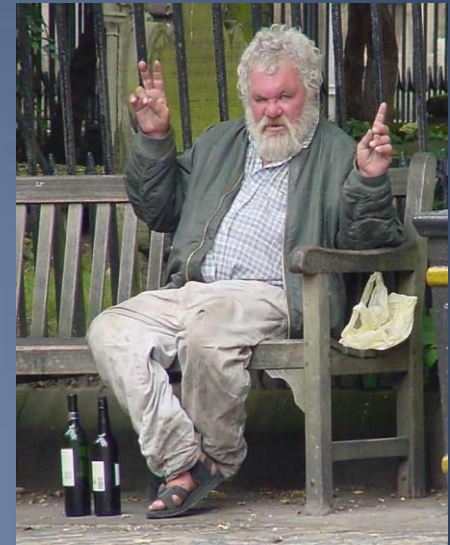


Substance Abuse In the elderly

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Objectives

- Understand the Scope and Epidemiology of substance abuse in the elderly
- Realize the future implications of substance abuse in the baby boomer cohort
- Understand the definition of alcohol dependence and abuse and how to recognize them
- Understand the pathophysiologic and clinical effects of alcohol abuse on an aging brain
- Understand clinical indicators, screening, and treatment of substance abuse in elders
- Be familiar with current concepts regarding marijuana and cocaine in aging

History

Substance abuse in the elderly has received little attention in the past.

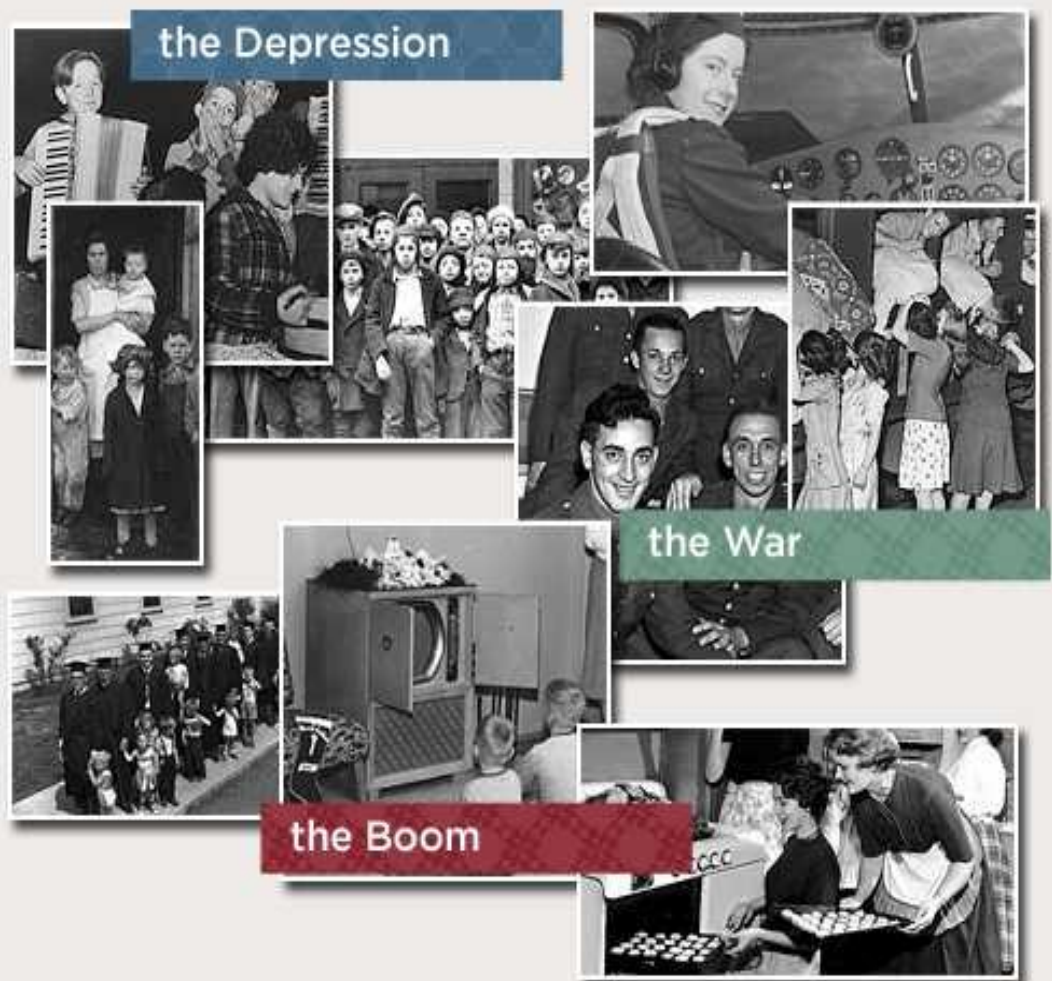
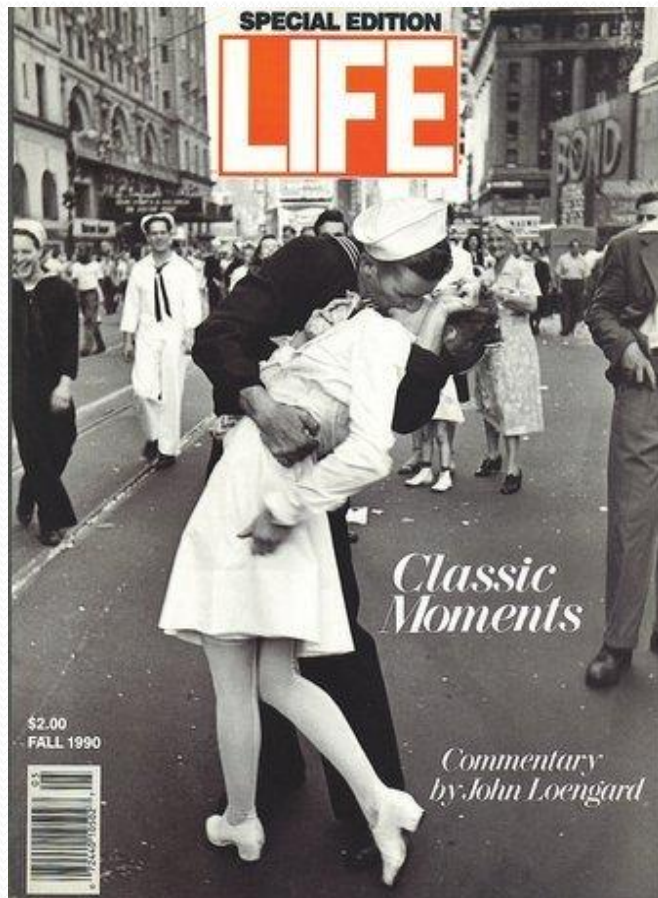
WHY?

- Elders represent small percentage of drug abuse problem
- Traditionally viewed as a problem of the younger generation

Scope and Epidemiology

- Currently 40,000,000 American's older than 65
- 62% of adults 60-94 years of age drink alcohol
- 6 % of elders defined as heavy drinkers
- 1% of elders currently use illicit drugs
- 2.3% of elders meet criteria for substance abuse

Scope and Epidemiology



Scope and Epidemiology

**BUT WAIT... here come the
BOOMERS**



Scope and Epidemiology

- By year 2030 71,000,000 Americans older than 65, with 113,000,000 older than 50
- Number of older Americans needing substance abuse treatment expected to triple. 1.7 million to 4.4 million
- By 2020 number of past year marijuana users will increase 355% from 719,000 to 3.3 million
- By 2020 number of past year nonmedical psychotherapeutics expected to increase 190% from 911,000 to 2.7 million

Alcohol

My Doctor said "Only 1 glass of alcohol a day". I can live with that.



Alcohol

- Independent seniors

13% of men and 2% of women imbibe more than one ounce of EtOH a day.

- Retirement community residents

31% of men and 22% of women imbibe more than one ounce of etoh a day

- Binge Drinking- 9% report drinking more than 5 drinks in one session in the past 30 days.
- Heavy Binge Drinkers- 2% report drinking 5 drinks on 5 or more occasions in the past 30 days

Definitions- DSMIV

Alcohol Dependence- three or more of following

- Tolerance, requiring more alcohol to get “High”
- Withdrawal, drinking to prevent it
- Drinking in larger amounts for a longer time than intended
- Spending a lot of time obtaining, using alcohol, or recovering from its effects
- Giving up important occupational, social, or recreational activities due to drinking

More of a physiologic definition... most common!!

Definitions- DSMIV

Alcohol Abuse- one or more of following

- Drinking resulting in failure to fulfill major obligations at work or home
- Drinking in situations which is physically hazardous (driving)
- Alcohol related legal problems
- Continued drinking despite social problems caused or worsened by alcohol

Alcohol

- Early research Identifies two groups of older alcohol misusers:
 1. Early onset (survivors) 70%
 2. Late onset (reactors) 30%
 - Higher Income
 - Depression
 - Retirement (more time for drinking)
 - Bereavement

Pharmacology of EToH Abuse

- Absorption of EToH does not change across age groups
- Decreased lean body mass reduces volume of distribution and allows increased peak concentration.
- Acute EToH consumption causes dysfunction of drug metabolism and elevated liver enzymes
- Chronic EToH consumption actually induces higher metabolism of drug results in fluctuating drug clearance
- Malnourishment causes hypoalbuminemia with altered protein binding

Adverse effects of ETOH in Elderly

- Falls
- Delirium tremens
- Orthostasis (diuretic effect)
- Cerebellar damage (wide based gait)
- Osteoporosis
- Wernicke Encephalopathy (confusion, ataxia, nystagmus, related to thiamine)
- Korsakoff Syndrome (confabulation)

EToH Cont....

- Cirrhosis (alcoholic hepatitis, fatty liver)
- Bleeding varices
- Pancreatitis
- Cardiomyopathy
- Uncontrolled HTN (increased risk for stroke)
- Aspiration Pneumonia
- Nutritional deficiency (B₁₂, folate, thiamine)
- Psychiatric illness (depression and anxiety common)

Findings that suggest a Drinking Problem in Elders

1. Non adherence with medical appointments
2. Unstable poorly controlled HTN
3. Recurrent accidents injuries and falls
4. Unexpected delirium during Hospitalization
5. Elevated MCV
6. Unpredictable Coumadin levels

Screening

CAGE Questionnaire

C- Have you ever felt you should **C**ut down?

A- Does others criticism of your drinking **A**nger you?

G- Have you ever felt **G**uilty about drinking?

E- Have you ever had an **E**ye opener in the morning?

A positive response to any of these suggest problem drinking

Treatment

- Detoxification of heavy alcoholic geriatric patients should be done in hospital setting.
- Following detoxification patient should be immediately enrolled in inpatient programs, day treatment or outpatient therapy.
- Disulfiram (Antabuse) is not recommended due to increased risk of serious side effects.
- Naltrexone (Trexan) is an opiate antagonist that reduces cravings but role in geriatrics not established

Marijuana



Marijuana and Addiction

- Studies are limited
- Cannabinoid System implicated in appetite, memory, and pain.
- Older geriatric brain found to have decreased cannabinoid receptor coupling compared to younger brain.
 - Reduction in function associated with decreased ethanol preference
 - Could be reversed with agonist (THC)

Summary- marijuana use in elders can potentially increase drive for other addictions.

Neuroprotection?

- Oxidative and inflammatory damage prevalent in aging contributes to adverse change seen in Parkinson's, Alzheimer's, and cardiovascular disease.

“Delta-9-tetrahydrocannabinol (THC) has been shown to decrease proinflammatory cytokine production and is more effective than standard antioxidants in preventing toxicity due to reactive oxygen species. (grundy et al 2001)”

Cocaine



Cocaine

- Reductions in dopamine receptor function is exacerbated by drug abuse. Early Parkinson's seen in abusers.
- Maturation of frontal and temporal lobe white matter is arrested. Thus decline in white matter volume is much more accelerated in cocaine abusers.
- More white matter lesions and neurofibrillary tangles in chronic abuser (link to accelerated dementia).
- MI, Cardiomyopathy, and Stroke increased risk

Cocaine

- Most common substance abuse treatment for current geriatric population is alcohol, stimulants other than amphetamine, tranquilizers and sedatives.
- In contrast most common treatment sought in young baby boomers is *Cocaine* addiction.
- Treatment therapy and needs will change over time.

Summary

- Individuals 50 and older account for 9% of substance abuse treatment admissions today.
- Young baby boomer generation accounts for 25% of all substance abuse treatment admissions.
- Current estimates a 50% increase in number of adults with a 70% increase in the rate of treatment.
- The new era of substance abuse treatment is coming!!

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