

Effectiveness of Education on Knowledge and Participation in Community Programs

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ABSTRACT

Objective: To evaluate the effectiveness of providing education on the Low-Income Home Energy Assistance Program (LIHEAP), and the Supplemental Nutrition Assistance Program (SNAP Ed) on increasing knowledge and participation in these programs.

Design: Quasi-experimental design with an intervention group of food insecure adults.

Setting: Victory Highway mobile food pantry (MFP), Corning, NY

Methods: Participants were recruited for this study the day of the intervention. Effectiveness of this study was based on changes in pre- and post- questionnaire responses.

Participants: Participants were residents of Steuben and surrounding counties who attended the Victory Highway MFP. 44 participants completed the pre- intervention questionnaire, and 45 participants completed the post- intervention questionnaire

Intervention: The intervention included education provided in the form of handouts on LIHEAP, and SNAP Ed to all individuals at the MFP. The pre- intervention questionnaire was provided the same day, prior to the intervention. The post-questionnaire was provided at the next MFP three weeks later.

Methods: Data was not normally distributed, and therefore a Pearson Chi Squared test was used to evaluate changes between pre- and post- questionnaire responses.

Results: There was a significant change in the number of participants who stated they received education/information on LIHEAP, and SNAP Ed ($p = 0.023$). All other results were not statistically significant.

Conclusions and Implications: Further studies should be completed to evaluate the effectiveness of education on increasing knowledge, and participation in community programs.

INTRODUCTION

Food assistance programs have increased in recent years, but that may not be enough for food insecure individuals. Food insecurity is defined as the “lack of consistent access to enough food for every person in a household to live an active, healthy life”.³ It is estimated that 10.5% of households in the U.S are experiencing food insecurity, and

this number has remained the same since 2019.¹ There are currently 15 federal assistance nutrition programs in the U.S which has increased greatly from the introduction of food stamps in 1939.⁴ Programs supplying food and additional resources have become more accessible in many areas, but the competing demands

affecting food insecurity have also increased.

Research suggests that the largest competing demands directly influencing food security are the increase in health care costs as well as the geographic location of individuals.² In addition, studies have shown that individuals experiencing food insecurity have higher health care expenditures.⁵ All of these factors play a role in food availability and food security. A needs assessment was conducted prior to the intervention to determine the most common competing demands affecting food security. The results of this needs assessment were that 30% of participants stated they were at risk of running out of food before getting money to buy more, and 55% stated that they were sometimes at risk. The largest competing demands affecting food security found when completing a needs assessment included the costs of other expenses such as utilities,

cable, cell phone, and internet, medical costs unassociated with health insurance, and housing costs. The conclusion of the needs assessment was that these individuals may benefit from education regarding additional resources to aid in food insecurity, as well as resources to help eliminate the competing demands affecting individuals' ability to purchase food.

It is unknown whether providing education and information on additional community resources to mobile food pantry participants will increase food security and decrease the most prevalent competing demands these individuals are facing. The purpose of this study was to determine whether providing education on additional community programs would increase enrollment and decrease the competing demands negatively influencing food insecurity.

METHODS

Setting and Study Design:

A study was completed to compare the change in knowledge and use of additional resources in the community by individuals facing food insecurity. Participants were individuals who utilized a local food pantry. This study was completed at the Victory Highway Wesleyan Church mobile food pantry in Corning, NY. In the winter of 2022, a quasi-experimental study was completed in which participants were asked to complete a questionnaire regarding their use of additional community programs before and after receiving education. Education in the form of handouts were provided on two additional community programs, Supplemental Nutrition Assistance Program (SNAP Ed) and the Low-Income Home Energy Assistance

Program (LIHEAP). Questions asked were regarding participants knowledge and if they are participants of SNAP Ed and/or LIHEAP. This study was approved by the SUNY Oneonta IRB.

Participant recruitment:

Recruitment of participants was completed at the mobile food pantry and participation was voluntary. The mobile food pantry provides food to 200 participants monthly. While participants were waiting to receive food, they were asked to participate. If participants were willing to participate, it was a requirement to complete consent form prior to the survey and questionnaire. A subset of 50 out of 200 participants completed this study (n = 50)

Intervention:

A two-part intervention was completed at a mobile food pantry on two separate dates. An intervention was created surrounding results obtained from a needs assessment completed in October 2021. The Cognitive Learning Theory was used to inform the development of this study.

The intervention was completed over the period of one month in February 2022. The authors created a pre- and post-intervention survey measuring the knowledge change of participants. The tools used in this study were created by the authors. A pre- questionnaire was provided with nine multiple choice and short answer questions. Questions were asked regarding participants knowledge of SNAP Ed and LIHEAP, previous education received, and knowledge regarding the application and current enrollment in either program. A post- questionnaire was provided following the intervention that consisted of 10 multiple choice and short answer questions. Questions were asked regarding previous education, knowledge of the qualifications and application process for both programs, and barriers in applying for/receiving benefits from either SNAP Ed, or LIHEAP.

Part one of the intervention was completed on February 7th, 2022. On this date, participants completed a pre-intervention questionnaire regarding their use of additional programs in the community. 50 participants completed a consent form, as well as a pre-intervention survey (n=50). Intervention materials were

Participation:

The pre-questionnaire completed by participants contained 9 multiple choice questions related to the use, and knowledge of additional programs. These programs included the Supplemental Nutrition Assistance Program (SNAP Ed) and the

distributed for same-day data collection to the sample group. On the same date, participants received information on SNAP Ed, LIHEAP, and a local program providing relief for home heating costs. Materials were provided to all participants at the mobile food pantry as paper handouts.

The second part of this intervention took place on February 24th, 2022. On this date, participants completed a post-intervention questionnaire regarding their use of additional community programs and knowledge change of participants. 50 participants completed a post-intervention survey (n=50). Materials were distributed on this date for same day data collection.

Data analysis:

Data analysis was completed to determine if there was a knowledge change from pre- to post- questionnaire responses. The change in the number of participants utilizing additional community programs was also analyzed. Survey data was not normally distributed, and therefore a Pearson Chi-Square test was conducted to determine the significance of changes from pre- to post-questionnaires. Data collected from participants was quantitative data based on a Likert scale. Data was analyzed using the SPSS data analysis software. A value of $P < 0.05$ was considered significant. The dependent variables in this study were the changes in pre- and post- questionnaire responses. The independent variable was participation in the questionnaires by mobile food pantry participants.

Low-Income Home Energy Assistance Program (LIHEAP). Consent forms and questionnaires were provided to 48 participants (n=48) who completed the pre-questionnaire. Participants were excluded due to not returning consent forms and not completing questionnaires completely. The final sample size for the pre-questionnaire was (n=44). The post-questionnaire

completed by participants included 10 multiple choice, short response questions related to the use, knowledge, and barriers in receiving additional help from additional programs. Consent forms and questionnaires were provided to 50 participants (n=50) who completed the post- questionnaire. Participants were excluded due to not completing consent forms, and

questionnaires completely. The final sample size of the participant post-questionnaire was (n=45). Survey data was not normally distributed, and a Pearson Chi-Square test was conducted in SPSS to determine the significance of changes from pre- to post-questionnaires.

RESULTS

Demographics:

Information regarding participants locations was collected (**Table 1**). 93% of pre-questionnaire participants were located in Steuben County. 2.27% of participants were located in Chemung County, and 4.5% were located in Schuyler County. 95.5% of post-questionnaire participants were located in Steuben County. 2.2% of participants were located in Chemung County, and 2.2% were located in Schuyler County.

What county do you currently live in?

County	Participants	
	Pre-questionnaire	Post-questionnaire
Chemung	1	1
Steuben	41	43
Schuyler	2	1
Other	0	0

Table 1: This table represents the three counties that participants resided in.

Pre/post questionnaire knowledge change:

A Likert numerical scale was used to ask questions regarding participant knowledge and use of LIHEAP, and SNAP Ed in addition to services provided by the Food Bank of the Southern Tier. The results of these questions showed that there was no significant change in knowledge by participants. Lack of significance in knowledge of Snap Ed and LIHEAP is seen by p-values of 0.28 (**Figure 1**), and .203 (**Figure 2**). There was the greatest change in participants

receiving education indicated by (p = 0.023) (**Figure 3**). This increase in participants stating they have received education is significant (P < 0.05). The knowledge change of required qualifications was 0.340 (**Figure 4**). The change in knowledge of where to apply for these services was .546 (**Figure 5**). There was no knowledge change in participants knowledge of how to access these programs indicated by a p-value .794 (**Figure 6**). There was also no change in participant use of any additional programs indicated by a p-value of .324 (**Figure 7**).

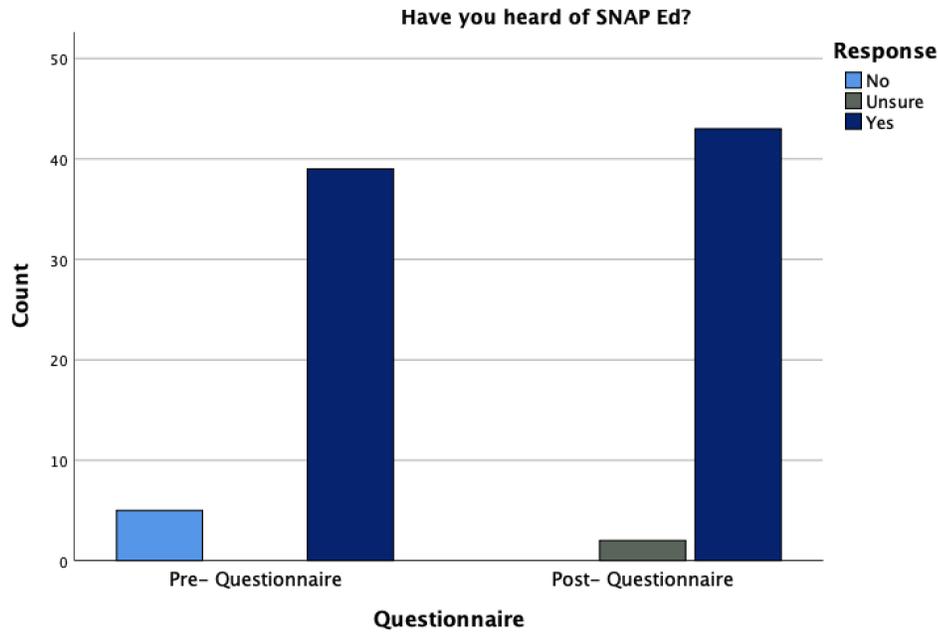


Figure 1: Bar graph comparing participant knowledge of SNAP Ed. Pre-questionnaire (n=44), post-questionnaire (n=45). Chi square test ($p = 0.28$)

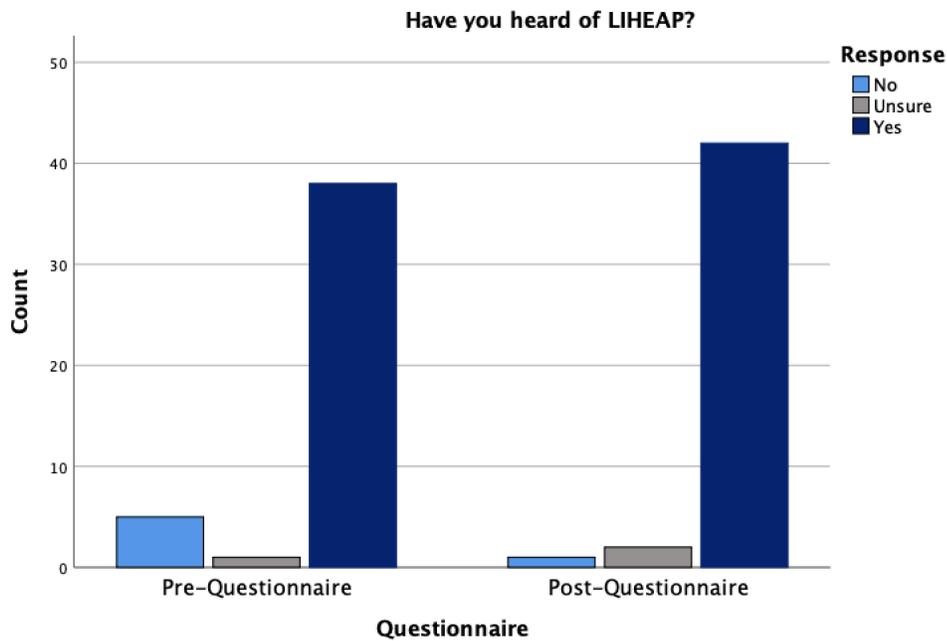


Figure 2: Bar graph comparing participants aware of LIHEAP. Pre-questionnaire (n=44), post-questionnaire (n=45). Chi square test ($p = 0.203$)

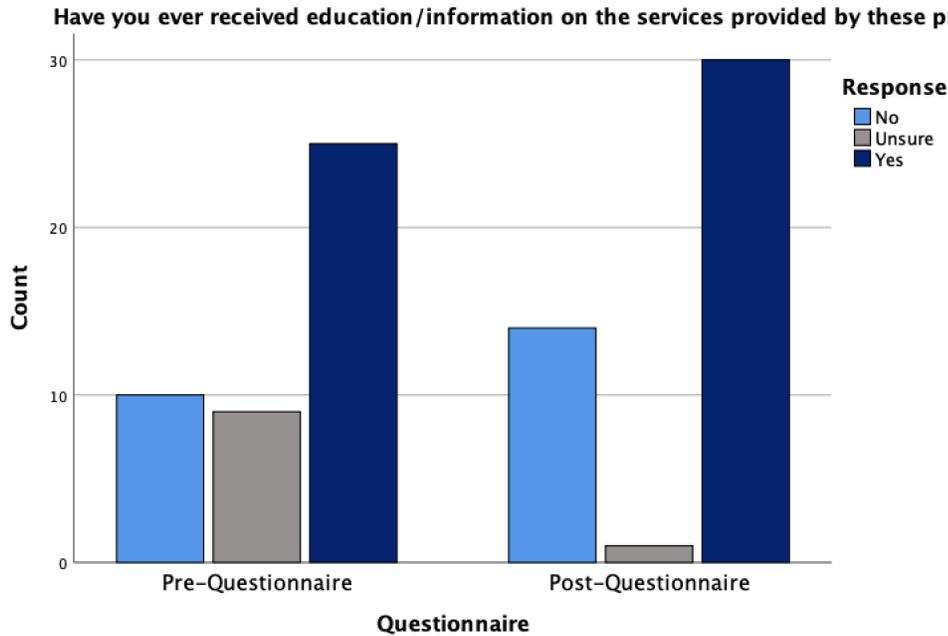


Figure 3: Bar graph comparing previous education on additional programs. Pre-questionnaire (n=44), post-questionnaire (n=45). Chi square test ($p = 0.023$).

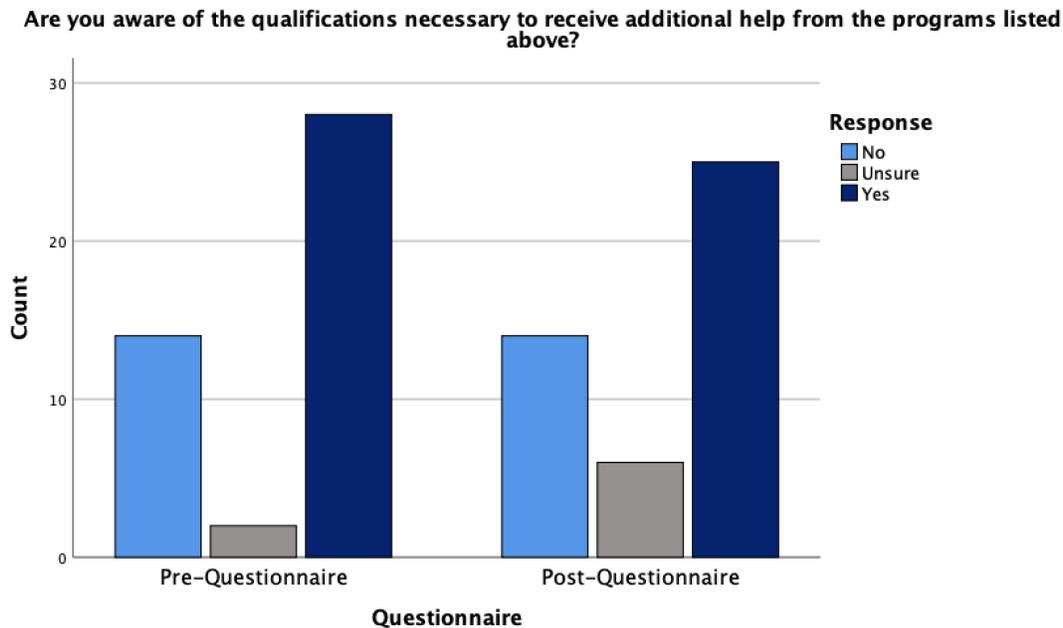


Figure 4: Bar graph comparing participant knowledge of required qualifications to receive assistance from additional programs. Pre-questionnaire (n=44), post-questionnaire (n=45). Chi square test ($p = 0.340$).

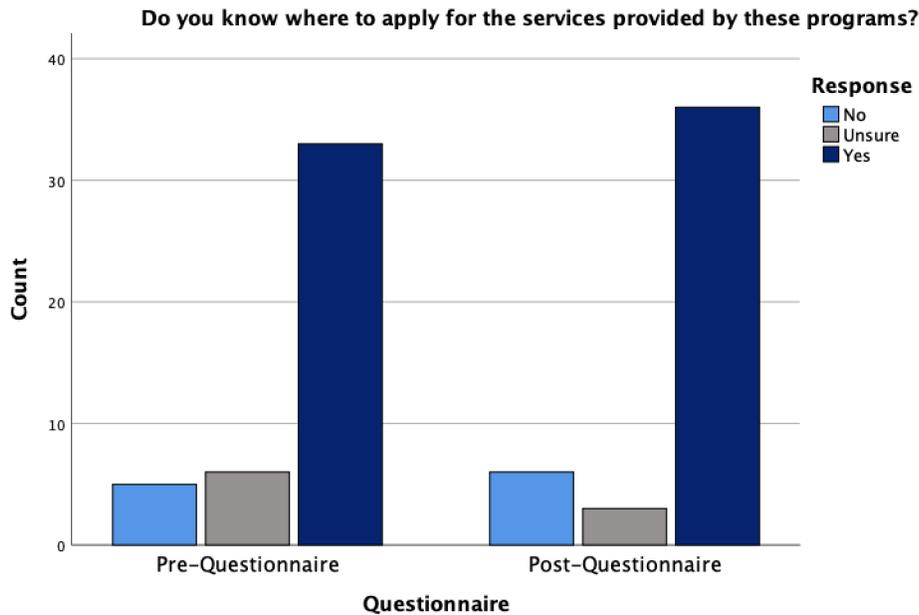


Figure 5: Bar graph comparing knowledge of where to apply for assistance from additional programs. Pre-questionnaire (n=44), post-questionnaire (n=45). Chi square test (p = 0.546)

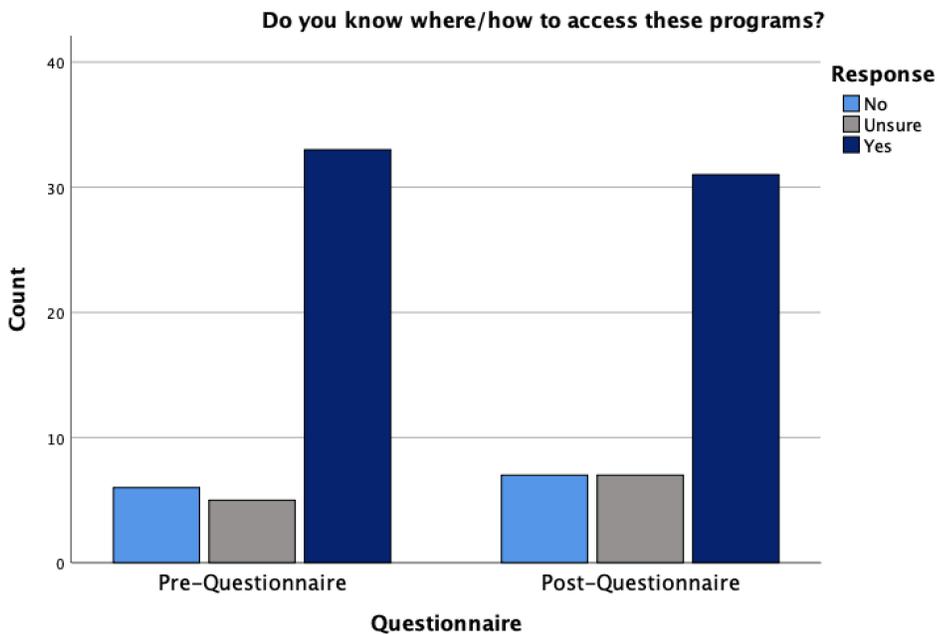


Figure 6: Bar graph comparing participant knowledge of where/how to access additional programs. Pre-questionnaire (n=44), post-questionnaire (n=45). Chi square test (p = 0.794)

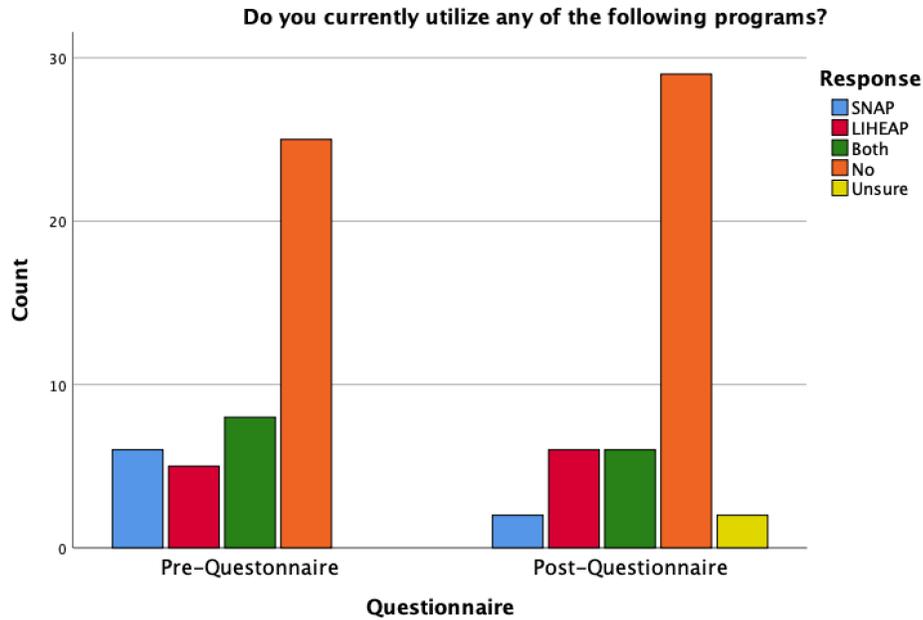


Figure 7: Bar graph comparing utilization of LIHEAP, and Snap Ed. Pre-questionnaire (n=44), post-questionnaire (n=45). Chi square test (p = 0.324)

Application and barriers of receiving SNAP/LIHEAP benefits:

Questions regarding previous applications and barriers to applying for SNAP Ed, and LIHEAP were asked on the post-questionnaire (**Figures 8 and 9**). 48% of participants stated that they have

previously attempted to receive assistance from SNAP, LIHEAP, or both (**Figure 8**). 20% of participants stated that they have faced barriers in applying for one or both of these programs (**Figure 9**).

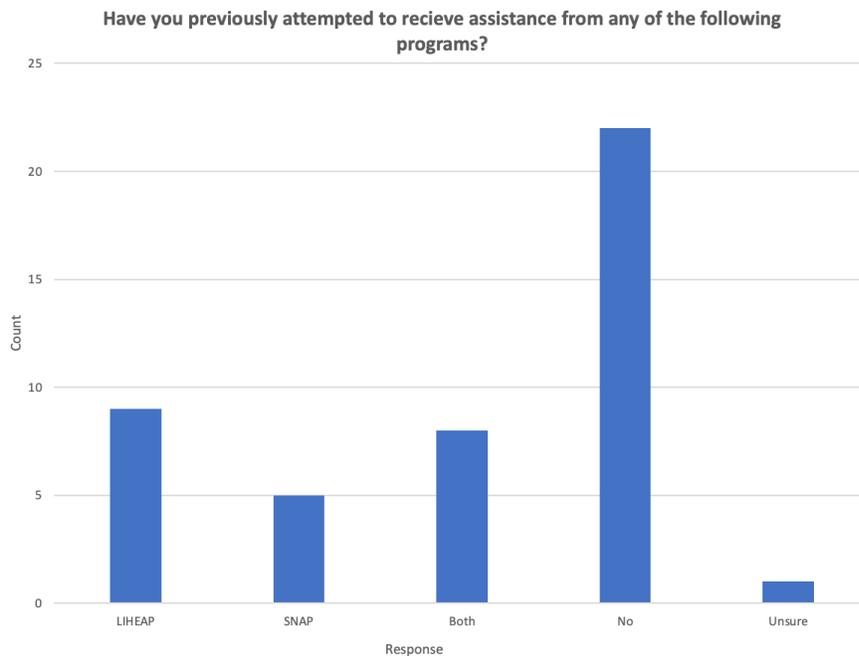


Figure 8: Bar graph showing participant responses to post-questionnaire question regarding previous applications to receive assistance from additional programs

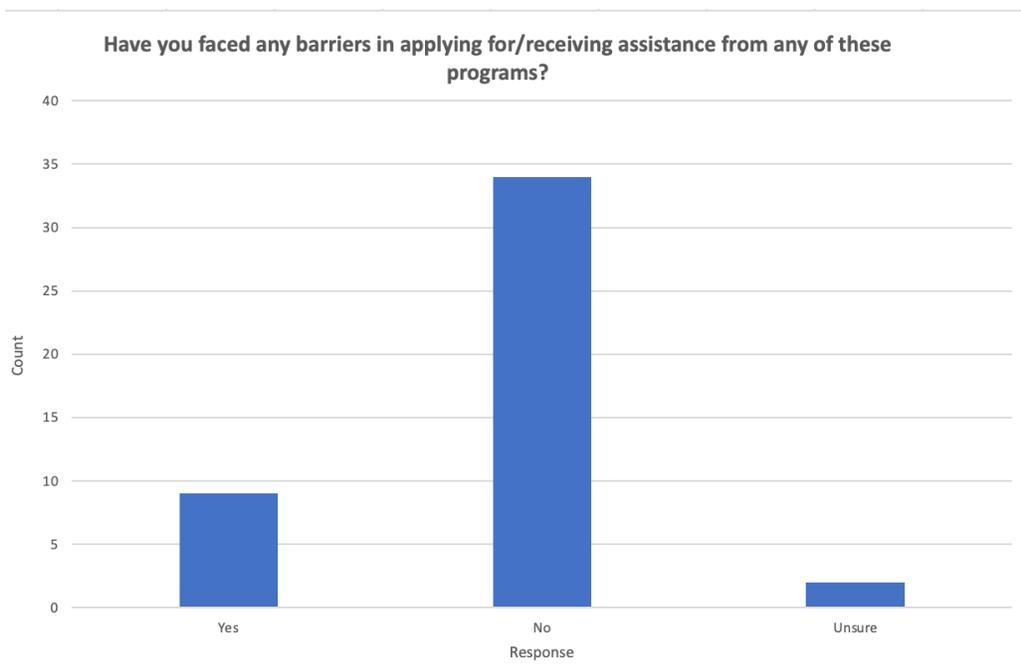


Figure 9: Bar graph showing participant responses to post-questionnaire question regarding barriers to applying for/receiving assistance from additional programs.

DISCUSSION:

While this study provided information regarding knowledge change in participants when provided education and resources, there was a limited significance in results. The primary hypothesis that education and resources would cause an increase in knowledge and use of additional community programs cannot be supported. There was a significant increase in participants who stated they had received education/information on SNAP Ed, and LIHEAP ($P = 0.023$). There was no significant change in the number of participants that supported an increase in use, or application of LIHEAP, or SNAP Ed. The authors determined several possibilities for the lack of significance in the obtained data. Many participants stated that they had previously received education on SNAP Ed, and LIHEAP and they were aware of the qualifications during the pre-questionnaire. This likely caused the insignificant increase in

knowledge of these programs since a high number of individuals were already aware of these programs prior to the intervention. Information was also provided to individuals as paper handouts to read on their own, and no additional information was provided. This was also a likely cause of the insignificance in data. The study was conducted over a very short time period, and a one-month time span was likely too short for individuals to apply and be accepted to either program.

In a study performed by Rivera et al. SNAP-Ed education was provided to participants to increase participation and decrease food insecurity.⁶ This study found stronger evidence for SNAP-Ed improving food security and increased participation ($P < 0.01$; $P = 0.03$). Rivera et al. concluded that this study provided evidence regarding the causality of SNAP-Ed on dietary outcomes as well as that the magnitude of how direct education works to improve food security is not fully known.⁶ The study performed by Rivera et

al. had very different results in comparison as there was a very limited significance in results found in this study.

Strengths:

Strengths of this study were that participants filled out questionnaires completely. Questionnaires were disregarded if they were not completed or had any blanks. Another major strength of this study is the sample size, prequestionnaire (n=44), post questionnaire (n=45).

Limitations:

A major limitation of this study was that it cannot be concluded that the same participants completed the pre- and post- questionnaire. It was not known whether the same participants were filling out the pre- and post- questionnaire and many participants were unsure if they filled out a survey previously. Therefore, a knowledge change between participants cannot be concluded. Another major weakness was that 93-95.5% of participants were from Steuben County; therefore, the results of this study regarding geographic location were limited. Another limitation of this study was that there was only 3 weeks between the pre- and post-questionnaire. This provided a very limited time

CONCLUSION:

This study examined the effect of education on knowledge and participation in community programs in individuals facing food insecurity. The findings of this study show a very limited change in knowledge and no change in participation in community programs when provided education. The authors of this study are unable to conclude that providing education to individuals will increase their knowledge and participation in community programs based on the obtained results. Further research is needed

period to apply and receive approval for any of these additional programs. This study should be conducted with more time between pre- and post- questionnaire collection for better results.

Implications for research and practice:

Further research should be conducted evaluating a pre- and post- questionnaire knowledge change in participants. The results of this study provide an insight to current use of community programs, and the change that education may have on community program usage. However, there was a very limited significance in data, and further research should be conducted. Further research should take into consideration a more hands on approach to providing this information as providing paper handouts with no additional information was likely a cause in the lack of significance in data. Further studies should also be conducted over a longer time period to see if an increased period of time between the intervention and post-questionnaire allows for more individuals to apply and begin receiving assistance from either program.

to determine the effectiveness of this intervention.

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APPENDIX:

Pre- Intervention Questionnaire:

1. What county do you currently live in?
 - Chemung
 - Steuben
 - Schuyler
 - Other: _____
 - Prefer not to answer
2. Have you ever heard of SNAP (Supplemental Nutrition Assistance Program)?
 - Yes
 - No

Unsure

3. Have you ever heard of LIHEAP (Low Income Home Energy Assistance Program)?

Yes

No

Unsure

4. Have you ever received information/education on the services provided by the following programs listed above prior to today?

Yes

If yes, please list: _____

No

Unsure

5. Are you aware of the qualifications necessary to receive additional help from the programs listed above?

Yes

No

Unsure

6. If you answered yes to the question above, please specify which programs you are aware of the qualifications for?

7. Do you know where to apply for the services provided by the programs listed above?

Yes

No

Unsure

8. Do you know where/how to access these programs listed above?

Yes: Please circle what programs you know how to access.

- SNAP
- HEAP
- BOTH

No

Unsure

9. Do you currently utilize any of these additional programs for help with expenses (SNAP, LIHEAP, etc.)?

Yes

If yes, please list: _____

No

Unsure

Post- Intervention Questionnaire:

1. What county do you currently live in?

Chemung

Steuben

Schuyler

Other: _____

Prefer not to answer

2. Have you ever heard of any of the following programs (SNAP (Supplemental Nutrition Assistance Program), LIHEAP (Low Income Home Energy Assistance Program))?

Yes

No

Unsure

3. Have you ever received information/education on the services provided by the following programs listed above?

Yes

No

Unsure

4. Are you aware of the qualifications necessary to receive additional help from the programs listed above?

Yes

No

Unsure

5. If you answered yes to the previous question, please specify what programs you are aware of the qualifications for?

6. Do you know where to apply for the services provided by the programs listed above?

Yes

No

Unsure

7. Do you know where/how to access these programs listed above?

Yes

No

Unsure

8. Do you currently utilize any of these additional programs (SNAP, LIHEAP, etc.)?

Yes

If yes, please list which programs you currently utilize: _____

No

Unsure

9. Have you previously attempted to receive assistance from any of the following programs (SNAP, LIHEAP, etc.)?

Yes

If yes, please list: _____

No

Unsure

10. Have you faced any barriers in applying for / receiving assistance from any of the following programs (SNAP, LIHEAP, etc.)?

Yes

If yes, please explain: _____

No

Unsure