

Positive Communication

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Safe Water in Developing Countries

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Italia Rolle, PhD, RD



Safe water for all

In developed countries such as the United States, unsafe water is not considered a problem and its residents for the most part do not have to worry on a daily basis where they will obtain their drinking water. If one were to travel about 700 hundred miles south to the country of Haiti in the Caribbean (a 2 hour plan ride from Miami), access to clean water is a daily issue for the majority of the residents. Through my work as an epidemiologist working in global health in the African region, I have observed conditions that contribute to unsafe water. In Southern Sudan recovering from war, there is a lack of basic sanitation and public water infrastructure for returning residents. Its neighbor, Ethiopia, is labeled as one of the least developed countries in the world and the majority of Ethiopians live in a rural setting with less than desirable access to adequate water sources. Common waters sources in developing countries do not usually include pumped municipal water supplies but rather boreholes (wells), streams, rivers and lakes. Poverty and

developing countries are linked. If the majority of poor people are in the developing world, how can safe water, a key ingredient for a healthy life be achieved?

Millennium goals

The millennium development goals introduced to the world in 2000 are essential to achieving safe water in developing countries. The goals represent a conscientious effort in the manner in which society has promised to assist developing countries such as those in Sub-Saharan Africa and Asia (1).

There are 8 goals:

1. Eradicate extreme poverty
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

In this issue...

Safe Water in Developing Countries	1
Nutritional Management of HIV and Hepatitis C Virus Infection	3
Interview with Eric Strachan, PhD.....	4
Lifting the HIV Travel Ban.....	6
Book Review.....	11
IDN DPG Year End Report...11	

(See Water, page 2)

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(Water, from page 1)

Safe water is related to more than one of the goals listed above; however, water safety is specifically mentioned as a target under goal 7 (Ensuring environmental sustainability). Under target 10 of goal 7, it is anticipated that by 2015, the number of persons without access to safe drinking water and basic sanitation should be decreased by half (2). The indicators for measuring this target include determining the number of people with uninterrupted access to a good water source and access to adequate sanitation facilities (2).

A 2008 report from the World Health Organization (WHO), “Safer Water, Better Health”, provides a snapshot of the impact of safe water, sanitation and hygiene on health (3). Sanitation, hygiene and safe water are linked as contamination of water is usually linked to inadequate sanitation. In developing countries, defecation in fields and water bodies (streams, lakes) and lack of indoor plumbing contribute to fecal contaminated water sources. In 2006, Sub-Saharan Africa had the least amount of persons using an adequate sanitation facility and accessing adequate water supplies when compared to other regions [Asia, Latin American and the Caribbean, Oceania, North Africa] (4).

Water-related diseases

The more common agents associated with unsafe water and poor sanitation include *Vibrio* bacteria (cholera, watery diarrhea), Hepatitis A and E, enteroviruses (coxsackieviruses), salmonella (thyphi), shigella (bloody diarrhea), *Esherichia coli*, *Campylobacter*, *Helicobacter pylori*, *Entamoeba histolytica* (dysentery), intestinal nematode infections (hookworm), trachoma (river blindness), and schistosomiasis (3, 5). It should be noted that infection can also occur through food and from person to person contact. All persons can contract water-related diseases; however, vulnerable populations such as children less than 5 years of age, pregnant women, immuno-compromised persons (HIV), and the elderly may be at greater risk. An estimate of the burden of environmentally related diseases revealed that half of the malnutrition among children less than 5 years is associated with diarrhea (cholera, shigella, hepatitis) and intestinal nematode infections (6).

Malnutrition is a major issue in developing countries. In healthy persons, contact with some of the agents above may result in none or non-life threatening symptoms but in malnourished persons contact can be deadly. Results of a case-control study in Mozambique indicated that it is probable persons with HIV may have greater odds of contracting cholera when compared to those without HIV (7). The authors recommend more research is needed in this area.

Despite advances in the field of safe water, epidemics continue to occur. In 2009, one would assume that the number of persons dying from water-related diseases should be on the decrease. This is unclear. Although it is improving in developing countries such as those in the African region, there is still a feeling that under-reporting is occurring. In Zimbabwe, as of February 9, 2009, WHO reported that there were 70,643 persons diagnosed with cholera and of these 3,467 had died (8). This cholera outbreak is one of the largest to be reported and documented. The cause of the outbreak is being attributed to a lack of clean water. A European source indicates that the main water company in Zimbabwe had depleted its supplies of aluminum sulphate which is used to treat publicly supplied water (9).

Interventions

There are several point of use techniques (water is treated in the home before use) that have shown success in improving water quality for persons living in developing countries, they include chlorination, coagulation/chlorination, solarization, ceramic filter and biosand filter (10). Chlorination refers to the use of hypochlorite. Coagulation/chlorination combines chlorine and a flocculent as a powder or granules. Solarization involves the use of ultraviolet rays and heat from the sun. The ceramic filter separates out bacteria and other dangerous agents. The biosand filter uses sand to clean unsafe water. Boiling can also be used to disinfect water but wood, coal, and electricity can be expensive. There are several organizations working to promote safe water in developing countries. A pilot project in Haiti (2002-2003) introduced a safe water system (SWS) to the Jolivert community (11).

(See Water, page 8)

Nutritional Management of HIV and Hepatitis C Virus (HCV)

Infection: A Summary of the Food & Nutrition Conference & Expo 2008 Presentation.

Cade Fields-Gardner, MS, RD

Learning Objectives:

The reader will be able to:

1. Identify specific nutrition needs for individuals infected with HIV and/or HCV
2. Assess prevalence of insulin resistance in patients with HCV
3. Discuss nutritional treatment and management of HCV patients co-infected with HIV

Background

The most current statistics available from the Centers for Disease Control and Prevention (CDC) suggest that up to 1.1 million people are living with HIV infection. The presentation of HIV, including viral load and immune destruction, vary widely from person to person. In addition, other risk factors can significantly alter the health of a person with HIV infection. Still, several markers of survival are nutrition-related and morbidity and mortality are significantly related to markers of nutritional status.

There are wide variations in presentation of HCV, with an estimated 15-45% of infections clearing without treatment. This leaves between 55-85% who may develop chronic HCV infection. Just as with HIV, morbidity and mortality are influenced by nutritional status.

The prevalence of HIV and HCV co-infection is estimated at approximately 15-30%. Higher levels of prevalence, between 50-90%, are estimated within the subgroup of injection drug users. HCV-infected populations have higher prevalence of steatosis and insulin resistance. However, insulin resistance has not been associated with fibrosis in co-infected patients and may not be a significant factor in the progression of HCV-related liver disease. HCV clearance and treatment response may be seen less frequently in co-infection with a more rapid progression of liver disease and decompensation. Patients with co-infection are more likely to develop fibrosis and other symptoms and tend to have a shorter survival time after liver

decompensation. However, the natural history of HCV in long-term HIV infection may be less severe than originally thought. For instance, the prognosis for co-infected patients may be better than is thought for HCV-related cirrhosis. Co-infected patients may also have down-regulated intrahepatic cytokine expression, which can limit effective clearance of HCV from the liver.

Nutritional Risks and Assessment

Standard nutritional assessment parameters should be considered in evaluating patients with HIV/HCV co-infection. In addition, specific evaluation may include stages of disease and condition that may increase nutritional risk and require alterations in or different nutritional strategies. Standard evaluations may include:

- Body weight and changes, body mass index, other anthropometry, body composition
- Physical examination
- Biochemistry, especially for stage of disease, markers of nutritional status, alterations in metabolism
- Dietary adequacy, including psychosocial and economic factors that affect access to health care, food and nutrition security, food-related skills and resources

Chronic infection with either HIV or HCV leads to chronic inflammation, which presents a constant assault on nutritional status. The combination of the infections and the multiple treatments required for co-infected persons can compound nutritional risk. In addition, nutritional risks related to more vulnerable populations with co-infection who have poor access to health care and limited resources can complicate adequate treatment and improvement and maintenance of nutritional status.

Chronic inflammation challenges normal metabolism and tends to promote a wasting process. While this cycle is essential to maintain immune responsiveness, it can also become detrimental to the maintenance of nutritional status. Nutrition-related therapies are often

aimed at blunting the damages caused by the inflammatory response to chronic infection.

Alcohol and other liver-toxic substances can exacerbate liver damage. Treatments for HIV infection should consider the presence and progression of HCV co-infection and treatments for HCV infection should consider the immune destruction and other status markers for HIV infection.

Medications

The medication treatments of both HIV and HCV can cause additional complications. HCV treatments include interferon with ribavirin, which can adversely affect immune response. Medication treatments that are commonly used in HCV co-infected patients to treat HCV and side effects include pegylated interferon with ribavirin, filagragstim and pegfilagragstim, epo-a and darbotoetin-a, and antidepressants. Dietitians should be aware of potential interactions between medications and nutrients. For example, ribavirin can interact with didanosine, stavudine, and zalcitibine to increase the potential for lactic acidosis.

In general, HCV treatment options include early treatment whenever possible. The aim of treatment is to clear the virus, stop or slow liver damage, and support quality of life. Combinations of medications are used and symptoms related to treatments should be part of the treatment plan. Patients must maintain adequate hydration and avoid alcohol and other liver toxic substances. Medication interactions leading to nutritional compromise, such as nausea, vomiting, weight loss, anemia/neutropenia, mouth sores, metallic taste and other symptoms that interfere with nutrient absorption and utilization, should be treated as part of the care plan.

HIV treatment is a strong factor in the management of HIV/HCV co-infected patients and is individualized according to patient presentation and priorities. The treatment aim in HIV infection includes reduction of viral load, improvement of immune status

(See Hep C, page 9)

Interview with Eric Strachan, PhD

By Lisa Ronco, MS, RD, CDN

[Please explain your role at the University of Washington School of Medicine.](#)

My title is Acting Assistant Professor in the Department of Psychiatry and Behavioral Sciences. My role is to develop new and interesting research, secure funding for that research, and publish it. In addition, I have clinical, administrative, and research duties. Most relevant to this conversation, I spend one day per week doing psychotherapy with men and women who are HIV-positive.

[Please explain to our readers, what is Motivational Interviewing?](#)

Motivational Interviewing (MI) is a technique developed by Stephen Rollnick, PhD and William Miller, PhD. They define it this way: “Motivational interviewing is a directive, client-centered counseling style for eliciting behavior change by helping clients to explore and resolve ambivalence.” (Rollnick S., & Miller, W.R. (1995). What is motivational interviewing? *Behavioural and Cognitive Psychotherapy*, 23, 325-334.)

[How did this technique arise?](#)

I hope you don't mind if I cop out and send you here for more info:

<http://www.motivationalinterview.org/clinical/whatismi.html>

[Is it appropriate to use with all patients?](#)

Yes, but of course its major use is with patients who are expressing significant ambivalence about making important changes in their lives. Those folks are the ones for whom MI was developed.

[How do you use this technique in your practice?](#)

This is a technique that can be integrated seamlessly into clinical practice of any kind. Because I do psychotherapy, I use MI to help clients engage in behavior change relevant to mental health and wellness. Two kinds of situations come

to mind immediately. The first is the most obvious. A client has expressed discomfort with some aspect of his or her life, but is not yet committed to behavioral change (e.g., “I know I should exercise more, but...”). The second is when I have an implicit therapeutic goal that isn't yet part of the conversation I'm having with a client (e.g., “This person really needs to exercise more as part of their overall efforts to feel better and have more energy.”). In either case, I want the client to express his or her own ambivalence and then express his or her own motivated strategies for change. I'm always asking questions to understand goals and obstacles to change. But once a client has expressed ambivalence, I keep coming back to it to ensure that the “tension for change” stays fresh on his or her mind.

[Do you have to be a therapist to use this type of interviewing?](#)

Not at all. It's an effective interview technique in situations where behavior change is the expected outcome. The advantage is that it isn't directive or coercive, which are two techniques that rarely succeed in generating long-term change. So, anyone who works with people in the context of making changes in their lives would benefit from knowing and using MI.

[Any suggestions as to where a non-therapist can get more information or training in Motivational Interviewing?](#)

Google it. There are a million articles, trainings, and resources, so it's a matter of finding what you're looking for. There are also a series of very good books published by Guilford and authored by Miller, Rollnick and others.

[What is the five-factor personality model that you spoke about during your lecture at the ADA Food & Nutrition Conference & Expo \(FNCE\)?](#)

The five-factor personality model is based on the hypothesis that the most salient and socially-relevant individual

differences among people eventually become encoded in language. To say that less formally, people have been describing the things that make us the same as and different from each other for as long as there has been language. So, researchers thought we might learn some things about personality by looking to the words we use to describe ourselves and others. Using fancy statistical techniques, various research groups have narrowed the field into five stable personality traits. The five factors are: Neuroticism (emotional instability/tendency to experience negative emotions), Conscientiousness (conventionality/impulse regulation), Extraversion (external engagement), Agreeableness (concern with social harmony), and Openness to Experience (imagination and creativity).

In general, a large amount of literature on neuroticism and conscientiousness has demonstrated important effects on health outcomes. Neuroticism is thought to be an index of autonomic nervous system reactivity and the tendency to have negative emotions. It also seems to be associated with more frequent negative life events, and greater reactivity to those negative events. Neuroticism may also predispose to certain kinds of coping strategies. In other words, neuroticism may determine stress exposures and attributions to an important degree. What's interesting is that although neuroticism has been tied to poor health outcomes, both neuroticism and factors associated with neuroticism have occasionally predicted positive health outcomes and lower mortality. That may be in part because some people who have high neuroticism engage in an unhealthy lifestyle, lose sleep, and have a lack of social support. All of these behaviors can increase the risk of poor health, while others enjoy better health based on health-related vigilance and treatment adherence.

Recent research points to conscientiousness as the personality trait that interacts with neuroticism to influence health outcomes. Conscientiousness is typically
(See Interview, page 5)

(Interview, from page 4)

thought of as conventionality, reliability, orderliness, and industry and has a tangible protective health effect for persons high in neuroticism. Among people high in both neuroticism and conscientiousness, mortality and other health risks were significantly reduced or eliminated compared to those high in neuroticism, but low in conscientiousness. Moreover, conscientiousness itself has been negatively associated with different health behaviors that are among the leading correlates of mortality.

I think doing brief measurements of personality might help in clinical practice because the provider can talk to the person who is seeking help about what their natural tendencies might be (strong versus weak emotional reactions, being organized or disorganized, etc.), how to anticipate obstacles based on those tendencies, and how to act in the most effective way, even if it's not the way someone would typically act. It can be hard to "act as if" but there is more and

more evidence people whom act optimistically experience the health benefits of optimism just as much as people who are naturally optimistic.

One of your areas of specialization and interest is therapy in HIV/AIDS. Any particular reason you chose to work with this population?

To be perfectly honest, I started working at the Madison Clinic because it was one of the few post-doctoral fellowships open to me that didn't require moving away from Seattle. The interaction between stress and health has since become a major focus of my research but at the time it was a lucky accident.

As nutrition professionals, we are always counseling our patients to make healthier choices, providing nutrition education and other interventions. I find that often I am doing more counseling with them as a step in the process of

change. Can you offer us some advice in assisting our patients in this process? Would motivational interviewing be of assistance here?

I believe MI should be a major component of the efforts you described. Another useful model is Prochaska and DiClemente's "Stages of Change" model. The Stages of Change model is about meeting people where they're at so you're doing your MI in a way that fits how ready the person is to make changes. In other words, if someone is in "Precontemplation" mode (i.e. they haven't yet expressed a desire to change), you don't want to use MI to elicit behavioral changes. If someone hasn't yet described a problem and a need for change, any plans for new behaviors are going to fall on deaf ears. Instead, you'd be using your MI to elicit a description of the problem and some initial targets for change.

(See Interview, page 8)

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Lifting the HIV Travel Ban in the United States

Forward by Jenny Torino, MS, RD

Keeping current with legislation affecting our profession, such as the Ryan White Care Act, Medical Nutrition Therapy and licensure for dietitians can be all encompassing. However, legislature connected with housing services, employment and travel in the United States affect the nutrition and overall health of people living with HIV/AIDS as well.

Regulations beginning in 1987 along with a 1993 statutory bar in the Immigration and Naturalization Act bar HIV-positive noncitizens and nonresidents from entering the U.S. This travel ban for people living with HIV/AIDS (PLWHA) prevents undocumented people from gaining U.S. citizenship except under extremely limited circumstances and discourages undocumented people from seeking medical care for fear of a possible HIV diagnosis.

Removal of language referring to the travel ban in the renewed Emergency Plan for AIDS Relief, signed by President Bush this summer, marks progress in the lifting of the ban. On September 29, 2008, the Department of Homeland Security finalized a rule streamlining the eligibility process for HIV-positive people to enter the US. Unfortunately, that rule failed to lift the ban. HIV/AIDS continues to be on the Department of Health and Human Services (DHHS) list of “communicable diseases of public health significance,” which requires regulatory change. The DHHS has indicated they are moving toward this change, which is looked at as the final step in lifting the travel ban.

Following is a letter by an anonymous HIV-positive person who has been directly impacted by the travel ban. The letter was read at a satellite session during the XVII International AIDS Conference in Mexico City, hosted by Gay Men’s Health Crisis. The August 3, 2008 session was titled “Undermining Public Health and Human Rights: The United States HIV Immigration and Travel Ban.”

Dear Friends:

Allow me to begin by thanking the members of the panel and those in attendance for your interest in those of us who have been pushed to the margins by the HIV travel and immigration bar.

Those of us “without voices” depend on those of you “with voices” to speak for us, to defend us, since we cannot show our faces and certainly dare not speak without risking the worst kind of trouble.

I was born in Buenaventura, Colombia, and am the oldest of several children. As many of you know, Colombia is a country with a long history of violence and corruption—violence and corruption born of oppression and desperation and insecurity and greed.

Systemic violence and corruption mean unstable and unreliable government, and distortion and stress in the way people manage their life, raise their children, feed themselves, plan for the future, negotiate their way through the day, and even take care of their health.

Inevitably, violence and corruption lead to hunger and poverty, and that of course is what it meant for my family.

My family was poor and my parents were unable to adequately feed themselves or their children. When this happens in a family—and it happens every day all around the world—children are forced from the expectations of childhood—from school, from games, even from mischief—towards other expectations, the expectations of grown-ups.

As the oldest child, I was asked at a very early age to help my parents meet their obligations to the family. I say “ask” but no one really asks—poor children everywhere do what they must for the family.

In time, like so many other people in this part of the world, I turned my attention northward, to the United States. In

1984, in an effort to help my family in Colombia lead a better and more stable life, I moved to New York. Like millions of others who make the trip north, I engaged in odd jobs paying small wages. Naturally, I spent as little money as possible, sending the rest to my family in Colombia.

One lucky day I found a job as a cook in a Spanish restaurant. Having washed what seemed to me to be every dirty dish in New York City during the previous two years, it never occurred to me that I would like cooking or that I might have a talent for it.

As it turned out, my employer was thrilled with my newly-discovered skills, with the result that he decided to sponsor me for a green card. I, too, was thrilled, since a green card would mean lawful residence in the United States, and lawful residence meant freedom, the freedom to work, especially, the freedom to show my face, and, at some point in the future, the freedom to bring my family to the United States.

It took about two years, but, finally, the immigration authorities scheduled a green card interview for me. The interview was to take place not in New York but at the American Embassy in Bogota, Colombia, as then required by American law. It would be my first flight home, and, unlike most trips home by undocumented immigrants, it would be a flight free of the fear of apprehension or deportation. If I was nervous, it was because I was so excited about getting a green card.

(See Travel Ban, page 7)

(Travel Ban, from page 6)

I made the necessary arrangements and waited for the appointed day. And then the unexpected happened: just a few weeks before my flight to Bogota, I fell ill. The illness was serious and required hospitalization. Unable to determine the cause of the illness, my doctors recommended that I get tested for HIV, which I did. The results were positive. I was devastated.

Despite my illness, I was released from the hospital in time to make the flight to Colombia. HIV or no HIV I wanted my green card.

But my doctors' bad news about my health was made all the worse by bad news from my immigration lawyer. It turned out that my newly-diagnosed HIV status meant that I would not be able to travel to Colombia for my green card interview. This is because HIV-positive individuals are barred from entering the United States.

If I were to keep my appointment in Colombia, I'd be unable to return to the United States, to my hoped-for new life, to what I supposed would be a new future. Flying to Colombia would mean having to remain in Colombia, which was unthinkable—not only because of the stigma that attaches to HIV in Colombia—but because I'd lose access to HIV medications. I had no choice but to cancel the green card interview.

Unable to keep my green card appointment, I naturally lost my job. Soon I was back to doing odd jobs, and like millions of other undocumented individuals, I went back to living a quiet and unnoticed life on the margins, hoping, the way all the undocumented do, for a change in the law.

Sometime later rumors began to fly—as they always do in the undocumented community—about pending changes in the law that would allow an undocumented immigrant to file for a green card. Surprisingly, the rumors turned out to be true, and soon the laws were changed to permit undocumented immigrants to adjust status and file for a green card.

But there were two obstacles: first, the

new law required a sponsor, either an employer or an immediate relative living in the United States—I had neither; and, second, the new law required HIV-positive individuals—even those with sponsors—to get a special waiver before obtaining a green card. As it turned out, I did not meet the requirements for the special waiver.

Once again, my dream of getting a green card was frustrated by my HIV status.

It is now 24 years since I moved to New York. I live in a state of anxiety and frustration. I can glimpse the life I want—in fact, it is all around me—but I can't live it.

My frustration is deepened by the fact that I live in fear of being apprehended—perhaps as a result of some chance encounter on the street, or because of a traffic accident, or as the result of a raid on my workplace.

If apprehended, I will of course be deported.

In recent months, I have become progressively sicker. I survive only because of the HIV medications that are available to even undocumented immigrants in New York City.

In Colombia, of course, these drugs are either unavailable or unaffordable.

Between the unavailability of HIV medications and rampant stigma—not to mention the threat of violence—life in Colombia is still not an option for people like me.

It has been a long time since I visited Colombia. Naturally, I miss my family; but I am not free to visit them. Any trip through customs would likely result in detention and deportation. And even if I had a visa, I'd be afraid of having my luggage searched, since travelers carrying HIV medications can be detained and turned away by American customs officials.

Still, I remain in the United States because it is the only sure way to stay alive. I know that if I were not HIV-positive I would likely have gotten a green card a long, long time ago. In fact, I

probably would have been an American citizen by now, and I would surely have brought my family out of poverty.

It is, of course, good news that the United States may soon do away with the HIV bar. Unfortunately, the repeal of the bar, should it happen, will not help those of us who are what they call “out of status”—that is, those of us who have overstayed our welcome. This is because individuals who are out of status will likely have to return to their native country for a minimum of ten years before they qualify for so-called legalization. Ten years is a long time to be without medication—for some of us it will be too long.

At any rate, whatever improvements are made in the law, whatever benefits accrue to those of us who are *persona non grata* because of our health status, it will be because of all the good work done by panels like this and advocates like you. Thank you for listening to my story.

Sincerely,
Anonymous

(Water, from page 2)

The intervention consisted of providing families with an adapted bucket fitted with a lid and spigot and a solution of sodium hypochlorite for disinfection. An evaluation of the project indicated it was successful in reducing water-related diseases and the project is currently being expanded in Haiti. A joint project between the Centers for Disease Control and Prevention (CDC) and Proctor and Gamble is the PUR filter packet. A PUR packet can clean 10 liters of water by removing dirt, bacteria and protozoa. It has been shown to reduce diarrhea in developing countries by 90% (12).

In addition to the safe water techniques, there is now a push for health organizations in developing countries to bundle interventions. This is due in part to the relationships observed between malnutrition and infectious diseases. The Nyando Integrated Child Health and Education Project in Kenya bundle includes SWS bleach solution for water treatment, insecticide-treated bednets, education on hand washing with soap, Sprinkles (micronutrient powder) and treatment of worms with albendazole (13). The Nyando project was implemented in 2007 and it is anticipated that results should be forthcoming.

Note: This article provides a **basic** perspective of safe water in developing countries for dietitians who are interested in working in global health settings. Water can also be contaminated by chemicals which were not discussed. For additional information, consult the references provided.

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(Interview, from page 5)

See http://www.cellinteractive.com/ucla/physician_ed/stages_change.html.

You have written many articles based on your research. One of the articles in particular I found quite interesting and thought our readers would as well. Please elaborate on the article you authored: "Disclosure of HIV Status and Sexual Orientation Independently Predicts Increased Absolute CD4 Cell Counts Over Time for Psychiatric Patients"

Aside from the decidedly ungrammatical title that I now regret, I really like this article. Previous research had already shown that "Psychological Inhibition" (which basically amounts to keeping secrets about things that are central to who you are as a person) is a form of chronic stress. As most of us know, chronic stress is very bad for our immune system. This had been shown to be true for gay men who concealed their sexual orientation. In other words, gay men who were in the closet experienced worse HIV and non-HIV related health outcomes than those who were open about sexual orientation. We just took that basic idea and asked whether being open about HIV status had the same impact. It turns out that it did. So, we think it's an important idea even if we're not entirely sure how to handle it clinically. I say that because we can't just tell people to run out and disclose their HIV status. There are issues of stigma, social connectedness, fear, etc., that impact decisions about disclosure. So it's an important area that should be the focus of more research.

(Hep C, from page 3)

markers, disease control, and complication treatment. Antiretrovirals, antibiotic/antiviral therapies, and symptom management can each affect nutrient intake, absorption, and metabolism. HIV medications with potential for worsening of liver damage are shown in Table 1. Even immune reconstitution processes can worsen liver inflammation, which is a special concern with hepatitis B co-infection.

(See Table 1- page 10)

Nutrition-Related Recommendations

Goals for nutrition intervention include the maintenance of appropriate weight levels and restoration of lost weight. Because obesity is associated with fatty liver, the prevention and treatment of obesity will be an important feature of nutritional management for co-infected patients. Patients should be advised to avoid alcohol and stop smoking.

Dietary Recommendations

Diet recommendations are aimed at both normalizing nutrient intake and compensating for alterations in absorption and utilization. In patients with co-infection, dietary recommendations will vary by the level of liver damage and other medical conditions. Energy requirements may be increased. However, in cases of obesity, adequate intake with a weight loss goal may be required. Protein requirements may also be increased and it has been suggested to include recommendations for low-iron sources of high quality protein in cases of more severe liver damage. Recommendations for altered fat intake may be required to reduce risk for and assist in treatment of steatorrhea. Different dietary strategies may be appropriate for patients with acute, chronic, and compensated cirrhosis as opposed to liver decompensation and transplant.

Because of the higher likelihood of insulin resistance and pre-diabetes, diet modulation may include the control of blood sugar. In some cases, consideration will be required for level of renal function and hepatic bone disease. Strategies to minimize treatment-related side effects may include alterations in food and nutrient intake and is aimed at both

reducing the potential for damage by disease and its treatment and improving quality of life. Disease-specific conditions, such as ascites, may also require dietary modulation.

General recommendations for nutrient-based supplements include considering the need for a balanced multivitamin/mineral supplement and the assurance of adequate vitamin D, folate, magnesium, calcium, selenium, zinc, and others. In cases of steatorrhea, alternate water soluble sources of fat-soluble nutrients (particularly vitamins A, D, E, and K) may be required in supplemental forms. Caution should be taken with supplementary iron, vitamin A, vitamin C, and other single nutrient supplements at levels that may approach or exceed tolerable upper limits.

Dietary recommendations may include:

- Individualized, balanced diet and adequate hydration
- Emphasizing high quality protein sources
- Lower iron sources of foods/nutrients
- Emphasizing foods with high levels of antioxidants, fiber
- Evaluating intake of fat, salt, sugar
- Avoiding alcohol, smoking cessation
- Using caution with dietary supplements

Nutrition-Related Complementary and Alternative Medicine (CAM)

Just as with medications, CAM treatments should be evaluated for potential hepatotoxicity and interactions, both alone and with other treatment strategies. Caution and close monitoring will be key features of evaluating recommendations for CAM therapies in co-infected patients.

(See Table 2- page 10)

Resources for clinicians and patients:

HIV/AIDS

HIV-Specific Patient information from Tufts University Nutrition/Infection Unit <http://www.tufts.edu/med/nutritioninfection/hiv/health.html>

HIV Nutrition ReSources <http://www.hivresources.com/>

HIV Background and Updates <http://hivinsite.ucsf.edu/insite?page=md-daily-diet>

AETC National Resource Center: Clinical Manual Nutrition http://www.aidsetc.org/aidsetc?page=cm-202_nutrition#t-9

AIDS Project Los Angeles Nutrition Fact Sheets <http://www.apla.org/programs/nutrition.html>

San Francisco AIDS Foundation Nutrition Background and Primer http://www.sfaf.org/beta/2006_win/nutrition.html

Hepatitis C

Dietitians of Canada: Hepatitis C Nutrition Care Guidelines <http://www.dietitians.ca/resources/resourcesearch.asp?fn=view&contentid=2516>

Background on HCV – slide show http://www.health.gov.on.ca/english/providers/program/hepc/hepc_pdf/hcv_screen.pdf

HRSA Guide 2006 <http://hab.hrsa.gov/publications/August2006/>

NIDDK/NIH Guidelines for HCV Treatment: <http://digestive.niddk.nih.gov/ddiseases/pubs/chronichepc/#j>

Hepatitis C Treatment Side Effect Management Tips http://www.hepatitis.va.gov/doc/va02-pt/side_effects_chart.doc
HCV Advocate Fact Sheet on CAM http://www.hcvadvocate.org/hepatitis/factsheets_pdf/CAM_glossary.pdf

HCV/HIV Co-Infection

Prognosis of HIV-HCV Co-Infection for HCV-Related Cirrhosis <http://www.actions-traitements.org/spip.php?breve4490>

(See Hep C, page 10)

(Hep C, from page 9)

Natural History of HCV Progression in Long-Term HIV Infection
2008 abstract: <http://www.springerlink.com/content/1727823123731517/>

Use of Bioelectrical Impedance Analysis in HIV/HCV Co-Infected Patients (JPEN Poster)
http://findarticles.com/p/articles/mi_qa3762/is_200501/ai_n9520925/pg_5

Patient Education Article by Alan Lee, RD
http://www.lagaycenter.org/site/DocServer/Hepatitis_C_from_Alان_Le_e_RD.pdf?docID=1166

Coping with Hepatitis C Infection (HCV) & HIV by Charlie Smigelski, RD
<http://www.eatupbooks.com/hc.html>

Do you want to get more involved in the IDN DPG?

Do you want to meet people in the field and keep current on the most pressing topics in our specialty?

Positive Communication is looking for a new editor and members interested in co editing.

Contact Jenny Torino, MS, RD at jennytorino@mac.com or Jennifer Eliasi at jenneliasi@aol.com for more information.

Table 1. Examples of Hepatotoxic Antiretroviral Medications

Medication	Potential interaction
Didanosine (ddI), Stavudine (d4T)	Mitochondrial toxicity leading to steatosis
Nevirapine	Possible hypersensitivity, liver damage
Ritonavir (full dose)	Direct liver damage
Atazanavir, Indinavir	Elevated bilirubin (does not reflect liver damage)

Table 2. Examples of Potential Interactions with CAM Therapies

Supplement	Comments
Milk thistle (silymarin) (200-400 mg of 70-80% silymarin in divided doses 2-3 times daily)	Showed mixed results; may have mild laxative effect; nausea, diarrhea, bloating, caution with allergies; may interact with cytochrome p-450 metabolized substances; potential interaction with hormonal therapy, antibiotics, lipid-lowering medications, and others
Glycyrrhizin (licorice root) (no established doses, and should not be used continuously)	Avoid with liver disease (especially cirrhosis), renal disease, and diabetes; nausea, vomiting; may interact with corticosteroids, antidiabetic medications, anti-rejection medications, hormone therapy; possible reduction of liver enzymes, protection against HCC, often included in combinations of herbal supplements; associated with hypertension and may worsen ascites (used by non-responders to interferon treatment)
Ginseng (100 mg, 1-2 times daily; should not be taken continuously)	Not well studied in HCV; may alter liver function tests, blood glucose levels, and blood pressure; may decrease blood clotting; not for use with hypertension; may interact with cytochrome p-450 metabolized substances
Ginger root (1-4 grams of fresh or dried ginger daily)	May alter coagulation test; avoid using with high doses of calcium
α-lipoic acid (20-30 mg/day general and antioxidant use; 800-1800 mg/day for diabetes and neuropathy)	Used to improve blood glucose levels in type 2 diabetes, neuropathy; claims remain unproven and it may interact with drugs metabolized by the liver; few side effects; some discourage use with hypothyroidism (may lower thyroid levels) or thiamine deficiency

* Tables 1 and 2 created by the author

Book Review by Jül Gerrior, MA, RD

Nutrition Management of HIV and AIDS; American Dietetic Association

Editors: Kristy Hendricks, ScD, RD, Kimberly Dong, MS, RD, and Jül Gerrior, MA, RD

This book is a comprehensive review and timely resource for registered dietitians (RDs), nutrition professionals, and health care providers working with individuals infected with human immunodeficiency virus (HIV). What was once a disease with little to no treatment options, HIV and acquired immunodeficiency syndrome (AIDS) is now considered a chronic, manageable disease in regions where access to highly active antiretroviral therapy is available. Advances continue to be made in our understanding of how to treat and manage HIV; however nutrition challenges remain. Although viral suppression and standard clinical outcomes may be obtained, some patients may continue to be confronted with HIV associated weight loss and metabolic and body shape abnormalities. This book explores these complex issues in detail and outlines appropriate nutrition intervention strategies.

The publication draws upon the invaluable expertise of the contributing authors, each producing relevant guidelines for RDs and other health care providers looking for sound, scientific evidence in the current literature. The chapters are divided into topics by authors' specialties. The book begins with an overview of the AIDS epidemic (Chapter 1) followed by a review of the currently available antiretroviral therapies and their implications on nutritional health (Chapter 2). As individuals with HIV are living longer, Chapter 3 is devoted to applying general healthy living guidelines for this population. The many nutrition challenges that are predominant in the current era of HIV are captured in chapters 4 through 8 and include weight loss and wasting (Chapter 4), fat deposition (Chapter 5), fat atrophy (Chapter 6), dyslipidemia (Chapter 7), and insulin sensitivity (Chapter 8). Dietary supplements, often used in this population; are reviewed and evaluated (Chapter 9). The final three chapters focus on special

considerations of infants, children and adolescents (Chapter 10), injection drug users (Chapter 11), and the elderly (Chapter 12). A useful list of resources to both individuals living with HIV and professionals is detailed in the appendix.

This manual will be indispensable to any health care provider working with this population. Details on how to purchase the book can be found at the American Dietetic Association website: http://www.eatright.org/cps/rde/xchg/ada/hs.xml/shop_18864_ENU_HTML.htm

Non-member Price: \$33.00 + shipping and handling

Member Price: \$25.50 + shipping and handling

About the authors:

Kristy Hendricks, ScD, RD is an Associate Professor at Dartmouth Medical School, Hood Center for Children and Families in Lebanon, NH and an affiliated faculty member at Tufts University School of Medicine, Boston, MA. Dr. Hendricks' research focuses on nutrition and HIV as well as nutrition and maternal health. She has devoted her career to understanding the association between dietary pattern and disease.

Kimberly Dong, MS, RD is a Project Manager at Tufts University School of Medicine in Boston, MA. Kim's initial research experience was implementing a diet intervention to treat the metabolic issues associated with HIV infection. She currently manages 3 research projects that have domestic and international sites. These projects focus on nutrition related issues with drug users and individuals with HIV as well as cardiac risk factors associated with HIV.

Jül Gerrior, MA, RD is a senior research dietitian and research coordinator at Tufts University School of Medicine in Boston, MA. During the past 13 years, Jül's work has been primarily with the HIV population both in the research and clinical setting. Her most recent project involves cardiovascular risk in HIV including the use of omega 3 fatty acids for patients experiencing dyslipidemia. Details of the study can be found at the following website: <http://clinicaltrials.gov/ct2/show/NCT00795717>

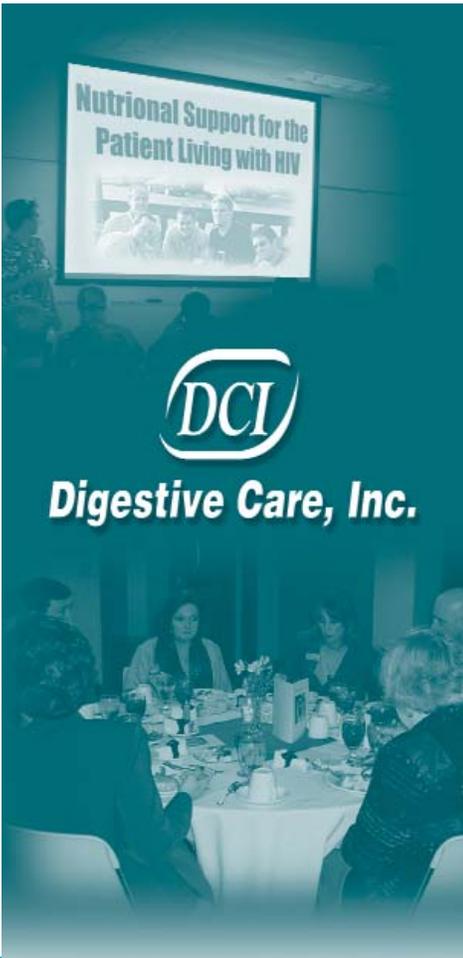
IDN DPG Year End Report

The 2007-2008 year was an exciting one for the Infectious Diseases Nutrition Dietetic Practice Group (formerly the HIV/AIDS Dietetic Practice Group). With Barbara Craven as chair, the Executive Committee met in the Spring of 2007 in Austin, Texas to discuss future activities and the mission and vision of the DPG.

The DPG has 371 members as of October 2008. IDN DPG has incurred a \$14000 revenue which we intend to invest in website improvements, future seminars and additional member benefits.

The group attended the Food & Nutrition Conference & Expo in Philadelphia, PA. It was a busy week for members. There was a reception to launch the week and a meeting of the Executive Committee. We held our first Pre-conference institute and were extremely pleased with the turn-out. In addition, we were lucky to have our very own member, Alan Lee, RD, CDE, CDN, CFT speak during the Priority Session: HIV Patients: Metabolic Morphisms and Nutrition Therapies with Todd Brown, MD.

The Executive Committee is very inspired to continue to deliver quality programs and more education in the future.



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