

Objectives:

Create a Power Point presentation

15 slide maximum, with brief speaker notes:

Overview of the problem of adherence in HIV therapy

Importance of improving adherence

The role of once-daily therapy

Outline
Revised 05/16/07; and again 05/16/07
still again 05/16/07 10:23 PM

I) The Problem of Adherence

Slide
#

- 1 A) Assessing it is difficult/impossible
 - 1 1) We cannot easily measure what determines good-enough vs. not good-enough adherence. (GUARVA)
- 1 B) Perfect or very good adherence is difficult to obtain for short periods, but for HIV treatment, it is a lifetime necessity (GUARVA)
- 1 C) By the time health indicators reveal an adherence problem, it is too late to correct the health problem
- 1 D) In other chronic disease states, adherence problems can have immediate life-threatening consequences, so are in some ways more critical. (A,185)

II) Importance of adherence in HIV therapy

- 2 A) Good adherence is correlated to viral suppression and reduced rates of resistance. (GUARVA)
- 2 B) Imperfect or less than good-enough adherence seriously hampers survival (GUARVA)
- 2 C) Treatment success measures (viral suppression and increased CD4 cell counts) correlate with adherence using electronic monitoring (F cites #2,S10)

3

1) May result in treatment failure and development of drug resistant virus (H cites x, 2176)

3

2) "Incomplete adherence... can have serious consequences, including loss of plasma HIV suppression and development of drug-resistant HIV strains. (G 387) "This can in turn lead to disease progression, inability to suppress HIV even with very intensive regimens, and transmission of resistant HIV to others (cites xxxxxx)." (G 387)

III) Perfect and very good adherence - what do we know? Better adherence relates to better treatment results:

4

A) In G (389): better adherence category related to decrease in HIV concentration in plasma.

4

B) Treatment success measures (viral suppression and increased CD4 cell counts) correlate with adherence using electronic monitoring (F cites #2,S10)

4

C) Higher CD4 count assoc with better adherence (H, 2180)

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D) In H study of women: older age and employment related to better adherence (H, 2179)

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E) In D (D, 70) (Type 2 diabetes) older age had better adherence profiles

5

F) Having a college degree (G, 388)

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G) Longer duration of therapy correlated with better adherence (H, 2179)

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- H) Feeling the regimen “fits” with daily activities (G, 389) associated with better adherence, and also with (390) lower plasma concentrations of HIV.

6

- I) Changing attitudes about particular meds, social support, beliefs and knowledge about meds, belief in efficacy of meds are correlated with better adherence. (G, p. 387, cites xxxxx) (F, S11)

6

- J) Having Medicare, better perceived access to meds, better social support for using meds (G, 389); and keeping clinic appointments (F, S11)

6

- K) Better diet, understanding that nonadherence leads to HIV resistance, and higher self-efficacy about using meds (G, 389); (F, S11, citing xxx)

IV) Decreased adherence is associated with many conditions and situations, including:

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- A) In H study of women, *current, but not past* drug use and alcohol use were both assoc with poor adherence (H, 2179)

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- B) Use of alcohol and illicit drugs (G, 387) (cites xxxx); (F, S11)

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- C) Being busy, forgetting, being away from home, having a break in daily routine (G, 388)

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- D) Being bothered by symptoms (G, 388) or side effects (F, S11)

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- E) Being depressed, overwhelmed (G, 388) (F, S11)

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- F) Taking a drug holiday, running out of meds (G, 388)

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- G) Having Medicaid (G, 388)

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H) Stress

- 1) (G, 389-390) associated with reduced adherence and
- 2) (G, 390) with higher HIV plasma levels – except when considered [as a cofactor] with HIV treatment regimen.

7

V) Less than good adherence rates are associated with dosage regimen:
(Frank, p. S11, citing xx)

7

A) Patients must follow complex regimens and take increasing number of pills (GUARVA) -

*

B) Not so (in H, p. 2179), number of pills did not affect adherence.

*

C) And NOT in G, p. 389)

8

D) Women using PIs and thrice-daily dosing were assoc with less adherence (H, 2179)

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E) In study of directly observed therapy (DOT) compared with self-administered treatment (SAT), “the response rate was lowest among the patients taking a four-drug regimen” in the SAT group. (F, S10)

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F) Inconvenient treatment regimens and pill count associated with poor adherence. (F, S11, cites #7 & 8) (C, p. 464, 469)

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G) Once-daily dosing, but not pill count, correlated with improved adherence in 1-year study of patients with Type 2 diabetes (D, 68)

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H) ... and with hypertension (A, p. 190)

VI) What can we do to improve adherence? (GUARVA):

9

- 9 A) Educate patient about virus/resistance/adherence
(Frank, p. S11)
- 9 B) Explain potential benefits, in therapeutic terms and in convenience.
(C, 465) Once-daily dosing of some treatment combinations can
increase medication levels over dosing period. (C, 465, 468, 469)
- 9 C) Become aware of misjudgments. Physicians and nurses misjudged
rates of adherence of patients in the study. Physicians misjudged
41%; nurses 30%. (F cites, p. S11, cites #2)
- 9 D) Minorities, drug users less able to adhere, so are treated less often
(H cites xx, 2175-2176) also, depression and psychosocial factors
(H, 2176)
(This information was not used in this program, but save in case
reference is needed in future.)
- 9 E) Many strategies to enhance adherence, Table 2, F, S11, cited from
#4.
- 9 F) Learn ART designed and studied for once-daily dosing (F, S12),
learn potential problems and solutions (F, S12; F, S14) (Details of
studies presented on F, S12-13)
- 9 G) Understand the pharmacokinetics of dosing both once-daily and
twice-daily (F, S14) HAART
- 10 H) Create true collaboration (G, 387-388; 393-394)
- 10 I) From G, p 387-388: amazing questionnaires, quizzes, and self-
reports on adherence! Included psych evals, support evals; & drug
knowledge & belief evals; plus general health and symptom self-
assessment!
- 10 J) Also from F, p. S11

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K) Intervention targets:

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1) Working out convenient regimens From (G, p 392)

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2) Prescribe simpler regimens when possible, depending upon patient characteristics and ability to monitor CD4 cell response and HIV plasma concentrations. From (G, p 392); (also in C, 469)

11

3) Education about improving and maintaining self-efficacy beliefs (G, p 392)

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L) Assess and monitor patient's abilities to follow regimen

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M) Address emotional issues that may interfere
(Gifford, p. 392)
(Frank, p. S11)

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N) Provide a supportive team
(Frank, p. S11)

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O) Develop trusting communication

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P) Address the difficulty of lifelong therapy

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Q) Monitor viral suppression and CD4 levels with patient when possible. (F, S12-13)

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R) Drug and alcohol treatment programs needed (H, 2181)

VII) When do we work on adherence?

12

- 12 A) All approaches need to begin before therapy begins, and continue from then on. (GUARVA)
- 12 B) Individual changes throughout time (H, 2180)
- 12 C) Illness, hospitalization, changing regimens are critical times (H, 2180)

VIII)Areas needing further work/investigation:

- 13 A) The effect of past IV drug use on viral load (G, p. 393)
 - 13 B) Also In G study, past IV drug use was assoc with higher HIV plasma concentrations (G, 389)
 - 13 C) Attitudes and beliefs about health
 - 13 D) Ways of interacting with health care system
 - 13 E) Access to care
 - 13 F) Socioeconomic status
 - 13 G) Comparisons of once-daily and twice-daily regimens (F, S13)
 - 13 H) Even with electronic surveillance (MEMS) showing better adherence with once-daily dosing, hypertension management did not significantly improve. (A, 189)
 - 13 I) The effect of race/demographics on adherence (G, p. 393)
 - 13 J) *Being African-American, lower educational level, (G, 388 & G 389)
- 13 1. (G, 388, 389) *depends upon which variables put together – read carefully
- 13

13

2. **(G, 389) Race also related to higher HIV plasma concentration.
3. (F, S11) Race [does] not seem to be strongly correlated with a decrease in adherence or with treatment fatigue.

IX) Adherence Over Time

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A) Adherence declines over time. (D, p. 68)

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B) For example,

At 1 month, 70% of patients took 100% of meds on time; at 4 months, only 63%, and at 8 months, only 58%. (F S11, citing Mannerheimer [sic],* et al, 2000)

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C) "...adherence is a dynamic process, and its predictors vary over time."
(Howard, et al, p. 2176, citing Liu, et al, 2001; Carrieri, et al, 2001; Mannheimer [sic]*, et al, 2002)

D) G claims these factors studied are predictors (G, 392-393)

* need to check spelling of this secondary reference that appears to be the same person, but two different citations, with the named spelled differently on each.