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Nutritional intervention improves menu adequacy in group homes for adults with intellectual or developmental disabilities

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Abstract

Background: Research documents that adults with intellectual or developmental disabilities (IDD) living in the community experience nutritional deficits, inadequate diets, and poor nutritional status.

Objective: We developed a nutrition intervention that was targeted at improving the food systems in group homes for adults with intellectual or developmental disabilities, called MENU-AIDDs (Materials Supporting Education and Nutrition for Adults with Intellectual or Developmental Disabilities).

Methods: MENU-AIDDs was implemented for 8 and 16weeks in four community-based group homes for adults with IDD. Improved nutritional adequacy of planned menus was tested as a marker of improved dietary intake in the residents of the homes.

Results: Results showed significant statistical and clinical improvements in the planned menus whereby there were significant increases in the appearance on menus of whole grains, vegetables overall and green/yellow/orange vegetables in particular, and low-fat proteins, and significant decreases in the higher-fat proteins, potatoes, and ''junk foods.'' The positive practice of specifying portion sizes on the menus increased significantly.

Conclusions: MENU-AIDDs is a community-based health promotion intervention that can improve menu planning and dietary adequacy while being responsive to the needs of group home residents, direct care staff, and administrators.

Keywords: Intellectual disability; Nutrition; Health promotion; Group homes

Research documents that adults with intellectual or developmental disabilities (IDD) living in the community experience nutritional deficits, inadequate diets, and poor nutritional status [1-5]. Diet-related secondary conditions, including weight problems, gastrointestinal dysfunction, cardiovascular disease and risk factors, diabetes, osteoporosis, and allergies, significantly limit these individuals [6]. In 2002, the U.S. Surgeon General declared improved nutrition for adults with intellectual or developmental disabilities to be a national priority [7].

However, initial data on dietary intake in community-dwelling adults with IDD suggest that their intake is poor [8-12]. Through proxy reports and menu reviews, the diets are shown to be high in fat and ''empty'' calories and deficient in fruits and vegetables, whole grains, and dairy products. A menu review of group homes showed that an insufficient amount of all food groups, except fruits and dairy in one of the homes, appeared on the menus, making it impossible for all members of the household to achieve an adequate diet even if they made the best choices available [3].

It has not been possible to directly measure dietary intake with acceptable reliability in community-dwelling adults with IDD. No dietary intake methods have been validated with this population, and there are serious flaws in the reliability of traditional methods [13-17].

Most adults with IDD live in the community. While most adults with IDD live with their families, there are an estimated total 46,431 community-based supported living residential settings in the United States [18]. A total of approximately 161,000 American adults with IDD receive residential support in group homes [18].

All the community-based living arrangements have been shown to need nutrition support to improve dietary adequacy and healthfulness [2-4] and to avoid weight

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problems (both underweight and overweight) that are more prevalent in community settings [2,4,5,19-27].

The food problems and solutions to them are different in each type of community residential setting, depending on who is responsible for providing an adequate diet (i.e., consumer, direct care paraprofessional, food service professional, parent, spouse, etc.). The MENU-AIDDs (Materials Supporting Education and Nutrition for Adults with Intellectual or Developmental Disabilities) nutrition supports program was developed as the first in a series of health promotion initiatives aimed at improving the nutritional health of community dwelling adults with IDD. The group home setting was the first program developed for several reasons: (1) diets were identified as being poor through direct needs assessment in our state; (2) the homes provided the most structured environment for implementing and evaluating our model nutritional health promotion effort; and (3) the advisory board for the sponsoring agency (Montana Disability and Health Program) identified group homes as the living arrangement with the most pressing need. This advisory board consisted of state-level DD and public health administrators, consumers of DD services, and private residential service providers.

Group homes typically consist of four to eight individuals living in a house with direct supervision and habilitation services provided by a paraprofessional staff managed by community-based service agency. The residences are most often licensed by the state to provide 24-hour on-site supervision for consumers who need that level of support to live successfully in the community. There are 127 licensed group homes for adults with IDD in Montana, serving approximately 690 consumers.

Compared with individuals in institutions, those in community settings are more involved in planning meals, buying food, and determining when and how their food is prepared [3]. Some consumers have individual plans or personal supports plans (IP/PSP) that include food-related skill building and engagement. Still, in community-based group homes, staff members are the final gatekeepers of which foods are purchased, prepared, and served to residents. The type and extent of residents' input and engagement in the food systems of group home living arrangements are not well characterized.

Group home food systems are complicated by high staff turnover [28-30], staff members' lack of food preparation skills and nutrition knowledge [31], and inadequate food and nutrition in-service training for direct care staff [3,32]. Our assessment of Montana group homes showed that group home managers and staff received little or no training in menu planning, nutrition, or creating health-promoting food environments [3].

Early needs assessment in the Montana group homes contraindicated focusing on staff training in foods, nutrition and menu planning as a route for improving the food systems, dietary intake, and nutrition-related secondary conditions. Due to high staff turnover, the already-extensive training and orientation required of new staff, and the very limited experience and skill level of direct service staff in the group homes, the home administrators requested a strategy other than direct staff training and skill building around nutrition or cooking.

Recent health-promotion activities have begun to target the environment as a critical component to changing health behavior. For example, the *U.S. Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity* [33] combined recommendations for individual responsibility and health behavior education for children and youth with a directive to ''ensure daily, quality physical education in all school grades'' to develop ''the knowledge, attitudes, skills, behaviors, and confidence'' that they need to manage their weight.

Similarly, nutrition education targeting consumers in group homes will only be successful if the environment supports their informed choices. Food choices in group homes are primarily limited to foods available in the home and on the menu [3]. An examination of group home menus and pantries revealed that less than 45% of the recommended daily amount of vegetables [34] were available for consumption [3]. In other words, teaching individuals to eat more vegetables only works if vegetables are available.

The goals for the MENU-AIDDs program ultimately were identified as follows:

1. Materials must be conceptually and practically coordinated to cover menu and meal planning, shopping, and cooking.
2. Focus should be on effective environmental supports, processes, and procedures rather than on staff training.
3. Supports should encourage increased consumer engagement and participation in food systems, including decision making and operations.
4. Menus must not be rigid, as standardized menus had failed in the past. Weekly menus should be flexible and reflect consumers' preferences, individual needs, food availability (fresh produce in rural Montana may be scarce and expensive), and grocery store sales.
5. Supports must be acceptable to residents, administrators, and direct service staff; must improve health and nutritional status; and must adhere to budgets, and training and implementation must not substantially increase direct service staff's workload.

Montana state licensing regulations and providers' policies require group home staff to develop, post, and follow daily menus. Menus must be retained for 3 months. Previous research showed a high degree of correspondence between menus planned and meals served [3]. Provider policy and state regulations require that meal substitutions be documented and justified. If the foods are available, staff members perceive it to be easier to follow the menu than to alter it [3]. Further, we found that menus created and posted