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A Multifaceted Approach to Address Food Insecurity in Urban Dwelling Older Adults

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Case Study

A Multifaceted Approach to Address Food Insecurity in Urban Dwelling Older Adults

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Educational Objectives

1. Identify and discuss concepts of food insecurity as a social determinant of health in older adults.
2. Explain the health benefits of participation in a nutrition initiative, Healthy Meals Program, to address food insecurity among low-income older adults living in an urban food desert.
3. Describe the use of motivational interviewing and goal setting techniques for nutrition-related behavior in the management of chronic disease.
4. Summarize the lessons learned and implications for clinical practice.

Background

The World Health Organization defines social determinants of health as factors that impact one's health based on the person's age, where the person was born, raised, or lives (WHO, 2018). Food insecurity, the inability to access enough food to maintain an active and healthy life, affects almost 5.5 million individuals aged 60 and older (Ziliak & Gundersen, 2019). Older adults who are food insecure are at greater risk of chronic diseases including diabetes, cardiovascular diseases, dementia, and depression (Leigh-Hunt et al., 2017; Jackson, Branscum, Tang, & Smit, 2019). For these reasons, food insecurity is considered a social determinant of health. Functional impairment in older adults also compromises their ability to access, prepare, and consume adequate amounts of nutritious food, which in turn increases the inability to maintain activities of daily living (Jackson, Branscum, Tang, & Smit, 2019). However, older adults in the U.S. wish to live independently in their homes for as long as possible, a phenomenon known as aging in place (Federal Interagency Forum on Aging-Related Statistics, 2016).

While aging in place promotes overall health benefits, disparities in the welfare of older adults based on race, ethnicity, and socio-economic status negatively affect the ability to maintain a safe and healthy life. Low income older adults living in an urban setting face the high burden of social vulnerability due to limited public transportation, uneven sidewalks, increased vehicle traffic, greater numbers of fast food restaurants, and limited access to grocery stores selling nutritious food, the latter called living in food desert areas (Vaccaro & Huffman, 2017). In order to optimize health outcomes, and support older adults aging in place, a number of academic and clinical faculty partnered with community agencies to create the Richmond Health and Wellness Program (RHWP), an interprofessional health and wellness program that provides onsite health promotion, prevention services, and coordination of care. Parsons, Slattum & Bleich (2019) have published a detailed

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description of RHWP.

RHWP currently operates in five low-income, HUD rental assistance buildings in Richmond. An estimated 20% of Richmond residents live in food desert neighborhoods due to socio-economic and health disparities, coupled with geographical and transportation barriers to accessing nutritious food (Food Policy Task Force., 2013). Urban food deserts in Richmond are characterized by limited retail stores selling nutritious food, including high-priced cornerstone markets and convenience stores. Additionally, changes to the bus system routes and schedules have exacerbated the difficulty that older adults have in accessing affordable, nutritious food.

During RHWP clinics and home visits, residents reported having not enough money available to buy food, especially near the end of the month. During home visits, some residents had empty refrigerators; this was mainly the case of individuals with limited physical abilities to prepare their own meals due to functional impairment. In response, RHWP faculty created a partnership with a local health insurance company, United Healthcare, and the region's foodbank, FeedMore, to establish the Healthy Meal program (HMP). The initial pilot phase of this partnership resulted in 1,682 meals served to 339 residents at three low-income housing buildings serving older adults and individuals with disabilities. Outcome measures for the initial pilot included number of individuals assessed for food insecurity, referrals to food assistance programs, social isolation, changes in dietary intake, and satisfaction.

The Healthy Meal Program

Going in its fifth year, HMP has become a multifaceted program that measures the prevalence of food insecurity among the older adults served by RHWP and intervenes where needed. The HMP has four main components: 1) weekly congregate meals provided by FeedMore; 2) screening and referrals to community and federally funded resources; 3) Shalom Farms' mobile market, and 4) kitchen clinic. The congregate meals, which were the first part of the HMP program, provide a healthy, hot meal to participants once a week during RHWP clinic hours. FeedMore prepares and delivers these to the RHWP sites. The congregate meals are intended to address food insecurity and social isolation by offering a free meal to residents and encouraging them to discuss healthy food choices through group education sessions, as well as by being an opportunity to screen for food insecurity.

Screening for food insecurity is accomplished by evidence-based surveys, including the USDA Six-Item Short Form (United States Department of Agriculture and Service, 2012). Food insecure participants or individuals at-risk of food insecurity are referred to resources such as the Supplemental Nutrition Assistance Program (SNAP), USDA Commodity Supplemental Food Program, and Meals on Wheels. Participants needing emergency food access are referred to FeedMore and local food pantries.

In addition, the HMP partners with Shalom Farms, a local non-profit whose mission is to work with communities to provide access to healthy vegetables grown at their farms. Shalom Farms brings their mobile market filled with vegetables to three of the five buildings where RHWP conducts weekly clinics. The mobile market has enabled residents to purchase fresh vegetables on a weekly basis at affordable prices. Partnership with Shalom Farms also includes the "Kitchen Clinic," an eight-week program that offers HMP's participants "hands on" experience cooking fresh vegetables. The weekly classes enable participants to learn new recipes that focus on low salt, sugar, and fat. The goal of the Kitchen Clinic is to increase consumption of fresh produce, while offering an opportunity for older adults to engage with one another, sharing similar needs and experiences. Each cooking session ends with participants enjoying what they have made together. Participants also receive a bag of fresh produce, at no cost, to encourage them to prepare the same recipe during the week.

HMP Participants

HMP participants are low-income older adults residing in four of five RHWP sites. They are older adults or individuals with disabilities, ranging in age from 45-94 years old. A majority of the participants (81%)

is African American, 60% are female, and about 33% did not complete high school. Most live below the poverty level, and 42% live on less than $1,000 a month. The most prevalent chronic diseases include hypertension, diabetes, obesity, cardiovascular disease, and chronic obstructive pulmonary diseases.

HMP Outcomes

As of December 2019, the HMP has delivered 7,122 meals weekly and has referred 230 food insecure older adults to different local community-based social services (Diallo et al., 2020). Participants have stated that the improved access to fresh vegetables has helped increase their weekly consumption of vegetables and enhanced their quality of life. Participants have also said that the Kitchen Clinics have both provided opportunities for social interaction and supported their efforts to consume more vegetables.

Building Trust through Motivational Interviewing

HMP faculty use a collaboration approach to engage participants in addressing and establishing nutrition related behavior. This collaboration can last several weeks to months as the faculty and participant build a trusting relationship. Motivational interviewing and goal setting techniques are used to ensure a relationship based on collaboration, mutual trust, and respect. Motivational interviewing is a psychotherapeutic approach that helps individuals identify and work through their ambivalence about behavior change. Based on a person-centered principle, motivational interviewing allows the health professional to support the individual by tailoring the encounter to match the individual's level of readiness to change, the identified pros and cons of change, and level of efficacy to change behavior (Miller & Rollnick, 1996). The encounter between the individual and health professional is marked by a positive, encouraging, empathetic, and non-confrontational tone that promotes individual introspection, awareness of internal and external factors associated with a behavior, and building self-efficacy. Techniques used by HMP faculty include reflective communication and eliciting self-motivational statements (Miller & Rollnick, 1996).

Research suggests that using motivational interviewing and goal setting to manage diet significantly increases fruit and vegetable intake (Resnicow et al., 2001). Participants meet with a health professional faculty member (nurse, nurse practitioner, or nutritionist) to discuss nutrition behaviors. This allows HMP faculty to tailor nutrition education through motivational interviewing (MI) wherein participant and interviewer discuss perceived barriers and motivators related to nutritional behaviors. Each encounter concludes with the participant establishing SMART (Specific, Measurable, Achievable, Realistic/Relevant, and Timed) goals related to his/her dietary intake and nutritional behaviors.

Using motivational interviewing also helps uncover underlying clinical and non-clinical factors that mitigate the access, preparation, and consumption of adequate nutritious food. The most frequent clinical factors have been found to be polypharmacy, decline in cognitive function such as memory loss, poor oral health, impaired swallowing, and frailty. Non-clinical factors are mainly associated with the environmental setting and socio-economic status, such as limited money, easier access to stores selling low-quality diets, lack of transportation, and social isolation. Supporting the participant to address and manage these factors is critical for breaking the cycle of food insecurity that leads to worse clinical outcomes. Accordingly, interventions are tailored to the individual's needs and could vary. These might be creating a daily food log, helping participants make healthy choices given what is available and realistic for them, and making referrals to community-based food resources or legal services. Participants are rescreened every year or more frequently if there is a change in health status such as significant weight loss, multiple falls, or a new diagnosis.

Sustainability of the Program through a Strong Academic-Community Partnership

Sustainable behavioral change and optimal self-management are vital tenets of care management of complex diseases (Napoles et al., 2017). As noted, food insecurity and healthy diet are environmentally and socio-economically driven conditions. Therefore, management of the diet-related chronic diseases must require social and behavioral interventions beyond the clinical settings. Integrating partnerships with local agencies and organizations reinforces the idea

that change must occur at a grassroots level and emphasizes the importance of community collaboration to address health issues.

Identifying and establishing collaborations with local organizations around a common interest to serve vulnerable residents creates a safe network for older adults. Collaboration with local organizations such as United HealthCare, FeedMore, and Shalom Farms has given participants in HMP access to local agencies addressing food insecurity, wellness, and access to fresh produce at low costs. The Kitchen Clinic supplies hands-on experiences that increase nutrition-related knowledge and self-efficacy to prepare and consume fresh vegetables. With individuals residing in food deserts, it is fundamental to provide not only access to resources, but also education on how to incorporate healthy foods, such as fresh vegetables, in their daily diet. Participants were able to learn about healthy foods and gain an understanding of the significance of healthy food in managing their health and wellness. HMP faculty and Shalom Farms representatives also learned from the participants. Their feedback helped tailored cooking sessions and recipes as well as the nutrition education sessions.

Case Study #1

Mr. RH is a 71-year-old male with multiple chronic diseases, including atrial fibrillation, coronary artery diseases, congestive heart failure, chronic obstructive pulmonary disease, chronic pain, type 2 diabetes mellitus, hepatitis C, cataracts, and obesity. He has had stints placed three times. After losing his wife to cancer, Mr. RH lives alone in a federally subsidized, senior apartment building in an urban setting that is considered a food desert. There is a 7-11 convenience store next door and a Kroger Grocery one mile away. Getting to Kroger requires crossing two major streets with significant traffic. Mr. RH mainly eats in fast food restaurants within walking distance.

When we first started seeing Mr. RH, his breakfast would consist of a sausage roll and soda from 7-11. At that time, he cooked very little and did not understand the correlation between his food choices and the self-management of his chronic diseases. His weight was 235 pounds, fasting blood sugar was160-220, and post prandial blood glucose was 200-300. When he came to have his blood sugar checked in the morning, he began to see that his nighttime snacks of cookies and cupcakes were negatively affecting his morning sugars. We realized that most of his food was being purchased at 7-11, and he was eating high sugar foods in the evening because he was afraid of his sugar decreasing during the night. He shared that after his wife died, it is hard for him to sleep alone. Dying alone in his apartment is one of his biggest worries and concerns. After understanding this as a motivating factor affecting his behavior, we went to 7-11 with him and found snacks that would satisfy his desire to have a bedtime snack, without adversely affecting his blood sugar.

Mr. RH lives in a food desert where the availability of fast and convenient foods has been an easy option when making choices for daily living. As he learned to live independently, he originally chose the food that was most easily accessible to him. Unfortunately, these foods increased his blood sugar, and his weight, negatively impacted his cardiac disease, exacerbated his liver disease, and has made it more difficult to manage his chronic pain caused by osteoarthritis. Over time, using motivational interviewing, we have ascertained his capacity to make change, the foods that he is willing to eat based on his life experience, and his ability to prepare his own food. Living on a limited income means that managing his finances is extremely important so that he can afford the food necessary to make meaningful change in his health outcomes. Using nutrition education, understanding the resources available in his community, and meeting Mr. RH where he was, we are helping him make changes to his diet. As a result, he has lost 30 pounds, his hemoglobin A1C is between 6-7, and he is better able to manage his chronic pain.

Case Study #2

Mr. JB is a 76-year-old male with a past medical history of pancreatitis, chronic obstructive pulmonary disease, hypertension, type 2 diabetes mellitus, neuropathy, and coronary artery diseases. He lives independently in a low-income, federally subsidized apartment building in an urban area designated as a food desert. Mr. JB uses a walker and reportedly is able to manage all of his activities of daily life independently. He is clean and neatly dressed. He came

to clinic during the middle of the month and shared with his provider that he was out of food. He said he literally had nothing in his apartment to eat. He said he was out of money and would not have money to go grocery shopping again for two weeks. We helped him call the hunger help line and found a food pantry that was open that day. Luckily, they delivered it to him that afternoon, for he had no money for bus fare to get to them to pick it up.

One month later, he returned to clinic reporting being out of money and had no food since the middle of the month. At this point, we noticed that he had lost weight and we became worried. Though we inquired about why he was running out of money, he was not forthcoming with what was happening. We helped him find food resources such as the food commodity boxes that the building gets from FeedMore and educated him about the food pantries in the area. The question remained, "Why is he running out of money?" The next time we saw him he had lost more weight and reported that he had fallen while walking to the grocery store a mile away. He went to the ER and denied any broken bones but was experiencing increased back pain. He began taking opioids for the pain and his substance use disorder began to spiral out of control.

Using motivational interviewing, we learned that his Social Security check was being garnished because of an erroneous veterans benefit that he had been given five years ago. We connected him with a *pro bono* attorney who helped him work out his legal obligation to repay the VA over a longer period of time so that he would have more money each month to pay for necessities like food. This negative trajectory of unintentional weight loss, increased frailty, a fall, and subsequently rebounding into an old opioid addiction, was a result of food insecurity in a person who did not have the means to navigate his financial and legal issues. This difficult situation was complicated by his physical limitations, and his living in a food desert that made his access to healthy food even more difficult.

Conclusion

Participants continue to express gratitude and share the significant effect of the HMP nutrition program on their overall health. The faculty-participant encounters are tailored to the socio-economic and environmental constructs that define the individual's life and health. Employing motivational interviewing and goal setting techniques helps RHWP faculty support participants while they develop knowledge and skills to navigate an environment that is not conducive to healthy eating as they age in place.

Over the last decade, the growing recognition of the role of social determinants of health, such as food insecurity, on the individual's health has led healthcare systems and providers to integrate care coordination approaches to connect low-income older adults at risk for food insecurity to social services. As providers and health systems are recognizing the role of social determinants of health in healthcare management, it is important to develop communication techniques to identify individual's needs that reflect the social and environmental factors that define the person's life and health. While we are capturing promising qualitative and quantitative data on the benefits of the different HMP interventions on the participants' health and wellbeing, more evidence is needed to demonstrate the value of such programs in a sustainable way. We believe the HMP provides important insights into how to integrate community-based social services to address food insecurity for vulnerable older adults.

Study Questions

1. Identify and explain at least two health-related benefits of participating in the HMP.
2. Describe the approach used to help participants uncover the underlying issues that increase their risk for being food insecure.
3. How does motivational interviewing and goal-setting contribute to addressing food insecurity in older adults?
4. What implications for clinical practice does awareness of food deserts offer?

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About the Authors

Ana Diallo, PhD, MPH, RN, is an assistant professor at the VCU School of Nursing and Institute of Inclusion, Inquiry & Innovation. As a faculty member in the Richmond Health and Wellness Program, she provides health and wellness services to older adults and teaches interprofessional students concepts such as management of chronic diseases in the community setting. Dr. Diallo's research focuses on the intersection between food insecurity, nutrition behaviors, genetic ancestry, and management of cardiovascular risk factors in ethnic/minority populations.

Katherine Falls, MSN, RN, is an Adult Nurse Practitioner, clinical preceptor, and instructor at Richmond Health and Wellness Program. Within this program, she teaches management of chronic disease, transitions of care, and social determinants of health to an interprofessional group of students. She is particularly interested in teaching students about the life experience of low-income older adults and how that impacts health outcomes throughout a continuum of care.