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Community Level Theory and Diffusion of Innovations

Nelson S.A., Corbin M.A., Nickols-Richardson S.M. (2013). A Call for Culinary Skills Education in Childhood Obesity-Prevention Interventions: Current Status and Peer Influences. ***Journal of the Academy of Nutrition and Dietetics.*** **113(8), 1031-1036.**

Purpose

The purpose of this article is to synthesize current research and make a case for culinary skills education as a means to improve nutrition literacy and teach skills necessary for the preparation of healthy foods. There has been interest in resurrecting formal culinary skills education in schools and, as Nelson et al note, there is an enormous opportunity for innovation and research in this area. At a time when transference of cooking skills from parents to children rarely exists, there is new urgency to empower youths by giving them the skills to select, handle, and prepare healthy foods. Culinary skills education can serve as a means to accomplish the health goal set by the Task Force on Childhood Obesity, which calls for a 5% reduction in childhood obesity by 2030.

Explanation of Theory

Rothman [2001] offers a model of community organization in which locality development, social planning, and social action are considered. Locality development refers to on the ground the mobilization of local resources. Each community needs to look within and identify resources that could lead the effort of culinary skills education. Local chefs, nutrition professionals, farmers, parents, and school teachers are potential community leaders who could be called upon. Social planning addresses the design and implementation of social plans and policies that work toward solving the self-identified community problem. Identifying experts within the community who could lead a culinary skills program would be optimal. The

support of policy makers, such as school superintendents and public health officials, would be necessary for support of the program. Social action encompasses the ability of the community to achieve concrete changes. A close review of the community's social capital and collective skill set for implementing a culinary skills program would be essential at creating a foundation of support. While there is a growing appreciation for the development of community organization theory, understanding community building is important to planning an effective health behavior intervention.

The foundation of community building is in how the individuals in the community engage together and stresses common assets and shared identity – it is a strength-based approach for projects. At the center of both community organization and community building are the concepts of empowerment and critical consciousness. Enabling communities to take control of their lives and sustain the health behavior changes is paramount. They need to be able to self-reflect and keep the community as a whole on tract, recognizing that individuals will fluctuate within stages of change. Communities should also be made aware of the social capital within their community and how to best utilize these resources. For example, the culinary skills program could use the local library or school gym as venues. Additionally, issue selection is vital as the community needs to self-identify the issue, rather than have one mandated from an outside source. If the community as whole does not perceive that they have an obesity problem, regardless of whether it is true or not, imposing a culinary skills program as means to address this problem will not be successful. Motivational interviewing is key to effective issue identification and requires expertise – this too often is overlooked. In this way, a skilled, empathetic, health professional can evaluate the perceived needs of the community and communicate the value of a culinary skills program to promote its value. Finally, participation and relevance are concepts that begin where the people are at and engage community members as equals. An omnipotent health professional who enters the community with good intentions might not be able to rally a call to action if community leaders see them as imposing a program that is not relevant to them. The program will be most effective if the community self-identifies obesity as a problem that is relevant to the community and recognizes the value of culinary skills in promoting healthy eating behavior.

With all of the above considered, once a culinary skills program is developed and implemented, it is important to understand how the community will take up the health behavior change. Rogers' theory of Diffusion of Innovations [1962] helps to explain: Diffusion of Innovation is the "process by which an innovation is communicated through media over time among members of a social system."[Rogers,1962]. This theory assumes random interactions within the community between adopters and non-adopters. For example, youths attending a cooking class [adopters] as part of an after school program will go into their groups of friends and return home with their new ideas, skills, and enthusiasm for healthful food preparation. This might encourage others to participate [non-adopters become adopters], and the diffusion continues through the community. Assigning peer leaders as culinary ambassadors encourages diffusion of healthy cooking. Eventually, the base of individuals with newly learned skills broadens. Rogers identifies the diffusion as beginning with the innovators, the very first adopters that represent about 2.5% of the given population. These people are the risk takers and success of a program depends on them sharing their experience with others in the community. Early adopters, representing 13.5% of the population, engage in the take off phase of an innovation and, while not identified as risk takers, they are interested in new concepts. The early majority is identified as those who take some time to deliberate before adoption. This portion of the population, 34%, might represent a sub-community, such as the student body of a high school that becomes inspired by the afterschool healthy cooking program. The late majority, also 34%, might be cautious, but are still interested in adopting the behavior. Those who do not adopt the innovation, the laggards, are the 16% of the population, who for whatever reason may not be interested in healthy cooking skills.

Summary of Article

This year, The American Medical Association classified obesity as a disease. This decision will greatly impact the practice of dietetics, as services related to obesity treatment and prevention will become reimbursable. Protocols have yet to be fully established, but what Nelson et al contend is that in order to sustain any change in behavior, empowerment of individuals and communities is necessary. The 2010 Dietary Guideline for Americans agree with this call to action

by supporting efforts to "empower individuals and families with improved nutrition literacy, gardening, and cooking skills to heighten their enjoyment of preparing and consuming healthy foods." [Nelson et al, 2013].

This article serves to update the increasing need to incorporate culinary skills education into childhood obesity interventions. It addresses why culinary skills programs are important, how effective such interventions can be at modifying obesity-related risk behaviors, and how peer-led programs can be effective. Table 1.1 is an outline that highlights these important questions and offers the answers the researchers propose.

Nelson et al identify a number of leaders within the community [Unites States] that recognize the problem [obesity] and its relevance to the future health of our nation. Our nation's leader signed a Presidential Memorandum to create the Task Force on Childhood Obesity. Within this memorandum, 70 strategies are outlined to guide communities around the nation in their efforts to reduce childhood obesity. This political agenda heightens the need for improved culinary skills as a means to preparing more healthful foods. We have created a generation without cooking skills, Nelson et al note, as cooking from scratch is no longer the norm. Culinary skills are passed from parents to youth in the household – this transfer of skills assumes that first, the meals were prepared in the home from scratch and second, that the entire family was present as the meal was prepared. The current lifestyle of many families is not consistent with this idyllic model.

While it may seem that efforts need to focus on the individuals at risk, one must recognize that this is a community problem, where the community represents our nation. Sustained change for a nation will be most successful when sub-communities, such as our youths, become empowered and carry change into their environments and social networks. Change will endure in those environments that support efforts to improve eating habits. Alterations in public policy and funding of public health programs that promote and encourage healthy eating habits are necessary.

Table 1.1 Questions, proposed answers, and possible role of culinary skills as solution:

Why are culinary skills important?
➢ Teach youths how to cook and prevent childhood obesity. ➢ Associated with higher intake of fruits and vegetables. ➢ Hands-on environment is opportunity for experiential learning. ➢ Culinary skills as a strategy for health behavior change is consistent with socio-ecological theories such as Social Cognitive Theory, where change is mediated through personal and environment variables that interact reciprocally.
How effective are culinary skills interventions in modifying obesity-related risk behaviors?
➢ Informal literature review identified 17 relevant publications related to culinary skills education: Improvements in cooking behaviors were consistently significant and included positive effects on preparation skills, food safety behaviors, and general cooking skills. ➢ While limited, evidence does suggest the feasibility and effectiveness of programs to promote positive outcomes associated with improved cooking behavior.
What are benefits of peer-led culinary skills programs?
➢ Train highly motivate individuals in community to serve as influential models [culinary ambassadors]. ➢ Peers can initiate behavior change in others through modeling and observational learning. This is particularly relevant to youths. ➢ Cooking with peers encourages teamwork and encourages respect among group. ➢ Positive social affective context is created through peer-led cooking program. ➢ Improved dietary behaviors through food tastings can strengthen social networks.

Conclusions

"Nutrition knowledge alone appears incomplete without experiential learning via interactions with food and cooking equipment." [Nelson et al, p. 1032]. The evidence presented in this article further implicates culinary skills education programs as important tools in the prevention of childhood obesity. The call to teach youths how to cook in an increasingly obesogenic food environment has never been stronger. Dietetic practitioners need to engage community leaders such as school superintendents, public health officials, and policy makers, to make the promotion of culinary skills interventions possible and effective. Including peer leaders, such as culinary ambassadors, into these programs will make them more effective and will increase the likelihood that they will diffuse through the social networks of youths that permeate the community.

Problems – Limitations

The lack of published data regarding culinary skills interventions is a substantial limitation, although it provides a grand opportunity for potential research. Many of the research studies used in this article's assessment included abstracts that have yet to be transformed into peer-reviewed publications. Also, the mechanism of how culinary skills affect eating behaviors is not clearly understood and presents an obstacle in determining validity and reliability of measurements for changes in eating behaviors. Again, though, this provides an opportunity for future research.

The authors also note that while peer led culinary skills interventions seem to make sense in the context of social modeling and observational learning, there has been no research conducted in this area. It is well known that youths are more likely to sustain healthy behaviors when peers empower them [Nelson et al, p. 1034]; however this has not been tested against a culinary skills intervention.

Sustaining programs called for in this article requires time, money, and resources – all of which need to be considered. Proper assessment of social capital within unique communities needs to occur, as does verification from within each community that childhood obesity is a problem. This requires practitioners who possess excellent motivational interviewing skills; availability of such professionals is limited.

Implications

While this article does not present any original research, it does convey a sense of urgency about the need for culinary skills interventions as a means to address childhood obesity. The authors aptly note that the empowerment of youths can change the direction of the current health crisis facing them and their peers. And while direction for outside experts can help develop and guide interventions, the entire process cannot be left to the medical community or public health officials alone. By arming youths with the basic skills and knowledge necessary to create healthful foods and encouraging them to be culinary ambassadors in their communities, it may be that the most powerful tool for public health change could be in the hands of younger generations.

Summary

The youths of our country deserve to know that the most healthful foods come from the ground, not from a box or bag. They deserve the knowledge that, generally speaking, the most healthful meals begin on a cutting board, not behind a drive-thru window. They are entitled to a complete education – one that allows them to develop into productive members of society, not grow into obese individuals dependent on medications with little hope of living long and fruitful lives. As nutrition educators, it is our responsibility to promote and provide evidence-based interventions that teach culinary skills which encourage and sustain health eating habits. Careful consideration of the research, creation of comprehensive culinary skills programs, recruitment of community leaders, and interpretation of the social theories will guide our practice to accomplish this goal.