

Adherence to ART in HIV+ Patients

Challenges and
Approaches for
Improvement

Max Project

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HIV As a Model; The Challenge

- Near perfect adherence required
- Consequences
 - ◆ Viral resistance
 - ◆ Loss of future choices
- Stigma
- Many patients living w/HIV distanced from culture of most providers

Adherence to ART

- Definition
- Scope of problem
- Why is it needed?
- How much is needed?
- Factors associated with adherence
- Assessing adherence
- **Interventions to promote adherence**



Defining Nonadherence

Consistent under-dosing:	regularly neglecting the same particular dose, usually the middle of the day
Chronic over-dosing:	taking a drug or drugs more often or in larger doses than prescribed
Abrupt over-dosing:	neglecting to take medication properly for a period of time, then over-dosing just before a visit to the clinic ("white-coat compliance")
Drug holidays:	stopping all medications abruptly for a period of time (either days or weeks)
Random administration:	taking drugs whenever the thought occurs

Scope of Problem; Adherence Rates

- Chronic self-administered meds
 - ◆ Avg. 50%
- AZT
 - ◆ 12-42%

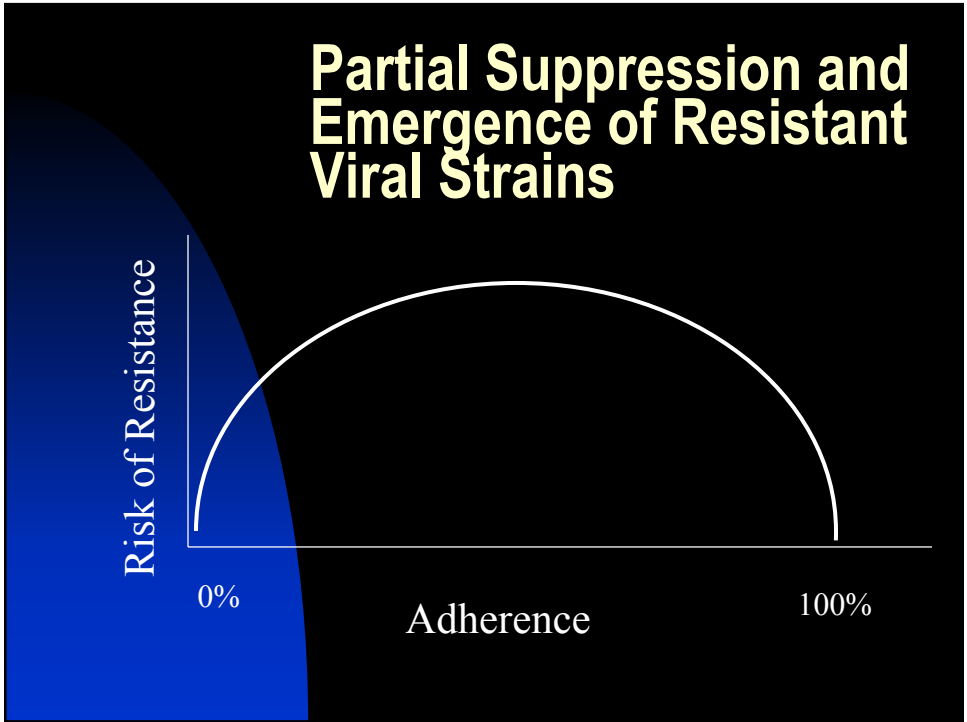
Partial Suppression and Emergence of Resistant Viral Strains

Risk of Resistance

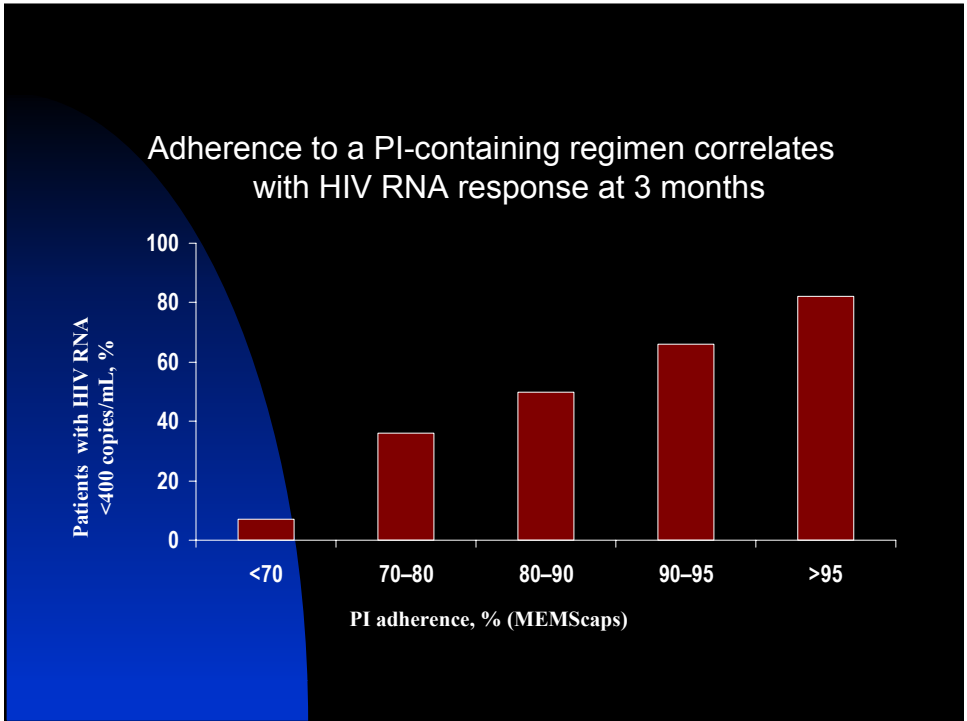
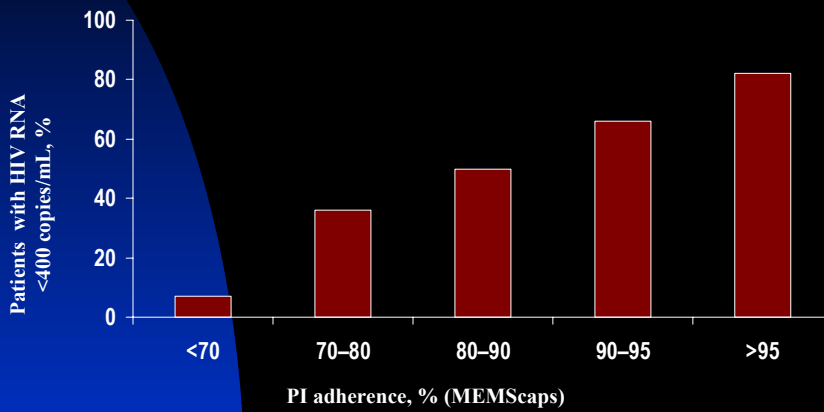
0%

Adherence

100%



Adherence to a PI-containing regimen correlates with HIV RNA response at 3 months



Clinical Implications

- >95% adherence to pi-containing regimen needed to achieve viral suppression
- Failure increases sharply with decreasing adherence
 - ◆ Even brief drug holidays cause rapid increase in HIV RNA

Adherence to What? - Protease Inhibitors



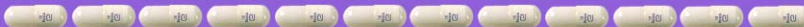
CRIXIVAN[®] (indinavir sulfate) (400 mg)



Viracept[®] (nelfinavir mesylate) (250 mg)



Norvir[®] (ritonavir) (100 mg)



Agenerase[™] (amprenavir) (150 mg)



Fortovase[®] (saquinavir) (200 mg)



Factors Associated W/ Adherence; Patient

- Health beliefs, cultural beliefs
- Ease of access to health care
- Social support system
- Mental health
- Physical health
- Financial resources
- Active EtOH or substance use
- HIV knowledge

Other Factors Associated With Adherence

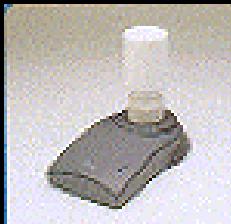
- Regimens; Number, size, taste side effects, dosing frequency
- Clinicians; Interpersonal style, availability, assessment skills
- Illness; Sx, duration, severity, stigma

Assessing Adherence

- Pill counts
- Self-report
- Electronic monitoring
- Home visits

Electronic Monitoring

MEMS caps-\$80 per cap, to date only in research setting



Interventions; Patient Education

- Health beliefs
- Dynamics of infection
- Names of Meds
- Reasons for dosing requirements
- Potential side-effects
- Techniques to manage side-effects
- Consequences of missed doses

Interventions; Cues and Reminders

- Practice run
- Detailed daily schedule
- Plan dosing to coincide w/daily activities
- Medication boxed, pre-poured
- Timers, Alarm devices
- Emergency supply of meds

Interventions; Patient Involvement

- ◆ Choice in ART combination
- ◆ Self-control of meds for side-effects
- ◆ Anticipatory planning for weekends, vacations

Interventions; Rewards and Reinforcement

- ◆ Positive Feedback
 - ★ Falling viral load, rising CD4

Interventions; Social Support

- Involve significant others
- Buddy system/Peer counseling
- Support groups
- Treatment for substance abuse, depression
- Case management
- Home visits and phone follow-up

Personal Responsibility Vs. Response Ability

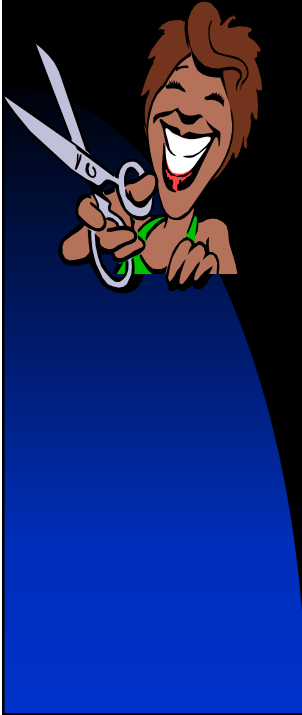
- Traditional interventions
 - ◆ Change in personal behavior
- New goal
 - ◆ Identify social forces that support or obstruct adherence

Interventions to Improve Adherence; Clinician-focused

- Cues/reminders for clinician
- Cont'ing education
- Social Support and Administrative approval

Interventions to Improve Adherence; Regimens

- Once or twice daily dosing
- Fewer pills/day
- Smaller pills(ddl)
- Improved taste
- Easier storage
- Fewer side-effects
- Decreased cost



New Regimens

- HAART w/ BID dosing
- New formulations(Triazavir)
- Ritonavir blocks metabolism of PI
 - ◆ Allows for decreased dosing frequency, decreased pill burden

Interventions in Research Setting

- Athena-home visits and empowerment education
- DOT in active drug users
- MEMS guided telephone F/U

Local Community Resources

- Hispanos Unidos(New Haven)
- Priority care(Bridgeport)
- Ct. Positive action coalition(Hartford)

CPAC

- Close to 400 active HIV+ clients
- 3 full-time adherence counselors
- Peer based
- Referrals
 - ◆ Living centers, Ryan white case mgr.S, physicians
- Funding
 - ◆ Ryan white, Glaxo, Fenway

CPAC

- “Readiness to adhere” assessment
- Educate
- Discuss adherence strategies
- Formulate individualized plan
- F/u-self report doses missed, viral load

Hispanos Unidos



- 1 full time treatment advocate
- Grant from state of CT 1998
- **Success**(dec. ER visits, improved T cell counts)prompted state to extend funding and include Meriden and Waterbury in territory.
- Services for any HIV + patient.
- Referrals
 - ◆ Physicians, case mgr., meth. maint.
- Home visits-weekly, bimonthly.



Hispanos Unidos

- Strategy varies w/ each patient
- “Just being there”
 - ◆ contact with someone who cares
- Knowledge of unique stressors
- Pours meds, review schedules, stickers, calls

Priority Care

- Target Population
 - ◆ Hi-Risk patients w/ treatment failure due to nonadherence

Adherence Support Staff in Clinics

- Burgdorf
 - ◆ pharmacist 1 half day per wk at HIV clinic
- HH HIV clinic
 - ◆ 2 full time adherence nurses
- Uconn
 - ◆ no staff specifically assigned

Pros and Cons

- | | |
|--------------------------------|-------------------------|
| ■ Clinic | ■ Community |
| ◆ Salaries written into budget | ◆ Rely on grants |
| ◆ Nurse/pharmacist | ◆ Peer |
| ◆ Clinic environment | ◆ Home or Living Center |

Recommendations

- Individual Needs Assessment
- Home Visits
- Peer involvement
- Close Follow-Up
- Coordination between Community Service orgs and Clinic