alternative interventions in community systems.
3. Consultation to the pediatric heart failure and transplant team at CHAM.
4. Co-leader with pediatric clinicians of DBT group for children with chronic pediatric illnesses. These groups have included children with sickle cell anemia, systemic lupus erythematosus, endocrine disorders, such as diabetes mellitus and pediatric cancer. The DBT curriculum focuses on three major tenets of DBT: mindfulness, distress tolerance, and emotional regulation. Patients are seen in 12-week groups along with a parent. There are monthly "check-ins" with the group leaders as well as individual sessions as needed.
5. Consultation to the pediatric hematology/oncology service, including assessments, medication consultation, and long-tenn individual and family psychotherapy.

A sample schedule for the pediatlic PM trainee is appended at the end of this article (see Appendix 2). The pediatric psychosomatic fellow sees, on an annual basis, approximately

130 inpatient consultations, 35 outpatient evaluations, caries a caseload of 15 outpatients, and leads two chronic illness groups.

ACADEMIC IMPLICATIONS

1) For training in CAP and pediatrics

The role of the pediatric psychosomatic physician includes the vitally important function of teacher in pediatrics, CAP, general psychiatry, child and adolescent neurology, and PM. The increased number of pediatric PM specialists will result in improved training of non-psychiatlic clinicians in pediatrics, and enable them to refine their competence in the recogn ition and treatment of common psychiatric disorders in children in the primary pediatric setting.

2) Research including current evidence-based treatments

Development of pediatric PM as a track within PM programs will, in our view, have a significant impact on the clinical care of medically ill children and their families but will also spawn significant research in the field, as the brief experience at the MMC/AECOM program has already demonstrated. Research at the interface of child psychiatry and pediatrics as well as that of child psychiatry and child neurology will be promoted by the addition of these highly trained specialists to the medical teams. It is a goal of the MMC/ AECOM pediatric PM program to train highly competent pediatric psychosomatic practitioners who are also prepared to further the academic knowledge and research in this field.

CLINICAL IMPLICATIONS

Advances in medical technology such as chemotherapy, transplantation, and gene therapy have increased survival rates and changed the lives of sick children and their families. These improvements in the care of chronically ill children have led to changes in the hospital environment and have necessitated changes in the training of healthcare professionals. Treating children medically and psychiatrically requires a wide range of additional skills and knowledge, including consideration of differences in pathophysiology, understanding developmental issues such as cognitive and communication difficulties, wlderstanding family interactions, and studying different pharmacokinetics. Clinicians must be competent to recognize normal responses to stresses in children with chronic physical illnesses and be able to discern when these responses become impairing and pathologic. This recognition can lead to early interventions and suggestions for prevention of psychopathology. Pediatric PM clinicians are prepared to provide this type of new training for clinicians taking care of chronically youth and their families.

CAREER PATHS AFTER COMPLETION OF TRAINING

Currently, the MMC/AECOM Pediatric PM training program has graduated five residents, one annually since 2008. These graduates have entered a variety of positions in the field, including: consulting child psychiatrist on a pediatric pain team in a children’s hospital; child psychiatrist hired to design and run a pediatric palliative care service; inpatient child psychiatry attending; academic child psychiatrist and director of a pediatric C-L service, and child psychiatlist to develop and run a new pediatric C-L service in an wlderserved community hospital. We are currently designing a survey to all graduates of the program to assess their opinion of the training and their career paths. The results of this survey will be presented in a future report.

FUTURE DIRECTIONS/CONCLUSION

Pediatric PM is the integrated future of psychiatry and pediatrics. The interaction between our genetic endowment and variations in environmental experiences such as illness, medical evaluations, and treatments begins at birth, and is shaped throughout the lifespan. By understanding how illness and stress create emotional distress and how humans adapt to medical illness, we can properly understand and treat psychiatric conditions in the medically and surgically ill. By training and collaborating across disciplines, we hope to create the best possible environment for children with serious medical illness.

APPENDIX: 1

Pediatric Psychosomatic Medicine: A Bibliography

GENERAL CONSIDERATIONS

References

General Pediatric Psychosomatic

1. Medicine Shaw, RJ.; DeMaso, DR. Textbook of Pediatric Psychosomatic Medicine. American Psychiatric Publishing, Inc.; Washington, DC: 2010.
2. Shaw RJ, Wamboldt M, Bursch B, Stuber M. Practice pattems in pediatric consultation–liaison psychiatry: a national survey. Psychosomatics. 2006; 47:43–49. [PubMed: 16384806]
3. Practice parameter for the psychiatric assessment and management of physically ill children and adolescents. JAACAP. 2009; 48:213–233.

References

Developmental Perspectives

4. Koopman HM, Baars RM, Chaplin J. Illness through the eyes of the child: the development of children's understanding of the causes of illness. Patient Educ Couns. 2004; 55:363–370. [PubMed: 15582342]
5. Suris JC, Michaud PA, Viner R. The adolescent with a chronic condition, part 1: developmental issues. Arch Dis Child. 2004; 89:938–942. [PubMed: 15383438]
6. Michaud PA, Suris Je, Viner R. The adolescent with a chronic condition, part 2: healthcare provision. Arch Dis Child. 2004; 89:943–949. [PubMed: 15383439]
7. Lock J. Psychosexual development in adolescents with chronic medical illness. Psychosomatics. 1998; 39:340–349. [PubMed: 9691703]

References

Familial Considerations

8. Mayes LC. Child mental health consultation with families of medically compromised infants. Child Adolesc Psychiatric Clinics N Am. 2003; 12:401–421.
9. Thomasgard M, Metz WP. The vulnerable child syndrome revisited. J Dev Behav Pediatr. 1995; 16:47–53. [PubMed: 7730457]
10. Gardner E. Siblings of chronically ill children: toward an understanding of process. Clin Child Psycho I Psychiatry. 1998; 3:213–227.

References

School/Psychological Testing

11. Taras H, Potts-Datema W. Chronic health conditions and student performance at school. J School Health. 2005; 75:255–266. [PubMed: 16102088]
12. Vitulano LA. Psychosocial issues for children and adolescents with chronic illness: self-esteem, school functioning, and sports paIticipation. Child Adolesc Psychiatr Clin N Am. 2003; 12:585–592. [PubMed: 12910824]

References

Somatization/Conversion

13. Campo J. A management model for pediatric somatization. Psychosomatics. 2001; 42:467–476. [PubMed: 11815681]
14. Lafrance WC, Miler lW, Ryan CE, Blum AS, Solomon DA, Kelley JE, et al. Cognitive behavioral therapy for psychogenic nonepileptic seizures. Epilepsy Behavior. 2009; 14:591–596. [PubMed: 19233313]

References

Adherence

15. Winnick S, Lucas DO, Hartman AI, Toll O. How do you improve compliance? Pediatrics. 2005; 115:E718–E724. [PubMed: 15930200]
16. Sawyer SM, Aroni RA. Sticky issue of adherence. J Paediatr Child Health. 2003; 39:2–5. [PubMed: 12542804]
17. Lemanek KL, Kamps J, Chung NB. Empirically supported treatments in pediatric psychology: regimen adherence. J Pediatr Psychol. 2001; 26:253–275. [PubMed: 11390568]

MEDICAL DIAGNOSES AND SYNDROMES

References

Corticosteroids

18. Stuart FA, Segal TY, Keady S. Adverse psychological effects of corticosteroids in children and adolescents. Arch Dis Child. 2005; 90:500–506. [PubMed: 15851433]

References

Pediatric Delirium

19. Hatherill S, Fisher AJ. Delirium in children and adolescents: a systemic review of the literature. J Psychosom Res. 2010; 68:337–344. [PubMed: 20307700]
20. Schieveld J. Delirium in severely ill children in the PICU. JAACAP. 2005; 44:392–398.
21. Turkel SB, Tavare CJ. Delirium in children and adolescents. J Neuropsychiatry Clin Neurosci. 2003; 15:431–435. [PubMed: 14627769]

References

Pediatric Cardiology and Heart Transplantation

22. Conway J, Dipchand A. Healt transplantation in children. Pediatr Clin N Am. 2010; 57:353–373.
23. DeMaso DR, Kelley S, Bastardi H, O'Brien P, Blume ED. The longitudinal impact of psychological functioning, medical sevelity, and family functioning in pediatric heart transplantation. J Heart LlU1g TraIlsplant. 2004; 23:473–480.
24. Farley LM, DeMaso DR, D'Angelo E, Kinnamon C, Bastardi H, Hill ED, et al. Parenting stress and parental post-traumatic stress disorder in families after pediatric heart transplantation. J Heart Lung Transplant. 2007; 26:120–126. [PubMed: 17258144]

25. Freier MC, Babikian T, Pivonka J, Aaen TB, Gardner JM, Baum M, et al. A longitudinal perspective on neurodevelopmental outcome after infant cardiac transplantation. J Heart Lung Transplant. 2004; 23:857–864. [PubMed: 15261181]
26. Uzark K, Spicer R, Beebe DW. Neurodevelopmental outcomes in pediatric heart transplantation. J Hemt Lung Transplant. 2009; 28:1306–131l.
27. Wray J, Radley-Smith R. Prospective psychological evaluation of pediatric heart and heart-lung recipients. J Pediatric Psycho I. 2006; 32:217–222.

References

Pediatric Oncology

28. Delong M, Fombonne E. Citalopram to treat depression in pediatric oncology. J Child Adolesc Psychopharmacol. 2007; 17(3):371–377. [PubMed: 17630871]
29. Kazak AE, Simms S, Alderfer MA, Rourke MT, Crump T, McClure K, et al. Feasibility and preliminary outcome from a pilot study of a brief psychological intervention for families of children newly diagnosed with cancer. J Pediatric Psychol. 2005; 30:644–655.
30. Kazak AE, Silmns S, Barakat L, Hobbie W, Foley B, Golomb V, et al. Surviving cancer competently intervention program (SCClP): a cognitive-behavioral and family therapy intervention for adolescent survivors of childhood cancer and their families. Family Process. 1999; 38:175–191. [PubMed: 10407719]
31. Portteus A, Ahmad N, Tobey D, Leavey P. The prevalence and use of antidepressant medication in pediatric cancer. J Child Adolesc Psychophannacol. 2006; 16(4):467–473.
32. Varni, lW; Katz, ER.; Colegrove, R. The impact of social skills training on the adjustment of children with newly diagnosed cancer. J Pediatric Psychol. 1993; 18:751–767.
33. Zeltzer LK, Dolgin MJ, LeBaron S. A randomized, controlled study of behavioral intervention for chemotherapy distress in children with cancer. Pediatrics. 1991; 88:34–42. [PubMed: 2057271]

References

Pediatric Hematology

34. Gil KM, Edens JL, Workman E. Cognitive coping skills training in children with sickle cell disease pain. Int J. Behavioral Med. 1997; 4:364–377.
35. Kaslow NJ, Collins MH, Rashid FL. The efficacy of a pilot family psychosocial intervention for pediatric sickle cell disease. Families Systems Health. 2000; 18:381–404.

References

Pediatric Neurology

36. Pliopys S, Dunn D, Caplan R. 10-year research update review: psychiatric problems in children with epilepsy. JAACAP. 2007; 46:1389–1402.
37. Walker, AM.; Kaufman, DM.; Pfeffer, CR.; Solomon, G. Child and adolescent neurology for psychiatrists. Wolters Kluwer/Lippincott Williams and Wilkins; Philadelphia, PA: 2008.

References

Pediatric Endocrinology

38. Grey M, Davidson M, Boland E, Tamborlane WV. Clinical and Psychosocial factors associated with achievement of treatment goals in adolescents with diabetes mellitus. J Adolesc Health. 2001; 28:377–385. [PubMed: 11336867]
39. Salamon KS, Hains AA, FleiscImlan KM, Davies WH, Kichler J. Improving adherence in social situations for adolescents with type 1 diabetes mellitus (TlDM): A pilot study. Primary Care Diabetes. 2009; 4:47–55. [PubMed: 19926354]

40. Viner RM, Christie D, Taylor V, Hey S. Motivational solution-focused intervention improves HbA1c in adolescents with Type 1 diabetes. Diabetic Medicine. 2003; 20:739–742. [PubMed: 12925054]

References

Pediatric Pain Management

41. Berde C. Analgesics for the treatrnent of pain in children. NE1M. 2002; 347(14):1094–1103.
42. Greco C, Berde C. Pain management for the hospitalized pediatric patient. Pediatr Clin N Am. 2005; 52:995–1027.
43. Tsao, lCI.; Zeltzer, LK. Complementary and alternative medicine approaches for pediatric pain: a review of the state-of-the-art-science. Evidence-Based Complement Alternat Med. 2005; 2:149–159.

References

Pediatric Rheumatology

44. Alao A, Chlebowski S, Chung C. Neuropsychiatric systemic lupus erythematosus presenting as bipolar I disorder with catatonic features. Psychosomatics. 2009; 50:543–547. [PubMed: 19855042]
45. Turkel S. Case series: neuropsychiatric symptoms with pediatric systemic lupus erythematosus. JAACAP. 2001; 40:482–485.

References

Pediatric Pulmonology

46. Lim J, Wood BL, Miller BD. Maternal depression and parenting in relation to child internalizing symptoms and astlmla disease activity. J Fam Psychol. 2008; 22:264–273. [PubMed: 18410213]
47. Kaugars AS, Klinnert MD, Bender BG. Family influences on pediatric asthma. J Pediatr Psychol. 2004; 29:475–491. [PubMed: 15347697]
48. Ng SM, Li AM, Lou VWQ. Incorporating family therapy into asthma group intervention: a randomized waitlist-controlled trial. Fam Process. 2008; 47:115–130. [PubMed: 18411833]
49. Noyes BE, Kemp JS. Vocal chord dysfunction in children. Paediatr Respir Rev. 2007; 8:155–163. [PubMed: 17574160]
50. Sandberg S, Paton JY, Ahola S, McCann DC, McGuililless D, Hillary CR, et al. The role of acute and chronic stress in asthma attacks in children. Lancet. 2000; 356:1046–1051.

References

Pediatric Gastroenterology

51. Mulvaney S, Lambert EW, Garber J, Walker LS. TrajectOlies of symptoms and impairment for pediatric patients with functional abdominal pain: a 5-year longitudinal study. JAACAP. 2006; 45:737–744.
52. Ramchandani P, Stein A. Early parental and child predictors of recurrent abdominal pain at school age: results of a large population-based study. JAACAP. 2006; 45:729–738.
53. Szigethy E, Kelmy E, Carpenter J, Hardy DM, Fairclough D, Bousvaros A, et al. Cognitive-behavioral therapy for adolescents with inflammatory bowel disease and subsyndromal depression. JAACAP. 2007; 45:1290–1298.

References

Pediatric Infectious Disease/HIV

54. Donenberg GR, Pao M. Youths and HlY/AIDS: psychiatry's role in a changing epidemic. JAACAP. 2005; 44:728–747.

55. Pao, M.; Civitello, LA. Neuropsychiatric aspects of pediatric HIV infection. In: Walker, AM.; Kaufinan, DM.; Pfeffer, C.; Solomon, G., editors. Child and adolescent neurology for psychiatrists. Wolters Kluver/Lippincott, Williams and Wilkins; Philadelphia, PA: 2008. p. 281-308.

56. Schneider RK, Robinson MJ, Levenson JL. Psychiatric presentations of non-HIV infectious diseases. Psychiatric presentations of non-HIV infectious diseases. Psychiatr Clin N Am. 2002; 25:1–16.

TREATMENT APPROACHES IN PEDIATRIC PSYCHOSOMA TIC MEDICINE

References

Psychophamlacology

57. Stoddard FJ, Usher CT, Abrams AN. Psychophamlacology in pediatric critical care. Child Adol Clin N Am. 2006; 15:611–655.

References

Psychological Therapies

58. Christie D, Wilson C. CBT in pediatric and adolescent health settings: a review of practice-based evidence. Pediatr Rehabil. 2005; 8:241–247. [PubMed: 16192099]

59. Huffman JC, Stern TA, Harley RM, Lundy NA. The use of DBT skills in the treatment of difficult patients in the general hospital. Psychosomatics. 2003; 44:421–429. [PubMed: 12954919]

60. McQuaid EL, Nassau JH. Empirically supported treatments of disease-related symptoms in pediatric psychology: asthma, diabetes, and cancer. J Pediatr Psychol. 1999; 24:305–328. [PubMed: 10431495]

APPENDIX 2

Pediatric Psychosomatic Medicine Fellowship Sample Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
8–10	CHAM inpatient consults (9–1 PM)	8:30–10:30 Pediatric hematology/oncology clinic	9: 15–10 AM Pediatric neurology/child psychiatry conference; First Wed of month Pediatric	8–9 AM Pediatric cardiology rounds (Q.O. week) Pediatric psychosomatic Ombudsman's rounds (9–10:00 AM)	BCT–CHAM inpatient consults (all day)
10–11		Adult CL Ombudsman's rounds (10:30–12:30)		10–11: Palliative care meeting Psychiatry grand rounds (10:30–12 noon)	

	Monday	Tuesday	Wednesday	Thursday	Friday
11:00–12:00	Group psychopharmacology supervision				
12–1	Literature review seminar, adult CL				
1–2		2:45–3:45 Peds heme/one patient care conference	Hematology/oncology process lunch	1–2 PM CHAM-BCT staff meeting	Group supervision
2–5	Outpatients (2–3 PM) DBT/CBT groups for chronically medically ill.	1–5 PM CHAM consults	2–2:30 Sickle cell rounds Outpatients hematology/ oncology (2–5 PM)	CHAM–BCT Intake clinic (2–3 PM) CHAM consults	

Special Assignments: (I) Adult psychosomatic rotation months: November, December, April. (2) Dialectical behavior therapy training: July/August.

BCT–CHAM = behavioral consultation team at the Children's Hospital at Montefiore; CBT = cognitive behavioral therapy; CHAM = Children's Hospital at Montefiore; CL = consu ltation liaison; DBT = dialectical behavior therapy.

References

1. Pao M, Ballard ED, Raza H, Rosenstein DL. Pediatric psychosomatic medicine: an annotated bibliography. Psychosomatics. 2007; 48(3):195–204. [PubMed: 17478587]
2. Ford T, Goodman R, Meltzer H. The British child and adolescent mental health survey 1999: the prevalence of DSM-TV disorders. J Am Acad Child Adolesc Psychiatry. 2003; 42(10):1203–1211. [PubMed: 14560170]
3. Spady D, Schopftocher Dp, Svenson LW, Thompson AH. Prevalence of mental disorders in children living in Albelta, Canada, as detemlined from physician billing data. Arch Pediatr Adolesc Med. 2001; 155(10):1153–1159. [PubMed: 11576012]
4. Lavigne TV, Faier-Routman J. Correlates of psychological adjustment to pediatric physical disorders: a meta-analysis review and comparison with existing models. J Pedialr Psychol. 1993; 14(2):117–123.
5. Cadman D, Boyle M, Szatmari P, Offord D. Chronic illness, disability, and mental and social well-being: findings of the Ontario Child Health Study. Pediatrics. 1987; 79(5):805–8. 13. [PubMed: 2952939]
6. MOOlman JE, Rudd RA, Johnson CA, et al. Centers for disease control and prevention: national surveillance for asthma-United States, 1980-2004. MMW Surveillance Summ. 2007; 56(8):1–54.
7. SEARCH Study Group. SEARCH for diabetes in youth: a multicenter study of the prevalence, incidence, and classification of diabetes mellitus in youth. Control Clin Trials. 2004; 25(5):458–471. [PubMed: 15465616]
8. ACGME ref pediatric consultation liaison requirements in child and adolescent psychiatry training. 2007
9. ACGME Common Program Requirements for Residency Education in Psychosomatic Medicine. Jun.2003