The Impact of Participation in Meals on Wheels on Nutritional Risk, Dietary Intake, Food Security, Loneliness, and Well-Being

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Abstract

Statement of Problem

The older population is at increased risk of malnutrition due to many factors including food insecurity and dietary intake. Malnutrition among seniors may increase the risk for injury, illness, and premature institutionalization, which may result in increased financial burdens. Intake can be affected by disease/chronic illness, inability to eat/shop/cook, metabolic changes, compromised immune system, medication usage, confusion/memory loss, reduced income, and loneliness/well-being. Undernutrition, rather than overnutrition, in older adults is the main cause of concern, since its relation to morbidity and mortality is stronger than that of obesity. Nearly 1 in 12 seniors living in the United States has limited or uncertain access to enough food to sustain a healthy lifestyle (2). When compared to food secure seniors, food insecure seniors are more likely to experience poor health outcomes, such as depression, heart attack, asthma, and congestive heart failure. Older adults are more vulnerable to loneliness or isolation and poor well being than the rest of the population. Seniors that are socially isolated have more health issues, including poor intake and increased risk for malnutrition, and less well being, compared to those who are socially connected.

By 2030, the population aged over 65 will double to nearly 71 million, while the population under 65 will grow by only about 25%. Currently, the United States spends $250 billion annually on medical care for older adults (majority is spent on chronic conditions). The aging 'baby boomer' population will undoubtedly increase the demand of health care services exponentially over the next 15 years. In order to curb the increasing need for health care service, it is imperative that seniors remain in their own home, as long as possible. Most importantly, keeping seniors in their own home as long as possible increases their well being, by remaining independent and in control.

Evidence based interventions to prevent malnutrition could decrease health care expenses as well as improve quality of life in the elderly. Recent budget cuts in MOW funding will eliminate nearly 14 million meals from the program (3). Therefore, studies based on impact and outcome data are paramount to demonstrating the benefits of MOW services on its recipients. Documenting the extent of nutritional risk, dietary intake, food security, loneliness and well being in MOW recipients would further justify the importance of the program. Due to increased demand and diminished resources, it is vital that the most efficient and effective method for assessing the nutritional status of recipients is identified.
**Goal/Objective**  
The purpose of this study was to conduct a summative evaluation to determine the impact of home-delivered meals on the nutrition status, dietary intake, food security and social wellbeing.

**Description of program or intervention**  
A pretest-posttest, quasi-experimental study was conducted at a private MOW program in Florida. A convenience sampling was utilized. All clients enrolling in the MOW program between January to April 2014 were screened for inclusion. Clients were eligible if they were ≥ 55 years of age, received at least three home delivered meals (HDM) per week, were English speaking, had telephone access, were able to provide informed consent and answer survey questions. After informed consent was obtained, participants were interviewed by phone before they received their first HDM. The interview consisted of questions pertaining to nutritional status, dietary intake, mental well-being, loneliness and food security. The interview was approximately 30 minutes in length. The tools used in the interview include: the Mini Nutritional Assessment-Short Form (MNA-SF), a 24-hour food recall, the WHO-5 questionnaire, the Three-Item Loneliness Scale, and the USDA Six-Item Food Security Scale.

Approximately two months after meal delivery service began and the initial telephone interview, participants received a second call to collect post-test data. Participants were asked the same questions on nutritional status, dietary intake, mental well-being and loneliness as the pre-test interview. Statistical tests were performed using SPSS.

**Results/Outcomes**
- 51% of participants’ nutrition status improved. Now 29% are well-nourished (only 8% were when they started the program), only 6% are malnourished (34% were when they started)
- 66% of participants are now consuming significantly more calories and protein
- 31% of participants had an improvement in perceived loneliness
- 28% of participants had an improvement in the well-being scale
- 41% of participants are more food secure

**Conclusions and/or Implications**
- One of the first studies to look at outcomes of a home delivered meal program on nutritional status.
- A high prevalence of malnutrition and risk for malnutrition as well as food insecurity was found among community-dwelling seniors receiving home delivered meals.
- Receiving home delivered meals for a short duration significantly improved nutritional status, dietary intake, food security, loneliness and mental wellbeing.
- Home-delivered meal programs such as Meals on Wheels are a cost-effective method of improving nutritional health and social wellbeing.
- The study has strong public policy implications regarding the value of nutrition programs for the health of seniors.