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Late-Breaker Poster Presentations

Premature cardiovascular mortality in the US: an analysis of death certificate data by race/ethnicity and county-level risk factors from 2000–2015

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Purpose: To examine the trends in premature (ages 25-64) cardiovascular mortality in 2000–15 by demographics and county-level factors, including education, rurality, and prevalence of smoking, obesity and diabetes.
Methods: National Mortality data were ascertained from the SEER dataset. Age-standardized premature mortality rates and average annual percent changes (AAPC) were estimated, by age, sex, race/ethnicity and county-level factors. Quasi-Poisson regression was then conducted to calculate the relative risks of CVD mortality during 2012–15 across quintiles of each county-level factor.
Results: In 2000–15, 2.3 million CVD deaths occurred among 25-64-year-old individuals in the US. We observed significant declines in CVD mortality for blacks, Latinos and Asians and Pacific Islanders (AAPC [range]: -1.7 to -3.2%) although blacks continued to have the highest rates. Rates were second highest for American Indians/Alaskan Natives and increased significantly among 25-49-year-olds (AAPC, 2.1% in women; 1.3% in men). In whites mortality rates plateaued among 25-49-year-old women (AAPC, 0.05%). Ischemic heart disease mortality rates were stable in white women and increased in American Indian/Alaska Native women while rates for hypertensive heart disease increased in most racial/ethnic groups. County-level diabetes prevalence showed the strongest association with CVD mortality ($P<.001$).
Conclusions: Despite substantial declines in premature CVD mortality among some US populations, we observed significant increases in rates among 25-49-year-old American Indians and Alaska Natives and flattening rates among young white women suggesting that targeted public health interventions are needed to prevent these premature cardiovascular deaths.

Association between HIV status and mental health disorders among newly diagnosed tuberculosis patients in Botswana

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Purpose: Tuberculosis (TB) patients may suffer from mental illness, which may be exacerbated by co-infection with HIV. The aim of this study was to explore the role HIV co-infection on depression and anxiety among new TB patients in Botswana.
Methods: Our cross-sectional study assessed for depression, anxiety, and food insecurity (FI) with Patient Health Questionnaire (PHQ9), Zung Anxiety Self-Assessment Scale (ZUNG), and Household Food Insecurity Access Scale, respectively, among TB patients at the time of diagnosis. Poisson regression models with robust variance were used to examine correlates of depressive symptoms (DS; PHQ9 $\geq$10) and anxiety symptoms (AS; ZUNG $\geq$45).
Results: Between January and June 2019, 90 TB patients were enrolled from primary health clinics, of whom, 47 were HIV-positive. Overall, 30 (33.3%) patients had DS and 57 (63.3%) had AS. We found that greater FI was associated with DS (adjusted prevalence ratio [aPR] = 1.08; 95% confidence interval [CI] = 1.03, 1.12). We found possible negative interaction between HIV and gender on DS (p = 0.119) and on AS (p = 0.118). HIV infection was associated with DS among male participants (aPR = 2.70; 95% CI = 1.09, 6.70), but not among female participants. Female participants were more likely to have DS (aPR = 3.71; 95% CI = 1.34, 10.27) and AS (aPR = 1.75; 95% CI = 1.18, 2.58) among HIV-negative participants, but not among HIV-positive participants.
Conclusions: Mental disorders are common among new TB patients, and may be affected by a complex relationship between gender and HIV status.

Characterization of device-related malfunction, injury, and death associated with using elastomeric pumps for pain management in the us food and drug administration MAUDE database

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Purpose: To identify and characterize reports related to potential local anesthetic systemic toxicity (LAST) associated with elastomeric pumps described in the US Food and Drug Administration Manufacturer and User Facility Device Experience (MAUDE) database for reporting adverse events involving medical devices.
Methods: The MAUDE database was queried for reports involving elastomeric pumps from January 2010 through July 2018. Elastomeric pumps were identified using MAUDE coding and by names of known elastomeric pumps. Reports detailing administration of nonanesthetic drugs (e.g., antibiotics, chemotherapy, opioids), pump malfunction prior to patient involvement, chondrolysis involvement, and known intrathecal pumps were excluded. Results were analyzed within MAUDE event type categories (malfunction, injury, and death). Reports with LAST symptoms were algorithmically flagged for manual, expert review to identify possible LAST cases.
Results: Of the 384,285 elastomeric pump reports from the MAUDE database, 4093 met inclusion criteria for involving elastomeric pumps. Of these, 3624 reports involved malfunction, 292 involved injury, and 8 involved death. A total of 903 reports were determined to be likely pump flow–related issues. Additionally, 139 reports were determined to be probably (n=53) or possibly (n=86) related to LAST; of these 139 reports, 26 were reported as malfunction, 84 as injury, and 2 as death in the database.
Conclusions: Faulty elastomeric pumps can result in malfunction or injury, increasing patient and physician burden. Cases of malfunction, injury, and death with elastomeric pumps likely used for the management of pain have been reported in the MAUDE database.