

mental health AIDS

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Biopsychosocial Update

HIV Prevention News

About Women & Men

Niccolai, Farley, Ayoub, Magnus, and Kissinger (2002) asked 76 people living with HIV – predominantly poor, urban, single African-American heterosexuals over the age of 30 who were attending public sexually transmitted disease (STD) clinics – to disclose the HIV status of their recent sexual partners ($n = 94$); test results for 42 (45%) of those partners were then located. Remarkably, while 64% (14/22) of partners thought to be HIV-positive by study participants actually were not, 42% (8/19) of partners thought to be HIV-negative did, in fact, test positive for HIV. Overall agreement between “knowledge” and reality was 46%, *less than what could be expected by mere chance*. Even more disturbing was the finding that individuals in committed relationships were *less* likely to have correct information than those engaged in casual relationships. Since misinformation regarding a partner’s status may affect perceptions of risk, Niccolai and colleagues encourage clinicians to promote discussion of HIV status between partners to set the stage for informed choices regarding sexual behavior.

On the subject of risk, Weinhardt (2002) randomly assigned 34 African-American adults to one of three conditions – 1) an HIV-Risk Timeline Followback (TLFB) interview (a detailed review of sexual and drug-taking behavior); 2) 27 questions regarding the frequency of sexual behaviors; or 3) a TLFB-formatted review of diet and nutrition – and concluded, based on pre-post measures of HIV risk-reduction motivation, that participation in a detailed review of health behavior (be it behavior that increases HIV risk or the risk of heart disease), rather than a more general review of that behavior, may serve

to increase the perception of risk and so the motivation (over the short-term, at least) to change behavior.

Trost, Herbst, Masters, and Costa (2002) suggest that the key to reducing high-risk sexual behavior may lie in organizing interventions around underlying personality characteristics (rather than target behaviors). They base this assertion on a study involving 201 poor, largely African-American adults participating in an HIV risk-reduction program in rural Arkansas who supplied information on behavioral risk and personality traits.

Overall, the results confirm the hypothesis that persons who experience

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greater levels of chronic emotional distress ... and who are less organized, persistent, and motivated in goal-directed behaviors ... engage in risky sexual practices. ... High-risk individuals also have a low opinion of their skills and self-efficacy, are relatively unmotivated to persist and follow through with their plans, and tend to act without considering the consequences ...” (p. 128)

HIV risk behaviors were also associated with hostility and antagonism towards others. Among the personality-informed interventions they propose as measures to promote safer sexual behavior are: 1) use of pharmacology and psychotherapy to reduce anxiety, depression, impulsivity, and aggression and increase self-esteem and positive coping; 2) skills-training to enhance condom negotiation self-efficacy; 3) the development of compensatory strategies (e.g., enlisting

assistance from partners, friends, and others) to ensure the availability of condoms when needed; and 4) for “disagreeable” types, the diversion of preexisting cynicism into self-protective sexual behavior.

About Women

Mize, Robinson, Bockting, and Scheltema (2002) conducted a meta-analysis of 24 studies published between 1989 and 1997 to assess the effectiveness of HIV prevention interventions presented to U.S. women. The studies varied by:

- o racial/ethnic grouping (African-American, Hispanic, white, mixed race/ethnicity, and all races/ethnicities combined);
- o post-intervention time interval (posttest, < two months, two to three months, six to 24 months); and
- o HIV-related outcome (HIV/AIDS know-

ledge, sexual risk-reduction self-efficacy [i.e., self-perceived ability to change behavior], and sexual risk-reduction behavior).

The interventions under study appeared to improve knowledge and increase sexual risk-reduction behavior across race/ethnicity and across follow-up periods; the only exception to this observation involved no change in sexual behaviors for the mixed race/ethnicity grouping at two to three month

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follow-up. Findings for self-efficacy were less consistent, particularly for African-American women; in this grouping, increases in feelings of self-efficacy did not emerge until at least six months post-intervention. Nevertheless, the authors conclude that HIV prevention interventions seem to be effective in increasing knowledge, heightening self-efficacy, and promoting decreases in sexual risk behavior in American women who vary in race and ethnicity.

For women in their childbearing years, there may be special considerations when it comes to HIV prevention. Sowell, Murdaugh, Addy, Moneyham, and Tavokoli (2002) interviewed 322 sexually-active women in their childbearing years – predominantly poor, single, and African-American – who were also living with HIV and found that greater orientation toward traditional gender roles as well as an increased motivation for childbearing were associated with the intent to get pregnant. In fact, 40% of these women had been pregnant since learning that they were HIV-infected. Sowell and colleagues urge clinicians to assess these and other, non-HIV-related factors (e.g., partner's desire for a baby) on a routine basis when planning care for women living with HIV.

What about at-risk women receiving family planning services? Ehrhardt et al. (2002) assessed 360 female family planning clinic clients at risk for HIV/STD following participation in a gender-specific group prevention intervention. The women, who were

largely African-American, were randomized to one of three conditions – an eight-session group, a four-session group, or assessment-only (control group) – and were interviewed one, six, and 12 months following the intervention. At one month post-intervention, women in the eight-session group were about twice as likely to report reductions in unprotected intercourse as controls; at 12 months, these women, on average, reported five fewer unprotected sex acts during the preceding month. Women in the eight-session group were also more likely to try alternative protection strategies (i.e., refusal of sex, outcourse, mutual testing) during the first month following the intervention; at one month and again at 12 months post-intervention, these women also reduced the number of occasions during which sex occurred. Results for women participating in the four-week group were in the desired direction, though inconclusive. Ehrhardt and colleagues conclude that “gender-specific interventions of sufficient intensity can promote short- and long-term sexual risk reduction among women in a family planning setting” (p. 147).

About Perinatal Transmission

Cooper et al. (2002) studied 1,542 HIV-positive women who gave birth between January 1990 and June 2000 and found that the rate of perinatal HIV transmission was 20% among women who had not received prenatal antiretroviral treatment. Among those receiving zidovudine (AZT, Retrovir®) monotherapy, the rate of transmission was 10.4%; for those receiving two-drug therapy, the rate of transmission was 3.8%; among

those receiving highly active antiretroviral therapy (HAART), the HIV transmission rate was 1.2%. Cooper and colleagues also noted that the transmission rate was associated with viral load at the time of delivery: for women taking antiretrovirals who had viral loads ≤ 400 copies/mL, the rate of HIV transmission was 1.0%. The rate increased to 5.3% among women with viral loads between 400 and 3,499 copies/mL, while among those with viral loads $\geq 30,000$ copies/mL, the rate of transmission was 23.4%. These researchers conclude that more complex antiretroviral regimens taken by women over a longer period of time prior to delivery are associated with lower rates of perinatal HIV transmission.

Some women have concerns about taking antiretrovirals during pregnancy. And yet, when Tuomala et al. (2002) compared outcomes from 2,123 women who received antiretrovirals (monotherapy: 1,590; combination therapy without protease inhibitors [PIs]: 396; combination therapy with PIs: 137) during pregnancy with those of 1,143 women who did not, they concluded that “the risks of adverse outcomes of pregnancy that are attributable to antiretroviral therapy are low and are likely to be outweighed by the recognized benefits of such therapy during pregnancy” (p. 1869).

About Adolescents

Two more studies involving 522 low-income, sexually-active, African-American female adolescents in Birmingham, Alabama have recently been reported:

o Crosby et al. (2002a) found that infrequent communication with sex partners regarding STDs – including HIV — and pregnancy prevention was associated with a reduced likelihood of using condoms. Infrequent sexual communication with partners was associated with talking less frequently with parents about the same issues, having had recent sex with a casual partner, being less willing and perceiving oneself as less able to negotiate the use of condoms, and reduced motivation to use condoms. To increase female teen communication with sex partners, Crosby and colleagues suggest that clinicians: 1) encourage parents to discuss sex-related is-

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sues frequently with their teen daughters; 2) foster beliefs in equality between female teens and their sexual partners; and 3) characterize frequent communication and negotiation with partners regarding safer sex as both normative and health-enhancing.

o What about condom use as an HIV/STD prevention measure once a teen becomes pregnant? Crosby et al. (2002b) prospectively compared 27 pregnant teens within this sample who remained sexually active to 251 of their sexually-active, nonpregnant peers and found that the pregnant teens reported using condoms less than their non-pregnant counterparts, thereby risking the acquisition of HIV/STDs. Clinicians are encouraged to promote condom use in the context of adolescent prenatal care to prevent adverse pregnancy outcomes linked to maternal STD infection.

Bachanas et al. (2002) assessed 164, mostly African-American, female adolescents between the ages of 12 and 19 at risk for HIV who were receiving services in a teen primary care clinic. They found that younger teens (ages 12-15), when compared to older teens (ages 16-19), reported a greater number of depressive symptoms, earlier sexual debut, and engaging in more risky sexual behaviors when peers were likewise engaged; in this sample, substance use and delinquent behavior were associated with risky sexual behavior among younger teens. Older teens, when compared to younger teens, reported more substance use and a greater likelihood of having been pregnant or having contracted a STD, yet also reported greater religious involvement and the use of more adaptive coping strategies. Bachanas and colleagues recommend that clinicians provide teens and their peers with "skill-based prevention interventions that target enhancing assertiveness and communication/negotiation skills around delaying intercourse and condom use" (p. 381) and encourage the avoidance of drugs and alcohol.

Finally, Donenberg, Wilson, Emerson, and Bryant (2002) studied a racially and ethnically diverse sample of 169 urban youth seeking outpatient mental health services and found that, at low levels of perceived

parental permissiveness, rates of risky sex did not differ by gender; at high levels of perceived parental permissiveness, however, female teens engaged in more risky sexual behavior than male teens. The authors suggest that, for adolescents – particularly female adolescents – seeking mental health services, prevention programs geared toward changing perceptions of parental permissiveness have the potential to reduce risky sexual behavior.

About Men

How does knowledge of viral load translate into perceptions of transmission risk among HIV-positive men? Kalichman et al. (2002) surveyed 44 men living with HIV and observed that men with higher concentrations of HIV in their semen were engaging in *high* rates of unprotected sex while, at the same time, perceiving themselves at *lower* risk of potentially transmitting the virus. The authors encourage clinicians to inform men living with HIV that "blood viral load [alone] cannot be used to estimate their degree of infectiousness, ... that concentrations of HIV in blood are often unrelated to viral load in semen and that the threshold for when a person is infectious [based on seminal viral load] is unknown. Discussing viral load in relation to sexual infectiousness also creates an opportunity for providers to assess perceptions of infectiousness and risk behaviours, opening the door to intervene and address continued risk practices ... [through] intensive behavioural risk reduction interventions" (p. 348).

About Men Who Have Sex with Men

Huebner, Davis, Nemeroff, and Aiken (2002) conducted two studies – one involving 595 gay and bisexual men reporting on their awareness of and involvement in one community-based organization's HIV prevention programming and the other examining responses from 89 such men who participated in one session of the HIV prevention group offered by that agency – and found that internalized homophobia (i.e., the taking in of society's anti-homosexual feelings by gay men, lesbians, and bisexuals) was negatively associated with awareness of services. Moreover, men indicating high internalized homophobia reported less comfort with the intervention and demonstrated

less improvement in their perceptions regarding condom use self-efficacy immediately following the intervention. Based on these findings, the authors conclude that "men with high internalized homophobia have an elevated risk for HIV and also may be less likely to know about and benefit from participation in community-based HIV prevention efforts" (p. 343). Clinicians should, therefore, assess and address internalized homophobia as one element in HIV risk-reduction interventions directed toward sexually-active gay and bisexual men.

Risk-reduction interventions continue to be needed, as a confluence of studies suggest that the availability of HAART is associated with increases in high-risk sexual behavior among men who have sex with men (MSM). Some examples:

o In San Francisco, Katz et al. (2002) compared data from cross-sectional community surveys conducted with 26,176 MSM between 1994 and 1999 with HIV test findings for MSM in anonymous as well as STD service settings. "The results of our ecological study are consistent with the hypotheses that (1) the availability and increased use of HAART have resulted in an increased number of unsafe sexual contacts and (2) the impact of the increased number of unsafe contacts on seroincidence has been equal to or greater than the impact of HAART use on per contact transmissibility of HIV" (p. 391). Clinicians are advised to assess changes in perceived HIV risk associated with the availability of HAART.

o DiClemente et al. (2002) examined data from 592 men and women living with HIV in the non-urban South who were engaged in publicly-funded primary care services and found that, while the receipt of PIs was not associated with the decision to engage in sex or with high-risk sexual activities among heterosexually-active men and women, nonuse or inconsistent use of condoms was reported among sexually-active MSM receiving PIs. The authors observe that clinicians who treat people receiving PIs should systematically assess sexual risk behavior, address transmission misperceptions and condom-use attitudes, and offer risk-reduction counseling.

o Ostrow et al. (2002) interviewed 547 gay men (329 HIV-positive, 218 HIV-negative) in four U.S. cities who reported having had anal sex over the preceding six-month period and found that more than 50% of these men reported that they did not consistently use condoms. Among HIV-negative men, reduced transmission concerns related to HAART were associated with a greater likelihood of engaging in unprotected receptive intercourse when compared with other HIV-negative men in the sample; among HIV-positive men, reduced transmission concerns or "safer sex fatigue" were associated with a greater likelihood of engaging in unprotected insertive intercourse when compared with other HIV-positive men. According to the authors, "[t]hese findings emphasize the need to tailor prevention programs towards men's HIV serostatus, partnerships, and risk-taking propensities" (p. 779).

In response to documented sexual risk-taking among MSM, the Centers for Disease Control and Prevention (CDC, 2002) released new guidelines urging clinicians to assess sexual risk for HIV/STDs for *all* male clients and to include an inquiry regarding the gender of sex partners. For sexually active MSM, the CDC now recommend yearly screening for HIV (as well as chlamydia [anal, urethral], syphilis and gonorrhea [anal, pharyngeal, urethral], plus vaccination against hepatitis A and B). More frequent screening is recommended for men who have multiple anonymous partners and/or men who use drugs in conjunction with their sexual activity.

As for mixing sex and substances, Semple, Patterson, and Grant (2002) interviewed a convenience sample of 25 HIV-positive MSM and found that their use of methamphetamine (meth) was associated with "high rates of anal sex, low rates of condom use, multiple sex partners, sexual marathons, and anonymous sex" (p. 149). These men attributed their meth use to sexual enhancement as well as self-medication of negative feelings associated with being HIV-positive.

With regard to treatment, Semple and colleagues offer (in part) the following:

[M]any of our participants reported they

could not have sex unless they were high on meth. The fear of no longer being sexual was identified as a major barrier to giving up meth ... One clinical approach to this issue involves the use of motivational interviewing techniques to help the client develop insights into the link between his meth use and his sexual experience. Over time, the therapist can help the client to apply these insights in terms of developing a plan and setting goals for behavior change.

... [I]t is [also] important to get high-risk individuals to recognize the relationship between cognitive escapism and their use of substances. By inducing awareness of the relationship between drug use and the individuals' motivation to escape the emotional pain associated with being HIV+, the clinician may be able to help the client identify moods, emotions, expectancies, and coping styles that contribute to an ongoing pattern of drug use. ... Meth use may [then] be reduced ... [by] providing strategies for self-monitoring and controlling these underlying motivations of drug use.

In general, HIV+ meth-using MSM may benefit from ... treatment approaches that address underlying motivation for meth use, and the link between meth use and sexual risk behavior. ... [A]n important issue in the treatment of HIV+ MSM is the need to recognize the role of gay sexuality and HIV+ identity in the recovery process. Therapists must acknowledge and address the powerful links between gay sexuality, HIV+ identity, and meth use. (p. 154)

Shifting to another group of substance-using MSM, Bull, Piper, and Rietmeijer (2002) surveyed 100 MSM who were also injecting drug users (MSM-IDUs), 45 of whom were living with HIV. High risk sex with multiple partners of both genders and inconsistent or infrequent condom use for a range of sexual acts and partners were reported. Importantly, the injecting drugs of choice (cocaine and meth) in this Denver sample stimulate sexual desire and injecting cocaine (required more frequently to maintain

Tool Box

Alcohol and HIV: A Risky Combination?

Galvan et al. (2002) surveyed a nationally representative sample of 2,864 adults receiving HIV medical care in 1996 and found that "[a]lcohol consumption is common among people in care for HIV, with rates of heavy drinking almost twice those found in the general population. Heavy drinking is especially higher among individuals with lower educational levels and users of cocaine or heroin" (p. 179). According to Petry (1999), rates of alcohol use disorders are high among people living with HIV, and the co-occurrence of alcohol use disorders and HIV may lead to medical and psychiatric complications, difficulties with adherence to treatment regimens, and poorer treatment outcomes. For reasons such as these, Galvan and colleagues recommend that clinicians screen people living with HIV for alcohol use and intervene as appropriate.

Dubious Danger When Drinking During Sex

Petry (1999) also asserts that alcohol use is associated with risky sexual behaviors. Do the data support her contention, particularly among teens and young adults at risk for infection?

The answer is yes – and no – according to Corbin and Fromme (2002), who suggest that "research on the association between alcohol use and risky sexual behavior has provided limited and often contradictory findings" (p. 230).

In one recent Canadian study, for example, Poulin and Graham (2001) surveyed 9,997 public high school students and found unplanned sexual intercourse occurring while under the influence of alcohol or other substances to be associated with having multiple sexual partners and using condoms inconsistently. Poulin and Graham suggest that, by working with teens to reduce the potential for unplanned intercourse while "under the influ-

a "high" similar to that obtained with meth) was associated with exposure to a synergistic risk for HIV from use of injecting drugs while engaging in unprotected sex. Risk behavior did not appear to differ between men who were living with HIV and those who were not, further heightening risk to those who remained uninfected. Since these men do not strongly identify with either the gay community or with those who inject heroin,

ence." clinicians may also help to decrease numbers of sexual partners and increase consistency of condom use among teens.

And yet, Santelli, Robin, Brener, and Lowry (2001) observe that prevention strategies to address condom use and multiple partners in teens and young adults who use (or have ever used) alcohol and other drugs will need to be distinct and different, since the use of substances appears to influence these behaviors in different ways. They base this observation on an analysis of data from 7,441 unmarried people between the ages of 14 and 22 showing that not using condoms was associated with the number of different substances ever used as well as with the age at which alcohol use was initiated. Of note was the finding that neither recent substance use nor use at last intercourse was associated with recent condom use, although these factors were associated with having multiple sexual partners, as was the number of substances ever used by female respondents.

Taking a meta-analytical approach, Cooper (2002) reviewed 30 studies – particularly those involving event-level methodology* or random sampling – published between 1986 and 2000 examining the association between the use of alcohol and risky sex among college students and youth. While she noted a strong association between drinking and sexual activity, including sex with multiple or casual partners, the association with protective behavior (e.g., condom use) was inconsistent across studies. The association between using alcohol and not using condoms was strongest for younger individuals, those having their first experience of intercourse, and for sexual activity prior to 1991. Based on this analysis, Cooper concludes that reducing alcohol use among college students

*Research in this area generally involves data analyzed at one or more of three levels: global (determining the frequency of alcohol use and the frequency of sexual behavior); situational (determining the co-occurrence of alcohol use and sexual behavior); and event (determining alcohol use within discrete sexual events).

and youth may reduce some forms of risky sexual behavior, but is less likely to have a direct impact on protective behaviors.

Greater Clarity May Shift the Target of Intervention

In an effort to tease out aspects of the association between alcohol use and risky sexual behavior, Corbin and Fromme (2002) analyzed data from the *same* sample of 305 heterosexually-active young adults at *each* of three levels (global, situational, and event). Interestingly, and in keeping with their contention regarding the inconsistency of findings, "[e]ven among the same group of participants, the results varied for these three different methods of analysis, with no association between alcohol use and condom use at the general association level, a positive association at the situational level, and a negative association at the event level" (p. 233). Further analysis of the data, taking type of partner, type of sexual event, and expectancies about the effect of alcohol on sexual behavior into account led Corbin and Fromme to conclude that alcohol use was associated with a greater likelihood of risky sex early on in a relationship (particularly when individuals expect that alcohol use *will* lead to risky sexual behavior), while familiarity with one's partner and the use of alternative contraceptive methods appeared to play a greater role in sexual risk-taking as the duration of a relationship increased. These authors suggest that

efforts to target alcohol consumption as a risk factor for unprotected sex should focus on initial sexual events and address the role of the individual's beliefs about alcohol's effects. It is also important to recognize that, even for first sexual experiences, alcohol use accounts for a very small proportion of the variance in condom use, and this is true across multiple studies. Thus, effort might be better spent identifying other targets for intervention.

One area that deserves greater attention is the role of serial monogamy in the transmission of HIV and other STDs. This study

clearly demonstrated changes in perceptions of risk as relationships developed. Further, participants reported reduced condom use over time despite a lack of information about the relative risk posed by their partner.... Efforts to protect oneself from STDs appear to be based more on the perceived duration and stability of one's relationship than on objective indexes of risk. Such tactics may result in repeated exposure to multiple serial partners who are potentially HIV positive ... Thus, rather than focusing on alcohol consumption, more useful strategies for preventing HIV and other STDs may include targeting low perceptions of risk that are based on limited and often inadequate information. (p. 235-236)

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clinicians will need to enact prevention approaches with MSM-IDUs that address multiple risk behaviors (i.e., unprotected sex with many partners of both genders while injecting drugs that stimulate sexual desire) simultaneously.

About Substance Users

Celentano, Cohn, Davis, and Vlahov (2002) followed 792 IDUs (288 HIV-positive, 504

HIV-negative) over a six-month period and found that those who held stronger beliefs that engaging in particular risk behaviors (e.g., reducing drug use, injecting less frequently, and sharing fewer needles) would reduce their HIV risk did, in fact, make these changes in behavior when measured six months later. [It should be noted that outcome efficacy estimates did not predict all behavior change (i.e., they did not predict

declines in shooting gallery attendance, which fell substantially during the study period); also, while these estimates for needle disinfection were associated with safer behavior, they were not associated with improvements in needle hygiene.] The authors conclude that "[u]nderstanding the psychological processes underlying HIV/AIDS risk behavior maintenance and change among [IDUs] is important in developing more ef-

fective intervention strategies and motivation messages to encourage more effective and sustained behavior change. ... [Based on these findings, efforts to bolster confidence in risk reduction require setting specific objectives for behavior change in a meaningful context. ... In addition, efficacy estimates can be raised through appropriate skills building ..." (p. 254).

Stein, Anderson, Charuvastra, Maksad, and Friedmann (2002) randomized 109 "hazardously-drinking" IDUs participating in a needle exchange program to a brief motivational intervention or an assessment-only control condition and found that two sessions of the intervention reduced injection equipment sharing among treated IDUs at six months post-intervention when compared to controls. Stein and colleagues suggest that a brief alcohol-related motivational intervention may be a useful adjunct to other harm reduction activities when working with IDUs.

About the Severely Mentally Ill

Weinhardt, Otto-Salaj, Brondino, Norberg, and Kalichman (2002) surveyed 303 adults living with severe mental illness (SMI) who were receiving care through community mental health centers and found that "[those] with stronger expectancies that drinking [alcohol] would lead to enhanced sexual experience were more likely to have drunk prior to intercourse and that, among [those] who drank prior to intercourse, those with stronger expectancies that alcohol would lead to riskier sexual behavior were more likely to have engaged in sexual risk behavior" (p. 64). The authors suggest that challenging expectancies regarding alcohol use and sexual risk behavior may reduce such activities in adults living with SMI. [For more on alcohol expectancies and sexual activity, see **Tool Box** on pages 4-5.]

HIV Assessment News

HIV Counseling & Testing

Dilley et. al (2002) conducted a randomized, controlled trial at an anonymous HIV testing site involving 248 HIV-negative MSM who had engaged in at least one act of unprotected anal intercourse (UAI) with a non-primary partner of different or unknown status and sought repeat testing. The study

was conducted to assess the impact of a single-session, cognitive-behavioral counseling intervention "focusing on self-justifications (thoughts, attitudes, or beliefs that allow the participant to engage in high-risk sexual behaviors) at most recent ... UAI" (p. 177) on subsequent high-risk behavior. Dilley and colleagues found that "[t]hree prevention strategies significantly decreased risky UAI among MSM, when added to standard client-centered HIV counseling and testing: a 90-day sexual diary, a novel counseling session focusing on self-justifications for UAI, or both. Further, the effects of these three interventions persisted to 12 months. In contrast, standard counseling alone appeared to have, at best, only a small, short-term primary prevention effect in this population of MSM who have tested several times previously" (p. 183). They conclude that a single-session counseling intervention designed to reevaluate self-justifications operating during recent high-risk behavior, when employed between pretest and posttest counseling sessions, may help to decrease sexual risk behavior.

Psychiatric Assessment

Morrison et al. (2002) compared 93 HIV-positive and 62 HIV-negative women and found that "HIV-seropositive women without current substance abuse exhibited a significantly higher rate of major depressive disorder and more symptoms of depression and anxiety than did a group of HIV-seronegative women with similar demographic characteristics" (p. 789). These findings "underscore the importance of adequate assessment and treatment of depression and anxiety in HIV-infected women" (p. 789).

In an exploratory study, Martinez, Israelski, Walker, and Koopman (2002) interviewed an ethnically-diverse sample of 41 women in HIV outpatient care and found that 42% met full criteria for posttraumatic stress disorder (PTSD) and another 22% met partial criteria. Those most at risk for PTSD reported a greater number of traumatic life events as well as lower perceived social support from family and friends. The authors recommend that clinicians screen those entering HIV care for PTSD and work to enhance support from family and friends to mitigate against the rise of symptoms.

HIV Treatment News

Medical Care

Research teams in France (Tassie et al., 2002), Australia (Dore, Li, McDonald, Ree, & Kaldo, 2002), and the U.S. (Fordyce, Singh, Nash, Gallagher, & Forlenza, 2002; Tam et al., 2002) have recently documented trends toward increased survival in people who take HAART.

Adherence is likely a key ingredient when such increases in survival time are observed. On this point, studies from Spain (García de Olalla et al., 2002) and Canada (Hogg et al., 2002) indicate that, aside from the type of treatment offered, the only other modifiable factor strongly associated with survival is adherence. Hogg and colleagues observe that "regardless of future advances in treatment, protracted and near perfect use of antiretroviral drugs is likely to remain a requirement of successful antiretroviral therapy" (p. 1058).

Success may also turn on a greater number of medications, as suggested by Krogstad et al. (2002), who studied 177 antiretroviral-experienced infants and children – 135 receiving triple-drug therapy and 42 receiving quadruple-drug therapy – over a 48-week period and found that, while the regimens were similar with regard to drug activity, the four-drug regimen appeared to offer "slightly" more durable viral suppression in children than three-drug regimens.

And yet, simplification of the medication regimen has certain advantages. In Spain, Fumaz et al. (2002) conducted a prospective, randomized study involving 100 people living with HIV who had discontinued a first-line PI-containing HAART regimen. For their second-line regimen, 51 individuals were prescribed two nucleoside reverse transcriptase inhibitors (NRTIs) plus efavirenz (EFV, Sustiva®), while 49 were given two NRTIs plus one or more new PIs. Over a 48-week period, 16% of the first group and 6% of the second discontinued their regimens because of side effects; based on data from those who continued treatment, however, the authors conclude that

[d]espite comparable immunologic and virologic outcomes with treatment with

either a second-line [EFV]-containing regimen or a [PI]-containing regimen, switching to [EFV]-containing therapy may be advisable for selected patients because the simplicity of this therapeutic approach may permit the maintenance of a good [quality of life] and [emotional status] and even an improvement. Furthermore, the effort to follow treatment is lower, and patients perceive themselves as more capable of following treatment. ... [It should be noted, however, that] because of the considerable number of therapy interruptions for [central nervous system; CNS] disorders in the [EFV] treatment group (mainly in the short term) and in some cases their persistence in the long term (particularly mood changes and irritability), patients should be specially monitored for their psychological status [when taking EFV-based regimens, particularly those with preexisting mental health problems]. (p. 252)

Finally, Santacroce, Deatrck, and Ledlie (2002) analyzed data from extensive interviews with eight biological mothers of children with perinatally-acquired HIV infection and found that these mothers' medical treatment choices for their children were "constrained by heightened emotions, realistic appraisals of the social situation and available supports, and poverty of frameworks for identifying, assessing and responding to children's distress" (p. 258). Although the study was exploratory, the authors suggest that, "[w]ith supportive care [from health professionals], mothers might be able and willing to embark on and maintain aggressive approaches to medical and psychosocial treatment before children's symptoms are apparent. In this way, HIV-associated physical and emotional disabilities [in children can] be delayed or prevented ..." (p. 259).

Psychiatric/Psychological/ Psychosocial/Spiritual Care Neuropsychiatric Impairment

Based on postmortem examinations of 250 gay men and IDUs with late-stage HIV infection, Scottish investigator Bell (Society for General Microbiology, 2002) concludes that "low levels of HIV may still lead to long-term brain damage and dementia. Infected

drug users are at greater risk because of complications from drug-related brain injury, which can lead to premature nerve cell damage. Drug use induces activation of microglial cells in the brain, which may make the CNS more vulnerable to HIV."

Highlighting this vulnerability, Ellis et al. (2002) assessed cerebrospinal fluid (CSF) HIV RNA levels in 139 individuals at a baseline visit and again approximately one year later. They found that elevations in CSF HIV RNA at baseline were associated with neuropsychological (NP) impairment at follow up in people who were not impaired at baseline. Declines in performance were noted particularly in the areas of attention and working memory, learning, and motor function. The authors conclude that "[b]ecause elevated CSF HIV RNA levels (≥ 200 copies/mL) predict subsequent progression to NP impairment, monitoring of CSF viral load and therapy to reduce CSF HIV RNA levels may be clinically warranted, even if impairment is not identified at the time of lumbar puncture" (p. 923).

Margolin, Avants, Warburton, and Hawkins (2002) examined the independent contributions of several factors (e.g., medical and psychiatric history, historical and current drug use, educational attainment, HIV viral load, CD4 count) to NP test performance in 90 inner-city, HIV-positive IDUs (heroin and cocaine) who entered methadone maintenance treatment. Utilizing a test battery designed to assess skills associated with the capacity to engage successfully in both substance abuse and HIV treatment (e.g., verbal learning and memory, problem-solving capacity, the ability to attend to and simultaneously process competing stimuli, visual-motor coordination, visual tracking, cognitive flexibility), Margolin and colleagues found that 88% of those sampled demonstrated significant impairment. Importantly, they also detected "an effect of HIV disease over and above other co-factors contributing to cognitive impairment" (p. 264) in this sample. They conclude that,

[r]egardless of the etiology of cognitive impairment, it is clear that these patients enter treatment with impairments in domains that may influence their re-

sponse to treatment. Almost 90% of this sample were in the below-average range of cognitive functioning, ... and more than 50% were in the range of moderate to severe cognitive impairment ... [I]mpaired cognitive functioning may adversely affect learning, retaining, and enacting skills that are required for addiction recovery, HIV harm reduction, and medication adherence. ... [C]linicians [must] differentiate between cognitive impairment and lack of motivation in this patient population, and ... provide interventions that are sensitive to patients' cognitive status. ... [I]ntegration of cognitive remediation strategies within methadone counseling shows promise not only with regard to reducing HIV risk ... behavior and improving addiction-related outcomes, but also for improving medication adherence. (p. 264)

Honn and Bornstein (2002) examined the NP performance of 217 men living with HIV and found that declines in two domains of cognitive functioning (attention and executive function) were associated with an increase in self-perceived, illness-related dysfunction; also, higher IQ scores were associated with fewer stressful life events and with a greater number of social contacts. These three psychosocial factors were, in turn, associated with fewer reported depressive symptoms. "These findings suggest that better [NP] performance may lead to reduced stress and perceived disability, and more available social contacts. By these multiple paths, different domains of cognitive ability contribute indirectly to ameliorating depression in HIV-infected men" (p. 436). Thus, "by assisting individuals experiencing declines in attention and executive function to increase their effectiveness in completing daily activities that require these cognitive abilities (e.g., communication, home care, social activities), clinicians may help to reduce depressive symptoms.

Lastly, based on 15 years of research on the NP sequelae of HIV infection (i.e., 41 primary studies involving an aggregate of 8,616 participants and covering 10 major NP domains, with effect sizes calculated to ascertain between-group [asymptomatic,

symptomatic HIV-positive, AIDS] differences in each domain), Reger, Welsh, Razani, Martin, and Boone (2002) offer the following observations:

1. Compared to seronegative controls, HIV+ patients exhibit relative cognitive deficits that are small in magnitude at the asymptomatic stage and that increase with disease progression. [Motor functioning, executive skills, and information processing speed were among the domains showing the greatest decline from early to later stages of HIV disease.]
2. Domain-specific cognitive decline was detected and deficits resembled a "subcortical" pattern.
3. Although a subgroup of HIV+ asymptomatic patients with conventionally defined [NP] deficits may evidence functional and occupational dysfunction, overall the deficits documented in our meta-analytic study should not affect vocational performance in this group of HIV-infected individuals. (p. 417)

Adherence to Treatment

Lucas, Gebo, Chaisson, and Moore (2002) followed 695 people receiving HIV medical care (including antiretrovirals) over at least a one-year period and found that initiating abuse of heroin, cocaine, or alcohol during the study period was associated with decreases in antiretroviral use and adherence, increases in viral load, and "blunted" increases in CD4 cell counts in comparisons made with those remaining substance-free. Conversely, discontinuing substance abuse during the study period was associated with increased use and adherence and improvements in clinical markers in comparisons made with those who continued abusing substances. Based on these findings, Lucas and colleagues recommend that clinicians treat active substance abuse prior to initiating antiretrovirals and remain alert to relapses and their impact on adherence.

Arnsten et al. (2002) used MEMS (Medical Event Monitoring Systems) caps to measure adherence to antiretrovirals among 85 current and former opiate users living with HIV and found active cocaine use to be most strongly associated with reduced adherence

and, consequently, failure to sustain viral suppression; other factors mitigating against adherence included female gender, not being married, not receiving Social Security benefits, a positive screening for depression, and use of substances as a coping strategy. The median adherence rate among cocaine users was 27% (with sustained viral suppression in 13% of this group), while those who reported no cocaine use over the six-month study period achieved a median adherence rate of 68%, with sustained viral suppression in 46% of non-using participants. By reducing cocaine use, promoting the development of adaptive coping skills, and identifying and treating depression, adherence to antiretrovirals among drug users may be improved, according to these authors.

Similarly, Kalichman, Graham, Luke, and Austin (2002) surveyed and interviewed 163 men and 78 women – community-recruited, largely African-American and, among the men, gay or bisexual – living with HIV and found that one-third were not currently taking antiretrovirals. These individuals, when compared to those receiving treatment, had

Tool Box
Resources
<p><u>Books & Articles of Interest:</u></p> <p>Bockting, W., & Kirk, S. (Eds.). (2001). <i>Transgender and HIV: Risks, prevention, and care</i>. New York: Haworth Press.</p> <p>Bockting and Kirk have assembled the first compilation of work on the worldwide impact of HIV on the transgender community, including targeted prevention interventions and guidelines for the provision of sex reassignment services to transsexuals living with HIV.</p> <p>Carey, M.P., & Schroder, K.E.E. (2002). Development and psychometric evaluation of the brief HIV Knowledge Questionnaire. <i>AIDS Education & Prevention, 14</i>(2), 172-182.</p> <p>Carey and Schroder present an 18-item, self-report measure of HIV-related knowledge that may be used with low-literacy populations.</p> <p>El-Bassel, N., Witte, S.S., Gilbert, L., Sormanti, M., Moreno, C., Pereira, L., Elam, E., & Steinglass, P. (2001). HIV prevention for intimate couples: A relationship-based model. <i>Families, Systems & Health, 19</i>(4), 379-395.</p> <p>El-Bassel and colleagues describe "Project Connect," a manualized, six-session, relationship-based HIV prevention intervention de-</p>

signed with input from ethnically-diverse, heterosexual couples and their care providers.

Fisher, J.D., DelGado, B.P., Melchreit, R., & Spurlock-McLendon, J. (2002). The dynamics of repeat HIV testing, and interventions for repeat HIV testers. *AIDS & Behavior, 6*(2), 183-191.

The authors suggest that different HIV risk dynamics underlie different patterns of repeat HIV testing behavior and offer triage recommendations for further intervention.

Ghalib, K., & Peralta, L. (2002). AIDS and Islam in America. *Journal of the Association for Academic Minority Physicians, 13*(2), 48-52.

Ghalib and Peralta explain religious and cultural beliefs that may influence HIV risk behaviors and their prevention among American Muslims.

Holtgrave, D.R., Gilliam, A., & Gentry, D. (Eds.). (2002). Evaluating HIV prevention programs. *AIDS Education & Prevention, 14*(Suppl. A), 1-128.

A June 2002 special supplement to this journal focuses on formative, process, outcome, and impact evaluation of HIV prevention programs.

Ickovics, J.R., & Meade, C.S. (2002). Adherence to HAART among patients with HIV: Break-

throughs and barriers. *AIDS Care, 14*(3), 309-318.

Ickovics and Meade evaluate "the current state-of-the-science in adherence to HAART."

Kelly, J.A., & Kalichman, S.C. (2002). Behavioral research in HIV/AIDS primary and secondary prevention: Recent advances and future directions. *Journal of Consulting & Clinical Psychology, 70*(3), 626-639.

Kelly and Kalichman review research advances and identify emerging issues for behavioral scientists exploring HIV prevention.

Komiti, A., Judd, F., Grech, P., Mijch, A., Hoy, J., Lloyd, J.H., & Street, A. (2001). Suicidal behaviour in people with HIV/AIDS: A review. *Australian & New Zealand Journal of Psychiatry, 35*(6), 747-757.

The authors review English-language literature on suicidal behavior in people living with HIV.

Langenfeld, M.C., Cipani, E., & Borckhardt, J.J. (2002). Hypnosis for the control of HIV/AIDS-related pain. *International Journal of Clinical & Experimental Hypnosis, 50*(2), 170-188.

Using time-series analysis, the authors describe how five adults living with AIDS-related pain appeared to benefit from a hypnosis-based pain management technique.

higher viral loads, were more likely to be nonwhite, have fewer years of education, a higher level of depression, greater pessimism, substance use in the three months preceding the survey, and to view their own health care and providers more negatively. The authors conclude that interventions designed to engage and retain the untreated in care, coupled with treatment for depression and/or substance abuse, are needed for people living with HIV prior to or concurrent with initiating/restarting antiretrovirals.

Provider Attitudes

Prado et al. (2002) explored the process of engaging 136 HIV-positive, asymptomatic, urban, low-income African-American women into a family-ecological psychosocial intervention and a nondirective psychosocial intervention designed to promote adaptation to HIV infection. While a few participant characteristics (e.g., more distress, more "daily hassles," more social support, and more spousal disagreements) were associated with engagement, "[t]he strongest predictor of engagement was therapeutic alliance, indicating the importance of the alliance between the HIV+ par-

ticipant and the interventionist" (p. 141). Prado and colleagues recommend targeting these areas early on to maximize the prospect of engagement and working hard to foster a genuine, positive relationship with clients from the initial encounter.

Serostatus Disclosure

Robinson (2002) interviewed 87 adults (mainly white, middle-class women) who had lost a sibling (usually, a gay brother) to AIDS. She identified six public disclosure patterns within this sample; in order of frequency, these were: "if asked I tell," restricted, selective, purposeful, protective, and avoidant. Robinson urges clinicians to: identify the pattern of disclosure related to the death of a sibling from AIDS, respect the choice that is made, and share this information with other health care team members; for siblings who choose to disclose under specific circumstances, help them to decide how to disclose and to whom, perhaps role-playing the disclosure scenario; and, for those who choose to disguise the diagnosis, suggest that a consistent response be offered by all family members to forestall potential confrontations regarding

the true cause of death.

Care for Caregivers

Reyland, Higgins-D'Alessandro, and McMahon (2002) studied 60 (mostly African-American and Latino) adolescents between the ages of 11 and 16 living with an HIV-positive mother who were engaged in a treatment program. Within this group, the authors observed relationships between: 1) more caretaking on the part of the adolescent and more family secrecy; 2) an increase in the relative number of family secrets and an increase in the adolescent feeling different from peers; and 3) greater caretaking of mother and greater worry about mother. More generally, the authors note that normative developmental tasks are interrupted for this group of adolescents and unanticipated, HIV-related, non-normative tasks emerge for which they are ill-equipped. As a response to these issues, Reyland and colleagues recommend a group treatment intervention:

[G]roup treatment can be an effective method of intervention for [adolescents living with an HIV-positive mother] be-

Lewis, S.J., & Abell, N. (2002). Development and evaluation of the Adherence Attitude Inventory. *Research on Social Work Practice, 12*(1), 107-123.

"The AAI is a rapid, easy-to-use, theoretically developed [28-item Likert-type scaled] assessment tool measuring constructs shown to be associated with adherence. The constructs provide practitioners with potential points of intervention, expressed as clear, efficiently measurable targets."

Pakenham, K.I., & Rinaldis, M. (2002). Development of the HIV/AIDS Stress Scale. *Psychology & Health, 17*(2), 203-219.

Australians Pakenham and Rinaldis describe the development of a 23-item self-report measure of HIV/AIDS-specific stress.

Pomeroy, E.C., Green, D.L., & Van Laningham, L. (2002). Couples who care: The effectiveness of a psychoeducational group intervention for HIV serodiscordant couples. *Research on Social Work Practice, 12*(2), 238-252.

The authors present findings on a psychoeducational group intervention (i.e., education, support based on cognitive-behavioral and brief solution-focused therapy, and home work assignments) for HIV serodiscordant heterosexual couples.

Rucklidge, J.J., & Saunders, D. (2002). The efficacy of hypnosis in the treatment of pruritus in people with HIV/AIDS: A time-series analysis. *International Journal of Clinical & Experimental Hypnosis, 50*(2), 149-169.

Rucklidge and Saunders present a time-series analysis of a six-session self-hypnosis intervention used by three HIV-positive men to alleviate generalized itching associated with HIV disease progression and/or medications used in their treatment.

Rutledge, S.E., Roffman, R.A., Picciano, J.F., Kalichman, S.C., & Berghuis, J.P. (2002). HIV prevention and attrition: Challenges and opportunities. *AIDS & Behavior, 6*(1), 69-82.

The authors review factors associated with attrition from HIV prevention programming and offer ideas on attracting individuals to and retaining them in interventions.

Strug, D., Rabb, L., & Nanton, R. (2002). Provider views of the support service needs of male primary caretakers of HIV/AIDS-infected and -affected children: A needs assessment. *Families in Society, 83*(3), 303-313.

The authors detail a survey involving 34 Ryan White CARE Act Title IV providers serving biological fathers and other men who care for children infected with and affected by HIV.

Williams, E., & Donnelly, J. (2002). Older Americans and AIDS: Some guidelines for prevention. *Social Work, 47*(2), 105-111.

Williams and Donnelly offer guidelines to assist clinicians providing HIV prevention education to older adults.

Internet Resources:

The National Institute on Drug Abuse (NIDA) has released a new guide on HIV prevention among drug users, available at: <http://165.112.78.61/POHP/Principles.html>

The National Alliance of State and Territorial AIDS Directors (NASTAD) has developed *Starting Up: First Steps Towards the Integration of Viral Hepatitis into HIV/AIDS/STD Programs*, available at: <http://www.nastad.org/pdf/ViralHepModules.pdf>

The Gay and Lesbian Medical Association has released two sets of guidelines on health care for men who have sex with men: *Creating a Safe Clinical Environment for Men Who Have Sex With Men and MSM: Clinician's Guide to Incorporating Sexual Risk Assessment in Routine Visits*. Both are available at: <http://www.glma.org/medical/clinical/>

--Compiled by Abraham Feingold, Psy.D.

cause it facilitates several developmental and therapeutic processes. First, the modality of group is developmentally appropriate for adolescents whose emotional and social needs are less parent-based and more peer-oriented. ... In a group setting, adolescents are given the opportunity to see that others share their fantasies and concerns. The commonality among them breaks down the code of silence and sense of social isolation; the group provides a safe haven and a feeling of intimacy and understanding. ... Second, in a group setting, adolescents model and learn a range of coping strategies. ... The safety and support of a group facilitates the use of interpersonal relationships as a mechanism by which adolescents' emotional needs are met, thereby circumventing their expression through hostility and aggression. ... Finally, the group provides a safe environment in which feelings that have been restricted or contained, due to fear of their deleterious effects, are given voice ... The adolescent is empowered to act more freely because the group is supportive enough to permit this type of emotional risk taking. In addition, reality testing takes place [as members are encouraged to explore their thoughts about death and specifically their thoughts about their mother's death. (pp. 292-293)

Coping Strategies

Vosvick et al. (2002) gathered data from 141 adult volunteers living with HIV and found that greater use of coping strategies that are ordinarily characterized as "maladaptive" (e.g., behavioral and mental disengagement, denial, emotional venting) to deal with the stress of living with HIV was associated with a lower psychological quality of life (i.e., more distress over health problems; poorer mental health and cognitive functioning). These findings reinforce the importance of assisting people living with HIV to develop adaptive coping skills as a response to HIV-related stressors for the purpose of improving psychological well-being.

Heckman et al. (2002) surveyed 201 clients of rural AIDS service organizations in eight U.S. states who had enrolled in a randomi-

zed clinical trial of a telephone-delivered mental health intervention and found that 38% of this sample had suicidal thoughts during the preceding week. This elevated level of suicidal thought was associated with more depressive symptoms, feeling less able to cope, more frequent worry about transmitting HIV to others, and greater stress connected to AIDS-related stigma. As for intervention, the authors write:

In light of the associations among life-stressor burden, coping difficulties, and thoughts of suicide in HIV-infected rural persons, the potential for cognitive-behavioral stress management (CBSM) and coping-effectiveness interventions to enhance the adjustment efforts of this group warrants investigation. CBSM interventions, which enhance coping responses and emphasize relaxation techniques, health habit changes, regular rest and exercise, meditation, and breathing exercises have reduced depression and anxiety and have improved immune system functioning in HIV-infected persons. Similarly, coping effectiveness training (CET) has demonstrated considerable potential to reduce stress and increase coping self-efficacy among depressed HIV-infected persons. CET, frequently implemented in small group settings, emphasizes the correct appraisal of life stressors, the optimal use of problem- and emotion-focused coping, and maximizing the use of social supports to reduce stress and assist coping efforts. Because both CBSM and CET interventions reduce stress and strengthen coping self-efficacy – two factors linked to suicidal thoughts among study participants – the efficacy of these interventions to facilitate the adjustment efforts of HIV-infected rural persons should be explored. (p. 146)

As for the challenges of rural service delivery, Heckman and colleagues note that "telephone-based mental health interventions can overcome the geographic distances separating HIV-infected rural persons, maximize confidentiality, enhance coping skills, and create systems of mutual support for HIV-infected people isolated by the stigma

of their illness and the lack of support systems in their communities" (p. 147).

Meanwhile, in New York City, Simoni, Martone, and Kerwin (2002) interviewed 230 women – chiefly low-income, African-American and Puerto Rican – living with HIV and found that high levels of spirituality as well as high levels of spiritually based coping were each associated with increased HIV-related social support, decreased recent drug use, and general psychological adaptation, a benefit that persisted *even when other forms of coping were controlled statistically.* Although there are methodological limitations to this study (e.g., nonrandom sampling, no comparison with demographically similar HIV-negative women), Simoni and colleagues suggest that "spirituality and spiritually based coping should be explored as part of a strategy of identifying and bolstering cultural strengths" (p. 145) when working with women living with HIV.

Similarly, Siegel and Schrimshaw (2002) interviewed a diverse sample of 63 people aged 50 and over living with HIV and found that "[p]articipants reported a variety of [self-perceived] benefits from their religious and spiritual beliefs and practices, including: (1) evokes comforting emotions and feelings; (2) offers strength, empowerment, and control; (3) eases the emotional burden of the illness; (4) offers social support and a sense of belonging; (5) offers spiritual support through a personal relationship with God; (6) facilitates meaning and acceptance of the illness; (7) helps preserve health; (8) relieves the fear and uncertainty of death; [and] (9) facilitates self-acceptance and reduces self-blame" (p. 91). Siegel and Schrimshaw encourage clinicians to foster the use of this coping resource by exploring how religion or spirituality promote psychological adjustment to HIV and to consider pastoral counseling as an adjunct to more traditional mental health services, particularly when working with older adults.

Drawing on samples of 84 people living with terminal cancer and 78 living with AIDS, Nelson, Rosenfeld, Breitbart, and Galletta (2002) found a strong negative association between spiritual well-being and symptoms of depression. Conversely, religiosity (i.e.,

participation in religious practices) appeared to have no association with depressive symptoms. Based on these findings, the authors suggest that spirituality-based or existential interventions may assist the terminally ill to cope with their prognosis.

Exploring similar territory with those on the other end of the AIDS spectrum, Ironson et al. (2002) compared 79 long-term survivors of AIDS (i.e., those who exceeded twice the median survival time for people diagnosed with AIDS) to 200 people living with HIV who had not received a diagnosis of AIDS on a variety of measures, including a subset of items from the Ironson-Woods Spirituality/Religiousness Index. They found that long-term survivors scored higher on each of four factors ("Sense of Peace" – private spirituality/religiousness; "Compassionate View of Others" – private spirituality/religiousness; "Faith in God" – private religiousness; "Religious Behavior" – public religiousness) than the comparison group of people living with HIV. Additionally, greater frequency of prayer and less religion-based judgmentalism were associated with long-term survival. Higher scores on the Index were also associated with less psychological distress, a greater sense of hope, greater social support, beneficial health behaviors, more helping of others, and lower levels of cortisol (a stress-related neurohormone). Interestingly, while social support may reduce distress, it did not appear to drive the relationship between religious behavior and improved health outcomes in this study. Rather, low cortisol levels and helping others with HIV appear to be links between spirituality/religiousness and long-term survival. The authors conclude that people living with HIV/AIDS may derive health benefits from both organized and non-organized religious or spiritual beliefs and behaviors and that clinicians should assess each area in their work with this population.

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Tool Box

A Note About Content

This publication has been developed to help the frontline provider of HIV-related mental health services, allied professionals, and consumers stay up-to-date on research-based developments in HIV care. The contents for the "Biopsychosocial Update" are drawn from a variety of sources including, but not limited to: the *CDC HIV/STD/TB Prevention News Update* (<http://www.cdcnpi.org/news/prevnews.htm>); the *Kaiser Daily HIV/AIDS Report* (<http://report.kff.org/hiv/aids/>); and periodic literature reviews e-mailed by researcher Robert Malow, Ph.D. at the University of Miami. Other sources of information are identified when appropriate.

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It is presumed that readers have at least a fundamental understanding of medical, psychosocial, and neuropsychiatric considerations for assessing and intervening with people who are living with HIV/AIDS and their families. For additional background information, the following resources may be of assistance:

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