

INTRODUCTION

- Older adults experience low zoster and pneumonia vaccination rates, especially among minorities.^{1,2}
- Engaging patients in education about vaccines and vaccine-preventable diseases may be an important factor in increasing vaccine uptake.
- Vaccine Education through Pharmacists and Senior Centers (VEPSC) is a vaccine education trial of older adults being completed in senior community centers.
- Aim of VEPSC is to test effectiveness of didactic pharmacist-delivered education (PHARM) versus interactive peer-led small group education (PEER) in improving knowledge and beliefs about vaccination for zoster, pneumonia, and influenza.

OBJECTIVE

- The objective of this analysis was to present baseline demographics as well as knowledge differences between groups and by race.

METHODS

- VEPSC was delivered to small groups of older adults in community settings from Fall 2017 through Fall 2018.
- Both PHARM and PEER interventions delivered education about the presentation, progression, and prevention of zoster, pneumonia, and influenza.
 - PHARM program featured a pharmacist-led didactic lecture.
 - PEER program featured a guided conversation followed by an interactive role-play exercise designed to address common misconceptions and fears about vaccines.

Study Participants

- A northwest Philadelphia senior center (SC) recruited older adults from the local community.
- Eligibility criteria:
 - Age ≥50 & Abbreviated Mental Test Score ≥7
 - Physically able to attend a 2-hour session
 - Speak and read English at ≥4th grade level as determined by a brief reading passage

Knowledge Assessment

- Baseline knowledge was assessed using a 3-section, 22-item instrument (8 zoster questions, 7 questions each for influenza and pneumonia; max achievable score was 22).
- Baseline demographics and knowledge were analyzed using descriptive statistics.
 - Mean knowledge scores for the 3 diseases and total knowledge were calculated.
- Baseline knowledge was compared by race via Kruskal-Wallis test and by group via ANOVA with blocking on race.

RESULTS

Table 1. Participant Demographics (n=280)

Characteristic ^a	PHARM n=153	PEER n=127	p-value
Age (Mean (SD))	74.8 (9.2)	73.9 (8.7)	0.4062
Female (n (%))	120 (78.4)	101 (79.5)	0.2789
Ethnicity (n (%))			
Black ^b	69 (45.1)	104 (81.9)	<0.0001
White	61 (39.9)	14 (11.0)	
Asian	8 (5.2)	1 (0.8)	
Hispanic/Latino	0 (0.0)	3 (2.4)	
Other	5 (3.3)	2 (1.6)	
Highest Level of Education Completed (n (%))			
High school graduate or GED	61 (39.9)	52 (40.9)	0.8527
Some college or vocational school	35 (22.9)	34 (26.8)	
College graduate	30 (19.6)	30 (23.6)	
Marital Status (n (%))			
Never married	25 (16.3)	19 (15.0)	0.5917
Married or living as married	22 (14.4)	23 (18.1)	
Widowed, not currently married	64 (41.8)	46 (36.2)	
Divorced, not currently married	25 (16.3)	27 (21.3)	
Separated	6 (3.9)	8 (6.3)	
Level of difficulty paying for the basics (n (%))			
Not difficult at all	56 (36.6)	56 (44.1)	0.775
Not very difficult	34 (22.2)	29 (22.8)	
Somewhat difficult	31 (20.3)	24 (18.9)	
Very difficult	8 (5.2)	10 (7.9)	

^a Percentages may not sum to 100 due to some participants preferring not to respond.

^b Black represents the sum of participants that identify as African-American, Black-Caribbean, and Black-African.

RESULTS (continued)

- Baseline demographics (Table 1) showed no statistically significant differences for PHARM vs. PEER except for race (p < 0.0001).
- No statistically significant differences were seen in knowledge scores by group at baseline (Table 2).
- When considering race (Table 3), statistically significant differences were seen in total knowledge score (p=0.0014), zoster knowledge (p<0.0001), and influenza knowledge (p=0.0197).

Table 2. Baseline Knowledge Scores by Group

Knowledge Component	PHARM (Mean (SD))	PEER (Mean (SD))	p-value
Total Knowledge	11.60 (4.78)	11.74 (4.92)	0.0883
Zoster	3.86 (1.99)	3.87 (1.99)	0.1652
Pneumonia	3.16 (2.03)	3.30 (2.09)	0.1070
Influenza	4.80 (1.68)	4.70 (1.65)	0.5533

Table 3. Baseline Knowledge Scores by Race

Knowledge Component	Score (Mean (SD))	Score (Median)	p-value
Total Knowledge			
Black	10.92 (4.96)	11.0	0.0014
White	13.51 (4.22)	15.0	
Asian	10.88 (3.31)	11.5	
Hispanic/Latino	14.33 (3.79)	16.0	
Other	12.29 (5.47)	13.0	
Zoster			
Black	3.55 (2.00)	4.0	<0.0001
White	4.77 (1.66)	5.0	
Asian	3.38 (1.69)	3.5	
Hispanic/Latino	5.67 (0.58)	6.0	
Other	3.29 (2.56)	3.0	
Pneumonia			
Black	3.03 (2.08)	3.0	0.1918
White	3.60 (2.08)	4.0	
Asian	2.88 (1.46)	2.5	
Hispanic/Latino	3.00 (2.00)	3.0	
Other	4.14 (1.57)	4.0	
Influenza			
Black	4.55 (1.70)	5.0	0.0197
White	5.27 (1.44)	6.0	
Asian	4.62 (1.60)	5.0	
Hispanic/Latino	5.67 (1.53)	6.0	
Other	4.86 (1.95)	5.0	

LIMITATIONS

- Results may not be generalizable to other populations.
- This analysis does not assess outcomes of the program.

CONCLUSION

- Significant opportunity exists to improve knowledge for all three of these vaccine-preventable diseases across all racial groups.
- Of the three diseases considered, the greatest knowledge gaps were seen for pneumonia.
- Future work includes assessing change in knowledge by treatment arm and comparing costs and outcomes of PEER and PHARM.

REFERENCES

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