

PSYCHIATRIC SUMMARY, September 2014
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This issue marks the tenth installment of Psychiatric Summary consolidating recent clinical updates, mental health policy news, popular press news patients may be reading, and changes in the landscape of psychiatry in Wisconsin.

OF GENERAL INTEREST:

Neuroscience Hype Unveiled:

In a study of gullibility, Ali, Lifshitz and Raz (*Frontiers in Neuroscience* [LINK](#)) used discarded odds and ends including an old salon hairdryer to create a mock brain imaging device. Employing a classic technique utilized by mentalists and magicians, they appeared to read the minds of student volunteers, some of whom had been trained in the limitations of neuroscience. Nevertheless, the authors demonstrated “that most students—even undergraduates with advanced standing in neuroscience and psychology, who have been taught the shortcomings of neuroimaging—deemed such unlikely technology highly plausible. Our findings highlight the influence neuro-hype wields over critical thinking.”

The Challenge of Thought:

In an article published in *Science* (Wilson et. al., July 4), researchers found that people dislike being alone with their thoughts. “In 11 studies, we found that participants typically did not enjoy spending 6 to 15 minutes in a room by themselves with nothing to do but think, that they enjoyed doing mundane external activities much more, and that many preferred to administer electric shocks to themselves instead of being left alone with their thoughts. Most people seem to prefer to be doing something rather than nothing, even if that something is negative.”

CLINICAL PSYCHIATRY IN THE NEWS, IN BRIEF:

Diet, Exercise and Depression:

In a study appearing in the green journal in May, Sarah T Stahl and colleagues demonstrated the feasibility of coaching for healthy dietary practices and other lifestyle modification for the prevention of depression and treatment of subsyndromal depression.

Medication = Public Safety?

In a heavily publicized article appearing online ahead of print in *The Lancet*, Fazel et al evaluated violent crime from 2006-2009 in 40,937 Swedish men and 41,710 Swedish women prescribed antipsychotics or mood stabilizers. They found that: “Compared with periods when participants were not on medication, violent crime fell by 45% in patients receiving antipsychotics (hazard ratio [HR] 0.55, 95% CI 0.47—0.64) and by 24% in patients prescribed mood stabilisers (0.76, 0.62—0.93). However, we identified potentially important differences by diagnosis—mood stabilisers were associated with a reduced rate of violent crime only in patients with bipolar disorder. The rate of violence reduction for antipsychotics remained between 22% and 29% in sensitivity analyses that used different outcomes (any crime, drug-related crime, less severe crime, and violent arrest), and was stronger in patients who were prescribed higher drug doses than in those prescribed low doses. Notable reductions in violent crime were also recorded for depot medication (HR adjusted for concomitant oral medications 0.60, 95% CI 0.39—0.92).”

Physicians versus United Health:

According to the AMA Wire: "The New York State Psychiatric Association (NYSPA) in March 2013 brought a class action lawsuit, representing its members, alleging violation of various state and federal laws, including the Mental Health Parity and Addiction Equity Act, the New York Parity Act and the New York Prompt Pay Statute. The lawsuit claims that United's practices were "designed to create the illusion of impartiality, fairness and due process while simultaneously undermining access to treatment for the most vulnerable segment of our society."

Hippocampal Neurogenesis and Forgetting:

In the May 9th issue of Science, Akers et al. published research which linked increased rates of hippocampal neurogenesis with increased forgetting. This was, in part, demonstrated through comparison of precocial rodent species (whose neurogenesis takes place primarily neonatally) which do not display infantile amnesia (rapid forgetting of new information postnatally) with those that have a primary surge of hippocampal neurogenesis in the postnatal period.

Patient Education Reduces Inappropriate Benzos:

In a JAMA Internal Medicine article by Tannenbaum et al., a simple educational intervention describing the risks of benzodiazepines (an 8 page booklet distributed by pharmacies in the greater Montreal area) resulted in 62% of patients in the intervention arm initiating conversations with their prescribers regarding tapering off of benzodiazepines with only 5% of the randomly assigned control group doing so.

Bullying: Protective and Damaging:

In an article appearing on-line ahead of print at PNAS, Copeland et al. demonstrated that rates of being bullied correlated with higher levels of C-reactive protein (CRP), a marker of low-grade systemic inflammation, whereas bullying others predicted lower levels of CRP compared to those uninvolved in bullying.

Citalopram Decreases amyloid- β :

In the May 14th issue of Science Translational Medicine, Sheline et al. published work indicating that amyloid- β levels in CSF are reduced with citalopram in both animal models of Alzheimer's disease and in individual humans with the disorder. This occurred in a dose dependent manner and suggests a possible treatment for future Alzheimer's disease prevention trials.

Prenatal Tobacco Exposure and ADHD:

In a 25-year prospective study, prenatal exposure to tobacco was correlated with reduced inhibitory control, functional imaging correlates thereof, and structural brain difference in the form of reduced volume of the right inferior frontal gyrus, suggesting that prenatal tobacco exposure results in neural alterations similar to ADHD.

e-cigarettes for smoking cessation:

In contrast to past reports, Brown et al., in the journal Addiction, reported in a large cross-sectional survey that "among smokers who have attempted to stop without professional support, those who use e-cigarettes are more likely to report continued abstinence than those who used a licensed NRT [nicotine replacement therapy] product bought over-the-counter or no aid to cessation. This difference persists after adjusting for a range of smoker characteristics such as nicotine dependence."

In Utero SSRIs and Chiari I

A retrospective cohort study of 33 children by Knickmeyer et al., published online ahead of print at Neuropsychopharmacology found higher rates of Chiari I Malformation in offspring exposed to SSRI in utero (18% versus 2%, OR estimate of 10.32).

Prescribed Gateway Drugs?

According to the 5/28/14 AMA Morning Rounds: "The Washington Post (5/28, Millman) reports in its "Wonkblog" blog on a study regarding heroin use published in JAMA Psychiatry finding that users are white (90.3 percent) "older, live in nonurban areas [75 percent], and are almost evenly male and female." Users also often "came to heroin after taking a prescription opioid." The description of users varies significantly from findings in the 1960s when users were overwhelmingly (82.8 percent) men, just 40 percent white, and had a mean age of 16.5 years. Also most users in the 1960s began use with heroin, while today 75 percent say they began with a prescription opioid. They turned to heroin because it was easier or cheaper to get (94 percent), and preferred the experience (98.1 percent)."

Venlafaxine for Menopause?

In a study of 339 perimenopausal and postmenopausal women with at least 2 bothersome vasomotor symptoms per day, venlafaxine reduced frequency by 1.8 more per day, compared to estradiol by 2.3 more per day compared to placebo. The study was published in JAMA Internal Medicine and first authored by Joffe.

"Chemo-Brain" Studied:

In a study published in the Journal of Clinical Oncology (Deprez et al.) 18 patients scheduled to receive chemotherapy were compared to 16 patients who were not scheduled to receive chemotherapy and 17 matched healthy controls during fMRI evaluation of a multitasking activity both before treatment and 4 to 6 months later. Analysis indicated reduced multitasking capacity, greater cognitive complaints and reduced network brain activity in the chemotherapy group.

No Alcohol is Safe?

In an article published on Medscape Psychiatry and Mental Health, Laura Stokowski reported on the 2014 World Cancer Report which issued that, given the link between alcohol consumption and cancers of the mouth, pharynx, larynx, esophagus, colon-rectum, liver, pancreas and female breast, no amount of alcohol is safe when it comes to cancer.

Sleep Debt and Dementia:

According to an article by Ooms et al. (JAMA Neurology online ahead of print), a night of unrestricted sleep led to a 6% decrease in beta-amyloid found in cerebrospinal fluid, compared to sleep deprivation counteracting that decrease. The study was performed in 26 cognitively normal middle-aged individuals.

Antidepressants and Weight Gain:

In a JAMA Psychiatry article, Blumenthal et al., (e-pub ahead of print) reviewed 22,610 adult patients prescribed antidepressants within an electronic medical system, evaluating for weight gain over the 12 month period following prescription. The results read: "Compared with citalopram, in models adjusted for sociodemographic and clinical features, significantly decreased rate of weight gain was observed among individuals treated with bupropion (β [SE]: -0.063 [0.027]; $P = .02$), amitriptyline (β [SE]: -0.081 [0.025]; $P = .001$), and nortriptyline (β [SE]: -0.147 [0.034]; $P < .001$). As anticipated, differences were less pronounced among individuals discontinuing treatment prior to 12 months."

New Opiate Addiction Medication:

As reported in MedScape by Caroline Cassels on 6/10/2014, the FDA approved Bunavil for opioid addiction: "According to the manufacturer, the drug has a unique adhesive "inside the cheek" delivery system that improves absorption and plasma concentrations of buprenorphine and therefore can be delivered at a lower dose, which may help reduce the potential for misuse and diversion and lessen the incidence of side effects."

Serotonin, Anxiety and Crayfish?

In an article appearing in Science (Fossat et al., June 13, 2014), the authors wrote: "Anxiety, a behavioral consequence of stress, has been characterized in humans and some vertebrates, but not invertebrates. Here, we demonstrate that after exposure to stress, crayfish sustainably avoided the aversive illuminated arms of an aquatic plus-maze. This behavior was correlated with an increase in brain serotonin and was abolished by the injection of the benzodiazepine anxiolytic chlordiazepoxide. Serotonin injection into unstressed crayfish induced avoidance; again, this effect was reversed by injection with chlordiazepoxide. Our results demonstrate that crayfish exhibit a form of anxiety similar to that described in vertebrates, suggesting the conservation of several underlying mechanisms during evolution. Analyses of this ancestral behavior in a simple model reveal a new route to understanding anxiety and may alter our conceptions of the emotional status of invertebrates."

Great Recession = 10,000 More Suicides:

In an article appearing on-line ahead of print in The British Journal of Psychiatry, authors Reeves, McKee and Stuckler "estimate that the Great Recession is associated with at least 10 000 additional economic suicides between 2008 and 2010."

Exercise for Depression:

In another meta-analysis, (Cooney et al., JAMA, 2014) "exercise was associated with a greater reduction in depression scores compared with control (35 trials; pooled SMD, -0.62 [95% CI, -0.81 to -0.42]). This represented a moderate effect, equivalent to a difference of approximately 5 BDI points. For the 16 studies reporting BDI, the mean difference was 4.76 BDI points".

Recovery in Schizophrenia:

M.J. Friedrich (JAMA online 6/18/14) published a review of research into individuals living successfully with schizophrenia. Through intensive interviews of individuals, they discovered several common strategies which "included taking medications as prescribed, staying physically healthy and getting enough exercise, controlling the amount of stimulation in their environment, and being involved in the mental health recovery movement. The importance of meaningful work and friendship were also common themes that emerged from the interviews."

Intellectual Enrichment and Cognitive Decline:

JAMA Neurology published on line (6/23/14, Vemuri et al.) a prospective analysis of 1995 individuals without dementia (1718 cognitively normal and 277 with mild cognitive impairment) who completed lifestyle enrichment measures at baseline and had at least one follow-up. The authors concluded from the results: "Higher education/occupation scores were associated with higher levels of cognition. Higher levels of mid/late-life cognitive activity were also associated with higher levels of cognition, but the slope of this association slightly increased over time. Lifetime intellectual enrichment might delay the onset of cognitive impairment and be used as a successful preventive intervention to reduce the impending dementia epidemic."

Maternal Pesticide Exposure and Autism:

According to a study published in *Environmental Health Perspectives* (Shelton et al.) a population based case-control study of 970 participants combining commercial pesticide application data from the California Pesticide Use Report (1997-200) and addresses during pregnancy, “Children of mothers residing near pyrethroid insecticide applications just prior to conception or during 3rd trimester were at greater risk for both ASD [Autism Spectrum Disorder] and DD [Developmental Delay], with OR’s ranging from 1.7 to 2.3. Risk for DD was increased in those near carbamate applications, but no specific vulnerable period was identified.”

Low Level Lead = Depression in Kids?

In a prospective cohort study conducted at 4 Chinese preschools (*JAMA Pediatrics*, Liu et al.), low level lead was associated with behavioral and emotional problems. “Blood lead concentrations, even at a mean concentration of 6.4 µg/dL, were associated with increased risk of behavioral problems in Chinese preschool children, including internalizing and pervasive developmental problems. This association showed different patterns depending on age and sex.”

Psychiatric Medications and ER Visits:

In a study published in *JAMA Psychiatry* (Hampton et al., 2014), authors reviewed medical records from national probability samples of emergency room and outpatient visits by adults 19 years and older from 2009 through 2011. There were nearly 90,000 adverse drug events involving psychiatric medication with over 19% resulting in hospitalization, nearly 50% involving patients aged 19 to 44. Of all visits, antipsychotics were involved in 11.7%, lithium in 16.4%, sedatives in 3.6%, anxiolytics in 2.9%, and zolpidem in 11.5%. In visits involving adults aged 65 and older, zolpidem was involved in 21% of cases.

Marijuana Blunts Dopamine Response:

According to the authors of a recent *PNAS* paper (Volkow et al, 2014): “Marijuana abusers show lower positive and higher negative emotionality scores than controls, which is consistent, on one hand, with lower reward sensitivity and motivation and, on the other hand, with increased stress reactivity and irritability. To investigate this aspect of marijuana’s impact on the human brain, we compared the brain’s reactivity in marijuana abusers vs. controls when challenged with methylphenidate (MP). We found that marijuana abusers display attenuated dopamine (DA) responses to MP, including reduced decreases in striatal distribution volumes. These deficits cannot be unambiguously ascribed to reduced DA release (because decreases in nondisplaceable binding potential were not blunted) but could reflect a downstream postsynaptic effect that in the ventral striatum (brain reward region) might contribute to marijuana’s negative emotionality and addictive behaviors.”

Depression → Cognitive Impairment?

According to research appearing in *Neurology* (Wilson et al., July 30, 2014 online ahead of print [LINK](#)) depression may predict or predispose to cognitive impairment. In a cohort study of 1,764 older persons without cognitive impairment at enrollment, evaluated for a mean of 7.8 years, “Incident mild cognitive impairment (52.2%) was associated with higher level of depressive symptoms before the diagnosis but not with change in symptoms after the diagnosis; incident dementia (17.9%) was associated with higher symptom level before dementia onset and with more rapid decline in symptoms after dementia onset.”

Chronic Pain and Long Term Depression:

Amotivation in chronic pain has been studied at the molecular level in recent work published in Science (Schwartz et al., Vol 345, no 6196, pp 535-542 [LINK](#)). “Several symptoms associated with chronic pain, including fatigue and depression, are characterized by reduced motivation to initiate or complete goal-directed tasks. However, it is unknown whether maladaptive modifications in neural circuits that regulate motivation occur during chronic pain. Here, we demonstrate that the decreased motivation elicited in mice by two different models of chronic pain requires a galanin receptor 1–triggered depression of excitatory synaptic transmission in indirect pathway nucleus accumbens medium spiny neurons. These results demonstrate a previously unknown pathological adaptation in a key node of motivational neural circuitry that is required for one of the major sequela of chronic pain states and syndromes.”

Fitness Thwarts Depression:

According to the AMA Morning Rounds on 8/8/2014: “The Dallas Morning News (8/7, Barker) “Health Blog” reported that according to research released Aug. 7 at a psychological conference, “physically fit sixth graders – especially girls – are less likely to report feeling depressed when they reach seventh grade.” The 437-student study revealed that “sixth-grade girls who performed better on a cardio-respiratory fitness test – a kind of shuttle run – were less likely to feel depressed when surveyed again in seventh grade.””

Social Network and Suicide:

A study appearing in the Annals of Internal Medicine (Tsai et al., 2014) examined social factors associated with suicide events in 34,901 men (mean age, 57; from narrow professional socioeconomic strata) followed from 1988 to 2012, during which 147 men died by suicide. Compared with those in the lowest quartile, those in the two quartiles with best social support/integration had significantly (~40%–50%) lower risk for suicide; with marital status, social network size, and religious participation being the strongest protective factors.

Fitness and White Matter:

In a diffusion tensor imaging study of 9 and 10 year old children, Chaddock-Heyman et al. (frontiers in Human Neuroscience, 2014 [LINK](#)) found that “Higher fit 9- and 10-year-old children showed greater fractional anisotropy (FA) in sections of the corpus callosum, corona radiata, and superior longitudinal fasciculus, compared to lower fit children. The FA effects were primarily characterized by aerobic fitness differences in radial diffusivity, thereby raising the possibility that estimates of myelination may vary as a function of individual differences in fitness during childhood.”

Atypicals and Acute Renal Injury:

In a study of nearly 98,000 adults aged 65 or older, Hwang et al. (Annals of Internal Medicine, 2014 [LINK](#)) found that: “Atypical antipsychotic drug use versus nonuse was associated with a higher risk for hospitalization with AKI (relative risk [RR], 1.73 [95% CI, 1.55 to 1.92]). This association was consistent when AKI was assessed in a subpopulation for which information on serum creatinine levels was available (5.46% vs. 3.34%; RR, 1.70 [CI, 1.22 to 2.38]; absolute risk increase, 2.12% [CI, 0.80% to 3.43%]).”

Coordination Training and Hippocampus:

In a study of cardio and coordination fitness, Niemann et al. (frontiers in Aging Neuroscience, 2014 [LINK](#)) found “that motor fitness but not metabolic fitness was associated with hippocampal volume. After the 12-month intervention period, both, cardiovascular and coordination training led to increases in hippocampal volume.”

Overwiring in Autism:

Work by Tang et al. (Neuron, 2014 [LINK](#)) report increased dendritic spine density with reduced developmental spine pruning in layer V pyramidal neurons in postmortem ASD temporal lobe. These spine deficits correlate with hyperactivated mTOR and impaired autophagy. In Tsc2+/- ASD mice where mTOR is constitutively overactive, we observed postnatal spine pruning defects, blockade of autophagy, and ASD-like social behaviors. The mTOR inhibitor rapamycin corrected ASD-like behaviors and spine pruning defects in Tsc2+/- mice, but not in Atg7CKO neuronal autophagy-deficient mice or Tsc2+/-:Atg7CKO double mutants. Neuronal autophagy furthermore enabled spine elimination with no effects on spine formation.”

Poor Sleep & Cortical Atrophy:

In a longitudinal exploratory study of sleep quality and structural MRI in 147 individual Sexton et al. (Neurology, 2014 [LINK](#)) found that “poor sleep quality was associated with reduced volume within the right superior frontal cortex in cross-sectional analyses, and an increased rate of atrophy within widespread frontal, temporal, and parietal regions in longitudinal analyses.”

One Suicide Death Every 40 Seconds:

According to a recent World Health Organization report ([LINK](#)) more than 800,000 people die by suicide every year, or around one person every 40 seconds.

Benzodiazepines and Alzheimer's Risk:

A recent article in the BMJ (Yaffe, Boustani and Fairbanks, 2014 [LINK](#)) found a two fold risk of developing Alzheimer's disease in a nested case-control study of approximately 2000 older members of a public drug plan in Quebec, Canada, with a cumulative dose-effect association among those receiving benzodiazepines for at least 90 days.

MENTAL HEALTH IN THE POPULAR PRESS:

Inducing Lucid Dreaming for Treatment?

Nature Neuroscience published an article by Voss et al., in which targeted brain stimulation in the lower gamma band during REM sleep influenced brain activity to induce self-reflective awareness during dreaming. It is speculated that this technique could be used in treatment of mental illness, such as PTSD.

20% of Ivy Leaguers abuse Stimulants:

According to research presented at the Pediatric Academic Societies' annual meeting 5/3/14 (Colaneri et al.) in a sample of 616 students without ADHD, 18% had used at least one form of stimulant to study in college.

Self Care for Better Health:

In a New York Times editorial, psychiatrist James Gordon wrote about the importance of incorporating self care into daily practice as preventive medicine and cost saving measure.

10,000 + Toddlers Medicated for ADHD:

On 5/16, the New York Times (Alan Schwarz) publicized a CDC report that over 10,000 American toddlers, 2 to 3 years old, are being medicated for ADHD, outside established pediatric guidelines.

Alprazolam and Emergency Rooms:

USA Today ran a story on 5/22 (Leger) based on a recent report of the Substance Abuse and Mental Health Services Administration, writing that “misuse of the popular sedative alprazolam, known by the trade name Xanax, sent more than 123,000 people to the emergency room in 2011, slightly fewer than the year before but more than double the number who went to the emergency” department in 2005.

ACA Not = More Mental Health Visits:

On 6/23/14 the AMA Morning Rounds reported that both the Philadelphia Inquirer and New York Times reported that mental health and AODA providers did not see an increase in patients under the first six months of the Affordable Care Act and mandated mental health and substance use treatment parity.

Chronic Pain Exaggerated?

According to the 6/25/14 AMA Morning Rounds: “Experts fault chronic pain statistic as exaggerated. In its “Watchdog Reports” series, the Milwaukee Journal Sentinel (6/25, Fauber) reports that recently, US Food and Drug Administration Commissioner Margaret Hamburg cited the statistic that “100 million Americans are suffering from severe chronic pain.” However, “that number – the equivalent of more than 40% of the US adult population – is exaggerated and misleading, according to pain experts familiar with how it was derived.” In a February meeting of pain experts conducted at the National Institutes of Health, two experts voiced concerns about how the statistic was being used. The figure was taken from an Institute of Medicine report. In its investigation, the Milwaukee Journal Sentinel “found that nine of the 19 experts on the panel that produced the number had financial connections to companies that manufacture narcotic painkillers within three years of their work on the report.””

Savings through Telepsychiatry in South Carolina:

According to [USA Today](#) (6/27, Vestal) a state program allowing psychiatric emergency room evaluations through telepsychiatry has successfully reduced wait times from 4 days to 10 hours and saved an estimated \$1400 per consult, or nearly \$28 million dollars.

Alcohol Contributes to 1 of 10 Deaths:

In a study by the Centers for Disease Control and Prevention (Stahre et al) alcohol attributable deaths from 2006 to 2010 in New Mexico and New Jersey accounted for 1 in 10 deaths among working-age adults.

108 Schizophrenia Genes:

Many news sources reported on the Schizophrenia Working Group of the Psychiatric Genomics Consortium publication appearing in Nature (511, 421-427, July 24, 2014 [LINK](#)) in which 36,989 cases and 113,075 controls were compared in a genome-wide association study identifying 128 independent associations spanning 108 conservatively defined loci, 83 of which had not been previously reported.

MENTAL HEALTH POLICY:

Press Coverage and Suicide Clusters:

According to an analysis by Madelyn S Gould and colleagues, published in the Lancet Psychiatry as an early online publication May 2, the number of newspaper articles published after a suicide, and particular characteristics such as front-page placement, headline containing the word suicide, and description of the method used, all appeared to increase clustering of teenage suicide. This suggests that mental health professionals, community officials, and the media should be working together identify and prevent the development of youth suicide clusters.

FDA Halves Starting Dose of Lunesta:

In a heavily publicized FDA announcement on 5/15/14, the FDA reduced the starting dose of the sleep aid eszopiclone by 50% due to concerns that individuals may be driving while drowsy in the morning, unawares. This was based on results from a study of 91 healthy adults.

Madison Police to Sue over Mendota?

According to Channel 3000 (Dave Delozier, 6/17/2014) the Madison Police Department has sought approval to sue the state over the closure by Mendota Mental Health Institute (MMHI) of its civil unit, leading to officers being required to transport patients under Chapter 51 Emergency Detention to Winnebago when no local beds are available. The department is submitting that MMHI is mandated by statute to accept custody of individuals needing emergency detention.

Medicare Stigmatizes Mental Illness:

According to the AMA Morning Rounds of 6/26/2014: "[USA Today](#)(6/25, A1, Szabo) reports on its front page that "systemic discrimination" against people with mental illnesses, which is "embedded in Medicaid and Medicare laws, has accelerated the emptying of state psychiatric hospitals, leaving many of the sickest and most vulnerable patients with nowhere to turn." According to advocates and experts, the system is "in shambles, starved of funding while neglecting millions of people across the country each year." The piece also mentions that a bill before Congress sponsored by Rep. Tim Murphy (R-PA) called the "Helping Families in Mental Health Crisis Act would allow states to receive Medicaid matching payments for adult psychiatric hospitalizations." The measure enjoys the support of the American Psychiatric Association and the American College of Emergency Physicians, among others."

Arizona Law to Curb Mass Shootings:

According to the 6/30/2014 AMA Morning Rounds: "NBC Nightly News (6/28, story 6,2:45, Holt) reported "on how authorities there are relying on a new combination of tools to identify people who may be" planning a mass shooting. In Arizona, an "individual can be brought involuntarily to a mental health crisis response center without a warrant or court order or visible evidence of danger." The new law, in addition to "unprecedented data sharing by every law enforcement and mental health