



What factors influence implementation of farm-to-preschool in Head Start classrooms?

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BACKGROUND

- Early care and education settings provide a unique opportunity to promote healthy eating habits.
- Few nutrition interventions have been developed for use in early care and education settings. As a result, we know little about factors that influence nutrition intervention implementation in these settings.
- The purpose of this study was to explore factors that influence implementation of Harvest for Healthy Kids, a community-based participatory research project designed to increase fruit and vegetable intake among low-income preschoolers in a Head Start program in Portland (OR).



HARVEST FOR HEALTHY KIDS

- Harvest for Healthy Kids is the work of a community-academic partnership between the School of Community Health at Portland State University and Mt. Hood Community College Head Start (MHCC).
- The intervention is modeled after “farm-to-school” efforts in K-12 schools, which promote healthy eating habits and a vibrant and resilient regional food system.
- One regionally grown fruit or vegetable is featured each month in meals, classroom activities, a family newsletter.
- Featured foods include: beets, carrots, winter root vegetables (rutabaga, turnip, parsnip), cabbage, asparagus, winter squash, berries, sweet potatoes.

CURRICULUM DESCRIPTION

- Harvest for Healthy Kids modules include: lesson plans (cooking, art, planting, literacy), “fast and fun” activities, picture cards, family newsletter, educator newsletter.
- The curriculum was developed through an iterative process in which Head Start teachers played a major role and is aligned with Oregon’s early learning standards.



SAMPLE

- 8 MHCC Head Start teachers participated in this study. All teachers were female. 1 teacher had been employed as a teacher at MHCC Head Start for 1 year or less; 4 for 2-4 years; 1 for 5-7 years; and 2 for 11 or more years. Half of the teachers had fewer than 7 years of experience as a teacher. Three teachers had a 4-year college/university degree; 1 had some graduate school, and 4 had earned a graduate degree.
- Teachers participated in one 4-hour training at the beginning of the intervention period and one 2-hour booster training mid-way through the intervention period.
- In addition to the trainings, teachers were provided with resources to implement the curriculum including: curriculum, \$100 supplies budget, fruits and vegetables for sensory exploration, cooking tools.
- Teachers were instructed to implement 10 Harvest for Healthy Kids activities each month including: art, cooking, recipe book, read-aloud book, table talk, hand stamps, picture cards, sticker chart, transition activities, family newsletter.

USAGE RATING PROFILE – INTERVENTION SURVEY

- The Usage Rating Profile – Intervention (URP-I)¹ was adapted to assess teacher perceptions of intervention usage.
- The survey contains 31 questions across four subscales: acceptability (12 questions), understanding (7 questions), feasibility (6 questions), systems support (6 questions); responses are scaled on a 5-point Likert-type scale (-2 = strongly disagree to +2 = strongly agree). Examples of survey questions are shown in Table 1.
- The survey was administered after the first training (pre-intervention) and again after the intervention period (post-intervention).

TABLE 1. EXAMPLES OF QUESTIONS USED TO ASSESS TEACHER PERCEPTIONS OF FACTORS THAT INFLUENCE IMPLEMENTATION OF HARVEST FOR HEALTHY KIDS.

SUBSCALE	EXAMPLE QUESTION
ACCEPTABILITY	I would implement Harvest for Healthy Kids with a good deal of enthusiasm.
	Harvest for Healthy Kids is a good way to increase fruit and vegetable intake among children.
UNDERSTANDING	I understand how to use Harvest for Healthy Kids. The directions for using Harvest for Healthy Kids are clear to me.
FEASIBILITY	I have the skills needed to implement Harvest for Healthy Kids.
	The amount of time required to use Harvest for Healthy Kids is reasonable.
SYSTEMS SUPPORT	I could implement Harvest for Healthy Kids by myself.
	I would need support from my administrator to implement Harvest for Healthy Kids.

DATA ANALYSES

- Prior to creating summary variables across each of the subscales, questions were rescaled so that positive numbers always aligned with favorable responses and negative responses aligned with unfavorable responses.
- Within each subscale category, summary variables were created by taking the average response across the questions within that category for each individual.
- Descriptive statistics (means and standard deviations) were calculated for each summary variable pre-intervention and post-intervention.

RESULTS

- The mean score pre- and post-intervention for the acceptability, understanding, and feasibility subscales was ≥ 1.00 . The mean score pre-intervention for the systems support scale was 0.35; the mean score post-intervention was -0.13. Findings are presented in Table 2.

TABLE 2. SUBSCALE MEANS AND STANDARD DEVIATIONS (SD) PRE- AND POST-INTERVENTION OF QUESTIONS USED TO ASSESS TEACHER (N=8) PERCEPTIONS OF FACTORS THAT INFLUENCE IMPLEMENTATION OF HARVEST FOR HEALTHY KIDS.

	PRE-INTERVENTION		POST-INTERVENTION	
	MEAN	SD	MEAN	SD
ACCEPTABILITY	1.39	0.29	1.35	0.35
UNDERSTANDING	1.05	0.20	1.20	0.29
FEASIBILITY	1.00	0.30	1.02	0.41
SYSTEMS SUPPORT	0.35	0.37	-0.13	0.50

DISCUSSION

- The teachers perceived Harvest for Healthy Kids to be an acceptable, easy to understand, and feasible nutrition intervention.
- Before the intervention period but after the training, the teachers perceived Harvest for Healthy Kids as needing less systems support than after the intervention period.
- Several study limitations should be considered when interpreting these results. First, the sample size was small. Therefore, it is not possible to generalize the results beyond the 8 teachers who participated in this study.
- Second, the URP-I does not provide context to teacher perceptions of Harvest for Healthy Kids. For example, what kind of support from administrators would make it easier to implement Harvest for Healthy Kids?
- Third, the URP-I provides information about teacher perceptions of factors that influence intervention implementation but does not provide information about actual implementation.
- Fourth, Harvest for Healthy Kids is a multi-component program. Therefore, it is not clear whether teacher perceptions reflect specific activities or the program as a whole.

NEXT STEPS

- Harvest for Healthy Kids will be implemented in 50 MHCC Head Start classrooms in fall 2013.
- Teachers will participate in a Harvest for Healthy Kids pre-service training and peer-to-peer sharing.
- Additional resources to support curriculum implementation include: curriculum (including picture cards); fruits and vegetables for sensory exploration; cooking tools.



CONCLUSION

- This study is among the first to assess nutrition intervention usage in an early care and education setting.
- Harvest for Healthy Kids was perceived to be an acceptable, easy to understand, and feasible fruit and vegetable promotion intervention for preschoolers in Head Start.
- Implementation of Harvest for Healthy Kids in Head Start classrooms may require support from others including peers and administrators.
- The URP-I should be used in conjunction with other methods to understand and address factors that influence nutrition intervention implementation.

¹Chafouleas SM, Briesch AM, et al. (2009). “Moving Beyond Assessment of Treatment Acceptability: An Examination of the Factor Structure of the Usage Rating Profile - Intervention (URP-I).” *School Psychology Quarterly* 24(1): 36-47.