

# Letters to the editor

## PSYCHOPHYSIOLOGICAL DISORDERS AND PAIN MEDICATION PRESCRIPTION AMONG INTERNAL MEDICINE OUTPATIENTS

### DEAR EDITOR:

Psychophysiological disorders are physical disorders with psychological overlays. Because the proportion of psychological overlay is always variable, these types of disorders can be challenging to treat in primary care settings—particularly with regard to the management of any associated pain symptoms. In the following cross-sectional study, we examined various relationships between eight self-reported psychophysiological disorders and recorded prescriptions for analgesic medications during the preceding four weeks.

Participants comprised male and female subjects between the ages of 18 and 65 years who presented for outpatient treatment in an internal medicine resident-provider clinic. Participants were recruited as clinical demands allowed (i.e., the sample was one of convenience). Exclusion criteria were cognitive, medical, psychiatric, and/or intellectual impairment that would preclude the successful completion of a survey booklet as well as patients who had not been registered in the clinic during the preceding four weeks. A total of 82 patients were approached, 80 of whom agreed to participate, for a response rate of 97.6 percent.

The sample for analysis consisted of 21 men and 59 women (N=80) who ranged in age from 17 to 74 years (M=45.58, SD=14.74). The large majority were Caucasian (89.9%), followed by African-

American (6.3%), Hispanic (2.5%), and Native-American (1.3%). With regard to educational achievement, 20.3 percent had not graduated high school, 41.8 percent had graduated high school but had not attended college, 21.5 percent attended some college but had not earned a degree, 8.9 percent had achieved a bachelor's degree, and 7.6 percent had attained a graduate degree.

Each participant completed a survey booklet that initially explored demographic information (e.g., age, gender, race, completed education) and then explored a history of having ever been diagnosed with one of the following psychophysiological disorders: chronic fatigue syndrome, fibromyalgia, temporomandibular joint syndrome, irritable bowel syndrome, chronic pain, rheumatoid arthritis, multiple chemical sensitivities, and migraine headaches. We then examined the medical records for analgesic prescription during the preceding four weeks. Analgesic prescriptions were coded as narcotic analgesics, nonsteroidal anti-inflammatory drugs (NSAIDs), and "other" (e.g., gabapentin, duloxetine, pregabalin). When present, narcotic analgesic prescriptions were converted to morphine equivalents to compare participants' prescription. All participants signed a consent form for participation. The project was approved by the institutional review boards of both the community hospital and university.

With regard to results, we initially examined the individual psychophysiological disorders and pain prescriptions (narcotic analgesics, NSAIDs, "other" pain medications, total number of prescribed pain medications). There

were statistically significant correlations between the total number of prescribed pain medications and irritable bowel syndrome ( $r=0.25$ ,  $p<0.05$ ), chronic pain ( $r=0.37$ ,  $p<0.01$ ), rheumatoid arthritis ( $r=0.30$ ,  $p<0.01$ ), and migraine headaches ( $r=0.28$ ,  $p<0.01$ ), with respondents with these disorders demonstrating a greater number of pain medications, but no associations between these disorders and narcotic analgesics, NSAIDs, or "other" pain medications. There was also a statistically significant correlation between chronic pain and narcotic analgesic dosages ( $r=0.35$ ,  $p<0.001$ ), in the expected direction.

We then examined the number of different psychophysiological disorders and pain medication prescription. There were statistically significantly positive correlations between the number of endorsed psychophysiological disorders and "other" pain medications ( $r=0.28$ ,  $p<0.05$ ), as well as the number of psychophysiological disorders and total number of prescribed pain medications ( $r=0.39$ ,  $p<0.001$ ). However, there were not statistically significant correlations between the number of psychophysiological disorders and either narcotic analgesic dosages ( $r=0.10$ ,  $p<.38$ ) or prescription of a NSAID ( $r=0.05$ ,  $p<0.67$ ).

What do these findings tell us? In this clinic, it appears that with the exception of chronic pain, narcotic analgesics are not over-represented among those with psychophysiological disorders. In addition, while the number of self-reported psychophysiological disorders demonstrated a statistically significant association with the total number of analgesic medications, this increase was not reflected in narcotic analgesic

dosages or NSAID prescription. One interpretation for these data may be that as clinicians discern potentially greater psychological overlays in their patients' symptom presentations, they refrain from narcotic analgesics and emphasize non-narcotic analgesics.

These data have a number of potential limitations, including a sample of convenience (i.e., risk of sampling bias), small sample size, and the self-report nature of the data. However, few studies have examined psychophysiological disorders and their association with prescription medication patterns. These findings indicate that except for chronic pain, narcotic analgesics are not overly represented in prescribing patterns for these disorders. However, for specific disorders (i.e., irritable bowel syndrome, chronic pain, rheumatoid arthritis, and migraine headaches), there was a relatively greater number of pain medications prescribed. In addition, the number of different psychophysiological disorders predicted for a greater number of analgesics prescribed, including "other" analgesics, but not narcotic analgesics or NSAIDs. These data are reassuring both in terms of analgesic prescription in these perplexing patients as well as regarding concerns about the addiction risk of narcotic analgesics.

With regards,

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**GUNS: DANGEROUS, ESPECIALLY FOR SUICIDE, AND COSTLY FOR AMERICA**

**DEAR EDITOR:**

Gun ownership is common in America. People report that they need them for safety and/or sport. However, having a firearm in the home actually increases the rate for suicide, homicide, domestic violence, and accidents. The presumed security is questioned, especially since owner and family suicide vastly outnumbers self-protective events. Gun-related suicide in America accounts for most of the violent death occurrences. This high suicide rate is shockingly under appreciated. The deaths, injuries, and disabilities significantly escalate healthcare costs, insurance premiums, criminal justice system expenses, and taxes. Nevertheless, regulation of firearms has neither been popular with the public nor legislatures; perhaps the degree of carnage might now kindle discussion about the way we control these weapons.

The Second Amendment to the Constitution states that, "A well regulated militia, being necessary to the security of a free state, the right

of the people to keep and bear arms, shall not be infringed." Despite current gun regulations, firearms can be bought at gun shows or privately from unlicensed dealers with no background checks.

In 2005, out of a total of 541 firearm-related deaths in Kentucky, 375 were gun-shot suicides (69%), homicides accounted for 143, accidents claimed 11, nine died in police shootings, and three fatalities were unspecified.<sup>1</sup> During 2006 and 2007, again, approximately 70 percent of gun-shot deaths were suicides.<sup>1</sup> Most Americans are unaware that gun-shot suicide occurs much more often than all other shooting deaths combined. Suicide by gun fire is the fastest growing and most common means of suicide regardless of age, gender, race, or educational level. It is the leading cause of death in those who purchase firearms for the first time.<sup>2</sup> Despite being obtained for personal security, 83 percent of gun fatalities in a home are suicide.<sup>3</sup> Among 395 shooting deaths in Seattle during one year, 333 were by suicide, 41 were domestic violence incidents, 12 were accidents, and only nine involved an intruder.<sup>3</sup> Women commit suicide three times as often when firearms are present in a home than in domiciles without them.<sup>4</sup> Despite mental illness being an important factor, most suicide attempts are impulsive and done under stress, when upset and/or intoxicated, but without psychopathology. Awareness about the frequency of such unplanned acts is limited. Having firearms readily available increases the lethality of such impulsivity.

Guns are the most frequently used means involved in deaths by domestic violence, increasing the rate of killing an intimate partner. Five times as many women are shot to death in homes where such

weaponry is available in contrast to households without them.<sup>4</sup> Family member homicide is much more likely than stopping a trespasser. Sadly, many American children are shot to death every day.

Gun violence has a negative impact on society. Beyond death and disability, survivors of a shooting endure psychological trauma and grief. Violence-exposed children experience developmental consequences and adults also evidence personal compromise. Living in communities where fear of getting shot is common has detrimental effects on people and teaches inappropriate role modeling about responsible behavior to future generations.

Hospitals, trauma centers, and rehabilitation or nursing home facilities are flooded with victims of shootings. Acute healthcare expenditures for injured individuals are enormous and most of these patients are uninsured. The economic impact extends well beyond emergency treatment and continues with chronic dysfunction, rehabilitation, and long-term disability. Medical expense outlays increase for everyone, covered largely by government and ultimately affecting tax-payers. These costs inflate the price of medical, disability, and life insurance; escalating premiums are paid by companies, governments, and private individuals. Acute care medical bills for gun violence in the United States reportedly is over \$4 billion per year, and it exceeds \$100 billion annually, when including follow up and long-term care.<sup>5</sup> A serious attempt to reduce healthcare costs, would include consideration at limiting gun usage.

Firearm use also adds to the expenses of police work, court prosecutions, legal involvements, and incarcerations, again borne by

tax-payers. Loss of productivity, disability payments, and emotional or physical dysfunction all add to the cost. Guns are so much a part of our culture, that Americans have become accustomed to the resulting bloodshed and huge expenses.

Firearms have a negative impact on our society, both emotionally and physically. They heighten expenditures for us all in taxes and insurance premiums, but gun regulation still remains socially and politically controversial.

Americans can make choices. We should decide whether to accept our current status or whether a reassessment of our gun-regulation system is a potential legal alternative.

#### REFERENCES

1. Kentucky Violent Death Reporting System. <http://www.kvdrs.uky.edu/index.htm>. Accessed February 24, 2010
2. Miller M, Hemenway D. Guns and suicide in the United States. *NEJM*. 2008;359(10):989–991.
3. Kellermann A. Guns for safety? Dream on Scalia. *The Washington Post*. June 29, 2008. Page B02. <http://www.washingtonpost.com/wp-dyn/content/article/2008/06/27/AR2008062702864.html>. Accessed February 24, 2010.
4. Bailey J, Kellermann A, Somes G, Rivara FP. Risk factors for violent death of women in the home. *Arch Internal Med*. 1997;157(7):777–782.
5. Wintemute JC. Guns, fear, the constitution, and the public health. *New England J Med*. 2008;358(14):1421–1424.

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#### SEROQUEL MISUSE/ABUSE

##### DEAR EDITOR:

The article regarding Seroquel misuse/abuse by Sansone and Sansone and Sansone in the Interface section of the January issue was interesting and informative [Is Seroquel developing an illicit reputation for misuse/abuse? *Psychiatry* (Edgemont) 2010;7(1):13–1.] Such an article creates awareness among physicians of the potential for abuse of psychotropic medications not classified as controlled substances.

In addition to Seroquel, several other psychotropic medications have been known to be abused also. The two major ones that come to mind and have been studied are bupropion and gabapentin; the latter has several off-label uses in treating both mental health disorders and substance abuse issues both in the United States and abroad.

Bupropion comes in three formulations and is similar in structure to phenylethylamines, which includes compounds like methamphetamine, amphetamine, methylenedioxy-methamphetamine, and diethylpropion.<sup>1</sup> Bupropion is probably most closest to

diethylpropion, an anorectic medication, which also has some abuse potential.

The pharmacological effects of bupropion have been shown in studies to not be similar to most of the above phenylethylamines, but studies by way of case reports have focused on the nasal insufflation of crushed bupropion. These reports have demonstrated the abuse potential of this drug when misused in this manner. Patients have reported getting a “high” or “buzz” from them. The bioavailability of the drug when in the crushed form and used by way of nasal insufflation is believed to increase considerably, due to the fact that the nasopharynx has a large, highly vascularized surface area. Most of these reports have mentioned clients presenting with seizures following this pattern of use.<sup>1-3</sup>

Gabapentin on the other hand is a drug structurally related to the neurotransmitter, GABA, but does not modify GABAA or GABAB radioligand binding. It also does not alter dopamine, noradrenaline, or serotonin.<sup>4</sup> It has been demonstrated in case reports and studies looking at use pattern in correctional facilities to have a significant abuse potential, just as mentioned in the Sansone and Sansone article. It has been reported to be the drug of preference for people with a history of cocaine abuse who are incarcerated.<sup>5</sup> In this study, inmates reported that snorting gabapentin in this population produced a similar “high” as snorting cocaine. Reports in correctional facilities, especially in Florida and California, are present in the literature<sup>5</sup> and this resulted in gabapentin being removed from the drug formulary in the state of California.<sup>5</sup>

The interesting aspect is that bupropion and gabapentin have undergone extended studies for their

use in treating substance abuse disorders.

#### REFERENCES

1. Hill S, Sikand H, Lee J. A case report of seizure induced by bupropion insufflation. *Prim Care Companion J Clin Psychiatry*. 2007;9(1):67–69.
2. Khurshid KA, Decker DH. Bupropion insufflation in a teenager. *J Child Adolesc Psychopharmacol*. 2004;14(1):157–158.
3. Langguth B, Hajak G, Landgrebe M, Unglaub W. Abuse potential of Bupropion nasal insufflation: a case report. *J Clin Psychopharmacol*. 2009;29(6):618–619.
4. Neurotin (gabapentin) drug information. The RX List. <http://www.rxlist.com/neurontin-drug.htm>. Accessed on 02/05/2010.
5. Webb J. Gabapentin—another drug of misuse? BC Drug and Poison Information Centre. <http://www.dpic.org/article/professional/gabapentin-abuse>. Accessed on 02/05/2010.

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