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Pregnant Women in Substance Abuse: Transition of Characteristics and Mining of Association from Teds-a 2011 to 2018

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Abstract : Background: Substance use during pregnancy is a longstanding public health problem that results in severe consequences for pregnant women and fetuses. Methods: Eight (2011-2018) datasets on pregnant women's admissions are extracted from TEDS-A. Distributions of sociodemographic, substance abuse behaviors, and clinical characteristics are constructed and compared over the years for trends by the Cochran-Armitage test. Market basket analysis is used in mining the association among polysubstance abuse. Results: Over the years, pregnant woman admissions as the percentage of total and female admissions remain stable, where total annual admissions range from 1.54 to about 2 million with the female share of 33.30% to 35.61%. Pregnant women aged 21-29, 12 or more years of education, white race, unemployed, holding independent living status are among the most vulnerable. Concerns prevail on a significant number of polysubstance users, young age at first use, frequency of daily users, and records of prior admissions (60%). Trends of abused primary substances show a significant rise in heroin (66%) and methamphetamine (46%) over the years, although the latest year shows a considerable downturn. On the other hand, significant decreasing patterns are evident for alcohol (43%), marijuana or hashish (24%), cocaine or crack (23%), other opiates or synthetics (36%), and benzodiazepines (29%). Basket analysis reveals some patterns of co-occurrence of substances consistent over the years. Conclusions: This comprehensive study can work as a reference to identify the most vulnerable groups based on their characteristics and deal with the most hazardous substances from their evidence of co-occurrence.

Keywords : basket analysis, pregnant women, substance abuse, trend analysis
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