

Positive Communication

HIV/AIDS
a dietetic practice group of the
eat right. American Dietetic
Association

The quarterly newsletter of the HIV/AIDS Dietetic Practice Group

Motivation: The Key Ingredient in Changing the Eating Behaviors of People Living With HIV/AIDS

Vol. 13, No.2
Summer 2008

By Kate Sapadin, Ph.D.

The HIV/AIDS pandemic has shifted and mutated in a process that seems almost parallel with the mutation of the virus itself. In the 26 years since *The New York Times* published the first article about HIV/AIDS in the American press, the virus has morphed from a “homosexual disorder” to one that disproportionately affects the poor, communities of color, and substance abusers in the United States (1). Service providers working with people living with HIV/AIDS (PLWHA) in the U.S. have had to adapt to these changes in the population, tailoring interventions specifically to the needs of the communities in which they work.

Trial and error, professional experience, and a great deal of empirical data indicate that interventions designed to change behavior in PLWHA that are not delivered in a culturally and personally relevant context are doomed to failure (2). Furthermore, it is evident that simply providing education about the benefits of safer behavior and the risks of unhealthy behavior is not an effective way to bring about the desired changes in affected communities (3). There is a growing consensus among medical, mental health, and substance abuse service providers that in order to successfully modify an individual’s behavior, one must first

assess and strengthen that individual’s readiness and desire to change. Indeed, interventions designed specifically to increase an individual’s motivation to change have been effective in promoting positive changes across a wide range of behaviors, from reducing substance abuse to improving diet (4).

Given the crucial roles of essential nutrients in the immunological functioning of PLWHA, interventions that encourage positive changes in the dietary habits of this community are critical. However, the challenge to significantly change the eating patterns of people experiencing multiple stressors such as poverty, substance abuse, unstable housing, and lack of social support in addition to a chronic and life-threatening disease often seems insurmountable. The good news is that one intervention, motivational interviewing, has proved to be a particularly effective method to modify eating habits in a variety of populations (5,6).

The principal architects of motivational interviewing, William Miller and Stephen Rollnick describe it as a “client-centered yet directive method for enhancing intrinsic motivation to change by exploring and resolving client ambivalence” (7). One of the strengths of this model is its recognition that people are often conflicted about making changes in their lives, but are not always aware

In this issue...

Motivation: The Key Ingredient in Changing the Eating Behaviors of People Living with HIV/AIDS.....	1
The Role of Soy in Metabolic Complications.....	2
Letter from the Chair.....	4
Missing in Action: Increasing the Number of Nutrition Visits.....	5
Letter from the Editor.....	6
Nutrition in HIV: An Overview.....	6
A Summary of the NIAC Spring Conference.....	10

(See Motivation, page 9)

HIV/AIDS DPG officers
2008–2009 Executive Committee

Chair

Joanne Maurice, MS, RD, CD
jmaurice@u.washington.edu

Chair-elect

Jennifer Eliasi, MS, RD, CDN
jenneliasi@aol.com

Past chair

Barbara Craven, PhD, RD
cravenbj@aol.com

Secretary

Lisa Ronco, MS, RD, CDN
lmr5091@nyu.edu.com

Treasurer

Alan Lee, RD, CDE, CDN, CFT
AlanleeRD@yahoo.com

Nominating Committee chair

Lisa Zullig, MS, RD, CDN
lzullig@nyc.rr.com

ADA contact

ADA Practice Team manager
Frances Austin, RD
faustin@eatright.org

Committee Chairs

Development

Jennifer Eliasi, MS, RD, CDN
jenneliasi@aol.com

Newsletter Editor

Jenny Torino, MS, RD
jennytorino@mac.com

Newsletter co-editor

Marissa Ciorciari, RD
ciorcima@umdmj.edu.com

Web master

Laura May, MEd, RD
Yale21@aol.com

Public policy

Katherine Dennison, RD, LD
publicpolicy@hivaidsdpg.org
Deane Edelman, MBA, DTR
publicpolicy2@hivaidsdpg.org

The Role of Soy in Metabolic Complications

Vijaya Juturu, PhD, FACN

Prevalence of HIV and Comorbid Conditions

According to the CDC National Center for Health Statistics (1) based on surveys conducted between 1999-2006, approximately .47 % of the U.S. household population between the ages of 18 and 49 are living with HIV. It was estimated that .7 % of men and .2 % of women were affected with HIV. Two percent of non-Hispanic black adults ages 18-49 were infected with HIV compared to .23 % of white adults and .3 % of Mexican-American adults. Disorders of the gastrointestinal tract and hepatobiliary system are among the most common complications associated with HIV infection. Malnutrition has long been recognized to have deleterious effects on immune function. The risk of cardiovascular disease (CVD) is now an important consideration in HIV/AIDS patients. Traditional risk factors for CVD, the inflammatory effects of HIV, and the metabolic complications of highly active antiretroviral therapy (HAART) may accelerate the onset of CVD and diabetes. The incidence of metabolic syndrome among their HIV-infected population on HAART therapy is about 26% (2). Identifying, monitoring, and treating CVD risk factors in HIV-positive patients is vital. A vegetarian diet has been shown to be an effective prophylactic to many diseases and may therefore be beneficial for HIV/AIDS. This review will focus on the role of soy in modulating metabolic risk factors and associated complications.

The Role of Soy in Health and Disease

The soybean is an excellent source of good quality protein and amino acids. Soy will increase lean body mass, reduce body fat, reduce muscle inflammation, and provide essential protein for the achievement of high performance activities (3). Soybean oil is rich in polyunsaturated fatty acids and contains no cholesterol. Soybeans are also a good

source of calcium, iron, zinc, phosphate, magnesium, B vitamins and folate. They also may enhance immune function and reduce chronic disease risk factors. Data supports increased protein requirements due to HIV infection. According to the Food and Nutrition Technical Assistance (FANTA) monograph on nutritional guidelines in the care of HIV-infected persons, calorie needs may increase 10-15% while protein requirements are 50-100% higher than for uninfected persons. Soy foods are a source of high-quality protein. In addition, consumption of soy protein provides health benefits that may help prevent or treat certain chronic diseases. Amino acids are required for the synthesis of a variety of specific proteins (including cytokines and antibodies) and regulate key metabolic pathways of the immune response to infectious pathogens. Consumption of isoflavone-containing soy foods modulates cytokine production. Daidzein and genistein glucuronides enhance the activity of natural killer cells. Genistein can produce thymic and immune changes and daidzein may be immunostimulatory. Table 1 lists the effects of daidzein and genistein on immune function. Additional components of soy such as micronutrients, amino acids and trace elements also enhance immune function (Table 2).

Glycemic Control

Epidemiological and observational studies have reported a prevalence of diabetes of 2% to 7% among HIV-infected patients receiving protease inhibitors (PIs) and an additional 16% having impaired glucose tolerance (4-8). The incidence of diabetes mellitus (DM) in HIV-infected patients on HAART has been estimated to range from 1% to 10% in various studies (9). Consumption of legumes, soybeans in particular, was inversely associated with the risk type 2 DM (10). Soy protein consumption significantly affected cardiovascular risks

such as fasting plasma glucose (-18 +/- 3 mg/dL; P = 0.03), total cholesterol (-23 +/- 5 mg/dL; P = 0.01), LDL cholesterol (-20 +/- 5 mg/dL; P = 0.01), and serum triglyceride (-24 +/- 6 mg/dl; P = 0.01) concentrations. Serum c-reactive protein levels were significantly decreased by soy protein intake compared with those in the control group (1.31 +/- 0.6 mg/l; P = 0.02). Significant improvements were also seen in proteinuria (-0.15 +/- 0.03 g/day; P = 0.001) and urinary creatinine (-1.5 +/- 0.9 mg/dl, P = 0.01) by consumption of soy protein (11). These results suggest soy can improve metabolic risk factors.

Cardiovascular Disease

CVD is an increasing cause of morbidity in HIV-infected adults receiving HAART. Protease inhibitors and to a lesser extent nucleoside analogue reverse transcriptase inhibitors, can adversely affect lipid metabolism. There is a strong correlation between HAART duration and the risk of myocardial infarction. This association is in part linked to higher plasma levels of total cholesterol and triglyceride and to lower levels of high-density lipoprotein (HDL) cholesterol (12,13). The HIV virus also causes disturbances in lipid metabolism that may be mediated by cytokines, increasing CVD risk. Over 40 scientific studies have proven the positive effect of soy protein on lowering cholesterol levels, including low density lipoprotein (LDL) cholesterol, which leads to decreased CVD risk (14). In fact, the Food & Drug Administration recommends eating 25 grams of soy protein every day as part of a diet low in saturated fat and cholesterol (15). The average soy veggie burger provides 12 grams of soy protein and one serving of soy nuts or two servings of soy chips contain 11 grams. Saturated fat can be cut considerably by substituting soy for other high fat meats. Soybeans are one of the best non-fish sources of essential omega-3 fatty acids, which may help reduce the risk of coronary heart disease.

Endothelial Function

The association of endothelial dysfunction with HAART therapy in

HIV-infected patients was independent of protease inhibitor-containing regimens or dyslipidemia. This dysfunction may contribute to the risk of HIV-associated atherosclerosis. HIV-infected patients have significant impairment of endothelial function. Endothelial injury is associated with disease-related biochemical abnormalities that are implicated in HIV pathogenesis (16). The mechanisms underlying the regulation of endothelial function in HIV-infected persons appear to be multifactorial, including direct effects of HIV on the endothelium, indirect effects of HIV on lipids and inflammatory cytokines, HAART-related effects and traditional risk factors. In a cross-over design 60 post menopausal women were given Therapeutic Lifestyle Changes (TLC) diet alone and a TLC diet of similar energy, fat, and protein content in which soy nuts (containing 25 g of soy protein and 101 mg of aglycone isoflavones) replaced 25 g of non-soy protein. Each diet was followed for 8 weeks. Compared with the TLC diet alone, the TLC diet plus soy nuts lowered systolic and diastolic blood pressure (BP) 9.9% and 6.8%, respectively, in hypertensive women (systolic BP \geq 140 mm Hg) and 5.2% and 2.9%, respectively, in normotensive women (systolic BP <120 mm Hg). Further subdivision of normotensive women revealed that systolic and diastolic BPs were lowered 5.5% and 2.7%, respectively, in prehypertensive women (systolic BP of 120-139 mm Hg) and 4.5% and 3.0%, respectively, in normotensive women. Soy nut supplementation lowered low-density lipoprotein cholesterol and apolipoprotein B levels 11% and 8% (P = .04 for both), respectively, in hypertensive women but had no effect in normotensive women (17). These findings suggest that soy has a cardioprotective effect.

Immune Function

In malnourished HIV-negative patients, findings include alterations in B cell and phagocyte function as well as decreased secretory immunoglobulin A and complement activity. Lymphopenia commonly accompanies malnutri-

tion, along with reductions in B and T lymphocytes. HIV-negative malnourished patients also have decreased CD4 cells as well as moderate reductions in CD8 cells, which may normalize with improvement of nutritional status. These immune system derangements may play a role in the increased risk of infection found in malnourished patients. Micronutrient deficiencies have been found to result in immune system dysfunction (18).

The essential nutrients in soy beans such as flavanoids, branched chain amino acids (BCAA), hydrophilic amino acids (eg. arginine), folate, choline, and essential trace minerals (zinc and selenium) have several beneficial effects for human health and disease. Flavanoids are known to have antiestrogenic and proestrogenic effects, as well as antioxidant and antiproliferative actions. The immune system can be adversely affected by oxidative damage and hormonal changes. Isoflavone-containing soy foods modulate cytokine production and enhance the immune response. Soy isoflavones contain daidzein and genistein glucuronides which enhance the activity of natural killer cells. Soy isoflavones may reduce the secretion of IL-2 and stimulate T cell proliferation, TNF-alpha and IFN-gamma. TNF-alpha mediates local inflammatory reactions and IFN-gamma activates macrophages. Oxidant-mediated tissue injury is a particular hazard to the immune system, since phagocyte cells produce reactive oxygen species as part of the body's defense against infection. Genistein, is considerably more estrogenic than daidzein. Other components in soy such as choline, folic acid, hydrophilic and branched chain amino acids, zinc and selenium may modulate immune function. BCAA are essential for lymphocytes responsiveness and related immune responses. Amino acids in soy may regulate the immune responses by activating T lymphocytes, B lymphocytes, natural killer cells and macrophages. Amino acids are also involved in the cellular redox state, gene expression, lymphocyte proliferation and in the production of

(See Soy, page 11)

Letter from the Chair

Greetings to members one and all. I think every new chair when trying to think of what to say for their first letter, looks at the blank page and thinks, “now what do I say?” I have been thinking back to the beginning of this DPG and reflecting on how so many things have changed. I was privileged to be part of its creation, when an incredible group of women had the courage and incredible drive to make sure we got off the ground. Many thanks to this original cast for being trail blazers and putting in a lot of energy to getting us started and getting through all the hurdles. If you have never been part of something that started from the ground up, it’s hard to appreciate all the time, energy, sweat and maybe even a few tears to get off to a great start and pave the way for many others to follow. I just wanted to take this opportunity to say a big thanks to all of you.

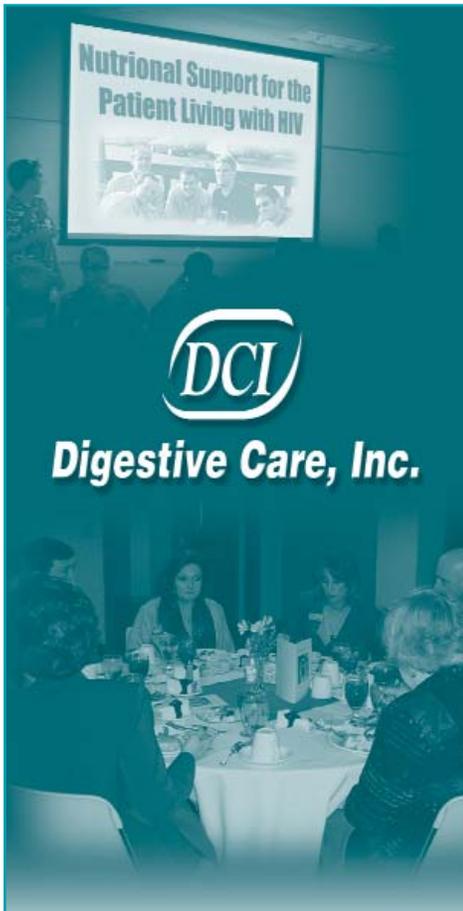
When we started, HIV/AIDS was a different and difficult disease to manage. The medications were not very effective, there weren’t a lot to choose from, the side effects were horrible and the timing for taking them could be extremely challenging. Some regimens had extremely strict food limitations, while some raised blood lipids to new highs. We used to prescribe what I now call the “whipped cream diet,” as we fought to find ways to add calories to the diet to prevent clients from wasting right before our eyes. Now, it’s a different world and maybe a different virus. Many regimens are now just once a day, with little concern about what foods need to be taken and with very few side effects. Life has returned to “normal” for many of our clients. They have jobs, careers, families; something that was only a dream when we first started. In our clinic, HIV has taken a back seat to other chronic diseases. We spend more time worrying about and managing “normal” chronic diseases such as diabetes, hyperlipidemia and hypertension than we do HIV.

Speaking of change, many of you responded to a survey recently on new possible names for our DPG to reflect the new direction HIV is taking. Thank you for responding. It’s always nice to hear back from members. Sometimes it is only a very few who change the direction for many.

As things change, we are always on the look out for “new blood and fresh eyes” for our dynamic DPG. Please consider becoming more involved by encouraging others to join the DPG, join or chair a committee, run for office or write articles for Pos Com.

Sincerely,

Joanne Maurice, MS, RD, CD



*DCI – A Dedicated Sponsor of Educational Programs to
Healthcare Providers Presents:*

Nutritional Support for the Patient Living with HIV

- DCI supports a network of Nutritional Professionals who provide educational programs for the HIV/AIDS Healthcare Professional. To schedule an Educational Program Speaker please contact DCI directly.
- Speaker programs may provide attendees with CPE (Continuing Professional Education) credit hours.*
- There are no fees for these programs.

**based on selection of educational program.*

Complete program details and ordering information for our educational programs are available through customer service. Please call Monday through Friday, 9 am to 5 pm eastern time.

www.digestivecare.com

610-882-5950

Missing in Action: Increasing the Number of Nutrition Visits

By Jennifer Sachs, RD

Many may feel relieved when a certain percentage of our patients scheduled for the day don't show up for their appointments, allowing more time to catch up on paper work, plug away at research projects, or make phone calls. Not every dietitian is privileged enough to have administrative time plugged into their regular schedule so down time is a welcomed stress reliever. Because healthcare funding is decreasing and dietitians are feeling more pressure to prove their value in the workplace we must maintain a high level of patient contact.

As compassionate professionals, our motivation to improve show rates should not only be due to our employers' expectations, but also because we want to see that HIV-positive people have access to accurate nutrition information and timely care.

According to the Los Angeles County Commission on HIV's, Standards of Care for Medical Nutrition Therapy, "After assessment, clients should receive ongoing medical nutrition therapy (1)." This document continues to discuss the recommended frequency of follow-up visits. Our clients should be seen at least once a year and up to twelve times a year depending on the level of care and age of the client. Most of us would agree that our clinics don't come close to meeting these recommendations. Can we put all the blame on our clients or do we, as healthcare professionals, play a role?

I have been working as a registered dietitian at Owen Clinic for the past four years. Recently a doctor was hired to fill a new Assistant Director position. Part of her responsibility is to head up the quality improvement component of the clinic. She must report to the hospital administration and address concerns that are raised. As with most hospitals, one of these main concerns is revenue and there is pressure placed upon the clinic to have as many client contacts as possible.

In an effort to improve our number of client visits a decision was made to switch our scheduling system to something called "open-access." Based on literature and other clinic reports, this system has been shown to potentially improve clinic net gains (2). We were informed that all doctors' schedules would be changed according to the new system, but other specialty staff such as the dietitian, health educator, and substance abuse counselor had the option to stick with the old system or make the change. Based on my high no-show rate and the hope of potential improvement, I decided to choose the open access scheduling system.

Open-access scheduling is a concept that was developed by Mark Murray, MD, and Catherine Tantau, RN, MS in the late 1980s. Whether a client is coming to a clinic for an emergency or just for a routine visit, clients are seen the same day they call to make an appointment. Variations of this type of scheduling allow clients to make an appointment and be seen within one or two weeks. The goal of open-access is that a person is seen the day they call or soon after rather than being forced to make an appointment in the distant future (3).

At our clinic schedules are opened up for appointment bookings two weeks in advance. Since starting open-access scheduling on the first day of this year, preliminary data shows significant improvement when looking at individual doctors' client loads. Although no official report has been presented to the staff, the results appear promising. Hearing the buzz about improved numbers for the doctors has made me ponder why I don't seem to be getting the same results. The new schedule may even be having a negative impact on my numbers. I don't have any official stats yet but I've noticed that my schedules are no longer as full as they were before. In fact, some days less than half of the slots are filled. I'm also convinced that my no-show rate is about the same as it was before. I not only have the problem

of having a high no-show rate but now have the additional problem of clients not being scheduled.

According to our new system each client is given a reminder notice (the same day or in the mail) to make a follow-up appointment within a designated amount of time. The patient also receives a reminder phone call during the month they are to make an appointment and another call the day before their scheduled appointment.

I have come to realize that open-access may not be the answer in my unique situation as the dietitian of the clinic. I decided it was time to take matters into my own hands and do my own investigation, first thinking about the questions I needed answers to. The following questions came to mind:

- Are the clients actually receiving the reminder papers? Could some addresses not be up-to-date in our system? A significant number of our clients are transient or homeless, could this impact the success of reminder notices? Even if the paper does arrive in the mail, is there the potential that it would get lost or forgotten about while the patient waits 3-6 months before it's time to call and make the appointment?
- Could calling to make an appointment be a hassle? Is there a long wait time on the phone before the receptionist actually answers the call? Is nutrition a priority for people? Will they take the time to call and make an appointment?
- Is the waiting room time before the appointment worth the benefits of a nutrition visit?
- Do clients forget their appointment, even if they are scheduled a few days from when they made the request?

(See Missing, page 8)

Letter from the Editor

Dear Readers,

As you can see from our new look, the HIV/AIDS DPG is undergoing exciting changes. We have new members of our Executive Committee who recently met existing Executive Committee members in Seattle, WA for the DPG's annual spring planning meeting. You can find a current list of Executive Committee members on page 2. In addition as Joanne Maurice, MS, RD, CD, spoke about in her Chair Letter, we are also considering changing the name of the DPG to widen our scope. Lastly, I would like to announce another important change. *Positive Communication* is "Going Green!" We would not be in the field of nutrition and more specifically HIV/AIDS if we didn't feel a sense of responsibility for taking care of the world and its people. The winter issue of *Positive Communication* will be printed as usual, but your fall and spring issues will be available online only at our website www.hivaidspdpg.org. You will receive email blasts announcing when the issues have been published online. If you do not have access to the website please contact Treasurer Alan Lee, RD, CDE at alanleeRD@yahoo.com. He will email you a pdf file of the newsletter. We also want to know how you feel about this change, so please do not hesitate to contact us. We are here for you.

Thanks,
Jenny Torino, MS, RD

Nutrition in HIV: An Overview

Vijaya Juturu, PhD, FACN

As we prepare for the upcoming Food & Nutrition Conference & Expo in Chicago this October, we do not want to forget the efforts of the HIV/AIDS DPG during FNCE 2007. They organized a Pre FNCE workshop September 29th, 2007 in Philadelphia, PA. The workshop was sponsored by the National Health Research Institute (NHRI), National Minority AIDS Council (NMAC), Mad BJ, and the Association of Nutrition Service Agencies (ANSA). They provided educational materials and some product samples for the workshop. The main objective of this workshop was to educate dietetic practitioners new to HIV/AIDS, and discuss our knowledge on the current perspectives of HIV/AIDS- evidence, service gaps and prevention. For those of you who couldn't make it or those who need a refresher, here is a summary of the workshop.

Right: Former Research and Education Chair Vijaya Juturu, PhD, FACN
Left: Past Chair Barbara Craven, PhD, RD



Basics: Epidemiology, Transmission and Preventive Care
Joanne Maurice, MS, RD, CD
HIV/AIDS DPG Chair

Joanne is a research dietitian working at the Harborview Medical Center's Madison Clinic in Seattle, WA. She is also a nutrition educator at North West AIDS Education Training Center. She has been working in nutrition and HIV for more than a decade. She has provided nutrition education to individual clients and AIDS service organizations from Seattle to Anchorage, Snohomish to Kitsap Counties. She also conducts in-home visits in Snohomish County through Option Care of Everett,



and worked as a consultant for Bastyr University's Dietetic Internship Program. Additionally, Joanne has written articles for various HIV-related newsletters and journals.

Joanne began her discussion by reviewing the global epidemic trends of HIV/AIDS. She described the beginning the AIDS epidemic twenty-five years ago, which was characterized by numerous reports of Kaposi's sarcoma and pneumocystis carinii pneumonia (PCP) among homosexual men in New York City and California. Joanne reported that about 36 to 42 million people were infected with HIV world wide. Over 500,000 people

have died of AIDS in the US. According to the census, world wide nearly 5 million new infections occur each year and 3 million people die each year. Joanne went on to discuss the estimated number of AIDS cases in the US among different races and deaths among both adults and adolescents with AIDS during 1985 to 2005. It was stated that the overall decline in new HIV infection and deaths of persons with AIDS are due to the success of highly active antiretroviral therapies, introduced in 1996.

Joanne reviewed definitions pertaining to HIV/AIDS, including classification of AIDS with a CD4 count <200 cell/mm² or AIDS defining illness. She described the HIV antibody tests consisting of two tests, a screening test through enzyme linked immunosorbent assay (ELISA) or enzyme immunoassay (EIA), and the confirmatory test through western blot assay or indirect immunofluorescence assay (IFA). The importance of viral load testing and treatment targets of antiretrovirals on HIV replication were discussed in detail. Ways of HIV transmission and its implicating factors were reviewed, including oral, anal and vaginal sex, perinatal transmission, and other transmission risks (tattoos, piercings, acupuncture). Joanne said that preventive measures should be emphasized in the schools beginning at grade 5 or 6, as well as public education on use of condoms and safe sex practices. She described antiretroviral treatments, its side effects and the importance of adherence. Lastly, nutritional issues among HIV-positive individuals were reviewed. HIV is becoming secondary to other chronic diseases such as diabetes (DM), hyperlipidemia, hepatitis, hypertension, obesity and osteoporosis. She said the biggest hope is still prevention and education at all levels and at all ages.

Nutrition and HIV: Co-morbid Conditions and Key Challenges *Jenny Torino, MS, RD*

Jenny Torino is an HIV nutrition specialist at Gay Men's Health Crisis in New York City. She has also authored several publications in professional newsletters and the popular media and

is acting as the current HIV/AIDS DPG newsletter editor.

Jenny began her talk with a quote from a piece written by Kristina Jones, MD for the AIDS Community Research Initiative of America Summer 2005 ACRIA Update about a friend of hers who died of AIDS shortly after World AIDS day in 1994. Jones wrote, "He lay in the ICU dying of PCP, all of us gathered round, sobbing, playing his favorite music, a nurse washing his hair, friends bringing him flowers and chocolates that he would never eat because he was intubated. He had noticed that he had one gray hair at the age of twenty-nine. This was something new for him. I am the only gay man in the city who wants to grow old. I want to have a whole head of gray elegant hair, like my father has, he exclaimed! He died in his mother's arms, one gray hair, one beautiful face, ethereal and passionate, and in our mind young forever."

She emphasized that due to the advent of HAART living with HIV no longer means dying young, but continues to be extremely challenging. Weight loss, wasting, and malnutrition continue to be common problems in HIV, despite more effective antiretroviral medications, and can contribute to HIV disease progression. Cardiovascular risk in HIV disease is also of high importance. Additional medical complications exist which affect the bone, nervous system, liver and gastrointestinal (GI) tract.

Jenny described the complications of the GI tract such as nausea, vomiting, diarrhea, constipation, gas/bloating, taste changes, and anorexia, which can be caused by medications or by the virus itself. Jenny proposed the following treatments besides the typical dietary modifications for GI complications such as probiotics and pancreatic enzymes, which can aid in controlling diarrhea and gas. She also suggested alternative therapies like slippery elm bark powder for diarrhea and fennel seed for gas and bloating. They can be made as a teas with ½ tsp of powder/seed to 1 cup of hot water.

HIV can cause disordered metabolism leading to lipodystrophy

and high cholesterol, triglycerides and blood sugar. In addition, some antiretrovirals may play a role in increased cardiovascular events, in the absence of traditional risk factors such as smoking and high blood pressure. Jenny said it is important to keep in mind that aging independent of HIV status has been associated with central body fat deposition and thinning of the extremities. Starting HIV treatment when at lower CD4 counts, current immune function, prior AIDS diagnosis, and baseline body mass index have also been shown to impact body shape but have not been consistently linked. She discussed current methods available to measure lipodystrophy. Advanced tools such as computed axial tomography (CT) and magnetic resonance imaging (MRI) are sensitive measures of visceral fat, but are costly and likely to be used only in the research setting. Dual-energy x-ray absorptiometry (DEXA) can be used to measure subcutaneous limb fat/peripheral fat loss, but it cannot measure central adiposity because it cannot distinguish between subcutaneous and visceral fat. Bioelectrical impedance analysis (BIA) does not measure lipodystrophy because it only measures whole-body composition.

Jenny described that medications used in DM have been studied as possible treatments for insulin resistance and visceral fat accumulation. However, the limited number of studies done with Thiazolidinediones (rosiglitazone) do not show promising results. Metformin (Glucophage, Fortamet) was found to reduce waist size in people with insulin resistance and fat accumulation in small studies, but a larger RCT showed no difference in fat accumulation in experimental versus control groups.

(See Overview, page 14)

(Missing, from page 5)

A study posted on *HIV Clinical Resource* a website of the Office of the Medical Director, New York State Department of Health AIDS Institute in September of 2003 provides some insight into this problem. The study called, *Retaining and Engaging Patients in Care: Focus on No-Shows* was conducted at the Montefiore Infectious Diseases Clinic in New York. The clinic has 2,200 active patients and no-show rates vary from as low as 30% for primary care to 50-80% for specialty services. The research team performed several test-of-change studies and developed multidisciplinary groups in an attempt to lower no show rates. Results show that reminder calls were not useful except for mental health clients and reminder letters are not useful, but calling a patient when they missed an appointment was very successful. Dermatology visits doubled with full open-access scheduling. They implemented a standard intake form for new clients which identified barriers to care and the new client no-show rate dropped from 55% to 40%. Results posted do not break down results for specialty services (4).

Another study looking at why clients don't keep their appointments at a gastroenterology outpatient clinic showed that 30% forgot to attend or cancel their appointment, 26% had no reason, 10% were clerical errors, 3% did not want to see a junior doctor, 8% felt better, 3% were inpatients in another hospital and 20% gave miscellaneous reasons (5).

After doing a literature search on Medscape, Pubmed and the JADA website as well as speaking with a staff member at the ADA Knowledge Center, I found no results of studies or reports looking specifically at no-show rates of nutrition visits.

Although no data is available, my personal experience over the last ten years of working in an outpatient setting as well as the process of writing this article has brought me to the following conclusions:

- With both client and clinic barriers contributing to missed appointments, clients and health professionals in various fields must be educated about the importance

of nutrition interventions and timely follow-up visits.

- The power to change the number of people seen may largely be in our clients' hands.
- Patient and clinician screening tools may play an important role.
- Other forms of education such as waiting-room bulletin boards may be needed.
- Changing clinic protocols to decrease waiting room time and making scheduling and remembering appointments easier for clients may be beneficial.
- The benefit of reminder letters and phone calls or follow-up calls for missed appointments for nutrition visits is unknown.
- It's time we start doing our own research.

TO BE CONTINUED...

Jennifer is currently employed at the Owen Clinic at the University of San Diego Medical Center. She has been providing nutrition consultation to people living with HIV/AIDS for

10 years. She can be contacted at sachsjen@gmail.com.

References:

1. Los Angeles Commission of HIV. *Standards of Care, Medical Nutrition Therapy*. 2005-2006. Available at <http://hivcommission-la.info/soc.asp>
2. O'Hare CD, Corlette J. The Outcomes of Open-Access Scheduling. *Fam Pract Manag*. 2004;11(2):35-38.
3. Cascardo CD. Reducing the Rate of "No-Show" Appointments Isn't Easy, but It Can Be Done. *Medscape Business of Medicine*. 2005;6(1).
4. Vilen J, Rodriguez J, Zingman B, et al. Regaining and Engaging Patients in Care: Focus on No-Shows. Available at <http://www.hivguidelines.org/Content.aspx?pageID=583>
5. Murdock A, Rodgers C, Lindsay H, et al. Why do patients not keep their appointments? Prospective study in a gastroenterology outpatient clinic. *J R Soc Med*. 2002;95:285-286.

Get Connected at the Food & Nutrition Conference & Expo

Network with colleagues, become informed and get energized while earning CPE at this year's Food & Nutrition Conference & Expo. An exciting array of sessions have been developed to keep you current in your field.

Learn more about the over 140 educational events that will be offered by visiting www.eatright.org/fnce2008.

Check out your Program Preview to be included with the June issue of *Journal of the American Dietetic Association*

American Dietetic Association

Food & Nutrition Conference & Expo
McCormick Place West / October 25-28, 2008 / Chicago, Illinois

(Motivation, from page 1)

of this conflict. Miller and Rollnick argue that it is the unresolved conflict or ambivalence about change that serves as a major barrier to the process of change. Another strength of this model lies in its apparent generalizability to many different populations. Because motivational interviewing is first and foremost a client-centered approach, the focus of the intervention always remains on the client's perceptions, experiences, attitudes, and worldviews rather than the service provider's agenda. In other words, motivational interviewing meets clients where they are and then encourages them to recognize the differences between where they are and where they want to be. These techniques, "expressing empathy" and "developing discrepancy" are two of the basic principles of motivational interviewing, but they are not the whole story. As Miller and Rollnick point out, their intervention is also directive and its primary goal is to resolve clients' ambivalence towards change in order to facilitate the change process.

Grounded in Prochaska and DiClemente's stages of change theory which posits that people progress through sequential cognitive stages that correspond directly with the behavioral change process (8), motivational interviewing begins by assessing clients' readiness to change and their ambivalence about making change. This is often accomplished by asking two scaling questions to measure readiness and ambivalence: 1) On a scale of 0 to 10, how important is it to you to make this change; and 2) On a scale of 0 to 10, how confident are you that you can make this change?" Subsequent interventions focus on developing discrepancies between clients' current behaviors and their broader goals and values, and resolving their ambivalence so they can move past it towards positive behavior change. Techniques such as open-ended questions, reflective listening, and eliciting change talk are used to facilitate this process.

Reflective listening is a key component of expressing empathy and the motivational interviewing approach. While empathy is more of

a basic attitude towards clients than a skill, reflective listening entails seeking to understand the client's thoughts and feelings without judgment, criticism, or blame. The service provider's accurate understanding of the client's experience is reflected back to the client by paraphrasing the content of the communication and validating the emotions underlying the message. During a successful motivational interview, the client talks far more than the service provider. Indeed, a core tenet of this approach is the notion that the best way to help people change is not to try to convince them to change, but to uncover the desire to change which is an intrinsic part of them. Thus, service providers elicit change talk in clients by amplifying their awareness of differences between the actual present and the desired future. Examples of change talk usually fall into one of four categories: disadvantages of the status quo, advantages of change, optimism for change, and intention to change.

Thus far, motivational interviewing has been described as a rather simple and straightforward process. However, anyone who has ever tried to help someone else change their behavior has experienced the very real and complicated phenomenon of resistance. From the perspective of the motivational interviewer, clients' resistance is an expression of their normal and understandable reluctance and ambivalence about change. It is not something to be attacked or talked away, but a signal that the service provider is moving too quickly or a specific approach is not working. "Rolling with resistance" is the third basic principle of motivational interviewing and is grounded in respect for clients' autonomy and awareness that change is ultimately their decision.

The fourth and final basic principle of motivational interviewing involves the concept of "self-efficacy", or a person's belief about his/her ability to accomplish a specific task. Research conducted by Albert Bandura, a leading social cognitive theorist demonstrates that people often engage in suboptimal behaviors, even if they know exactly what they are supposed to do, because they do not believe they have the ability to do otherwise

(9). Self-efficacy is an important element in motivation for change: if the client has no hope that s/he can change, no effort will be made and all of the service provider's interventions will come to nothing. Thus, service providers must build clients' level of confidence in their ability to change by giving them concrete skills and positive reinforcement to do so. Implicit in this approach is the notion that service providers must also have faith in their clients' ability to change; otherwise their doubts will likely have a significant effect on client outcomes and act as a self-fulfilling prophecy. Indeed, the fundamental philosophy of the motivational interviewing approach is the belief that people can and do choose to change, even in the face of seemingly overwhelming barriers such as poverty, substance abuse, and HIV/AIDS.

While this article presented a broad overview of motivational interviewing and its applications to dietetic practice, a detailed account of the intervention is provided in Miller and Rollnick's book, cited in the references below. In addition, there is an excellent power point presentation on a motivational interviewing intervention designed specifically for registered dietitians available online at: http://www.azdiabetes.gov/pdf/use_mov_inter_techniques.pdf.

Kate Sapadin, Ph.D. is a licensed psychologist and the Senior Clinical Director for Harlem United Community AIDS Center's Housing Division. She has been providing psychotherapy to people living with HIV/AIDS for eleven years.

References

1. CDC. HIV/AIDS Surveillance Report: Midyear Edition. 2004.
2. Kalichman SC. *Preventing AIDS: A Sourcebook for Behavioral Interventions*. Mahwah, NJ: Lawrence Erlbaum Associates; 1998.
3. Kelly JA, Kalichman, SC. Reinforcement value of unsafe sex as a predictor of condom use and continued HIV/AIDS risk behavior among gay and bisexual

(See Motivation, page 10)

A Summary of the NIAC Spring Conference

By Meredith Liss, MA, RD, CDN

Nutritionists in AIDS Care (NIAC) and the Greater New York Dietetic Association (GNYDA) held an evening program with an informative lecture on June 3rd at Gay Men's Health Crisis. Alan Lee, RD, CDN, CDE, CFT, past GNYDA president, and long standing NIAC chairman (1999-2007) presented: HIV and Nutrition Update 2008: What's New?

The presentation began with a timeline of the HIV epidemic which included the evolution of antiretroviral medications. Mr. Lee showcased the impact of nutrition related complications throughout the years, defining the early years (1981-1999) as the "wasting era" and the more recent years (1999-2008) as the "lipodystrophy era." He then highlighted the fact that AIDS Wasting Syndrome (AWS) is still prevalent in the lipodystrophy era, and can occur in the setting of good immunological control. In the present era, people living with HIV/AIDS (PLWHA) also struggle with obesity.

The treatment options for AWS include the use of medical nutrition therapy (MNT) to assist patients in maximizing their caloric intake while ensuring an adequate balance of macronutrient and micronutrient intake. Additional interventions include oral nutritional supplements, appetite stimulants, anabolic steroids, growth hormone, testosterone replacement and progressive resistance exercise. The favorable role of exercise for PLWHA was emphasized and research studies were reviewed.

Mr. Lee described the lipodystrophy syndrome of HIV/AIDS which includes facial and peripheral lipoatrophy, central hypertrophy, abnormal glucose metabolism, and dyslipidemia. The metabolic implications of lipodystrophy include premature cardiovascular disease, diabetes mellitus, hypertension and pancreatitis, while the psychosocial implications include a decrease in self esteem, depression, poor antiretroviral adherence, and stigmatization. Treatment options for lipodystrophy

were reviewed and include diet and exercise lifestyle changes, dietary supplements, ARV changes, lipid lowering medications, diabetes medications, and surgical interventions such as liposuction, facial implants, and fat transfer techniques. Mr. Lee recommended use of functional foods such as soluble fiber, plant sterols and soy protein for cholesterol management.

Mr. Lee reported that interventions for obesity in the HIV population are the same as interventions for obesity in the HIV negative population, and include calorie restriction, meal replacements, exercise, and dispelling portion distortion.

Mr. Lee discussed the unfortunate and on-going problem of diarrhea amongst PLWHA, regardless of whether a patient is battling AWS, lipodystrophy, or obesity. Common causes of diarrhea for PLWHA include: HIV itself, known as HIV enteropathy which causes disruption of the enteric mucosal integrity and function, side effects of antiretroviral (ARV) medications, inherited lactose intolerance, and excessive use of antibiotics which are commonly prescribed as prophylactics in patients with low CD4 counts. In addition to diet manipulation, treatment options for diarrhea include lactobacillus GG/acidophilus, lactaid products, fructooligosaccharides, psyllium fiber, pancreatic enzymes, congee, and calcium supplements.

As the list of FDA approved ARVs expands, Mr. Lee suggested that dietitians keep up to date about food/drug nutrient interactions. Fortunately, the majority of the ARVs can be taken without regard to meals including the new ARVs: Selzentry® and Isentress®. Alternatively, most protease inhibitors need to be taken with meals and include Invirase®, Norvir®, Viracept®, Reyataz®, Aptivus® and Prezista™. Intelence™ should be taken directly after a meal. The ARVs that need to be taken on an empty stomach include Crixivan®, Videx®, Sustiva® and Atripla™. Certain supplements such as St. John's Wart, Kava Kava, Garlic pills, and Echinacea are contraindicated with ARVs.

The American Dietetic Associa-

tion (ADA) position statement for HIV nutrition states that efforts to optimize nutritional status, including MNT, assurance of food and nutrition security, and nutrition education, are essential components of the total health care available to people with HIV infection through the continuum of care. Mr. Lee informed the audience that a new ADA nutrition and HIV book will be available in October of 2008. Stay tuned.

(Motivation, from page 10)

- men. *Health Psychology*. 1998; 17: 328-335.
4. Dunn C, DeRoo J, Rivera FP. The use of brief interventions adapted from motivational interviewing across behavioral domains: A systematic review. *Addiction*. 2001; 96(12): 1725-1742.
5. Resnicow K, Jackson A, Wang T, et al. A motivational interviewing intervention to increase fruit and vegetable intake through black churches: Results of the Eat for Life trial. *Health Ed Res*. 2001; 91: 1686-1693.
6. Berg-Smith SM, Stevens VJ, Brown KM, et al. A brief motivational intervention to improve dietary adherence in adolescents. *Health Ed Res*. 1999; 14(3): 399-410.
7. Miller WR, Rollnick S. *Motivational Interviewing: Preparing People for Change*. New York, NY: Guilford Press; 2002
8. Prochaska, JO, DiClemente, CC. *The Transtheoretical Approach: Crossing Traditional Boundaries of Change*. Homewood, IL: Dorsey Press; 1984.
9. Bandura, A. Self-efficacy mechanism in human agency. *Amer Psychologist*. 1982; 37(2): 122-147.

antibodies, cytokines and other cytotoxic substances. High concentrations of zinc in soy protein isolate may also help to boost immune health (19). However, further well designed studies are required to examine the relationship between soy products and immune function (20-22).

Bone Health

HIV may also adversely affect bone health in ways that are not well understood. Epidemiological studies and clinical trials suggest that soy isoflavones have beneficial effects on bone mineral density, bone turnover markers, and bone mechanical strength in postmenopausal women (23,24). Ten studies with a total of 608 subjects were selected for meta-analysis. The spine bone mineral density in subjects who consumed isoflavones increased significantly by 20.6 mg/cm². Isoflavone intake increased spine bone mineral content by 0.93 g with borderline significance. A 28.5 mg/cm increase in the spine bone mineral density was seen with isoflavone intake of more than 90 mg/day for 6 months (25). These results suggest that favorable effects become more significant when more than 90 mg/day of isoflavones are consumed. In addition, soy isoflavone consumption for 6 months can be enough to exert beneficial effects on bone in menopausal women. Estrogen or soy isoflavones given to postmenopausal women results in a small increase in lean tissue mass that may be mediated through estrogen receptor alpha on muscle or through decreased inflammation (25).

Soy and Brain Health

HIV damages brain cells and prevents the formation of new cells. Soy based isoflavones alter several hormonal, metabolic and neuroendocrine parameters involved in maintaining body homeostatic balance, energy expenditure and feeding behavior. Soy may reduce the risk of Alzheimer's disease, especially in postmenopausal women. Phytoestrogens, appear to reduce the number of protein changes in the brain that are

associated with Alzheimer's disease (26). Soy isoflavone treatment resulted in a significant decrease in acetylcholinesterase (AChE) activity and significant increases in glutamic acid and aspartic acid contents in the frontal cerebral cortex and hippocampus. Soy isoflavone treatment has improved the memory performance of hypercholesterolemic mice. The mechanism underlying the improvement might closely correlate with its role in decreasing high blood lipid levels and modulating the metabolism of neurotransmitters such as acetylcholine and amino acids in the brain (27,28). Table 3 provides the summary of the effects of soy protein on metabolic complications.

Soy consumption in the HIV-positive population can have a positive effect on plasma lipids, glucose levels, endothelial function, bone density and brain health. Research examining the effects of soy intake in the HIV-positive population specifically is warranted. Please see Table 3 for a summary of the effects of soy protein on medical complications.

References

1. CDC Update: HIV Prevalence in the U.S. Household Population. Jan 29, 2008 - 12:37:14 PM. The full report is available at <http://www.cdc.gov/nchs/data/databriefs/db04.pdf>
2. Mondy K, Overton ET, Grubb J, Tong S, Seyfried W, Powderly W, Yarasheski K. Metabolic syndrome in HIV-infected patients from an urban, Midwestern U.S. outpatient population. *Clinical Infectious Diseases*, 2007; 44(1): 726-734.
3. Maesta N, Nahas EA, Nahas-Neto J, Orsatti FL, Fernandes CE, Traiman P, Burini RC. Effects of soy protein and resistance exercise on body composition and blood lipids in postmenopausal women. *Maturitas*. 2007;20;56(4):350-8
4. Dever LL, Oruwari PA, Figueroa WE, et al. Hyperglycemia associated with protease inhibitors in an urban HIV-infected minority patient population. *Ann Pharmacother*. 2000;34:580-584.
5. Carr A, Samaras K, Thorisdottir A, et al. Diagnosis, prediction, and

natural course of HIV-1 protease-inhibitor-associated lipodystrophy, hyperlipidemia, and diabetes mellitus; a cohort study. *Lancet*. 1999;353:2093-2099.

6. Currier J, Boyd F, Kawabata H, et al. Diabetes mellitus in HIV infected individuals [abstract 677-T]. Presented at the 9th Conference on Retrovirus and Opportunistic Infections, Seattle, February 2002.
7. Hammer SM, Squires KE, Hughes MD, et al. A controlled trial of two nucleoside analogues plus indinavir in persons with human immunodeficiency virus infection and CD4 cell counts of 200 per cubic millimeter of less. *N Engl J Med*. 1997;337:725-732.
8. Vigouroux C, Gharakhanian S, Salhi Y, et al. Diabetes, insulin resistance and dyslipidaemia in lipodystrophic HIV-infected patients on highly active antiretroviral therapy (HAART). *Diabetes Metab*. 1999;25:225-232.
9. Dube MP. Disorders of glucose metabolism in patients infected with human immunodeficiency virus. *Clin Infect Dis*. 2000;31:1467-1475.
10. Villegas R, Gao YT, Yang G, Li HL, Elasy TA, Zheng W, Shu XO. Legume and soy food intake and the incidence of type 2 diabetes in the Shanghai Women's Health Study. *Am J Clin Nutr*. 2008;87(1):162-7.
11. Azadbakht L, Atabak S, Esmailzadeh A. Soy protein intake, cardiorenal indices, and C-reactive protein in type 2 diabetes with nephropathy: a longitudinal randomized clinical trial. *Diabetes Care*. 2008 ;31(4):648-54.
12. Grinspoon SK, Carr A (2005) Cardiovascular risk and body fat abnormalities in HIV-infected adults. *N Engl J Med* 352: 48-62
13. Friis-Møller N, Sabin CA, Weber R, d'Arminio Monforte A, El-Sadr WM, et al. Combination antiretroviral therapy and the risk of myocardial infarction. *N Engl J Med* 2003;349: 1993-2003.

(See Soy, page 12)

14. Juturu.V , Gormley J. Nutritional Supplements Modulating Metabolic Syndrome Risk Factors and the Prevention of Cardiovascular Disease. *Curr Nutr Food Sci.* 2005; 1(1):1-11
15. FDA Approves New Health Claim For Soy Protein And Coronary Heart DISEASE Oct 20 1999. <http://www.fda.gov/bbs/topics/ANSWERS/ANS00980.html> (accessed on May 14, 2008)
16. Melendez MM, McNurlan MA, Mynarcik DC, Khan S, Gelato MC. Endothelial adhesion molecules are associated with inflammation in subjects with HIV disease. *Clin Infect Dis.* 2008;46(5):775-80.
17. Welty FK, Lee KS, Lew NS, Zhou JR. Effect of soy nuts on blood pressure and lipid levels in hypertensive, prehypertensive, and normotensive postmenopausal women. *Arch Intern Med.* 2007;167(10):1060-7
18. Thurnham D I. Micronutrients and immune function: some recent developments. *J Clin Pathol.* 1997; 50(11): 887–891.
19. Falutz J. The role of zinc in HIV-1 induced immunosuppression. *Ann NY Acad Sci* 1990;587:286-288.
20. Juturu. V and Sahin K. Soy and Immune Function. *Intern. Congress Cancer.* 2008 (Turkey, May 2008)
21. Moseson M, Zeleniuch-Jacquotte A, Belsito DV, Shore RE, Marmor M, Pasternack B. The potential role of nutritional factors in the induction of immunologic abnormalities in HIV-positive homosexual men. *J Acquir Immune Defic Syndr* 1989;2:235-247.
22. Coodley G, Girard D. Vitamins and minerals in HIV infection. *J Gen Intern Med* 1991;6:472-479.
23. Atmaca A, Kleerekoper M, Bayraktar M, Kucuk O. Soy isoflavones in the management of postmenopausal osteoporosis. *Menopause.* 2008 Feb 14. [Epub ahead of print]
24. Ma DF, Qin LQ, Wang PY, Katoh R. Soy isoflavone intake increases bone mineral density in the spine of menopausal women: meta-analysis of randomized controlled trials. *Clin Nutr.* 2008;27(1):57-64.
25. Chilibeck PD, Cornish SM. Effect of estrogenic compounds (estrogen or phytoestrogens) combined with exercise on bone and muscle mass in older individuals. *Appl Physiol Nutr Metab.* 2008;33(1):200-12.
26. Lephart ED, Porter JP, Hedges DW, Lund TD, Setchell KD. Phytoestrogens: implications in neurovascular research. *Curr Neurovasc Res.* 2004;1(5):455-64.
27. Liu YQ, Xin TR, Lü XY, Ji Q, Jin Y, Yang HD. Memory performance of hypercholesterolemic mice in response to treatment with soy isoflavones. *Neurosci Res.* 2007;57(4):544-9.
28. File SE, Hartley DE, Elsabagh S, Duffy R, Wiseman H. Cognitive improvement after 6 weeks of soy supplements in postmenopausal women is limited to frontal lobe function. *Menopause.* 2005;12(2):193-201

Authors Disclosure: There is no funding information to disclose. Author is a consultant to United Soybean board and QualiSoy.

Table 1: Isoflavones and Immune Function (14,20,24)

Genistein	Diadzein
<ul style="list-style-type: none"> ❖ ↑Thymic size; thymocyte apoptosis ❖ ↓CD4+ and cell-mediated immunity ❖ ↓ Interferon (IFN) gamma production ❖ Anti-inflammatory effect ❖ ↑ Splenic B and T cells, macrophages; ↓ thymic weight and splenic natural killer cell activity ❖ ↑ Relative thymic mass, CD4+CD8+ thymocytes and CD8+ splenocytes 	<ul style="list-style-type: none"> ❖ Enhanced cell-mediated immunity observed as increases in lymphocyte proportion of peripheral blood ❖ Anti-tumor activity ❖ May reduced risk of certain diseases including breast and prostate cancers ❖ Pharmacological modulation of IL6 gene expression levels may have therapeutic benefit in preventing cancer progression ❖ Restores immune homeostasis ❖ Inhibits bone loss apparently without estrogenic activity

Table 2: Nutrients in Soy and Immune Function (14,20,24)

Nutrients	Immune Function
Hydrophilic amino acids,	Modulates immune responses, acts as signaling molecule, kills pathogens, regulates cytokine production, mediates autoimmune diseases and acts as antioxidant
Branched chain acids	Regulates protein synthesis and has anti-inflammatory effects
Choline	Restores immune function, acts as a precursor of acetylcholine
Zinc	Required for B lymphocytes and influences multiple enzymes involved in protein, lipid and carbohydrate metabolism; enhances immune function
Selenium	Protects neutrophils from free radicals
Polyunsaturated Fatty Acids	Enhances immune response and has antiinflammatory effects

Table 3: Summary of the Effects of Soy on Medical Complications (14,20,24)

Medical Complications	Effects of Soy/Soy Isoflavones
Glycemic Control	Low glycemic index, rich in dietary fiber, reduces serum insulin levels and pancreatic insulin content and improves insulin sensitivity due to increased glucose uptake
Cardiovascular Health	Lowers LDL, lowers triglycerides, may increase HDL and improves endothelial function
Bone Health	Prevents or delays the onset of bone loss, maintains peak bone mass, maintains spinal bone mineral density and inhibit bone resorption
Brain Health	Decreases oxidative stress and helps to improve cognitive function
Immune Function	Modulates immune function, modulates B cell populations and appears to be protective against DNA damage
Obesity	Reduce body fat while increasing lean body mass and reduces hunger and serum leptin
Muscle Performance	Involved in formation of lean body mass, improves muscle recovery and reduces oxidative stress/muscle inflammation
Renal Function	Decreases proteinuria

(Overview, from page 7)

In addition, Jenny emphasized dietary modifications such as smoking cessation and regular exercise as essential components for the prevention of complications. It seems that HIV-positive people develop high cholesterol and experience coronary artery disease for the same reasons as HIV-negative people (genetics, age, diet, smoking, DM, high blood pressure, gender, race, weight and physical inactivity). So although the antiretrovirals play a part in causing dyslipidemia and CAD, the risk of cardiac events are greatly decreased using diet and lifestyle modification like in the HIV-negative population.

Lastly, Jenny focused on bone health and HAART. The bone loss due to HAART does not seem to be progressive past the point of initiation of HIV meds. Although the prevalence of bone demineralization has increased, the occurrence of fragility fractures has not. There are currently no specific recommendations for monitoring bone density in HIV-positive people. Possible causes of bone loss include the interference of protease inhibitors with vitamin D utilization, mitochondrial toxicity of the osteoblasts caused by nucleoside reverse transcriptase inhibitors, and the body's immune response. Typical dietary interventions include ensuring adequate calcium, vitamin D, magnesium, vitamin K and phosphorus intake. It is also beneficial to avoid alcohol, caffeine, smoking, and high salt intake, and engage in weight bearing exercise.

Use of Alternative and Complementary Therapies for People Living with HIV/AIDS

Vijaya Juturu, PhD, FACN

Former Research and Education Committee Chair for HIV/AIDS DPG

Dr. Vijaya Juturu is currently the Director of Scientific Affairs at the biotech firm Nutrition 21, Inc. Dr. Juturu is the author of several publications, including book chapters and qualified health claims. She presented on cardiovascular nutrition in more than 150 scientific meetings. She is

a member of numerous professional organizations including the American Diabetes Association, American Heart Association, American Dietetic Association, American Society for Nutritional Sciences, American College of Nutrition, and the American Oil Chemists Society.

Dr. Juturu emphasized that being underweight is an indicator of chronic and acute malnutrition, and was previously a leading cause of mortality worldwide. The key to effective treatment is early detection and intervention. Some early treatments aim to strengthen the immune system, help patients reduce stress, and maintain good nutritional practices and appropriate exercise regimens.

Dr. Juturu said that many alternative therapies are important in managing HIV related complications. Consideration of alternative therapies in conjunction with conventional medicine may offer additional opportunities for persons living with HIV/AIDS to be proactively involved in their treatment.

Deficiencies of vitamins and minerals, such as vitamins A, B-complex, C, and E and selenium and zinc (which are needed by the immune system to fight infection), are common in PLWHA. There are several interventions to consider. Complimentary and Alternative Medicine (CAM) is a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine. Integrative medicine combines treatments from conventional medicine and CAM for which there is some high-quality evidence of safety and effectiveness.

Dr. Juturu described that following systematic exposure to a respiratory virus in the laboratory, individuals who report higher levels of stress or negative moods have been shown to develop more severe illness than those who report less stress or more positive moods. Meditation, one of the most common mind-body interventions, is a conscious mental process that induces a set of integrated physiological changes termed "the relaxation response." Dr. Juturu described other mind-body techniques for people with HIV/AIDS including hypnosis, humor therapy, biofeedback

training, and listening to inspirational or relaxational audiotapes.

Dr. Juturu reviewed over nine randomized clinical trials, which tested eight different herbal medicines, compared with placebo, in HIV-infected individuals or AIDS patients with diarrhea. The results showed that a preparation called SPV30 may be helpful in delaying the progression of HIV disease in HIV-infected people who do not have any symptoms of this infection. A Chinese herbal medicine, IGM-1, seems to improve the quality of life in asymptomatic HIV-infected people.

Dr. Juturu described biologically based practices, which includes but are not limited to botanicals, animal-derived extracts, vitamins, minerals, fatty acids, amino acids, proteins, prebiotics & probiotics, whole diets, and functional foods. Herbal treatment and HIV drug interactions were reviewed. Dr. Juturu emphasized lastly that nutritional assessment methodologies are needed to effectively utilize and adapt to the various program and service delivery models found in resource-limited settings in order to tailor CAM interventions related to the prevention, care, and treatment of HIV/AIDS.

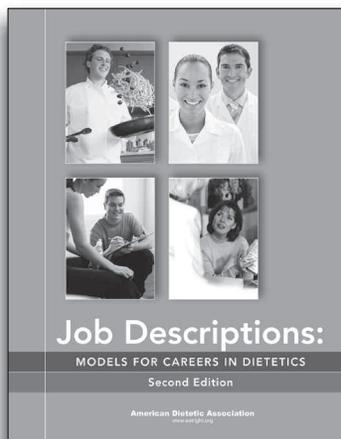
You Are the Future of Dietetics.

Shouldn't Your Career Description Be Up-to-Date?

Now Available!

Job Descriptions: Models for the Dietetics Profession, Second Edition

This updated version moves beyond traditional roles to include new and creative positions in the dietetics field as well. Each model position description contains a job summary, list of major responsibilities, and knowledge and skills required. The new, lower member price of \$35 includes a free CD-ROM with all the job descriptions, which can be customized for your own use.



317708 SOFTBOUND W/ CD-ROM
120 PP. 8 ½" X 11" 2008
ISBN: 978-0-88091-420-8
\$100 ADA MEMBERS: \$35.00

Order Today!

Phone: 800/877-1600, ext. 5000

Fax: 312/899-4873

Online: www.eatright.org/careerpubs

American Dietetic Association
www.eatright.org

DPG Newsletter Database

Looking for an article from a past issue of a DPG newsletter? No need to sort through all your back issues. Just check the online DPG Newsletter Database index to quickly locate the correct issue. This searchable database provides an index of food, nutrition and dietetics practice articles for most DPG newsletters beginning in 2000 through the present. You can even delve back into dietetics history as some titles are indexed as far back as the late 1980's. Developed as a resource for members by ADA's Knowledge Center, the link to the database is located in the Food & Nutrition Information section of the Web site under Food & Nutrition Resources for Members. Or, go directly to www.eatright.org/cps/rde/xchg/ada/hs.xsl/nutrition_8048_ENU_HTML.htm.

If the issue you need is missing from your collection, the ADA Library can provide a single copy of an article. There is a library fee of \$5 per article for this service. To request an article or for more information contact the Knowledge Center at library@eatright.org.



HIV/AIDS

a dietetic practice group of the

American Dietetic Association

HIV/AIDS DPG
American Dietetic Association
120 South Riverside Plaza
Suite 2000
Chicago, IL 60606-6995

PRSR STD
U.S. POSTAGE
PAID
PERMIT NO.
19
Batavia, IL