How Will Participation in a Performance-based Healthy Meal Preparation Curriculum Support Health Literacy and Meal Preparation Skills for Adults with Intellectual and/or Developmental Disability (IDD)?

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Purpose

- The primary purpose of this study was to assess the effectiveness of participating in an intervention program focusing on nutritional knowledge and meal preparation skills for adults with intellectual and/or developmental disabilities (IDD).

Introduction

- Health promotion is an approach used to foster independence and efficacy in decisions related to health (World Health Organization, 2002).
- Health literacy involves one's comprehension and skills to find, understand, and utilize information to make informed decisions to improve health and quality of life (Scott & Havercamp, 2016).
- Health promotion is most effective when there is evidence of both support in the social and physical environments (Marks et al., 2019; Vlot-van Anrooij et al., 2019).
- Interventions focusing on active engagement in meal preparation and nutrition have been shown to support the development of healthy habits (Goldschmidt & Song, 2016)
- The literature review yielded three themes: health literacy and health promotion, social and physical environments, and impacts of social and physical environments on performance skills. It is vital to develop strategies to improve health literacy and increase meal preparation skills.

Methods

Design: Mixed Methods Explanatory Sequential Research Design

Data Collection: Quantitative- Pre/Post tests informed by a modified version of the Nutrition and Activity Knowledge Scale (NAK (Illingworth et. al, 2003) to measure nutritional knowledge. Qualitative- Individual interviews following a 4-week long intervention explaining the results of the quantitative findings focusing on nutrition and meal preparation skills.

Data Analysis (Table 1 for integrated qualitative and quantitative data)**:**

- IBM SPSS Statistics (v.28.0.0.0) software using nonparametric Wilcoxon Signed Rank Test to determine the statistical significance of the pre/posttests (Table 2).
- SPSS was used to determine the difference in overall median scores and the statistical significance was determined at p-value < 0.05
- Interviews were analyzed utilizing qualitative descriptive content analysis.

Methods to Increase Rigor: Independent coding by researchers, followed by discussion to determine shared codes.

Participants:

- 7 (originally 8) adults with IDD who attend a community-based organization and are 18+ years of age
- Completed the HealthMatters™ Program (Marks et al., 2010)
- Have at least a 1st grade reading level determined by using Woodcock Reading Mastery Test (Woodcock, 2011)

Intervention:

4 weeks of individual and group sessions focusing on the following:

- Week 1- What does healthy eating look like to you?
- Week 2- What's in a recipe?
- Week 3- Environmental Supports and Barriers
- Week 4- Make a Meal Together

Use QR code to see learning materials

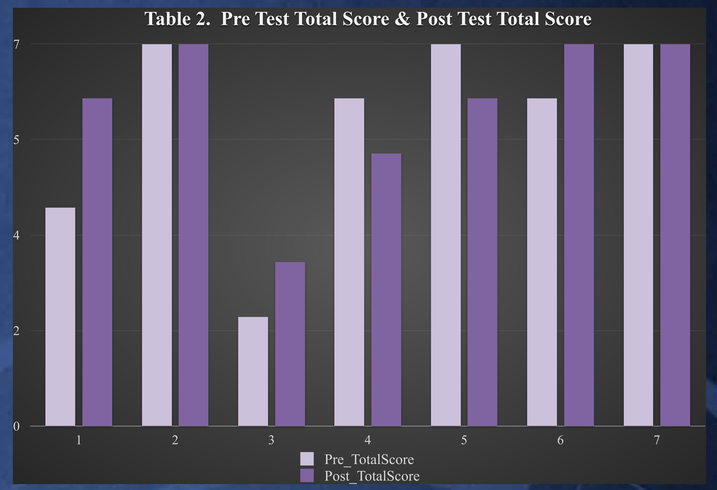
Table 1. Joint display of quantitative findings with explanatory qualitative findings

QUANTITATIVE FINDINGS	QUALITATIVE CATEGORICAL FINDINGS		
Modified NAKS Pre-posttest changes in scores	**Participation in meal preparation tasks is influenced by the environment and the person**	**Social support is a barrier and enabler for participation in meal preparation and health literacy**	**Nutritional knowledge supports meal preparation skills and self-determination**
Scores decreased (n=2)	"I've put together a lasagna. Yeah. It's just putting layers on. I have no problem doing that."	"No. They're gonna teach me how to cook if I live on my own."	"Ugh, I don't really eat healthy at all." "I am gonna do this the recipe that I got in my binder for soup."
Scores remained the same (n=2)	"By asking them if they need any help." "Yeah. There's, I can ask them. Oh, can I make this today for dinner?"	"Sometimes they give me salads […]" "Oh, my staff has been showing me."	"Eating fruits and vegetables. "Like making a salad."
Scores improved (n=3)	"I can't make a meal by myself. […]." "Yeah. Well, when we're doing my cooking program, we you know, she says, you know, where's everything and then I help find the stuff. Because I know I basically know where everything is."	"Well, one thing to be healthy would be ask the person what they want what they would like Don't just assume they want that. Or they should have that. You know, ask the person be courtesy to ask Oh, would you like some? Like a fruit salad or with cottage cheese? […]"	"My goal is um.. well.. to eat healthier because it's good for you.. and also it gives you more energy." "I want to know how, like, you know, how much fats in the food you know, you know, you know if it's good for me, or not wise, to eat? you know. I just want to know, portion wise, you know, is this good for me to eat or stay away from you know?"

Results

- The overall score from the pre/posttest of modified NAKS was compared and results indicate that there was not a change in median scores (difference in overall medians = 0), demonstrating a lack of statistical significance (p value= .480).
- Wilcoxon sign rank test revealed 3 positive changes in scores and 2 negative changes in scores, with 2 being tied (see Table 2 for raw scores).
- Qualitative findings from the interview explain the lack of statistical change in nutritional knowledge as illustrated in Table 1.

Table 2. Pre Test Total Score & Post Test Total Score



Discussion

- While the quantitative findings of this study did not indicate a significant change in nutritional knowledge, qualitative findings explained that health promotion programs do assist individuals with IDD in generalizing skills related to cooking.
- Results from this study confirm that health promotion can increase education, knowledge, skills, and one's self-determination when the social environment makes it accessible for adults with IDD to participate in healthy meal preparation.
- Limitations of this study were the inconsistent attendance of participants in the research intervention program, as well as the variable physical, social and personal contexts that may have attributed to the lack of change of pre/posttest scores.

Conclusion

- The social and physical environments influence and facilitate the nutritional knowledge, health literacy and meal preparation skills for adults with IDD.
- Future research should explore the addition of direct support professionals and caregivers as part of the social environment that supports health promotion programs to increase generalization of skills, choice making opportunities and health literacy.