



EPI MONTHLY REPORT

Acetaminophen Poisonings: Differences in Intentions Miami-Dade County, 2008

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Inside this issue:

Background

Acetaminophen is an analgesic used to relieve mild to moderate pain from headaches, myalgia, colds, sore throats, toothaches, back pain, and to reduce fever. Acetaminophen overdoses are an increasing problem since it is affordable, widely available, and can be obtained without a physician's prescription. An estimated 60,000 acetaminophen poisonings occur yearly in the United States, (Fontana, 2008) mostly among adolescents and young adults (Schmidt, 2005). Acetaminophen overdoses can cause hepatotoxicity, hepatic necrosis, and hepatic encephalitis. Moreover, approximately half of acute liver failure (ALF) cases in the United States are attributed to acetaminophen poisonings (Morgan et al, 2007). Overdoses generally occur as a result of individuals either taking large doses to relieve pain or through a suicidal attempt (Gyamlani, 2002). The aim of this study was to ascertain the epidemiology of acetaminophen poisoning intentions in Miami-Dade County.

Methods

All Miami-Dade residents that either visited an emergency department (ED) or were hospitalized during 2008 were evaluated. Nonfatal acetaminophen

overdoses were identified by examining the diagnosis coding fields for International Classification of Diseases, Ninth Revision (ICD-9) code 965.4 (poisoning by acetaminophen). The overdose intent was identified through a search of the three external causes of injury and poisoning (E-code) fields. Acetaminophen overdoses were either classified as accidental (E850.4, E935.4) or intentional (E950.0). Any cases missing either ICD-9 code 965.4 or one of the aforementioned e-codes were excluded from the analysis. The following variables were analyzed: age, gender, race/ethnicity, and alcohol use. Quantitative data was analyzed using the Students unpaired t-test. Analysis of qualitative data was done using the chi-square test or Fisher's exact test when appropriate. P-values < .05 were considered statistically significant. All statistical analyses were performed using SAS version 9.1.

Results

During 2008, there were 407 patient visits identified with acetaminophen overdoses. Nearly two-thirds of poisonings (64%) were intentional. Females comprised the majority (65%) of acetaminophen poisonings. Females were also significantly more likely to inten-

Acetaminophen Poisonings: Differences in Intentions **1**
Miami-Dade County, 2008

Selected Notifiable Disease Reports, Historical data, July 2010 **2**

EDC-15 Influenza/Respiratory Illness Surveillance Report **3**

Monthly Report, Selected Reportable Diseases/ Conditions in July 2010 **4**

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tionally poison themselves (odds ratio, OR = 1.62, p = .02) as compared to males.

The average age of patient visits with an accidental ingestion was significantly younger than the intentional poisoning group (mean age [95% CL]: 20.6 [17.3, 23.8] vs. 29.0 [27.3, 30.7] years, p < .0001). Nearly all poisonings (98%) among young children (0 – 10 year olds) were accidental. This group comprised 37% of all unintended poisonings. In contrast, the majority of overdoses among individuals aged 11 – 64 years were intentional (75%), however they were significantly more likely among 11 – 29 year olds as compared to all other ages (OR = 2.96, p < .0001). The elderly accounted for 2.5% of all acetaminophen overdoses

There were racial/ethnic differences in poisonings by intent, however none were significant. For example, 70% and 58% of poisonings among White Non-Hispanics and African Americans, respectively, were intentional (p = .09).

A number of patient visits (n = 46) with acetaminophen overdoses were found to have an alcohol-related diagnosis, however it was significantly more likely among those with intentional ingestions (OR = 2.18, p < .0001). The most common alcohol-related diagnoses were alcohol abuse (48%) and alcohol dependence syndrome (28%).

Discussion

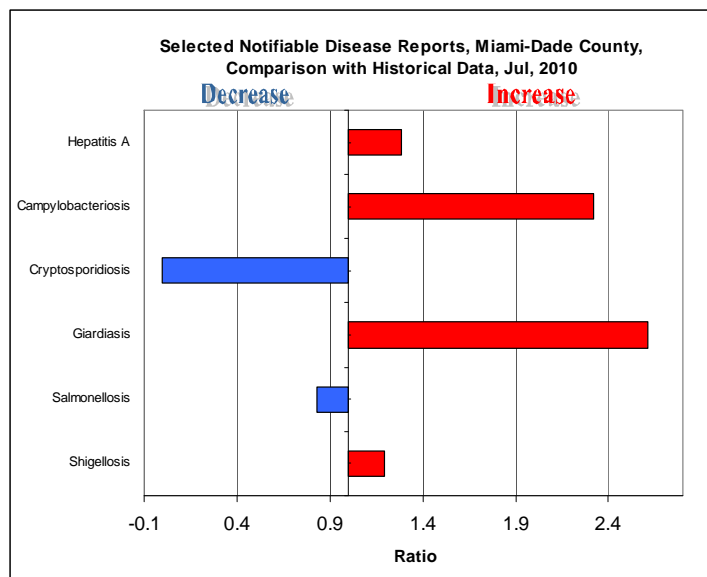
In this study, nearly two-thirds of acetaminophen poisonings were deliberate. Females comprised the majority of both overall and intentional overdoses. Individuals who intentionally poisoned themselves were on average, 8.5 years older than those with accidental overdoses, most likely since a larger proportion of unintentional poisonings occurred among younger children. Adolescents and younger adults were nearly three times as likely to intentionally poison themselves versus all other ages combined. This is consistent with other studies which suggest that acetaminophen is the drug most commonly implicated in deliberate drug overdoses among adolescents and young adults (Schmidt, 2005). Rates were similar when stratifying by gender.

Alcohol was believed to be a contributing factor in 11% of patient visits; however, it was more than twice as likely among individuals with deliberate ingestions. The most common alcohol-related diagnosis reported was

alcohol abuse which has been suggested to increase the risk of acute liver failure when combined with acetaminophen toxicity (Larson et al, 2005).

A limitation of this study is that discharge data only identifies patients that either visited an ED or were hospitalized which would underestimate the true incidence of acetaminophen overdoses. Furthermore, searches were designed to maximize sensitivity, potentially resulting in missed cases. Finally, discharge data does not allow in determining either the type of dosage or type of product used.

To reduce analgesic-related morbidity and mortality, England implemented legislation in 1998 which limited pack sizes for consumers. Subsequent studies, however, have revealed inconclusive evidence as to whether the legislation reduced acetaminophen poisonings. (Hawkins et al, 2007). In the U.S., although a Food and Drug Administration (FDA) advisory panel recently suggested decreasing the maximum recommended dosage from 4000 mg/day to 3250 mg/day for adults and reducing the maximum amount in a single non-prescription dose to 650 mg, they have yet to carry out on these recommendations (Schilling et al, 2010).



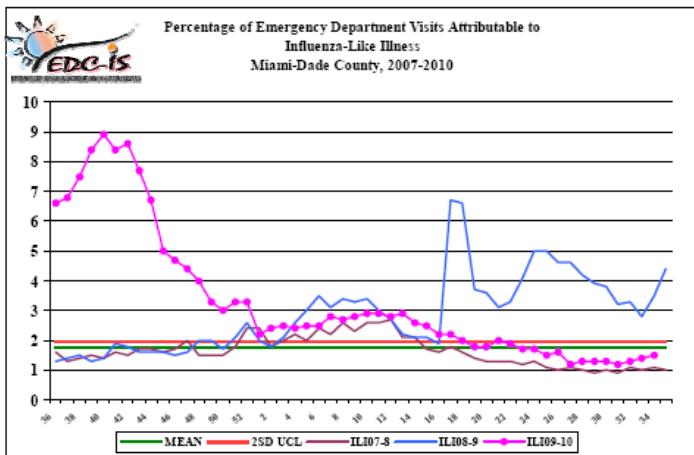
Miami-Dade County Health Department
EDC-IS Influenza/Respiratory Illness
Surveillance Report



Week 34: 08/22/2010– 08/28/2010

Miami Dade County Health Department EDC-IS collects and analyzes weekly information on influenza activity in Miami-Dade County. On a daily basis, selected Miami-Dade County hospitals electronically transmit hospital emergency department data to the Miami-Dade County Health Department.

This data is then categorized into 10 distinct syndromes. The influenza-like illness (ILI) syndrome consists of fever with either cough or sore throat. It can also include a chief complaint of “flu”. Each week, staff will determine the percentage of all emergency department visits that fall into the ILI category.



During this period, there were 18,022 ED visits; among them 270 (1.5%) were ILI. At the same week of last year, 3.5% of ED visits were ILI.

For more information, please contact
Erin O’Connell at 305-470-5660.

PARTICIPATE IN INFLUENZA
SENTINEL
PROVIDER SURVEILLANCE

The Miami-Dade County Health Department NEEDS Influenza Sentinel Providers!!

Sentinel providers are key to the success of the Florida Department of Health’s Influenza Surveillance System. Data reported by sentinel providers gives a picture of the influenza virus and ILI activity in the U.S. and Florida which can be used to guide prevention and control activities, vaccine strain selection, and patient care.

- Providers of any specialty, in any type of practice, are eligible to be sentinel providers.
- Most providers report that it takes **less than 30 minutes a week** to compile and report data on the total number of patients seen and the number of patients seen with influenza-like illness.
- Sentinel providers can submit specimens from a subset of patients to the state laboratory for virus isolation **free of charge**.

For more information, please contact
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About the Epi Monthly Report

The Epi Monthly Report is a publication of the Miami-Dade County Health Department, Epidemiology, Disease Control & Immunization Services. The publication serves a primary audience of physicians, nurses, and public health professionals. Articles published in the Epi Monthly Report may focus on quantitative research and analysis, program updates, field investigations, or provider education. For more information or to submit an article, contact Lizbeth Londoño at 305-470-6918.



Miami-Dade County Monthly Report

Select reportable Disease/Conditions

July 2010

Diseases/Conditions	2010 Current Month	2010 Year to Date	2009 Year to Date	2008 Year to Date
HIV/AIDS				
AIDS*	39	423	552	718
HIV	49	622	670	977
STD				
Infectious Syphilis	45	198	N/A	N/A
Chlamydia	762	4987	N/A	N/A
Gonorrhea	195	1366	N/A	N/A
TB				
Tuberculosis**	9	87	N/A	N/A
Epidemiology, Disease Control & Immunization Services				
Epidemiology				
Campylobacteriosis	38	121	70	77
Ciguatera Poisoning	2	5	16	12
Cryptosporidiosis	1	6	11	11
Cyclosporiasis	0	1	1	4
Dengue Fever	11	18	3	1
E. coli, O157:H7	0	0	0	2
E. coli, Non-O157	0	0	0	1
Encephalitis (except WNV)	0	0	0	4
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	67	398	353	140
Influenza Novel Strain	0	20	1126	0
Influenza, Pediatric Death	0	0	1	0
Legionellosis	1	5	9	5
Leptospirosis	0	0	0	0
Listeriosis	0	13	0	3
Lyme disease	0	2	1	3
Malaria	4	15	10	4
Meningitis (except aseptic)	0	0	0	3
Meningococcal Disease	2	14	13	6
Salmonellosis	46	202	244	238
Shigellosis	17	107	90	27
Streptococcus pneumoniae, Drug Resistant	8	107	76	70
Toxoplasmosis	0	1	1	0
Typhoid Fever	0	2	2	0
Vibriosis	0	0	0	2
West Nile Fever	0	0	0	0
Immunization Preventable Diseases				
Measles	0	0	0	0
Mumps	0	0	0	0
Pertussis	2	22	18	13
Rubella	0	0	0	1
Tetanus	0	0	0	0
Varicella	7	61	44	36
Hepatitis				
Hepatitis A	6	32	33	19
Hepatitis B (Acute)	1	18	8	10
Lead				
Lead Poisoning	20	153	69	93

*Data on AIDS are provisional at the county level and is subject to edit checks by state and federal agencies.

** Data on tuberculosis are provisional at the county level.