SUPPLEMENT ARTICLE

Impact of Counseling in Voluntary Counseling and Testing Programs for Persons at Risk for or Living with HIV Infection

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Persons with or at risk for human immunodeficiency virus (HIV) infection need client-centered counseling and information about the disease. One of the best opportunities to provide counseling and information is during an HIV testing encounter. New testing guidelines from the Centers for Disease Control and Prevention encourage less counseling before and after testing. We review the evidence regarding voluntary counseling and testing (VCT). There is clear endorsement in peer-reviewed scientific journals for VCT as part of an evidence-based bundle of interventions to prevent HIV infection. For persons who test seropositive, VCT has an impact, but it is hard to uncouple the impact of counseling from that of testing. For persons who test seronegative, counseling in clinical settings has a beneficial impact on risk behaviors and sexually transmitted disease incidence and costs very little to implement. In settings where "typical" counseling is not up to client-centered counseling standards, it should be improved, not abandoned, but we may need to recruit community service organizations and nonclinicians in the health care system to achieve this aim.

The new September 2006 guidelines from the Centers for Disease Control and Prevention (CDC) on HIV testing encourage health care professionals to make testing a routine part of health care delivery for all persons 13–64 years old [1]. The CDC declares that everyone should know his or her HIV infection status, and with an estimated quarter million or more Americans unaware they are HIV positive, this seems a very reasonable position to take. People who do not know they are infected cannot access treatment and are less likely to protect themselves and their partners. HIV testing, however, is just one of many interventions that must be used to confront the AIDS epidemic. Providing people with information about HIV and performing client-centered risk-reduction counseling is crucial and perhaps one of the best opportunities to provide counseling in association with the HIV test. Unfortunately, the new CDC testing guidelines encourage less counseling before and after testing. This is a potentially serious drawback to the new guidelines. Therefore, we review the evidence regarding voluntary counseling and testing (VCT) and consider what should be done if the typical counseling occurring in the field does not meet the standards of client-centered counseling.

COUNSELING AND TESTING AS ONE STRATEGY TO PREVENT HIV INFECTION

We performed a literature search on PubMed, Web of Science, and Google Scholar (using combinations of the terms "HIV," "counseling," "testing," and "prevention") to determine whether HIV VCT is discussed in published reviews of evidence-based HIV-prevention strategies. Indeed, we found that HIV VCT is discussed in reviews published in peer-reviewed scientific journals. Table 1 summarizes interventions that were described in 2 reviews of evidence-based HIV-prevention

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Table 1. Summary of 2 studies on evidence-based interventions to prevent HIV infection.

Study, intervention
Valdiserri et al. [2]
Relating to sexual transmission
Small groups
Counseling and testing
Community level
Structural level
Diagnosis and treatment of sexually transmitted disease
Relating to perinatal transmission
Zidovudine therapy and nevirapine therapy
Breast-milk supplementation
Relating to parenteral transmission
Blood safety
Occupational setting precautions
Programs for injection drug users (behavior change, drug treatment, and access to sterile injection equipment)
Schwartlander et al. [3]
Teacher training and peer education
Male and female condoms
Condom promotion and social marketing
Treatment of sexually transmitted disease
Voluntary counseling and testing
Workplace programs
Transfusion screening
Prevention of mother-to-child transmission
Mass media campaigns
Harm-reduction programs
Peer counseling

interventions. Valdiserri et al. [2] reviewed client-centered counseling and testing alongside a range of interventions for sexual, parenteral, and perinatal transmission. Similarly, Schwartlander et al. [3] included VCT in their review of effective tools to prevent HIV infection (table 1).

Impact of counseling on persons who test positive for HIV. Several studies have examined the impact of VCT on persons who tested positive for HIV. However, no studies have examined the effects of testing alone versus those of counseling and testing in persons living with HIV infection. Hence, because of the focus on the counseling and testing "bundle" (indeed, very few people would recommend HIV testing without also recommending counseling for those who test positive), there is an inherent weakness in the literature that makes it very difficult to determine the incremental impact of counseling alone on people who test positive for HIV.

The impact of counseling and testing combined on persons living with HIV infection is clear and well supported in the literature. Perhaps the best evaluation of this impact is a meta-analysis of 11 different studies that examined the impact of bundling counseling and testing services for persons living with HIV infection [4]. The important finding was an overall reduction of 68% (95% CI, 59%–76%) in the frequency of high-risk sexual behavior between HIV-infected persons and their HIV-seronegative partners. The results were similar for both men and women.

It has also been possible to compare the incidence of sexual transmission of HIV infection for infected persons aware of their serostatus with the incidence for infected persons unaware of their serostatus. Marks et al. [5] reported that persons who knew they were HIV positive accounted for 30%–46% of new cases of sexually transmitted HIV infection in the United States, but persons unaware of their serostatus accounted for 54%–70% of new cases. Recognition that the majority of the 32,000 cases of sexually transmitted HIV infection occurring each year in the United States are caused by persons unaware they are infected is clearly very important to designing and prioritizing strategies to prevent the spread of HIV.

The data described above can be combined with estimates on the background prevalence of HIV infection to estimate the annual rate of transmission between infected persons and their seronegative partners. For persons who know they are infected with HIV, the transmission rate appears to be 1.7%–2.4%, but for persons who are unaware of their infection, the transmission rate is 8.8%–10.8% [5–7].

One can conclude with some certainty that counseling and testing, as a service bundle, can have a major impact on risk behavior and transmission rates for persons living with HIV infection. However, as highlighted earlier, there have not been trials comparing the effects of counseling plus testing with the effects of testing alone for persons who test positive for HIV. The ethics of trial design dictate that such a study is unlikely to be conducted in the near future (i.e., it appears doubtful that a human subjects research review board would allow a study of the impact of HIV testing without requiring that counseling be made available to persons who test HIV seropositive).

Impact of counseling on persons who test negative for HIV. There is currently substantial debate about whether counseling received by persons who test negative for HIV has an impact on the rate of subsequent infection among these individuals. Therefore, we examined the literature on the impact of client-centered counseling (i.e., the impact over and above that of testing) for persons who are HIV seronegative. A landmark study in this area was the CDC's Project RESPECT study, a randomized, 4-arm, controlled trial comparing didactic with counseling interventions [8]. At the time this study was conducted, it was possible to randomize people to receive VCT or to undergo testing without counseling. It was therefore possible to quantify the impact of the counseling component alone. The summary findings showed that the intensity of counseling (i.e., 2 sessions vs. 4 sessions) did not appear to be especially important but that a program involving 2-session, client-centered counseling plus testing was superior to a program involving

testing plus receipt of didactic information (table 2). Receipt of client-centered counseling resulted in more-consistent use of condoms and reductions in the incidence of sexually transmitted diseases (STDs), compared with receipt of didactic information only. The percentage of people reporting 100% adherence to condom use increased during the 6-month follow-up period in the group that underwent testing and counseling. Of importance, the study was conducted in STD clinics, which are covered by the CDC's current opt-out testing recommendations.

The CDC's view of counseling in light of the findings of Project RESPECT is evidenced by a press release from 1998 [9]. Dr. Helene Gayle, who at the time directed the CDC's National Center for HIV, STD, and TB Prevention, stressed the importance of the client-centered nature of counseling, and principal investigator Dr. Mary Kamb made it clear that the brief counseling sessions used in the study had real public health value, were feasible in clinical settings, and cost very little to implement. At the time, this was a very clear endorsement by the CDC of the importance of Project RESPECT and the usefulness of client-centered counseling for seronegative persons at risk for HIV infection (table 3).

The views of persons who are still skeptical of the value of counseling and testing combined for HIV-negative persons seem to be influenced by a 1999 meta-analysis of 27 studies of HIV counseling plus testing [10]. The meta-analysis found that the impact of counseling plus testing on the behavior of people was not significantly different from that for persons who were not tested. The result is generally misinterpreted as suggesting that counseling does not have much impact on persons who test negative for HIV. However, because the analysis compared persons who underwent counseling plus testing with people who were not tested, it could not tease out the intrinsic impact of counseling alone. If the study was an indictment of anything, it was an indictment of counseling plus testing, not of counseling alone. Immediately after this meta-analysis was published, the CDC issued important cautionary advice on the conclusions of the study, claiming that the outcome was not an indictment of the impact of client-centered counseling in clinical settings [11]. The CDC rightly argued that 23 (we say 25) of the 27 pooled studies were published before the CDC issued counseling and testing guidelines in 1993. In support of client-centered counseling, the CDC cited the strong evidence provided by Project RESPECT and added that they "worry that implementation will not take place if readers are unaware that studies published after 1997 have identified counseling approaches that work for persons at increased risk for HIV" [11, p. 1152]. In summary, the meta-analysis by Weinhardt et al. [10] does not provide evidence for or against counseling in and of itself (i.e., over and above HIV testing); further, when the analysis was published, the CDC stated emphatically that it was not relevant to the evidentiary basis for client-centered counseling.

Table 2. Summary of the Centers for Disease Control and Prevention's Project RESPECT study.

Patients
Nearly 6000 persons who presented to sexually transmitted disease (STD) clinics in Baltimore, Denver, Long Beach, Newark, and San Francisco, consented to HIV testing, and were HIV seronegative
Design
Randomized, controlled trial; persons who tested HIV seronegative at baseline were randomly assigned to 1 of 4 intervention arms
Arm 1: receipt of 4 sessions of client-centered counseling; follow-up was conducted at regular intervals for 12 months after enrollment
Arm 2: receipt of 2 client-centered counseling sessions (i.e., 1 before and 1 after they received the test result); follow-up was conducted at regular intervals for 12 months after enrollment
Arm 3: receipt of didactic information only; follow-up was conducted at regular intervals for 12 months after enrollment
Arm 4: receipt of didactic information only; follow-up was not conducted until 12 months after enrollment, in order to control for the possibility that repeated assessments and communication might constitute an intervention
Main findings
No major difference between arms 1 and 2
Intervention in arm 2 was more beneficial than receipt of didactic information
Greater percentage of persons in arm 2 reported highly consistent condom use by 6 months of follow-up
30% fewer persons in arm 2 had an incident STD detected by 6 months of follow-up
20% fewer persons in arm 2 had an incident STD detected by 12 months of follow-up
Results were consistent across the 5 recruitment regions

NOTE. Data are from [8].

There appears to be little other research in the US literature comparing testing alone with counseling plus testing for persons who are HIV seronegative (i.e., studies that would thus allow a specific assessment of the impact of counseling alone). Given the current climate, this is unlikely to change. At present, it would be virtually impossible to conduct studies such as Project RESPECT because institutional review boards would now be informed by Project RESPECT findings regarding what constitutes the standard of care in HIV counseling. Indeed, an exact repeat of Project RESPECT would seem unethical at this stage, given the evidence in the literature.

IMPROVE COUNSELING OR GIVE IT UP?

The CDC has recently expressed concern that quality of counseling typically associated with HIV testing may be substandard in some settings and that it is therefore of little value. However, this means that we have a choice of whether to dismiss counseling or—as many states and localities have done contractually

Table 3. Excerpts from a Centers for Disease Control and Prevention press release on Project RESPECT, October 1998.

"'This study showed that it's not *how much* you talk to people about HIV prevention that matters most—but how you talk to them…,' said [Dr.] Helene Gayle."
"According to CDC, the brief sessions used in this study…are feasible to implement in busy health care settings."
"In this study, the approach was implemented with existing clinic staff, in not much more time than that required for didactic messages, and cost only 8 additional dollars per client to implement."
"'Far too often, prevention programs found to be ideal in research are too difficult and expensive to implement in the real world,' said [Dr. Mary] Kamb. 'With this program, the ideal can be real, with few additional resources.'"

NOTE. Quotations are from [9].

and in program guidelines—to raise its quality to the standard of client-centered counseling, which, according to the CDC, is effective, efficient, and practical in clinical settings. Aspiring to a consistent, client-centered standard of counseling is to be preferred. To do less could be construed as a negligent or harmful act, because withholding an intervention that can reduce incident STDs by 20%–30% appears to violate a basic principle of biomedical ethics.

The question of who in the health care system can help us meet client-centered counseling standards, particularly if clinicians do not have the time, must be explored. We need to be creative. Nonclinicians in the health care system could provide such counseling. Also, there are opportunities for community-based organizations to have much more active roles in counseling and testing, perhaps even in partnership with clinic-based health care professionals to ensure the availability of client-centered counseling and testing. In some respects, these agencies may be in a better position than clinicians, who may be too busy or too inexperienced in behavioral counseling, to develop and deliver counseling services at a client-centered standard.

CONCLUSIONS

Persons with or at risk for HIV infection need client-centered counseling and information about the disease. One of the best opportunities to provide that is during an HIV testing encounter. The new CDC testing guidelines published in September 2006 encourage less counseling before and after testing. We reviewed the evidence regarding VCT; there is clear endorsement in peer-reviewed scientific journals for VCT as part of an evidence-based bundle of HIV prevention interventions. Among persons who test positive for HIV, VCT has an impact, but it is hard to uncouple the impact of counseling from the impact of testing. Among persons who test negative for HIV, counseling before and after the test clearly has a beneficial effect on risk behaviors and STD incidences in real-world settings and is relatively inexpensive. In settings where counseling does not meet client-centered counseling standards, it should be improved rather than abandoned, but we may need to recruit community service organizations and nonclinicians in the health care system to help us achieve this aim.

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