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LifeSteps: An Evidence-based Health Promotion Program for Underserved Populations – A Community Service Learning Approach

Abstract

Chronic diseases are the most common, costly, and preventable of all health problems in the United States. Chronic diseases represent the leading causes of death and are experienced at higher rates by minority populations (CDC, 2012). Innovative community-based health promotion programs are recommended that meet the diverse needs of underserved populations (Yearly, et al., 2011). LifeSteps is being developed as an evidence-based health promotion program focusing on health and wellness, a domain area defined within the Occupational Therapy Practice Framework (OTPF, 2008). LifeSteps will utilize a client-centered approach to coach individuals in making health behavior changes. Fieldwork and service-learning components are incorporated integrating clinical practice, academic study, and collaboration with community providers. Program evaluation measures based on the Transtheoretical Model (TTM) have been identified to address all phases of program planning. The LifeSteps health promotion program aligns with local, national, and international objectives and addresses the need for programs that meet the diverse needs of underserved populations. Occupational therapists are in a unique position for implementing community-based interventions that promote health and contribute to a healthier society.

Keywords

health education, health behavior, community-based, minority health, service-learning

Credentials Display

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Statement of the Problem and Relevant

Literature

Chronic diseases are the most common, costly, and preventable of all health problems in the United States and represent the leading causes of death (Centers for Disease Control and Prevention [CDC], 2009). Chronic diseases include heart disease, stroke, diabetes, arthritis, cancer, and HIV/AIDS. Approximately one-fourth of the individuals suffering from a chronic disease have one or more daily activity limitations (CDC, 2009). In 2005, almost one out of two adults in the United States had at least one chronic illness (CDC, 2009).

According to the CDC, minority and ethnic individuals experience higher rates of obesity, cancer, diabetes, and HIV/AIDS (2009). The CDC identifies the four modifiable health risk behaviors as lack of physical activity, poor nutrition, tobacco use, and excessive alcohol consumption (2009). Through support by the National Institute of Diabetes and Digestive and Kidney Diseases and the National Institute of Health, a study was conducted on 3,234 participants at risk for developing diabetes. Forty-five percent were from minority groups, including African Americans. The results of the study revealed that people at risk for Type II diabetes benefited from lifestyle changes and the use of medications, although lifestyle changes resulted in better success (The Diabetes Prevention Program [DPP] Research Group, 2002). The DPP is a major multicenter clinical research trial focused on individualized behavioral intervention, “lifestyle coaches,” frequent contact, ongoing and tailored interventions, ethnically diverse strategies, and extensive outside support.

The DPP was shown to be successful in clinical settings. However, the study called for new programs to address the diverse needs of populations outside of the structure of the clinical setting. Although the diabetes prevention study was a large and successful study, it was based in the clinical setting and was unable to translate into community-based intervention programs without being modified. In 2013, an assistant professor of occupational therapy, with over a decade of experience in community health and program development, designed the LifeSteps health promotion program to address the diverse needs of underserved populations in community-based settings. The combination of racial and ethnic disparities coupled with aspects of environmental, physical, social, and spiritual contexts have contributed to negative health behaviors (Yeary et al., 2011). Multiple organizations have taken up the charge of addressing the health and well-being of the population in an effort to control health care costs as well as to contribute to a healthier and more productive society. A primary goal of the CDC’s National Center for Chronic Disease Control and Health Promotion (NCCDCHP) is to address issues of health disparities and thereby promote optimal health for all Americans (2009).

The World Health Organization (WHO) has a global aim to prevent disease and promote health. The goal of the Healthy People 2020 program is to reduce the risk and improve the quality of life for persons who have or are at risk for developing disease. Healthy People 2020 also indicates that these goals can be achieved through lifestyle intervention, behavioral changes, and prevention

programs in community settings (CDC, 2009). The International Classification of Functioning, Disability and Health (ICF) provides the framework and classification system to address the overall health of populations, health care needs, functional performance, and effectiveness of health care systems. The ICF is used to address issues at the individual, institutional, and societal level (WHO, 2012). The LifeSteps program aligns with these local, national, and international health promotion objectives. LifeSteps is being developed as a client-centered program to work in collaboration with academic institutions and community providers to address essential community and societal health promotion challenges.

In addition, research regarding cost effectiveness has rated providing healthy lifestyle interventions as beneficial for decreasing health care costs in the prevention of disease (Li, Zhang, Barker, Chowdhury, & Zhang, 2010). These resources emphasize the importance of using a client-centered model for providing health education resources for individuals and communities and support the American Occupational Therapy Association's (AOTA) stance on occupational therapy's role in health promotion (AOTA, 2010).

The AOTA's Centennial Vision and Executive Summary (2007) identifies the numerous barriers to fulfilling this vision. Strategic directions that emerged included a need to ensure an adequate and diverse work force, prepare occupational therapists and occupational therapy assistants for the 21st century, increase research capacity and productivity, strengthen the capacity to influence

and lead, meet societal needs for health and well-being, build an inclusive community of members, promote identity, and link education research and practice.

The LifeSteps health promotion program is being conceptualized as a new program development model that focuses on health and wellness, a domain area defined within the Occupational Therapy Practice Framework (OTPF; AOTA, 2008b). The occupational therapy profession is founded on an understanding that engaging in occupations structures everyday life and contributes to health and well-being (AOTA, 2008b). The OTPF, an official document of the AOTA, defines and guides the practice of occupational therapy. The OTPF was developed to articulate occupational therapy's contribution to promoting the health and participation of people, organizations, and populations through engagement in occupations (AOTA, 2008b). A key domain identified in the OTPF is health management and maintenance. The health management and maintenance domain focuses on developing, managing, and maintaining routines for health and wellness promotion, such as physical fitness, nutrition, and decreasing health risk behaviors. The LifeSteps program aligns with the OTPF's domain of health management and maintenance and aims to promote health and wellness by promoting health awareness and focusing on client-centered occupations that lead to health behavior change and a healthier lifestyle.

LifeSteps will incorporate a personalized approach to empower people to live healthier lifestyles. Empowerment through education

increases awareness and motivation for taking small steps toward changing habits and health behaviors. The LifeSteps health promotion program uses clients' strengths and challenges to develop and provide informational and educational resources to enhance occupations and promote healthy lifestyles. A client-centered approach will be used to coach and assist individuals with setting and attaining goals for healthy eating, physical activity, and stress management. A clinical fieldwork component and a community service-learning component will be incorporated into the program. This service-learning and clinical fieldwork model combines a teaching and learning approach that integrates clinical practice, academic study, and community service to enrich health promotion learning, teach civic responsibility, and strengthen communities. A study by Yeary et al. (2011) consisted of a partnership between a local academic institution and community programs and provided a 16-week curriculum to address the health knowledge and behaviors of community residents. The curriculum was provided by trained lay health advisors. Results of the study indicated that the program was useful for demonstrating some improvements in health behaviors. However, a limitation of this study was based on the skill, knowledge, and time constraints of the lay health advisors, and it was identified that the program would have been more successful with additional trained health advisors. The LifeSteps program addresses these limitations and will be facilitated by trained health science/occupational therapy students.

The LifeSteps program will incorporate student service-learning and clinical fieldwork

components and be a triad partnership between the student, academic institution, and community partner with the responsibilities of each clearly articulated in predefined learning objectives and the fieldwork contract. Facilitated and guided practice, reflection, and evaluation are all essential components of this transformative method of learning. Service-learning helps students "to develop the informed judgment, imagination, and skills that lead to a greater capacity to contribute to the common good" (Honnet & Poulsen, n. d., p. 1). Fieldwork education "prepares students to become competent, entry-level generalists who can function and thrive in a rapidly changing and dynamic health and human service delivery system" (Costa & Burkhardt, 2003, p. 644). Students learning in the LifeSteps program undergo training on all aspects of the program development model in addition to training to facilitate the later research pilot study for administering the pilot program, taking on the role of health promotion coach, and providing essential feedback for program evaluation and enhancement. To assist with program planning, program administration, and program evaluation, the LifeSteps Program Manual is also being developed as a program facilitation guide for occupational therapists and other health promotion practitioners and students. The manual will also provide valuable information on the theory, evidence, and need for implementing the LifeSteps health promotion program.

Foundation and Theoretical Background

The history and philosophy of occupational therapy with its foundation in humanism provides the basis for addressing the needs and interests of

community individuals at risk for poor health. The use of theory and a holistic approach is utilized as the basis for understanding the day-to-day health behavior of people in underserved communities. The LifeSteps program is being developed as client-centered and occupation-based, and focuses on contexts that support and/or hinder access, participation, and performance of daily activities that promote healthy lifestyle behaviors. It is essential to have a theoretical and conceptual framework to support the philosophy and programming of the LifeSteps health promotion program. The Model of Human Occupation (MOHO) is used as a means for considering foundational concepts. In addition, as health behavior is a component of larger public health issues, the Transtheoretical Model of Behavior Change (TTM) will be guided by MOHO and used for program planning and evaluation.

MOHO is utilized as the underpinning to explain how an individual's motivation and lifestyle may change through the concepts associated with three interrelated components: volition, habituation, and performance capacity (Kielhofner, 2002). Volition includes one's values, interests, and personal causation factors and brings about an individual's choice of behaviors. Client-centered informational and educational resources will be utilized within the LifeSteps program in order to promote health awareness and enhance motivation

for participation in meaningful occupations. The habituation component includes the habits and roles that make up daily routines. Clients at risk for poor health or those interested in making healthier choices may experience challenges in developing new and healthier habits. The LifeSteps program will utilize coaching and motivational strategies to help individuals gain insight and awareness of their current habits, roles, and routines in order to be able to make health behavior changes. Performance capacity requires an awareness of one's mental and physical abilities coupled with their self-reflection of life experiences in order to develop and perform healthy lifestyle tasks. The environment plays a key role in providing resources for optimal engagement in daily occupations. The LifeSteps program will assist individuals with identifying environmental barriers that support and/or hinder engagement in meaningful healthy lifestyle activities.

As noted previously, MOHO is utilized as a foundational approach and guides the TTM in addressing this important public health initiative. For this reason, both models are essential for conceptualizing the LifeSteps program planning and evaluation. The TTM model will be utilized to identify changes in health behaviors and consists of the precontemplation, contemplation, preparation, action, and maintenance stages of change (see Table 1).

Table 1*Transtheoretical Stage of Change Model*

Stage of Change	Client Stage
Precontemplation	The individual is not intending to change his or her behavior.
Contemplation	The individual is not prepared to take action currently, but intends to do so.
Preparation	The individual intends to change his or her behavior in the immediate future.
Action	The individual has made specific overt behavior change.
Maintenance	The individual has changed his or her behavior and is working toward sustaining it.

The LifeSteps program uses the TTM model to assist the client in identifying current habits and behaviors that support or hinder engagement in healthy lifestyle routines. The client identifies specific areas of importance and sets his or her own goals leading toward health behavior change. The LifeSteps program is unique and innovative in that it is a mobile and community-based paradigm, meeting the needs of individuals in their immediate community environments. As noted previously, the LifeSteps program incorporates a fieldwork and service-learning component developed as a triad among the academic institution, community program, and client, thus contributing to civic engagement and addressing individual, community, and societal needs.

Program Description

The purpose of the LifeSteps program is to collaborate with community providers to improve health and prevent disease for people in underserved communities. The proposed LifeSteps program uses the client's strengths and challenges in performing his or her daily occupations to provide innovative client-centered healthy lifestyle informational and educational resources targeting areas of healthy eating, physical activity, and stress

management. The ultimate goal of the program is to increase health awareness, motivation, and health behavior change leading to healthy lifestyle habits, routines, and occupations. Clients engaging in the LifeSteps program are paired with trained health science and/or occupational therapy students as a health promotion coach. Sessions begin with a brief client-centered interview to obtain basic demographic and health information; a preassessment of health awareness, motivation, and health behavior; followed by a client-centered goal setting in preparation for healthy lifestyle education sessions. Sessions can be constructed for delivery in an active or passive manner. For example, some of the healthy lifestyle education sessions may be conducted as the student health promotion coach and client walk intermittently at a very slow pace throughout the 15-30 min education session. The walking can be incorporated as a mode of intervention similar to carrying on a normal conversation. Sessions may also be provided via phone and/or computer and may be offered over four to six times based on client needs and interests. After completing the healthy lifestyle education sessions, a postassessment is conducted.

Outcome measurement tools based on the TTM include the Patient-Centered Assessment and Counseling for Exercise plus Nutrition (PACE+) Health Behavior Survey and the University of Rhode Island Change Assessment (URICA) scale and are used to address constructs of health behavior and motivation to change. The LifeSteps program also utilizes the Client Goal and Confidence Measure and the Client Satisfaction Survey, both of which are being developed by the LifeSteps program developer and are used to assist clients with goal setting and rating their level of confidence for attaining their goals. The LifeSteps program focuses primarily on empowering clients as they approach or transition through a precontemplation, contemplation, or preparation stage of change. Additional resources and referrals will be made available to clients based on their particular needs and interests. Evidence-based research indicates that providing brief client-centered health promotion education results in increased levels of knowledge and motivation which in turn increases adoption of healthier lifestyle behaviors (Smith, Griffin, & Fitzpatrick, 2011).

This paper represents the first stage of this conceptual model in the development of the LifeSteps health promotion program. A research pilot study will follow and be carried out for addressing individual and community needs targeting the areas of healthy eating, physical activity, and stress management. The LifeSteps program will evaluate the outcomes of health behaviors, stage of change, goal and confidence levels, and client satisfaction.

Once the research phase is enacted, the first pilot phase of the study will specifically focus on goal setting to foster healthy eating habits. The Goal Setting for Healthy Eating module consists of four to six sessions offered in person and/or via computer. The trained health science/occupational therapy student health promotion coach will begin client assessment and intervention. Initial sessions within this module consist of a preassessment using the PACE+ Health Behavior Survey, URICA scale, and the Client Goal and Confidence Measure. Intervention sessions will be tailored to meet the specific needs and interests of the client. These may include discussions of daily eating habits and routines, favorite foods and frequency of consumption, homework assignments consisting of bringing in food labels, education on healthy substitutes/options to replace unhealthy choices, and creating meal plans. Sessions should also include reviewing supermarket sales flyers and choosing healthy low-cost options and substitutes. Homework reinforcing these activities consist of shopping and meal preparation and incorporating at least one of the chosen healthy food options or activities into the daily routine. Follow-up sessions consist of completing a post PACE+ Health Behavior Survey, URICA scale, and Client Satisfaction Survey. The student health promotion coach and client will then review overall progress. Additional healthy lifestyle modules for future phases of the program will target areas of physical activity, stress management, and sleep. All modules are tailored to meet client and community needs and should be evidenced-based and obtained from reputable health promotion sources, such as the

CDC, United States Department of Agriculture, and the AOTA.

The LifeSteps health promotion program is a newly developed program designed for creating health awareness, providing education on healthy lifestyle topics, and promoting health behavior change for underserved populations. Evidence-based research studies, assessment tools, and health promotion programs guide the program. In addition, the LifeSteps program is conceptualized based on domains articulated in the OTPF and aligned with local, national, and international health promotion objectives.

Program Goals and Outcomes

Once the research phase is enacted, it will consist of three sites in underserved communities, including a pool of 25 individuals at each site. Community members participating in the first pilot study will be recruited on a voluntary basis as a convenience sample via flyers and/or focus groups at local community events. The LifeSteps program will target and evaluate five major goals/outcomes:

- Goal #1: Identify current health behavior for healthy eating. Later phases will address physical activity, stress management, and sleep.
- Goal #2: Assess current stage of change.
- Goal #3: Identify client's goal and level of confidence for attaining his or her goal.
- Goal #4: Obtain client satisfaction feedback.
- Goal #5: Review of client-centered outcomes for healthy eating.

Program Evaluation Measures

Self-Report of Current Health Behavior using the PACE+ Health Behavior Survey

The PACE+ Health Behavior Survey, originally developed by Sallis, an acclaimed expert in active living research, addresses the areas of healthy eating and physical activity. A modified version of the PACE+ Health Behavior Survey is used for the project focusing on three items from the PACE+ Health Behavior Survey. The original version of the PACE+ Health Behavior Survey consists of scales measuring physical activity, sedentary behavior, fruit and vegetable consumption, dietary fiber intake, healthy eating, and eating habits (Long et al., 1996). Each scale consists of a varied number of questions that measure the participant's quantity of consumption, extent of agreement, or frequency of participation for health behaviors. Individuals are asked to respond to each question based on their health behavior routines within the last 6 months. No evidence has been found on the use of the PACE+ Health Behavior Survey. However, evidence on the benefits of providing patient-centered counseling and interventions using the general PACE model includes evidence of the model's effectiveness and usability (Smith et al., 2009; Calfas et al., 1996; Calfas et al., 2002; Long et al., 1996). The PACE+ Health Behavior Survey has been modified for the LifeSteps program in order to identify an individual's current health behaviors for specific constructs addressed in the program. Each construct that is addressed aligns specifically with each phase of the program. Use of these modified versions of the PACE+ Health Behavior Survey

over time will be undertaken throughout the subsequent phases of the program through continued implementation and program evaluation. Item 1 investigates if there is an intention to change what one eats to include five servings of fruits and vegetables per day. Item 2 queries if an individual consistently chooses to eat high fiber foods such as high fiber cereals, breads, beans, legumes, fruits, and vegetables. Item 3 identifies if the individual consistently avoids eating high fat foods. Responses will be analyzed to determine if individuals transition from one level at baseline to a healthier level at follow-up.

Identify Stage of Change using the URICA scale

The URICA scale is a self-report measure that focuses on an individual's awareness and motivation. The URICA scale is designed to be a continuous measure that can be modified for various populations and conditions. Studies using the URICA scale for alcohol, drug, and psychotherapy were conducted and reliability was established ($r = .62 - .84$) (Carbonari & DiClemente, 2000; Carney & Kivlahan, 1995; DiClemente & Hughes, 1990). Although the URICA scale is still being validated and is only available for research purposes (McConaughy, Prochaska, & Velicer, 1983), the areas assessed by the instrument fit well with those aspects being assessed in the LifeSteps program. The URICA-E2 scale, a modified version, was developed to assess motivation for exercise and includes six subscales; Precontemplation (non-believers in exercise), Precontemplation (believers in exercise), Contemplation, Preparation, Action, and Maintenance. Stages are identified based on the

individual's responses chosen for each of the 24 items: Precontemplation (non-believers in exercise) items 1, 3, 6, 9; Precontemplation (believers in exercise) items 11, 19, 21, 24; Contemplation items 7, 13, 16, 22; Preparation items 14, 17, 20, 23; Action items 4, 8, 10, 12; and Maintenance items 2, 5, 15, 18. Phase I of this program model and future research studies will use a further modified version of the URICA-E2 scale to address the topic of healthy eating. Individuals are asked to rate how strongly they agree or disagree with the statements.

Identify Client Goal and Confidence Level using the Client Goal and Confidence Measure

The Client Goal and Confidence Measure is a tool developed for the LifeSteps program. The purpose of the Client Goal and Confidence Measure is to identify barriers to healthy lifestyles, assist with goal setting, and identify the client's level of confidence in attaining a goal. Therefore, evidence of reliability and validity for the measure still needs to be established. Open-ended questions enable clients to identify factors that support and/or hinder their ability to engage in a healthy lifestyle. Individuals are asked to respond to each question based on his or her health behavior routines for a typical weekday and weekend. Questions include the following: What do you feel prevents you from eating healthier meals; provide an outline of your daily activities, routines, and roles; list your favorite leisure interests and hobbies; and what eating habits would you like to change (goal setting). For identification of client's level of confidence, the client rates his or her level of agreement using a 5-point Likert scale by responding to the statement, I am confident that I can change my current eating

habits to reach my goal. Clients rate their agreement with this statement using a 5-point scale.

Obtain Client Feedback using the Client Satisfaction Survey

A Client Satisfaction Survey is being developed to enable clients to anonymously rate their level of satisfaction with aspects of the program. Statements on the survey include items such as: convenience of sessions with respect to time of day, knowledge and effectiveness of coaches, changes in motivation and confidence relative to resonant changes in behaviors, and recommendations of the program to a friend or family member. A 5-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree) allows clients to rate their level of satisfaction with the LifeSteps program. Clients are provided with opportunities to add comments in their own words to questions as they see fit.

Discussion

The LifeSteps health promotion program is being developed based on the foundational concepts of occupational therapy in conjunction with strategic initiatives to meet AOTA's Centennial Vision, and addresses findings of former evidence-based health promotion studies. Prior evidence in this area indicates the need for developing innovative health promotion programs to be facilitated by trained health advisors and implemented in community-based settings. The LifeSteps health promotion program addresses these challenges and is in alignment with local, national, and international health promotion objectives for

meeting the diverse needs of all populations, but in particular the underserved populations.

Prior research supports the outcomes that overall, health promotion programs are successful in creating awareness, increasing knowledge, and encouraging participation in some level of healthy lifestyle behaviors. An awareness of issues facing underserved populations is essential in screening, developing, implementing, and evaluating programs for these populations. Currently, health promotion programs may not be used by underserved populations due to inaccessibility, lack of awareness of information, and support for participating in programs to promote health (Yeary et al., 2011). Research has shown that health interventions sustained over time promote behavior change (CDC, 2011).

Program Sustainability and Implications for Future Success

The LifeSteps program will be sustained over time through continued collaboration between the community provider and the academic institutions' department of occupational therapy. This will be accomplished by maintaining academic fieldwork contracts with the community partner. Long-term plans for program success will be accomplished by implementing a 1-year and 3-year action plan that will be established throughout the first year. Continued program evaluation will be conducted by incorporating feedback from all stakeholders (LifeSteps program members, occupational therapy academic programs, community providers, and clients). An advisory board consisting of multi-disciplinary professionals and lay members will be developed in order to

provide feedback, guidance, and support for programming, which is crucial to program success. Grants and funding will be sought in order to provide for resources such as time, travel, technology, incentives, and stipends. Proposals targeted to local businesses interested in community growth and also government programs whose initiatives focus on enhancing society health will be paramount to the overall success of the program over time. In addition, the program will seek to increase the participation of fieldwork students and the number of participating community providers.

Implications for Practitioners

Occupational therapists and other practitioners are often faced with using techniques based on secondary and tertiary intervention methods. As practitioners, the focus can shift to rethinking and incorporating prevention strategies for promoting and sustaining health. With this in mind, practitioners can take the lead as individuals who are:

- Poised to be in the best position to use theory, evidence, clinical, and professional skills for conducting community needs assessments.
- Able to develop and implement innovative client-centered community-based health promotion and prevention interventions that target individuals and the larger community.
- Able to use findings for effective outcome measures and program evaluation.

Implications for Researchers

Continued research using innovative, feasible, and non-traditional health promotion strategies targeted to individuals in underserved

communities should include a multidisciplinary and collaborative research approach inclusive of all stakeholders. Additional research is needed with populations in underserved communities as well as those in the general populations in order to understand the unique needs of each of these groups.

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