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Promoting Cultural Competency: A Nutrition Education Model for Preparing Dietetic Students and Training Paraprofessionals in an International Setting

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Abstract

Diversity sensitivity and cultural competence must become fundamental components of university curricula. A multi-dimensional nutrition education model was developed for a train-the-trainer program that included training dietetic students who would then train paraprofessionals instrumental in providing education and care for individuals in a community. This model effectively integrated diversity sensitivity, cultural competence, and nutrition competencies for the dietetics students. Eight culturally specific modules on basic nutrition, food sanitation and safety, and prevention, identification and management of prevalent non-communicable chronic diseases were developed during Spring semester 2009. A nutrition education workshop was held for twenty Community Health Aides in the Commonwealth of Dominica during summer (July) 2009. The dietetic students presented the modules and conducted evaluations of the model. Workshop participants rated the modules favorably. Dietary workshops for Community Health Aides can be extremely useful tools for developing a larger base of knowledge, increasing health awareness, and strengthening education and outreach. Likewise, this service learning model exposes students to skills related to grant writing, research, curriculum development, and teaching. This program encouraged students to apply innovative, critical thinking skills necessary to succeed in a dynamic, global profession. Utilizing this educational model will prepare students to be leaders in an increasingly challenging environment.

Keywords: service learning, cultural competence, diversity training, preventative health, non-communicable chronic diseases

1. Introduction

Nutrition and dietetics is now a globally based career requiring diversity and cultural competence in many dimensions including race, sexual orientation, immigration status, education, socioeconomic status, religion, ethnicity, literacy, gender, age, dietary intake and others (Ochoa et al., 2003; Purnell, 2002; Curry, 2000; Loudon et al., 1999). Practitioners, themselves, are not only likely to be multicultural or multiethnic, but they are likely to be diverse in linguistics, religion, ability, and economics (Ladson-Billings, 2001). Practitioners need to be sensitive to health beliefs and behaviors, epidemiology and treatment efficacy of different population groups to achieve cultural competence. Therefore, "cultural competence" encompasses more than acknowledging and tolerating differences of "cultural sensitivity"; it is the respect and utilization of the knowledge and skills in diagnostic and management settings (Goody & Drago, 2009; Ochoa et al., 2003). Health workers need to recognize the health care disparities that exist around them while still functioning within a multicultural framework and meeting the demands of an increasingly diverse society (Ochoa et al., 2003; Campinha-Bacote, 1991).

Many campuses include international education as part of their core educational mission, recognizing that increasing global competence among the next generation is a national priority and an academic responsibility. International service learning initiatives, even short-term models, offer an opportunity for cultural immersion. Goals of international studies include, but are not limited to, language proficiency, emotional resilience, fostering maturity and intellectual growth, enhanced perspective of world affairs including terrorism, and enhanced goodwill toward other nations. The challenges of international education models include economic, geographic,

political and safety issues, but are essential to prepare future practitioners for a career and citizen responsibilities that involve nations across the globe (Osler and Vincent, 2002; American Institutes of Research, 2002; McAllister and Irvine, 2000). This pedagogy provides unique opportunities for the development of professional skills, including cultural competence, as well as personal enrichment. Students are able to develop a positive sense of themselves and develop a commitment to larger social and community concerns (Ladson-Billings, 2001). Therefore, it is imperative that diversity and cultural competence become fundamental components of university curricula.

With the increasing cost of healthcare, hospitalization, treating complications, loss of productive capacity and the impact on the quality of life, more emphasis needs to be placed on preventive health including the pivotal role of nutrition in risk reduction (CFNI, PAHO/WHO, 2004). Obesity has reached epidemic proportions globally with more than 1 billion adults overweight - at least 300 million of them clinically obese - and is a major contributor to the global burden of chronic disease and disability (WHO, 2009). Obesity and overweight pose a major risk for serious diet-related chronic diseases, including type 2 diabetes, cardiovascular disease, hypertension and stroke, and certain forms of cancer. As availability of resources and economic opportunity have increased, an epidemiological transition in the Caribbean occurs in which incidence of malnutrition and infectious diseases has declined and of obesity and chronic diseases such as diabetes, coronary heart disease, and cancer has increased (Sinha, 1995; Omran, 1971). Dietary transition linked to globalization, urbanization, greater access to processed food items, and socioeconomic changes may be connected to this epidemiological transition (Popkin, 2002; Smil, 2000; Popkin, 1993). The health consequences range from increased risk of premature death, to serious chronic conditions that reduce the overall quality of life. Of special concern is the increasing incidence of childhood obesity (WHO, 2009).

Chronic, non-communicable, nutrition-related diseases are the main causes of disability, illness and death in the Caribbean. In two decades, obesity in Caribbean nations has grown by almost 400%. It is now the most important underlying cause of death in the region and the range of consequent illnesses is wide among those who survive (Rodriguez et al., 2006; Alleyne, 2005; Henry, 2004). According to the most recent data available, the prevalence of overweight increased from 6.0% to 9.7% from 1990-2000 in the island nation of the Commonwealth of Dominica, peaking at 9.9% in 1995 (FAO, 2003). Diabetes and hypertension are currently the most common reasons for healthcare demand with 2,044 diabetic persons (0.7% of total population) and 4,041 hypertensives (5.3% of total population) registered at primary care clinics as of December 1999 (PAHO, 2002). Unpublished data from the Ministry of Health revealed that in 1993 the prevalence of hypertension (BP > 140/90) was 20.0% among adults 18-60 years, 19.7% among persons 15 years and older and 80.0% among females 65 years and older. A 2.0% prevalence was reported for diabetes among persons 18-60 years, although current identification strategies are weak (CFNI, 2000).

Additionally, Dominica is very characteristic of many islands in the Caribbean in that it has limited trained professionals regarding nutrition. Only two registered dietitians reside on the island, one of which serves the population (Boyne, 2009). Community Health Aides are workers trained in medical care with some overview training in chronic diseases and preventative services. These "frontline soldiers" work one-on-one in homes in each parish throughout the island and are charged with identifying individuals at risk.

The increasing demand that chronic diseases, diabetes and hypertension in particular, are placing on the health services may be a direct result of the high prevalence of obesity and overweight. It has been observed through previous surveys that the Dominican diet has become high in meat products, salt/salt preserved products, and oils and fats (Dominica Ministry of Health, 2005). Over the past few decades, the Dominican culture has transitioned from utilizing the resources around them to relying on imported goods and fast food. Currently, there are no known health programs that target the increasing prevalence of obesity and related diseases such as cardiovascular disease, hypertension, and diabetes (Halcrow Group Limited, 2003).

Researchers who worked on a national survey on food consumption patterns (1996) revealed that over 47.9% of the Dominican adult population was obese (Dominica Food and Nutrition Council, 1996). Latest statistics from the Dominica STEPS Survey (2008) report a slight improvement with 32.7% of women classified as obese compared to 8.6% of men, and 92% of both genders consuming less than five combined servings of fruits and vegetables per day (PAHO, 2008). In 2006, hypertensive heart disease was the leading cause of death in Dominica with 15% of all deaths while diabetes mellitus was the second leading cause of death in Dominica with 8% of all deaths (PAHO, 2009). Diabetes was also the second most common reason for visits to the health care clinics in 1999 (PAHO, 2009). Food consumption surveys have allowed researchers and healthcare providers to identify the reasons for the

increases in these types of diseases. This has helped bridge the gap between evaluating the problems and developing interventions to improve the problems (FAO, 2004).

Public health literature has shown that intervention programs that are organized within an ecologic framework have the biggest potential to improve the health of populations (Brownson et al., 2004). An ecological framework stresses the importance of addressing health problems at multiple levels and recognizes that behavioral determinants range from individual and interpersonal factors to community norms, environments, and policies (Swinburn et al., 1999; Sallis and Owen, 1997; Breslow, 1996). Efforts to change health behavior are more likely to be successful when positioned within multiple spheres of influence at the same time (Gregson et al., 2001). Multifactor collaboration socio-ecological models can play a key role in influencing the health and well-being of future generations through increased awareness of lifestyle to normal growth and development, risk reduction for chronic disease and disease management through societal, community, organizational, intrapersonal, and individual relationships. To be valuable, chronic disease prevention interventions must collectively address risks and opportunities at all five levels. Likewise, a comprehensive health promotion effort cannot succeed if the environment does not provide people with resources and opportunity required for health. Utilizing the most effective and efficient resources in underserved areas like the Caribbean can help improve health literacy, including a focus on wellness, for a dramatic impact on health care.

Train-the-trainer education and promotion programs have demonstrated effectiveness in state-based extension programs, Hospice and home care, and nursing homes (Ersek et al., 2006) in a variety of specialty areas including health, nutrition, agriculture and entrepreneurialism. The logic of this model involves core trainers providing education and training to secondary trainers who, once they have increased their knowledge, self-efficacy and skills, then have the responsibility to expand their knowledge and skills to an extended target.

The overall goal of this program was to provide encounters to develop a sustainable training and intervention strategy that can be used to improve basic nutrition and meal planning, assessment, and risk reduction while fostering cultural awareness, knowledge and skills. It is hypothesized that this collaborative initiative will enhance the awareness of the global role of nutrition in achieving and maintaining health and its relationship to risk reduction for chronic disease. Students and workshop participants will gain knowledge about themselves, their communities, and other cultures around the world. The impact of chronic disease on longevity, healthcare costs and overall quality of life can be decreased through this model. This model can be replicated and customized for other islands throughout the CARICOM region.

2. Methods

A multi-dimensional nutrition education model was developed using the train-the-trainer concept. The model included training dietetic students who would then train paraprofessionals instrumental in providing health education and primary care for individuals in a community in an international environment (Figure 1).

Community Health Aides in Dominica are workers who are trained in acute medical problems, chronic diseases, and preventive health and consequently were identified by the Ministry of Health and the Environment as a logical population to continue the socio-ecological model integration with the initiation of the train-the- trainer program. All Community Health Aides in Dominica were invited to participate (N= 20) by the Ministry of Health Supervisor for the Dietary Workshop. Participation was voluntary and each participant provided a written consent before attending the workshop. Written approval from East Carolina University Institutional Review Board was obtained for this study.

2.1 Course Development

Undergraduate and graduate dietetics students and nutrition faculty developed eight culturally specific modules on basic nutrition, sanitation and safety, and prevention, identification and management of prevalent non-communicable chronic diseases during Spring semester 2009. Students and faculty met weekly to critique curricula developments, investigate cultural history and current practices, discuss programmatic details, and establish surveillance and evaluation criteria and tools. Although the target population resided in Dominica, the group discussed how the curricula and development of a sustainable infrastructure could be applied to other underserved populations both in the Caribbean and in eastern North Carolina.

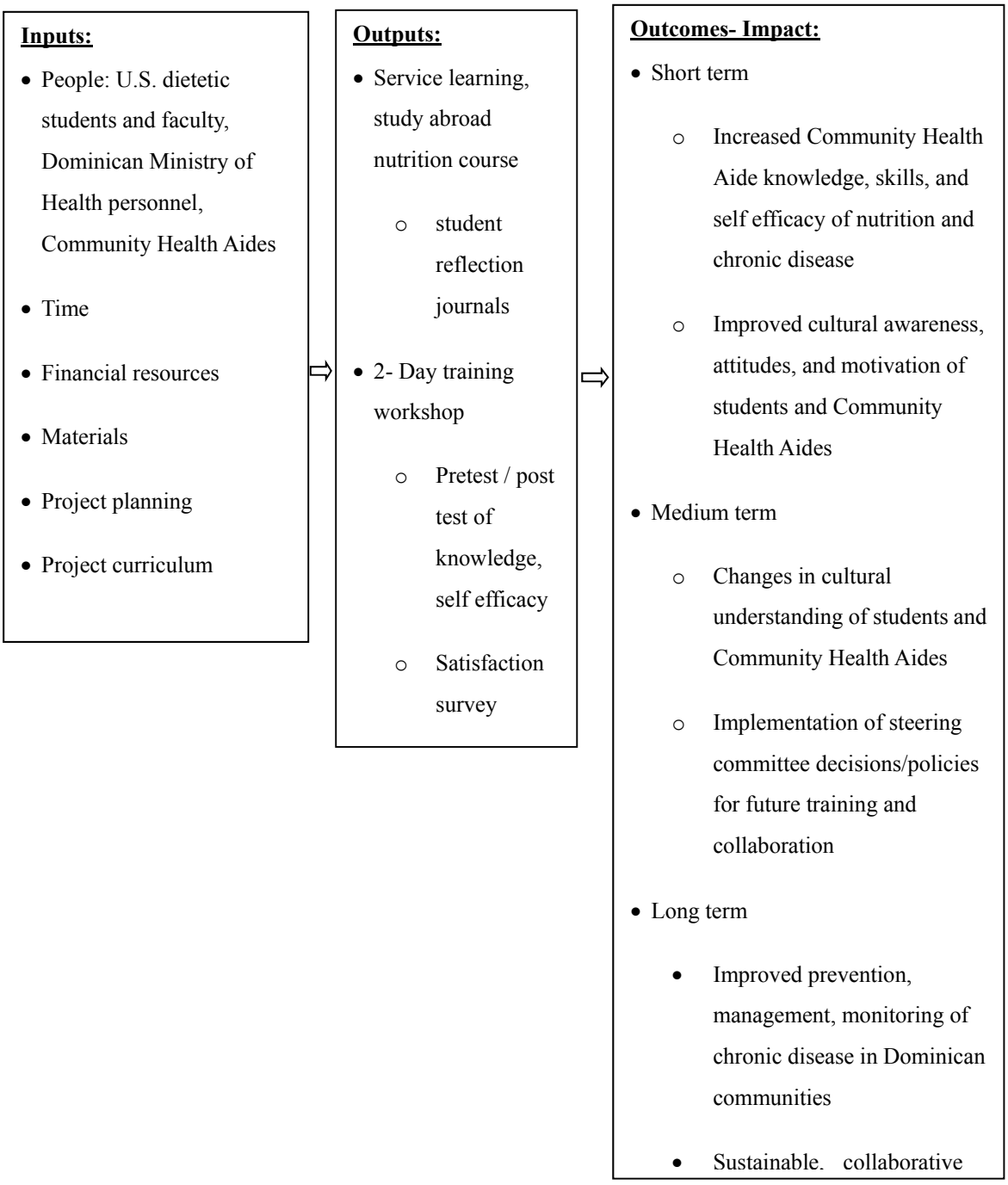

Figure 1. Logic Model of the Train-the-Trainer Nutrition Education Model

2.2 Course Implementation

A nutrition education workshop utilizing the eight modules was held for twenty Community Health Aides in the Commonwealth of Dominica during Summer 2009. The dietetic students presented the modules and conducted evaluations of the effectiveness of the model. Students recorded their reflections in daily journals.

The Community Health Aides received a curriculum booklet (Figure 2) along with a visual presentation of the modules (Figure 3) for the workshop. Facilitated interactive practice was also offered to incorporate and demonstrate dietary assessment and identification methods.

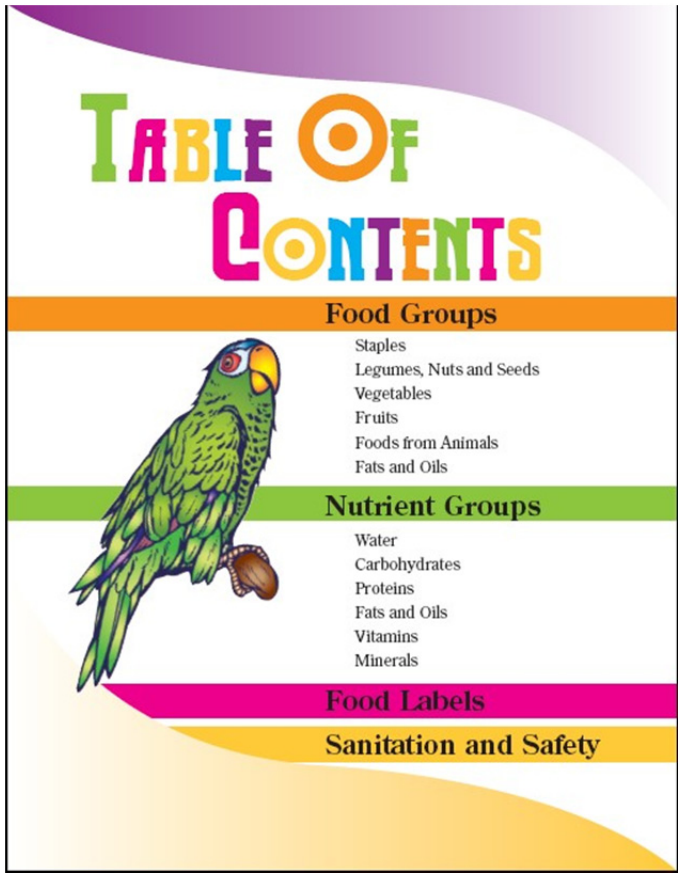

Figure 2. Training Workshop Curriculum Booklet Table of Contents

Figure 3. Example of Training Workshop Presentation Title Slide

In addition to the workshop, a non-governmental panel of community persons was incorporated into the workshop agenda. Panel participants included governmental and non-governmental representatives from organizations such as the Ministry of Health, Ministry of Agriculture, Ministry of Education (School Feeding Program), Home Economics Association, Cancer Society, Food and Nutrition Council, and a child, women, family, and older adult assistance programs. This panel represented a public declaration of the health issues and engaging internal partners. Following the workshop, a meeting was held where the Community Health Aides also identified key role models in communities served that could be instrumental in developing infrastructure for applying new knowledge and skills to positively impact health of the island population and identified needs for further training and intervention.

3. Results

3.1 Course Evaluation

At the conclusion of the workshop and eight months following the workshop, participants anonymously completed a satisfaction survey and collectively discussed their opinions in a focus group setting. The evaluation sought feedback on the quality, application, and usefulness of the course content, and how satisfied participants were with workshop logistics. In addition to asking participants to rate various elements of the workshop on a scale of 1 to 5 (1= strongly disagree or poor; 5= strongly agree or excellent), participants were encouraged to provide extensive open-ended comments.

Workshop participants rated the modules favorably. Table 1 presents selected cumulative responses from Community Health Aide participants (n=18) immediately following the workshop and eight months post-workshop.

Table 1. Satisfaction Survey Responses (n=18)

Survey Question	**Response**
The training workshop was informative. (1=strongly disagree to 5=strongly agree)	Mean score= 5.0
The training workshop was useful. (1=strongly disagree to 5=strongly agree)	Mean score= 4.9
Which module information do you feel will be most useful?	Dietary Guidelines 55% Type II Diabetes 17% Various other 28%
Which module information have you used most (8 months post training)?	Hypertension 44% Type II Diabetes 17% Various other 39%
Overall, how would you rate the training program? (1= Poor to 5= Excellent)	Mean score= 4.8

Following the completion of the written survey, Community Health Aides engaged in an open dialogue to express their satisfaction and overall feedback. Most participants agreed that the workshop was a wonderful avenue to connect among their communities, establish collegial partnerships, and work with others form different cultures.

3.1.1 Participant Feedback

Response 1:"...This training has created a closer bond with people who work in areas of nutrition..."

Response 2:" It was very interesting working with people from a different culture and to find out that when it comes to nutrition, we are basically the same."

Response 3:"...(this program) helped me embrace and welcome opportunity to gain knowledge..."

Response 4:"...this program impacted my understanding of who I work with in my community ... by being able to give information without stammering and helping boost my confidence and knowledge in my field of work."

Response 5:"I am now much more comfortable to relate to any supervisor and other persons of authority."

Response 5:"... (This program) made me feel like a team."

Students were asked to keep a daily reflection journal of their experiences while abroad. They were asked to document the activities of each day and include their personal perspective of new or "surprising" events. Upon return of the study abroad experience, students were again asked to reflect specifically to structured prompts pertaining to challenges of course development, personal and community impact of the program, and memorable/learning experiences. Students identified areas of personal growth and cultural understanding.

3.1.2 Student Feedback

Response 1: "...I now realize the amount of time and effort that is required in developing a program or module..."

Response 2: "This process was extremely eye-opening for me to see and work with culturally different people. I learned as much from them as they learned from the workshop..."

Response 3: "This experience impacted the community by enhancing their knowledge of health concerns that many of their patients face on a daily basis. For the most part, the health aides gained additional information from the program that will help them in counseling their patients from a nutritional perspective."

4. Discussion

The importance of this workshop was to empower and educate those who can educate others. This program exposed students to innovative, critical thinking skills needed for a dynamic, global profession. Training the Dominican Community Health Aides to become more knowledgeable, skillful, and confident will help communities by spreading health awareness to the rest of the Dominican population. The Community Health Aides can use the training to improve their knowledge and understanding and communicate the importance of diet and health to the community. This knowledge gained through the training can aid the Community Health Aides to become more informed and confident when teaching others. Through the witness of the entire process, students can better appreciate community based program development. Nutrition education and support will enable the Community Health Aides to aid communities of Dominica through a community effort in making better dietary and healthful decisions.

Additionally, dietary workshops for Community Health Aides can be extremely useful tools for developing a larger base of knowledge, increasing health awareness, improving risk assessment and management of prevalent conditions, generating supportive mechanisms, and expanding outreach. Dominican Community Health Aides were asked to participate in a steering committee at the conclusion of the workshop. The overall steering committee was comprised of government officials, key role models, and community health aides in Dominica with the purpose of collectively communicating health concerns across the island. This steering committee provided a venue for Community Health Aides to share their concerns, identify healthcare priorities from their communities, and identify key community leaders. Eight months following the steering committee, an advisory committee was formulated with a representative Community Health Aides from each health district. This committee is the intermediary response between communities and the Ministry of Health, and is charged with organizing future training workshops based on the suggestions brought forth from the post-workshop surveys.

Likewise, this internationally based service learning model incorporated multiple education and ecological models to expose students to skills related to grant writing, research skills, curriculum development, face-to-face instruction, community assessment, and program planning. Students used innovative, critical thinking needed for a dynamic, global profession to effectively meet goals. This model effectively enhanced diversity awareness, cultural sensitivity, and critical thinking in the dietetics students. This experience demonstrated that prevalent chronic disease affects populations and cultures across the globe. Utilizing this educational model will prepare students to be leaders in an increasingly challenging environment.

5. Conclusion

Partnering with healthcare professionals, including dietitians, and key role models in communities helps pool strengths and develop new skills for prevention efforts. Through these interconnected social relationships, individuals can find the support and guidance they need to make healthful choices. An intersectoral approach to facilitating the behavior change needed is a key strategy in chronic disease prevention and control (Gerrard et al., 2004; Hoffman & Jackson, 2003). Interventions in various settings such as workplaces, schools, clinics and hospitals, are also critical for success.

This training program will serve as a foundation for longitudinal assessment and intervention plans. This train-the-trainer model will extend the availability of trained paraprofessionals in an island where registered dietitians are severely limited and nutrition related chronic diseases are increasing. This program can serve as a pilot project for community involvement processes in the Caribbean and can hopefully serve as a template for extending the initiative for other at risk populations both in the Caribbean and the United States.

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Competing Interests Statement

The authors declare that they has no competing or potential conflicts of interest.

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