

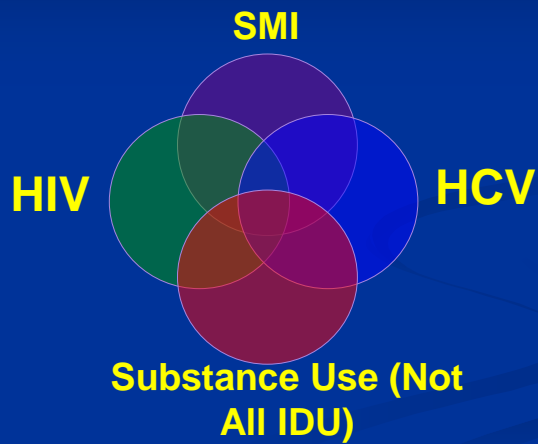
Managing Multiple Diagnoses: Hepatitis C, HIV, Mental and Substance Use Disorders

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Current Issues

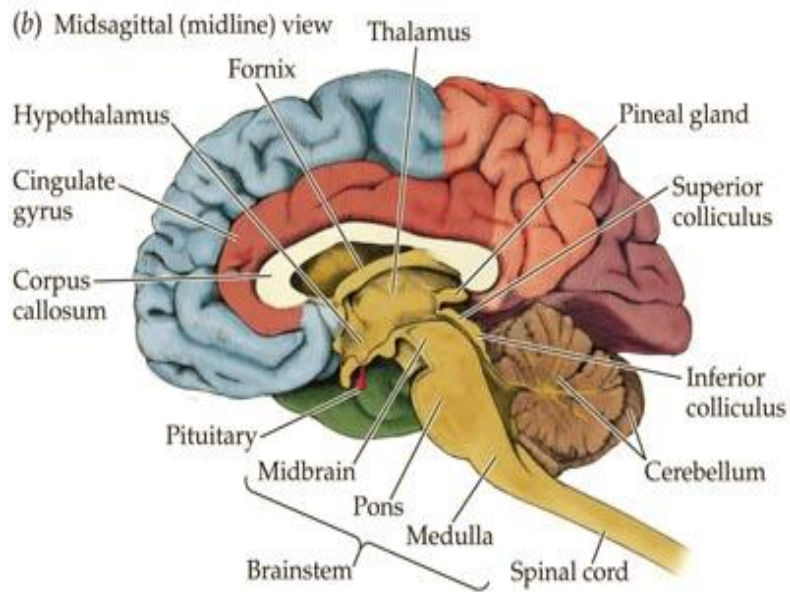
- HIV is a medical epidemic superimposed on vulnerable populations affected by :
 - Poverty
 - Mental illness
 - Drug addiction/ abuse
 - Social alienation
 - Racism
 - Homophobia/ transphobia

Co-Occurrence of HIV, HCV, SUD & SMI



Basic Brain Functions

- Evolutionary development
 - Primitive brain
 - Descendant from reptilian brain
 - Human brain
 - Evolved from mammalian vertebrates
 - Cortex layered on top of reptilian brain
- The functions of the brain
 - Preservation of the organism
 - Perpetuation of the DNA

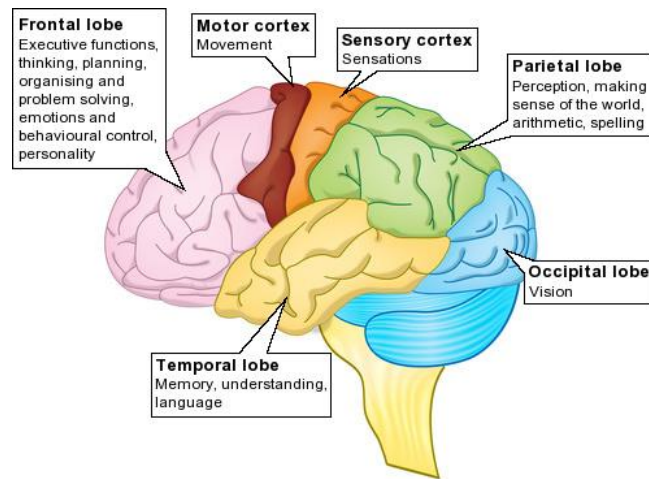


Biological Psychology 6e, Figure 2.12 (Part 2)

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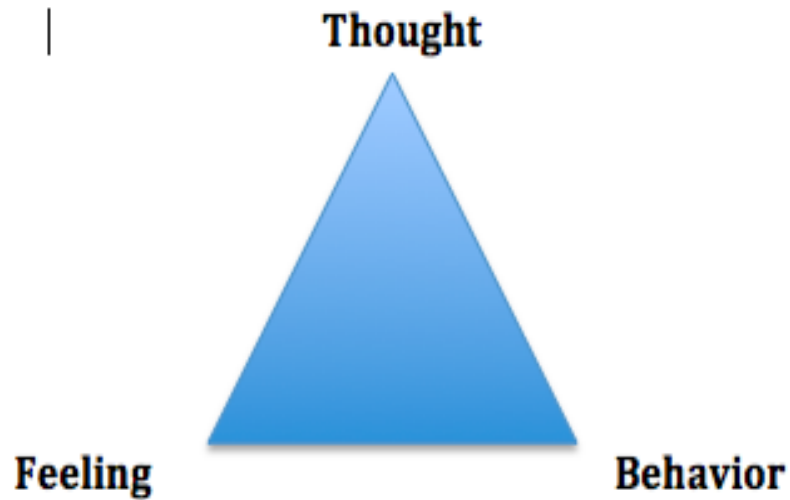
Mind Functions

- The mind is more than the sum of the parts of the brain.
- Houses our unique identity, hopes, dreams, fears and interprets the brain's functions, such as memory.
- **Mentalization**



Mentalization

- Mentalizing: the spontaneous sense we have of ourselves and others as persons whose actions are based on mental states: desires, needs, feelings, reasons, beliefs.
- Normally, interacting with others, we automatically go beneath the surface, basing our responses on a sense of what underlies the other person's behavior, namely, an active mind and a wealth of mental experience.
- Thus we are natural *mind readers*, and Mentalizing entails accurate and effective mind reading. By virtue of being human, this process of Mentalizing comes so naturally to us that we easily overlook its significance.



Current Clinical Issues

- Populations at risk need culturally based, integrative prevention and treatment strategies.
- Access to assessment and treatment for psychiatric dysfunction:
 - Mood disorders
 - Psychotic disorders
 - Anxiety disorders
 - Substance use disorders
 - Addiction is a brain disorder as well as social/psychological
 - Episodic substance use

Overview

- HIV
 - invades the brain early in the course of infection
 - can progress in the Central Nervous System independently of the peripheral progression of disease

HIV in the Central Nervous System

- HIV
 - infects the brain
 - affects the mind
 - Impacts
 - the course of illness
 - adherence
 - secondary transmission
 - survival

Impact of HIV on the Brain

- HIV virus is found predominantly in areas of the brain that are internal
 - The “subcortical” structures
 - Initially manifests differently from the common dementias like Alzheimer disease
- The advent of ART has changed the course of cognitive dysfunction for many people.

Impact of HCV on the Brain

- Co- infection with HIV requires aggressive treatment with newer Anti-HCV medications
- June 28 2016
 - FDA Approved Gilead's Epclusa® (Sofosbuvir/Velpatasvir) to treat Genotype 1-6
- Studies needed to show efficacy in reducing Cognitive impairment in HIV/HCV co-infection

5 - Neurocognitive Features of the Co-infection

- Appear to be more prominent and impairing in co-infection than in HIV or HCV mono-infection
- Etiology unclear: due to synergistic effect of the 2 viruses?
- White matter abnormalities were reported in the co-infected suggesting neuropathological processes directly related to HCV in the brain
- Interplay of HIV+HCV+Inflammatory host responses
- Commonly impair: Reaction time; Processing speed; Attention & Verbal retrieval
- Are screened with: Hopkins Verbal Learning Test–Revised; Grooved Pegboard Test; & Wechsler Adult Intelligence Scale–Third Edition Digit Symbol Test

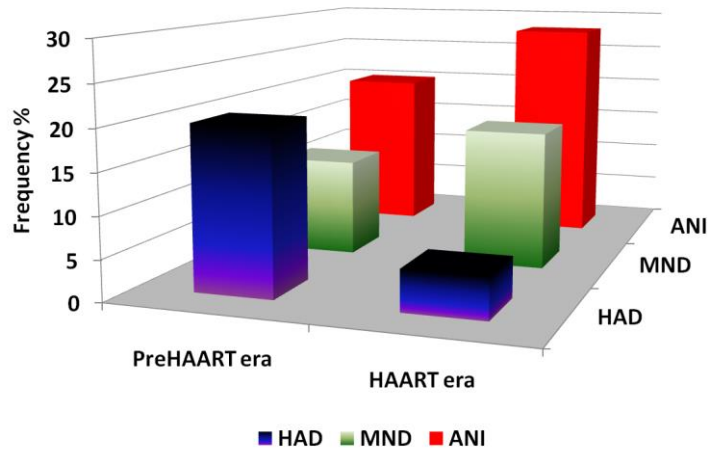
Richardson et al., 2005
 Cherner et al., 2005
 Paul et al., 2007
 Gongvatana et al., 2011
 Perry et al., 2005

6- Clinical Challenges

- Co-infection a marker for multiple co-existing conditions leading to poor access to care and treatment barriers
- Unique to the setting of co-infection is the lack of treatment of one infection that appears to hasten the progress of the other
- Unique challenges to the evaluation and treatment process
- Neuropsychiatric/cognitive changes/substance use/alcohol/depression/psychosocial issues/health care practitioners-related factors/treatments/delivery of care

Fleming et al., 2005
 Taylor et al., 2004

Changing prevalence of HAND



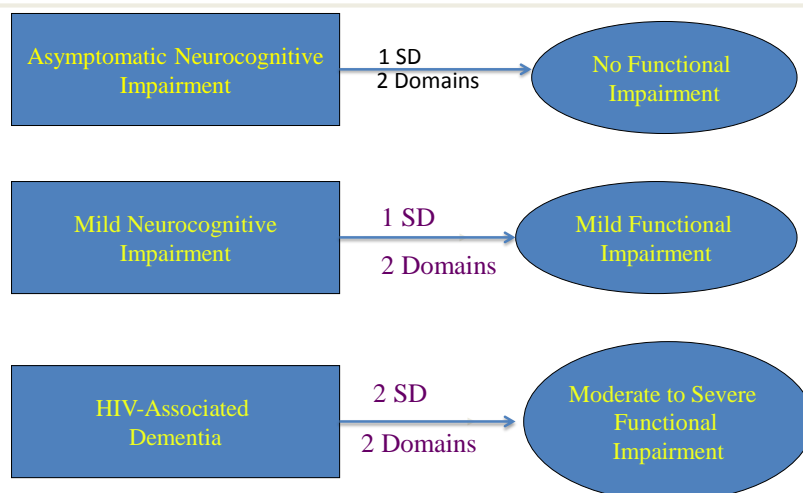
Impact of Cognitive Dysfunction in HIV

- Affects the perception of one's life course
- Interferes with
 - Adherence
 - Reducing risk behaviors
 - Functional capacity
- Leads to decreased longevity

HIV Associated Neurocognitive Disorder

- **Primary HIV infection- HAND**
 - **HIV –Associated Dementia [HAD]**
 - **Mild Neurocognitive Disorder [MND]**
 - **Asymptomatic neurocognitive impairment [ANI]**

Changing Classification System



NIMH, NINDS Panel, June 2005

Domains of Cognition

- Attention
- Orientation
- Memory
 - New memory
 - Recall
 - Long term
- Verbal fluency- language/ communication
- Executive function- organization, decision making, judgment
- Spatial orientation
 - Construction
- Thinking / reasoning

Cognitive Impairment in HIV

- Increasing prevalence with longevity
- Unclear role of Anti-HIV meds
 - Necessary but may not be sufficient
- Changing manifestations of impairment
 - Variable pattern of deficits in domains of function

Treatment of Cognitive Disorders

- Anti retrovirals
- Psychostimulants
 - Indications/ management
- Cognitive rehabilitation and training
- Psychotherapies
 - Individual
 - Group
 - Couples and family
 - Substance use disorder treatment

Cognitive Screening Work-Up

- Cognitive Functional Status Sub-scale of MOS-HIV Scale of Wu et al.
- 4 questions: “Over the past 4 weeks”:
 - 1. Difficulty reasoning/problem solving?
 - 2. Forget things (location; appointment)?
 - 3. Trouble with keeping attention for long?
 - 4. Difficulty with activities using concentration / thinking?
- 6 pt. frequency scale:
1= all; 2=most; 3=good bit; 4=some; 5=little; 6=none [cutoff \leq M= 4]

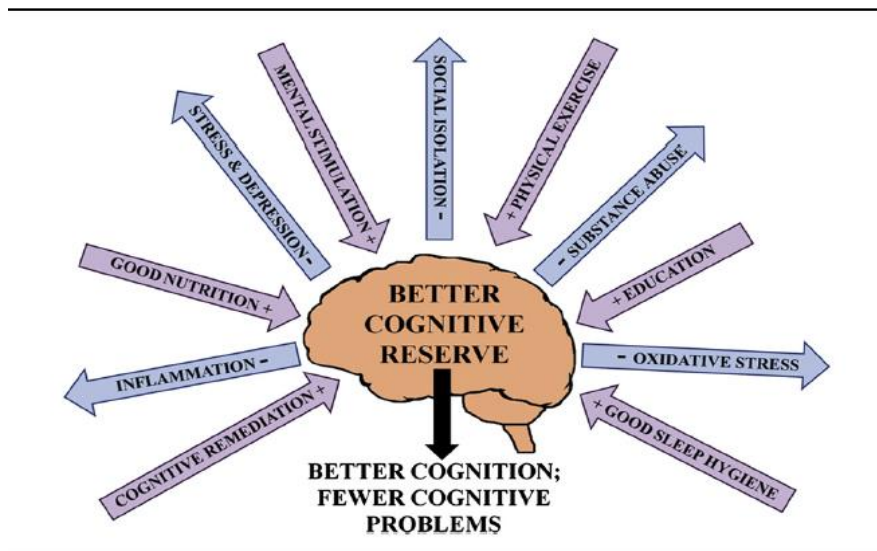


Figure 3. Factors that positively or negatively affect cognitive reserve.

Vance, et al. JOURNAL OF THE ASSOCIATION OF NURSES IN AIDS CARE, Vol. 24, No. 1S, 2013, S40-S60

Protecting the Brain

- Reducing cardiovascular risk
- Preventing hypertension
- Mental and physical Exercise
- Diet
- Attitude

Mood Disorders

- Mood disorders are the most frequent psychiatric complication associated with HIV disease
- Mood disorders may be more prevalent in people at risk for HIV infection
- Mood disorders may be secondary to HIV complications or its treatment

Depression and adherence

- Depression is an independent predictor of adherence and mortality in women.
- Antiretroviral adherence **did not** predict antidepressant adherence
- antidepressant adherence **did** predict antiretroviral adherence

- Villes V et al, The effect of depressive symptoms at ART initiation on HIV clinical progression and mortality: implications in clinical practice. *Antivir Ther* 2007; 12(7): 1067-74. ;
- Lima VD, et al, The effect of adherence on the association between depressive symptoms and mortality among HIV-infected individuals first initiating HAART. *AIDS*, 2007 May 31; 21(9): 1175-83
- Bottonari KA, Tripathi, SP, Fortney JC, Rimland D, Rodriguez-Barradas M, Gifford AL, Pyne JA, Correlates of Antiretroviral and Antidepressant Adherence Among Depressed HIV-Infected Patients, *AIDS PATIENT CARE and STDs* Volume 26, Number 5, 2012

Impact of depression in HIV

- In comparison with HIV+ patients without depression, those with depression require almost twice as long to achieve virologic suppression, and reach virologic failure twice as rapidly.

Pence BW, Miller WC, Gaynes BN, Eron JJ: Psychiatric illness and virologic response in patients initiating highly active antiretroviral therapy. *J Acquir Immune Defic Syndr* 2007; 44:159–166

Dual and Triple Diagnosis Patients

- Risk for many psychosocial consequences:
 - **Severe psychiatric symptomology**
 - **Homelessness**
 - **Suicide**
 - **Violence (or being victims of)**
 - **Increased familial/societal burden**
 - **STD's and HIV infection**
 - **HCV**

Mueser, et al., 1997; RachBeisel, et al., 1999

Treatment Compliance Challenge

- Dual and triple diagnosis patients have low adherence patterns which leads to:
 - Frequent hospitalizations
 - Medication noncompliance
 - Missed therapy appointments.
 - Higher service utilization.

Bogenschutz, et al, 1998; el-Guebaly, et al, 1999

Barriers to Adherence

- Social: Homelessness, poverty, unemployment, legal, safety, lack of integrated resources, and...
- Dual diagnosis:
 - a- lifestyle instability
 - b- lack of social support
 - c- mistrust of treatment system
 - d- medical complications
 - e- general motivation.

Treatment Bias

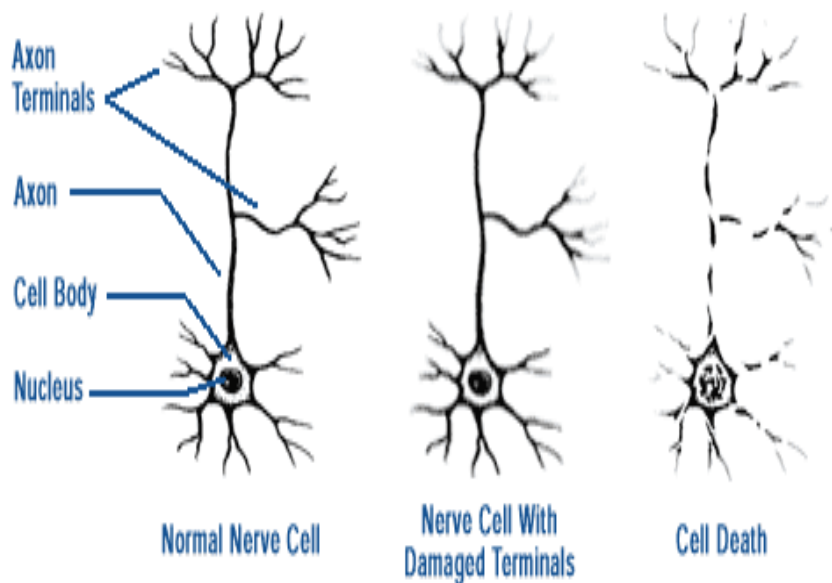
- ART often withheld from IDU' s
 - Based on belief that lifestyle decreases adherence and hence benefit vs. risk for mutation
- Population based study of 3116 ART naïve patients
 - 29% IDU' s
 - 18.6% female
- injection drug use was not associated with decreased survival among HIV-infected patients initiating HAART. [with adequate adherence]
 - JAMA. 2008 Aug 6;300(5):550-4

Alcohol and Methamphetamine

- Two substances that are highly associated with:
 - Acute and chronic use
 - Increased transmission of HIV
 - Cognitive impairment in HIV +
 - Significant co-morbid medical disorders

Impact of Substances on Brain

- The brain of the HIV + person is more vulnerable to the impact of substances on cognitive function
 - Methamphetamine + HIV + HCV= increased risk for cognitive dysfunction and depression
 - Significant impact on capacity to adhere to programs, medications, appointments



Treatment

- Pharmacological treatment
 - Methadone
 - Buprenorphine
 - Naltrexone/ Vivitrol
 - Modafinil (Provigil)
 - Antidepressants/ mood stabilizers
- Psychosocial treatments
 - AA/ NA
 - Contingency management
 - Psychotherapy

Principles of Dual Recovery

- Dual diagnosis patients typically get lost in either mental health or substance abuse service treatment.
- Traditional methods of single or sequential treatments are typically ineffective.
- Effective services require an integrated treatment approach.

Dual or Triple Diagnosis Treatment

- Essential to treat psychiatric disorders co-temporally with substance use
- Use of psychiatric medications, behavior therapy, psychotherapeutic relationship
- Importance of provider communication

Treatment Approach for HIV and HCV Co-infection

- Patient-centered approach
- Culturally sensitive, empathic, and trusting relationship with providers
- In-clinic primary care services available for treatment of HIV and hepatitis C virus infections and sequelae
- Effective education about the infections, treatment response, and factors associated with poor response
- Consideration of patients' attitudes and beliefs toward treatment
- Motivational strategies addressing readiness or treatment/participation in and adherence to medical care
- Balanced assessment of risks and benefits of treatments

[Neuropsychiatric Aspects of Coinfection With HIV and Hepatitis C Virus](#)
Douaihy A, Hilsabeck RC, et al. *AIDS Reader*. 2008;18:425-432, 438-441

Treatment Approach for HIV and HCV Co-infection

- Adherence interventions
- Interactions between the 2 diseases and their treatments
- Risk-reduction interventions
 - interventions to reduce secondary risks, and
 - brief counseling directed at alcohol and drug use delivered repeatedly over time
- Evaluation for comorbidities
- Integrated medical, mental health, substance abuse, public health services: treat the “whole person”
- Inclusion of on-site psychiatric and psychological treatment providers and social work providers
- Outreach services especially to minority communities, as well as case management
- Referral to specialty and subspecialty care, if necessary

[Neuropsychiatric Aspects of Coinfection With HIV and Hepatitis C Virus](#)
 Douaihy A, Hilsabeck RC, et al. *AIDS Reader*. 2008;18:425-432, 438-441

Summary

- Addiction is a treatable medical disorder.
- History of substance use or current substance use should not be the sole factor in withholding ARV therapy from eligible patients.
- Decisions about when to prescribe ARV therapy for eligible drug using patients should be made on a case-by-case basis.
- A strong patient-provider relationship, including trust and engagement with the provider, has been associated with improved ARV adherence.