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CLiPPs

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CLiPPs (**C**urrent **L**iterature in **P**ediatric **P**sychosomatics) *is a pertinent article review from a range of medical science journals and literature from the AACAP Physically Ill Child Committee for consultation/liaison psychiatrists.*

We have exciting news that our CLiPPs reviews will be featured in JAACAP Connect courtesy of some great advocacy work by Dave DeMaso, Maryland Pao, and myself. There will be 3 reviews featured in the inaugural CLiPPs section of the upcoming JAACAP Connect issue. Stay tuned and keep your eyes peeled!

We are excited to present our 8th edition, an issue representing another diverse array of inpatient and outpatient C-L concerns: a trial comparing self-directed versus individual self-hypnosis therapy for functional abdominal pain, presence and perception of stress and depression between transplanted children and their parents with other children with chronic non-surgical medical illnesses and their parents, a examination of the existing pediatric medical cannabinoid literature, an analysis of pediatric boarding characteristics and interventions, and a seminal piece on psychodynamics in medically ill patients.

Randomized Trial of Self-directed versus Individual Therapy Self-Hypnosis for Functional Abdominal Pain

Background: Functional abdominal pain (FAP) is highly prevalent among school age populations and recurrent abdominal pain is believed to be present in 10 to 15% of school age children (Sanders et al 1989). A 2015 meta-analysis found a prevalence of 13.5% worldwide (Kakotrichi et all, 2016). Poorly treated FAP can lead to long term morbidity as 25%–50% of adults who had recurrent abdominal pain as children continue to suffer from similar symptoms in adulthood (Campo and Fritsch 1994). 3 previous small randomized clinical trials demonstrated effectiveness of hypnotherapy in treating FAP, with medical success rates of 30 to 40% after treatment with however hypnotherapy is often unavailable due to lack of access to trained hypnotherapists. There is limited evidence for alternate treatment options such as pharmacotherapy interventions, probiotics or diet in functional abdominal pain, and systematic review of these modalities did not indicate efficacy for these interventions in treating FAP (Kakotrichi et al, 2016). Previous studies of various psychological treatments for functional abdominal pain indicates that hypnotherapy was the most effective (Kakotrichi et all, 2016.)

Methods: Participants were 260 children aged 8 to 18 with Irritable bowel syndrome (IBS) or functional

abdominal pain were recruited from secondary and tertiary care centers throughout the Netherlands to participate in a non-inferiority randomized trial to either hypnotherapy delivered by psychotherapist or self-directed home-based hypnotherapy. Children with following criteria were excluded: organic gastrointestinal disease, treatment by another health care professional for abdominal pain, previous hypnotherapy, intellectual disability, and insufficient knowledge of the Dutch language. Children randomized to home-based hypnotherapy were provided a compact disc (CD) with instructions to utilize it at least 5x weekly for 3 months and those randomized to individual in-person person hypnotherapy sessions for six sessions 50-60 minutes duration in 3 months were also asked to listen to the CD daily.

Results: Primary outcomes were 50% reduction in scores on pain frequency and pain intensity scales which was the criteria for treatment success. The hypnotherapy protocol included general relaxation and pain control techniques. At 3 months after start of treatment, 36.8% in CD group and 50.1% in individual in person hypnotherapy group met criteria for primary outcome of success. At 6 months after treatment, 51.1% in CD group met criteria compared to 65.2% individual therapy group. Age of child did not appear to be related to effectiveness, and fewer negative beliefs about abdominal pain was a predictor of response. At 1 year after the end of treatment 78 (62.1%) in the CD group and 88 (71.0%) responded.

Conclusion/Commentary: Hypnotherapy for IBS/FAP provided on a CD was noninferior to that given by individual therapy in addition to the CD. More robust treatment responses were observed with increasing amount of time after treatment of both groups. No significant differences with respect to age or many other variables were found

Take-away: Hypnotherapy has been previously demonstrated to be effective in treating FAP. This study further elucidates that providing therapy for FAP/IBS using hypnotherapy administered via CD appears to be a reasonable, more affordable option for treatment for both children and adolescents, is noninferior to in person therapy and should be used if individual hypnotherapy is not possible. Time to response however make take several months if the CD modality is used, a more rapid initial treatment response may be attained with individual hypnotherapy.

References:

1. Sanders, M. R., Rebgetz, M., Morrison, M., Bor, W., Gordon, A., Dadds, M., & Shepherd, R. (1989). Cognitive-behavioral treatment of recurrent nonspecific abdominal pain in children: An analysis of generalization, maintenance, and side effects. Journal of Consulting and Clinical Psychology, 57(2), 294-300.
2. Campo JV, Fritsch SL: Somatization in children and adolescents.J Am Acad Child Adolesc Psychiatry 33:1223–1235, 1994
3. Kakotrichi, A, Borelli, O, Thapar, N The evaluation and management of recurrent abdominal pain in childhood Paediatrics and Child Health
4. Volume 26, Issue 10, October 2016, Pages 433-440

Reviewer: Valerie Thertus, MD, Northwell Health

Source: Rutten JMTM, Vlieger AM, Frankenhuis C, et al. Home-Based Hypnotherapy Self-exercises vs Individual Hypnotherapy with a Therapist for Treatment of Pediatric Irritable Bowel Syndrome, Functional Abdominal Pain, or Functional Abdominal Pain Syndrome A Randomized Clinical Trial. JAMA Pediatr. 2017 May 1;171(5):470-477. Link here

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Parents and clinicians underestimate distress and depression in children who had a transplant

Background: While having a solid organ transplant is a life-extending procedure, children who have had a transplant continue to have many qualify of life burdens including indefinitely taking daily medications for the rest of their lives and remain medically ill children. Parents and clinicians may see the child's medical situation differently and misunderstand transplanted childrens' distress and emotional state. Because non-adherence and transplant outcomes have been associated with PTSD in children (Shemesh et al., 2000), meeting the psychological needs of children after transplant is imperative. In this study, the authors explore the differences between parental and child reports of post-traumatic stress and depression in youth with solid organ transplants compared to those with chronic medical illnesses.

Methods: Participants were children and adolescents 8-19 who received a solid organ transplant 6 months or more prior to the evaluation. Children in the same age range who suffered from a chronic, non-surgical medical illness were also recruited. Adults and children were assessed with a full version of the K-SADs-P/L (The Kiddie Schedule for Affective Disorders and Schizophrenia, Present and Lifetime Version) and then a series of assessments were given to patients and parents including assessment of depression with the Children's Depression Inventory (CDI) and the Children's Depression Rating Scale (CDRS‐R). Assessment of post-traumatic stress was done using the UCLA post‐traumatic stress reaction index (PTSRI). Statistical analyses used were independent –sample t-tests between the adult and child mean for each assessment and examined differences in psychiatric diagnoses between children who have and who have not had a transplant.

Results: There was a depression cohort consisting of 81 children and PTSD cohort with 76 children. There were no significant differences in clinician diagnosed psychiatric disorders in either cohort between the groups. There was no significant difference in report of depressive symptoms between children who had a transplant and medically ill children. Clinicians rated children who had a transplant as less likely to have depressive symptoms than medically ill children. In the PTSD cohort all patients reported at least one traumatic emotional experience, almost all related to the medical illness. Parents of children who had a transplant were less likely to report PTSD symptoms in their children as compared with the parents of the children with medical illnesses. However, children who had a transplant were as likely as the other children to self-report symptoms of post-traumatic stress.

Conclusion/Commentary: Understanding of prognosis does not develop until young adulthood in

studies of medical illness (Allen et al., 1984). This study shows that while parents and clinicians may focus on the improved prognosis a child has after a transplant, they can underestimate depression and PTSD symptoms. Children are aware of the physical effects of their illness after transplant, the burden of taking medications, and their medical traumatic stress in ways similar to other children with chronic medical illnesses. Therefore, their psychiatric diagnoses are comparable. It is important to understand this discrepancy to address issues such as non-adherence and underappreciated psychiatric symptom burden in children that have received a transplant. Limitations to the study included that it was carried out only in one institution and with a limited number of medical diagnoses.

Take-away: Assessment of psychiatric symptoms of the child in the post-transplant period may be underappreciated by caregivers. This information can allow for support of these children in a more developmentally-appropriate manner.

References:

1. Shemesh E, Lurie S, Stuber ML, *et al.* A pilot study of posttraumatic stress and nonadherence in pediatric liver transplant recipients. *Pediatrics* 2000: 105: E29.
2. Allen DA, Affleck G, Tennan H, McGrade BJ, Ratzan S. Concerns of children with a chronic illness: a cognitive‐developmental study of juvenile diabetes. *Child Care Health Dev* 1984: 10: 211–218.

Reviewer: Gisela Sandoval MD, PhD, Stanford University

Source: Shemesh E, Annunziato RA, Schneider BL, Newcorn JH, Warshaw JK, Dugan CA, Gelb BD, Kerkar N, Yehuda R, Emre S. Parents and clinicians underestimate distress and depression in children who had a transplant. Pediatr Transplant 2005; 9(5): 673-679. Link here

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Medical Cannabinoids in Children and Adolescents

Background: Cannabis constitutes cannabidiol (CBD) and tetrahydrocannabinol (THC). CBD may function as an indirect antagonist and potentiator of cannabinoid receptors, whereas THC acts as a partial agonist to cannabinoid receptors. The FDA has approved two synthetic cannabinoids, dronabinol and nabilone, both of which mimic δ-9-THC. Caution has been utilized in the pediatric population because of the psychoactive effects of these medications. There are two plant-derived cannabinoid medications with standardized THC and CBD content undergoing FDA-regulated clinical trials, nabixmols and a CBD oral solution. Because more than half of the US states have legalization of medical marijuana, many more pediatric patients have the potential to be utilizing these substances. There must be consent from a legal guardian and a physician who certifies it is needed, but that has not been very difficult. The American Academy of Pediatrics opposes dispensing medical cannabis to children and adolescents outside of the regulatory process of the FDA but does recognize that cannabis may be an option for children with life threatening or severely debilitating conditions and those for whom current therapies are inadequate.

Methods: A PubMed, Medline, and Cumulative Index to Nursing and Allied Health Literature databases were searched in May 2017, looking at studies from 1948 to 2017. Key words such as cannabinoids, CBD, marijuana, therapy, smoking, and medical marijuana were used and then cross-referenced with child, adolescent, and pediatric key words. Studies were excluded if the majority of the sample were over age 18 or if age and/or data for children and adolescents were not reported separately.

Results: The search yielded 26114 citations after adjusting for duplicates. 2508 were excluded and the remaining 103 were assessed for eligibility. Only 21 papers describing 22 studies were included in the final review. There were 795 participants and the 5 most common indications that were studied were seizures (n=11), chemotherapy induced nausea/vomiting (n=6), spasticity (n=2), tics (n=1), PTSD (n=1), and neuropathic pain (n=1). There was the most evidence for benefit of medical cannabinoids for chemotherapy-induced nausea and vomiting (CINV). Many of the 6 studies showed significant decrease in episodes of emesis following chemotherapy in the treated group compared to a typical anti-nausea medication. In these studies, the doses (of dronabinol and nabilone) were lower than those for adults ($5mg/m^2$) with the most common dose being $2.5mg/m^2$ every 6 hours as needed. In the 11 studies of medical cannabinoids for epilepsy, there appears to be increasing evidence that there is benefit to children and adolescents with treatment refractory seizures. Most of the studies were open label trials or retrospective chart reviews, making the data more difficult to interpret. There is little evidence of benefit to using medical cannabinoids in tics, PTSD, spasticity, or neuropathic pain from these studies.

Conclusion/Commentary: Interestingly, in the double blind RCT (n=5), all reported statistically significant post intervention reductions in the primary outcomes of CINV (n=4) and seizures (n=1). Beyond the studies of CINV and epilepsy, the findings in this review provided limited evidence supporting the use of cannabinoids for other clinical indications. Cannabis remains a Schedule I drug and there are still restrictive regulations that limit research of medical cannabinoids. The issue is that with the legalization of medical marijuana, the medical cannabinoids are becoming more accessible to our pediatric population. There are many potential neurocognitive and psychiatric side-effects that have been identified in the recreational cannabis literature that we do not have any research on with the medical cannabinoid use in children and adolescents.

Take-away: There is some evidence that medical cannabinoids can be helpful in treatment resistant epilepsy and in chemotherapy induced nausea and vomiting. Preferentially cannabinoids that are FDA approved - dronabinol and nabilone – should be used instead of prescribing medical marijuana dispensary unregulated and less reliable products. Caution should be used in any other medical and psychiatric conditions.

References:

1. Devinsky O et al. Cannabidiol in patients with treatment-resistant epilepsy: an open-label interventional trial. Lancet Neurol 2016 Mar;15(3):270-8.
2. Hausman-Kedem M et al. Efficacy of Medical Cannabis for Treatment of Refractory Epilepsy in Children and Adolescents with Emphasis on the Israeli Experience. Isr Med Assoc J. 2017 Feb;19(2):76-78.

Reviewer: Nicole Mavrides, MD, University of Miami Miller School of Medicine, Department of Psychiatry

Source: Wong SS, Wilens TE. Medical Cannabinoids in Children and Adolescents: A Systematic Review. Pediatrics. 2017 Nov;140(5). pii: e20171818. Link here

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Psychiatric Boarding in the Pediatric Inpatient Medical Setting: A Retrospective Analysis

Background: The number of pediatric patients presenting to emergency rooms for acute psychiatric concerns has increased, but the number of available inpatient psychiatric beds has decreased. This has led to the problem of 'Psychiatric Boarding', where patients are admitted either to an emergency room or to an inpatient pediatric service awaiting psychiatric placement.[1]The Joint Commission recommends that boarding not exceed 4 hours. There are various problems associated with boarding including delayed care, negative outcomes for patients, families and the hospital system, along with financial losses. The literature has identified that patients who are more psychiatrically acute or clinically severe tend to have longer wait times before placement (a so called 'reverse triage' effect)[2,3]. The authors of this paper look at the increase in volume of psychiatric boarders in a pediatric inpatient unit from 2011 to 2013 and describe the characteristics of those boarding for the year 2013 along with outcomes and interventions that were delivered to these boarders.

Methods: This is a retrospective chart review of boarders admitted to the pediatric unit at a large Children's Hospital in the year 2013. All boarders on the unit were followed by the psychiatry consult service. Patients were assessed using the CGAS (Clinical Global Assessment Scale) upon admission; they were also assessed daily using the CGI-S and CGI-I (Clinical Global Impression Scale - Severity and Improvement).

Results: There was an almost 50% increase in boarders from 2011 (n=241) to 2013 (n=437). Out of 437 charts reviewed for the year 2013, the most common presenting complaint was suicidal attempt, followed by aggressive behavior and suicidal ideation. Mean CGAS scores indicated a high clinical severity for the population (risk of self harm/impaired functioning). More than 70% had 2 or more psychiatric diagnoses, 66% had previous psychotropic medication treatment and nearly 40% had previous psychiatric admissions. Average length of boarding was 3.11 days. CGI scores demonstrated a significant improvement from admission to discharge. This was even more pronounced in the small percentage of kids who boarded for longer than 5 days. Around 23% of boarders were discharged to lower levels of care (partial hospitalization programs or outpatient treatment). A majority of the boarders received interventions such as psycho education (91%) and individual psychotherapy (87%).

Conclusions/Commentary: Findings highlight the clinical severity of boarding patients, consistent

with previous literature on the subject. This paper demonstrates a role for the delivery of interventions associated with improvement during the boarding period. In contrast to previous studies[3], the team was able to spend one hour per day on average with the boarders and deliver psychosocial supports including psychotherapy. This led to the development of a new service model which included addition of new social workers, psychiatric nurses for behavioral interventions and new standardized protocol. This study also demonstrates a useful way of clinical monitoring of kids while boarding that need to be further validated.

Take-away: There has been an increase in psychiatric boarding in pediatric inpatient units. The time period of boarding allows for the delivery of interventions to help with stabilization and treatment. Enhanced program interventions could help with faster stabilization and discharge to lower levels of care.

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1. Hazen EP, Prager LM. A quiet crisis: pediatric patients waiting for inpatient psychiatric care. Journal of the American Academy of Child & Adolescent Psychiatry. 2017 Aug 1;56(8):631-3.
2. Wharff EA, Ginnis KB, Ross AM, Blood EA. Predictors of psychiatric boarding in the pediatric emergency department: implications for emergency care. Pediatric emergency care. 2011 Jun 1;27(6):483-9.
3. Mansbach JM, Wharff E, Austin SB, Ginnis K, Woods ER. Which psychiatric patients board on the medical service?. Pediatrics. 2003 Jun 1;111(6):e693-8.
4. Claudius I, Donofrio JJ, Lam CN, Santillanes G. Impact of boarding pediatric psychiatric patients on a medical ward. Hospital Pediatrics. 2014 May 1;4(3):125-32.

Reviewer: Yasas Tanguturi, MD, MPH, Vanderbilt University Medical Center

Source: Gallagher KA, Bujoreanu IS, Cheung P, Choi C, Golden S, Brodziak K, Andrade G, Ibeziako P. Psychiatric boarding in the pediatric inpatient medical setting: a retrospective analysis. Hospital Pediatrics. 2017 Aug;7(8):444-450. Link here

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Psychodynamics' History and Role in Working with Medically Ill Patients

Background/Results: In its very definition of “Mental Disorder”, DSM-IV (APA, 1994) at once confronts the central dilemma of psychosomatic medicine, stating “the term mental disorder unfortunately implies a distinction between “mental” disorders and “physical” disorders that is a reductionistic anachronism of mind-body dualism.” (p xxi). In Psychodynamics in Medically Ill Patients, the authors’ review starts with historical origins of psychodynamics in psychosomatics by tracing the trajectory of the mind-body problem from antiquity to the present, and then, using conversion disorder as a model, illustrates the integration of ideas of mind and body through the work of seminal contributors such as Charcot, Freud, Dunbar, and Alexander. The authors go on to consider dimensions of psychodynamics

such as differing personality styles (for example “overconcerned, worrying”, “independent”, “dependent”, “demanding”, “hostile”) and the quality of attachment (secure, avoidant, or anxious/ambivalent, after Bowlby) in informing and shaping the physician’s approach to patients presenting with psychiatric symptoms in medical settings. In the course of their review, the authors apply psychodynamic principles to such issues as countertransference, dealing with the “hateful” patient, and even the psychodynamics of assisted suicide. They are then particularly cogent in illustrating fundamental challenges in psychiatric residency training on inpatient psychosomatic medicine/consult-liaison clinical services through a psychodynamic lens. Finally, the authors link the classical roots of psychosomatic medicine in psychoanalysis to contemporary neuroscience, citing Gabbard, who defined psychodynamics as “a way of thinking about both patients and clinicians that includes unconscious conflict, deficits and distortions of intrapsychic structures, and internal object relations that integrates these elements with contemporary findings from the neurosciences.”(1)

Commentary and Conclusions: One might characterize a common perception of the standing of psychoanalysis in contemporary psychiatry as that of being “unfashionable.” We should avoid throwing the baby out with the bathwater, as on close examination, psychodynamic thinking is fundamental not only to understanding the history of psychosomatic medicine but is also directly relevant to the practice of psychosomatic medicine, alongside the latest developments in neurobiology. The emerging discipline of epigenetics illustrates that the realization that relationships between genes and environment are transactional and bi-directional has never been greater. The authors have given us an elegant, nuanced, and integrative look at the relevance of psychodynamic principles in clinical psychosomatic medicine practice, and in psychiatric residency training, that is lucid, relevant, and complementary to contemporary developments in the neurobiology of psychiatric illness. I suspect if the paper had been written in 2019 instead of 2009, the interrelationships between psychodynamic and neurobiological psychiatry would have been made even more explicit. The recent article Complex Regional Pain Syndrome and functional neurological disorders: time for reconciliation (2) illustrates that efforts to bridge the worlds of “functional” and “organic disorders” are still very much with us. A close reading of Psychodynamics in Medically Ill Patients is advised to expand upon and deepen understanding of the ideas summarized here.

Take Home Points:

1. Psychodynamic principles dominated the earliest work in psychosomatic medicine, through the pioneering work that culminating in the biopsychosocial model of George Engel and his founding of a clinical psychosomatic medicine service at the University of Rochester in the 1970’s. These principles can and are being applied to universally important and challenging clinical issues such as countertransference, hostile, “hateful” patients, relationships among staff representing major hospital disciplines, and issues arising in psychiatric residency training.
2. Theories of personality development and attachment, offshoots of psychoanalytic/psychodynamic thinking, are directly applicable to the clinical problems encountered in psychosomatic medicine practice.
3. Functional neurological symptom disorder, as defined in DSM-5 and explicitly stated as synonymous with “conversion disorder”, a term introduced by Freud and Breuer, the most

common of the somatic symptom and related disorders, is a model disorder through which to understand and apply psychodynamic principles.
4. Psychiatric residency programs should provide trainees with a grounding in the fundamental principles of both psychodynamics and neurobiology.

References:

1. Gabbard G. Psychodynamic psychiatry in clinical practice. 4th ed. Washington DC: American Psychiatric Publishing, 2005.
2. Popkirov S, Hoeritzauer I et al. Complex Regional Pain Syndrome and functional neurological disorders: time for reconciliation. J Neurol Neurosurg Psychiatry 2019 May;90(5):608-614.

Reviewer: John P. Glazer, M.D., Boston Children's Hospital, Harvard Medical School

Source: Nash SS Kent LK Muskin PR: Psychodynamics in Medically Ill Patients. Har Rev Psychiatry, November/December 2009: p389-397. Link here

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CLiPPs Feedback

We appreciate any feedback for our young, developing review series.

CLiPPs is edited by Chase Samsel, MD, Boston Childrens Hospital and Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA 02115. All critical summaries are written by the designated reviewers.

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