

High Prevalence of Mental and Substance Use Disorders Among Out-of-Hospital Sudden Unexpected Death Victims

Ankita Ashoka¹; Greta Bushnell, MSPH²; Golsa Joodi, MD, MPH¹; Samantha Meltzer-Brody, MD, MPH³; Carter Devlin, BS¹; Neil P. Patel¹; Irion W. Pursell, BS, RN¹; Ross J. Simpson Jr., MD, PhD¹

Author affiliations:

¹ Department of Cardiology, University of North Carolina School of Medicine

² Department of Epidemiology, University of North Carolina Gillings School of Global Public Health

³ Department of Psychiatry, University of North Carolina School of Medicine

INTRODUCTION

Adults with mental and substance use disorders are at an elevated risk for sudden cardiac death. Therefore, we estimated the prevalence of mental and substance use disorders and chronic medical conditions in out-of-hospital sudden unexpected death (OHSUD) victims.

METHODS

From 03/2014 to 02/2015, all out-of-hospital deaths in Wake County, North Carolina were screened to identify presumed OHSUD victims among free-living adults ages 18-64. Of all presumed OHSUD victims, 221 were adjudicated into the final cohort using death certificates, post-mortem examinations and medical records (MR). Those with a terminal disease or lethal toxicology levels were excluded. Medical examiner reports and MR were reviewed for any diagnosis of a mental disorder including depression, anxiety, bipolar disorder, schizophrenia, substance use disorder and chronic medical conditions. The prevalence of mental disorders were compared to U.S adult lifetime estimates. Analysis was limited to 67% of victims with MR.

RESULTS

Of the 147 victims, 91 (62%; 95% CI: 54 -70%) had at least one mental or substance use disorder. These victims were of similar age (median=56) and more likely to be female (34% vs. 20%, $p=0.06$) and white (74% vs. 50%, $p<0.05$) compared to those without a mental or substance use disorder. Diabetes (40% vs 21%, $p<0.05$) was more common among those with a mental or substance use disorder compared to those without a disorder. Hypertension (71% vs. 77%), dyslipidemia (49% vs. 52%) and coronary artery disease (30% vs. 25%) were also commonly present, but comparable in both groups. Of victims with a substance use disorder, 69% had a mental disorder. OHSUD victims had a higher prevalence of depression (38% vs 17%), schizophrenia (9% vs 1%), bipolar disorder (16% vs 4%) and substance use disorder (39% vs 15%) compared to US adult population. Anxiety estimates (33% vs. 30%) were comparable.

CONCLUSION

Over half of out-of-hospital sudden unexpected death victims had a history of mental or substance use disorder. Chronic medical conditions were also common in these victims. Mental and substance use disorders may represent important barriers to effective treatment of preventable chronic medical conditions in individuals at risk for out-of hospital sudden unexpected death.

