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CO-MORBID HEALTH CONDITIONS AT MID-LIFE IN THE IOWA ADOPTEES

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Abstract

INTRODUCTION: Alcohol and illicit drug use is related to a number of chronic and acute health conditions. Furthermore, many of these chronic health conditions seem to be genetically mediated. **GOALS:** This study examines serious and/or chronic health conditions of individuals meeting DSM-IV criteria for either abuse or dependence for alcohol or illicit drugs in the Iowa Adoptions Studies sample. A secondary goal of this study was to determine if a biological risk for substance abuse was associated with an increased number of health problems. **METHODS:** All individuals participating in our last round of interviews were included for analyses (n=910). Archival data of an additional 34 subjects who had died prior to follow-up were also included. Average age at last interview was 40.08 years. Health information was taken from the medical history section of the SSAGA-II interview. Overall health was determined by summing the number of endorsed illnesses. History of abuse or dependence was also taken from the SSAGA-II. Biological risk for substance abuse was determined from adoption agency records. Secondary analyses were conducted to determine whether particular forms of substance abuse (e.g., alcohol only, alcohol and illicit drugs) were related to particular health conditions (e.g., hypertension, stroke, head injury, CAD, liver disease, diabetes). **RESULTS:** Individuals with a history of substance abuse or dependence (SUD) of any type endorsed a higher number of health conditions overall than individuals with no history of SUD ($p = .007$) as well as higher rates of mild TBI and moderate to severe TBI as well as any type of cancer and death. When examined by type of SUD, polysubstance users had higher rates of mild TBI, TBI, and stroke as well as a higher rate of developing chronic disorders (heart disease, liver disease, diabetes, any type of cancer) or death. **CONCLUSIONS:** A history of substance abuse or dependence of any type increased the risk for sustaining a head injury. Polysubstance use and stimulant use in particular seemed to be driving this effect. Polysubstance users also had a higher rate of cancer than all other groups. Interestingly, a history of SUD did not predict other chronic health conditions such as diabetes or liver disease. However this may be accounted for by the relatively young age of the sample. Further follow-up is needed.

INTRODUCTION

- Alcoholics and drug abusers suffer from a variety of secondary illnesses that may affect neurologic functioning such as nutritional deficiencies, serious traumatic injuries, and infectious diseases such as hepatitis and HIV/AIDS.
 - Chronic Stimulant Abuse is associated with:
 - Cardiac arrhythmias.
 - Hyperthermia.
 - Acute renal failure and hepatic abnormalities.
 - Movement disorders and muscle rigidity.
 - Seizures.
- Drug abuse was the most commonly identified potential predisposing condition (47%) to ischemic or hemorrhagic stroke among stroke patients less than 35 years of age. Caused by heroin, amphetamines (mostly methamphetamine), cocaine (including crack), PCP, and LSD.
- Chronic methamphetamine intoxication produces a permanent form of Parkinsonism.

METHODS

- **Sample 1: 910 subjects interviewed in the most recent wave of the Iowa Adoptions Studies .**
 - 772 subjects were adoptees, half of whom had at least one biological parent with a history of substance abuse, antisociality, or criminality.
 - The remaining adoptees were age, sex, and adoption agency matched controls whose birth parents had no reported history of psychopathology.
 - The remaining 138 subjects were biological children of the adoptive parents.
- **Sample 2: 34 subjects who were deceased at the time of last follow-up.**
- **Total sample size 944.**
- **Procedures:**
 - Adoptees were re-interviewed between 1999 – 2003.
 - Substance use and medical history was determined using the Semi-structured Assessment of the Genetics of Alcoholism, 2nd ed.
 - Substance use and medical history for decedents was determined from chart review of earlier studies.
- **Analyses:**
 - Chisq.
 - Anova.
 - Significance level of $p < .01$ was adopted to adjust for multiple comparisons.

Demographics

Group	Age	Bio Risk +	Education	Mid-Life SES (Hollingshead)	Dead
Controls (n = 475)	41.75 (8.37)	132 (28%)	14.38 (1.99)	5.65 (2.24)	10
Any SUD (n = 469)	39.82* (7.13)	160 (34%) (p=.07)	14.02* (1.4)	5.19* (2.45)	24*

* = Significant at the $p \leq .01$ level.

Demographics by Type of SUD

Group	Age	Bio Risk +	Education	Mid-Life SES (Hollingshead)	Dead
Control (n = 475)	41.75 (8.37)	134	14.39 (1.99)	5.65 (2.24)	10
Alc Only (n = 260)	39.85 (8.02)	79	14.31 (1.82)	5.44 (2.62)	2
Alc / Drug (n = 199)	39.88 (5.82)	86	13.65 (2.02)	4.84 (2.14)	20

p=.002
Ctl v Alc
Ctl v AlcDrug

p=.03
Ctl v Drug

p<.0001
Ctl v AlcDrug
Alc v AlcDrug

p<.0005
Ctl v AlcDrug
Alc v AlcDrug

p<.0001
Ctl v AlcDrug
Alc v AlcDrug

Health Conditions

Disorder	Controls (n= 475)	Any SUD (n= 469)
# Major Health Problems	2.17 (0.70)	2.24 (0.87)*
Hypertension	82 (17%)	91 (19%)
Mild TBI (Uncon. < 5")	51 (11%)	83 (18%)*
TBI (Uncon. > 5")	32 (7%)	58 (12%)*
Meningitis / Encephalitis	8 (1.6%)	2 (.4%)
Stroke	3 (.6%)	5 (1%)
Heart Disease	14 (3%)	9 (2%)
Liver Disease	11 (2.3%)	11 (2.3%)
Diabetes	22 (4.6%)	18 (3.8%)
Cancer (Any Kind)	19 (4%)	31 (6.6%)*
Dead	10 (2%)	24 (5%)*

*Significant at the $p \leq .01$ level.

Health Conditions by Type of SUD

Disorder	Controls (n=475)	Alc Only (n=258)	Alc / Drug (n=69)
Mean # Major Health Problems	2.17 (0.70)	2.24 (0.71)	2.2 (1.01)
Hypertension	82 (17%)	48 (18.6%)	41 (59%)
Mild TBI (Uncon. < 5")	51 (11%)	36 (14%)	44 (64%)*
TBI (Uncon. > 5")	32 (7%)	26 (10%)	30 (43%)*
Meningitis / Encephalitis	8 (1.6%)	1 (.3%)	1 (1.4%)
Stroke	3 (.006%)	2 (.7%)	3 (4%)*
Heart Disease	14 (3%)	5 (2%)	4 (6%)*
Liver Disease	11 (2%)	5 (2%)	7 (10%)*
Diabetes	22 (4%)	12 (5%)	6 (9%)*
Cancer	19 (4%)	18 (7%)	13 (19%)*
Died	10 (2%)	4 (1.4%)	16 (23%)*

*Significant at the $p \leq .01$ level.

Discussion

- **Persons with any type of SUD were more likely to have serious health conditions and had significantly more health concerns per person than controls.**
 - Polysubstance users were more likely to have serious health concerns than either controls or alc onlys.
 - Serious health conditions were not related to biological risk of substance abuse or psychopathology.
- **Persons with any type of SUD were more likely to have died at the time of last follow-up.**
 - Polysubstance users were most likely to have died.
 - Too little information on cause of death for analyses.
 - There was no difference between groups for age of death.
- **Biorisk alone did not predict any health concerns, however the polysubstance users.**
- **Polysubstance users were lower on other mid-life outcome variables.**
 - Were significantly younger than controls, yet had more health problems.
 - Lower educational attainment than either controls or alc only.
 - Lower mid-life SES than either controls or alc only.