Perceptions About Discrimination in a Rural, Older, Racially and Ethnically Diverse Cohort

Lisa Ann Kirk Wiese, RN, PhD[1]

Katie Abel, BSN, RN[2]

JuYoung Park, MSW, PhD[3]

Ishan C. Williams, PhD, FGSA[4]

[1]Adjunct Faculty, Community and Population Health, C.E. Lynn College of Nursing, Florida Atlantic University, lwiese@health.fau.edu

[2]ICU Registered Nurse, University of Florida Health Shands Hospital, katieabel98@gmail.com

[3]Professor, School of Social Work, Florida Atlantic University, jpark14@fau.edu

[4]Associate Professor, School of Nursing, University of Virginia, icw8t@virginia.edu

Abstract

Purpose: The purpose of this pilot study was to examine perceptions of discrimination among a small cohort of rural older, retired minority Florida farmworkers. Potential sources of discrimination were explored, such as health literacy, age, sex, gender, racial/ethnic background, or rural residency.

Sample: The study occurred in a rural area that is designated as a "hot zone" due to its HRSA designation as a medically underserved area (MUA), health provider shortage area (HPSA), and medically underserved population, despite lying only 50 miles due west of the affluent town of Palm Beach, Florida. More than 40% of residents live below the poverty level, and only 65% have received a high school diploma.

Method: A descriptive, correlational pilot study was conducted to investigate potential contributors to discrimination. Independent variables examined were age, sex, gender, rural

residency, racial/ethnic background, and health literacy, using the Rapid Estimate of Health Literacy in Medicine, short form (REALM-SF) (Arozullah, 2007). The incidence of self-reported discrimination was investigated. Chi-square and Pearson correlation analysis were employed to examine survey results. Findings were supplemented with a brief narrative inquiry, and responses were analyzed using Saldaña's (2015) model of cyclical coding.

Findings: Twenty-five residents in a subsidized housing unit agreed to participate in this study. This convenience sample was 96% racially/ethnically diverse (68% African American, 24% Haitian Creole, and 4% Hispanic American.) Most (78%) were retired field workers, and largely self-identified as female (72%). The residents' average reading level was 4th-6th grade. Health literacy (44%) and rural residency (24%) were the greatest sources of discrimination. Female gender discrimination was associated with ethnicity discrimination ($r = 0.6$, $p = .002$).

Conclusions: Providers are strongly encouraged to assess their patients' health literacy levels and experiences with discrimination to inform effective care delivery.

Keywords: Rural, older adult, farmworker, discrimination, health literacy, racially and ethnically diverse.

Perceptions About Discrimination in a Rural, Older, Racially and Ethnically Diverse Cohort

One in five older adults live in a rural area (Smith & Trevelyan, n.d.). Rural residents face multiple disparities associated with rural settings, such as lower levels of health literacy (Christy et al., 2017), older age (Rogers et al., 2015), being female (Ayalon & Tesch-Römer, 2017), and/or being racially and ethnically diverse (Stepanikova & Oates, 2017). However, these factors have not been widely investigated as factors contributing to discrimination in underserved settings (Jackson et al., 2019; Mouzon et al., 2020).

Health literacy is often defined as the ability not just to obtain but also to understand and communicate basic health information and services and apply health information to make wise health decisions (Liu et al., 2018). Functional health literacy, defined as the ability to obtain and apply health information to decrease disease risk or impact (Nutbeam et al., 2018), is recognized as a critical factor in managing chronic illness (Hickey et al., 2018). This is concerning for rural residents, as high rates of preventable chronic disease are experienced by vulnerable populations such as older minority farmworker groups (Rasmussen et al., 2020). Rural communities of color face disparities in achieving health literacy, which could decrease chronic illness burden (Poureslami et al., 2017). These disparities are related to limited access to health information (Nadimpalli et al., 2015) and historically grounded distrust of health care systems (Jaiswal & Halkitis, 2019). Furthermore, if persons are disadvantaged in accessing or understanding health care information as a result of low levels of education and reading ability stemming from socially constructed categories, then that is discrimination (Dovidio & Gaertner, 1986; Samerski, 2019). It is possible that persons with limited ability to comprehend health care instructions may be treated with impatience or disregard, and this could be considered a form of discrimination. The perception of such treatment as a form of discrimination by rural, older, and racially/ethnically diverse residents is rarely studied. Discrimination related to being older (Burnes et al., 2019) and African American (Nadimpalli et al., 2015) or Hispanic American (Cano et al., 2016; Velasco-Mondragon et al., 2016) has also been recognized as adding to chronic disease burden. Recently, researchers asked more than 14,000 persons in a nationally representative ethnically and racially diverse sample, “In your day-to-day life, how often do you feel you have been treated with less respect or courtesy than other people?” (Boutwell et al., 2017, “Perceived Discrimination”). Of more than the third who responded *yes*, the majority (75%) selected *other* as the form of

discrimination, rather than race, gender, sexual orientation, or age. Ethnicity and education were the other primary reasons given by respondents for perception of discrimination. Neither rural residency nor health literacy were examined as potential factors for discrimination. In addition, stressors related to disclosure of sex at birth and sexual orientation have been linked to chronic comorbidities (Hoy-Ellis & Fredriksen-Goldsen, 2016). However, sex and gender discrimination studies related to older rural residents who experience high rates of chronic illness (Whitehead et al., 2016) are lacking.

The purpose of this pilot study was to examine perceptions of discrimination among a small group of rural older, retired minority Florida farm workers. Potential sources of discrimination were explored, such as health literacy, age, sex, gender, racial/ethnic background, or rural residency. To our knowledge, the intersectionality of these identities has not been captured in other studies. *Rural* was defined for this work as a micro area (population between 10,000 and 49,999 with an urban core), as designated by the Office of Management and Budget (n.d.).

Theoretical Framework

The theoretical framework that influenced this study was the sentinel theory of generative quality of life for the elderly (Register & Herman, 2006). The authors of this theory explained that several forces and processes contribute to an older adult's quality of life, including socioeconomic status, life satisfaction, cultural dynamics, self-esteem, and optimism. Register and Herman (2006) suggested that insufficiencies in these factors may result in poor quality of life, including exposure to perceived discrimination, which was the dependent variable in this study. The theory posits a holistic approach in providing a means for improving the quality of life for older adults.

Method

A descriptive, correlational pilot study was conducted to investigate factors of perceived discrimination among a convenience sample of retired field workers living in rural Florida. Potential contributors to discrimination that were studied were health literacy, age, sex, gender, rural residency, and racial/ethnic background. The goal was to add to the state of the science regarding factors that potentially impact discrimination risk among rural, ethnically diverse, older adults. Institutional Review Board approval was obtained from the principal investigator's university prior to initiating recruitment.

Settings

Fifty miles due west of Palm Beach, Florida, is the community of Belle Glade, the largest of four towns comprising the *Glades* communities. This region is designated as a Medically Underserved Area, Medically Underserved Population, and Health Professional Shortage Area (Florida Department of Health, n.d.). More than 30% of the 17,000 residents are reported to be migrant or field/farm workers. More than 40% of residents live below the poverty level, and only 65% possess a high school diploma. Thirteen percent of the population are over the age of 65. This community is culturally diverse: 78% African American, Afro-Caribbean, or Hispanic, and 31% foreign born. The data show that a large portion of this population is financially disadvantaged, with more than 30% living below the poverty line, and predominantly non-White. The ratio of males and females is evenly balanced (U.S. Census Bureau, n.d.).

Sample

Twenty-eight rural residents in a subsidized housing unit were invited to participate in this research during blood pressure screening, a regularly scheduled monthly event offered by the principal investigator. Specifically, residents were asked whether they would like to participate in

a smaller study asking some basic questions such as age, sex, years lived in the Glades, and feelings regarding discrimination, in addition to completing a brief check of reading health terms. They were informed that their responses would remain anonymous (without identification) and that they would receive a $5 appreciation gift card to a local store. Twenty-five participants agreed to participate in the research initiative.

Data Collection

In addition to collecting sociodemographic data and measuring reading ability based on the Rapid Estimate of Literacy in Medicine, Short Form (REALM-SF) score (Arozullah et al., 2007), the incidence of self-reported discrimination was investigated. Semi structured interviews were conducted to gather further information regarding feelings of discrimination that might be related to reading ability, sex, gender, rural residency, or ethnicity.

Measures

The sociodemographic survey consisted of 13 questions addressing age, sex, race, ethnicity, education, marital status, religion, and years lived in a rural area. All measures were given to participants in their preferred language by a trained health educator. Although race and gender pairings of participant and interviewer were not considered, the principal investigator was well-known through an established program of research during the past seven years in the community. A tri-lingual local, trusted health leader was present during all interviews.

The REALM-SF (Arozullah et al., 2007) was used as a measure of health literacy. Participants were asked to read any words aloud that they recognized among seven words: Menopause, Antibiotics, Exercise, Jaundice, Rectal, Anemia, and Behavior (stated here in English). A point was assigned for each word read correctly, and the total score was categorized by grade level and functional ability (Table1).

Table 1

Scores and grade equivalents for the REALM-SF

Score	Grade range
0	Third grade and below; will not be able to read most low-literacy materials; will need repeated oral instructions, materials composed primarily of illustrations, or audio or video tapes.
1-3	Fourth to sixth grade; will need low-literacy materials, may not be able to read prescription labels.
4-6	Seventh to eighth grade; will struggle with most patient education materials; will not be offended by low-literacy materials.
7	High school; will be able to read most patient education materials.

Scores and grade equivalents for the REALM-SF from "Development and Validation of a Short-Form, Rapid Estimate of Adult Literacy in Medicine, by A. M. Arozullah, P. R. Yarnold, C. L. Bennett, R. C. Soltysik, M. S. Wolf, R. M. Ferreira, & F. B. Bryant, 2007, *Medical Care, 45*(11), 1026-1033. https://www.ahrq.gov/health-literacy/research/tools/index.html#rapid

Zero points indicates a reading level of third grade or lower, with the recommendation to offer repeated oral instructions supplemented by audiovisuals and/or illustrated materials. A literacy score of 1 to 3 indicates a fourth- to sixth-grade level, in which low-literacy level materials are suggested. Persons scoring 4 to 6 (seventh or eighth grade) would most likely be able to read and comprehend patient education material, and perhaps medication labels. A score of 7 indicates a ninth-grade or higher level of health literacy.

To investigate perceptions of discrimination, participants were also asked to respond to a series of quantitative questions written at a fifth-grade literacy level and presented in a simple format with *yes/no* responses (e.g., "Have you ever felt you were treated differently because: You live here in the Glades" or "of your reading ability?"). See Table 2 below.

Table 2

Interview Questions Regarding Discrimination to a Diverse Farm Worker Cohort ($N = 25$)

Number Prompt if yes.	Question
1	Is there a time you remember when you felt as if you were treated differently because of: your skin color?
Prompt	Can you tell me what it was like? Did you feel depressed or upset or sad because you were treated differently?
2	Is there a time you remember when you felt as if you were treated differently because of: your gender (male or female)?
Prompt	Can you tell me what it was like? Did you feel depressed or upset or sad because you were treated differently?
3	Is there a time you remember when you felt as if you were treated differently because of your: sexual preference?
Prompt	Can you tell me what it was like? Did you feel depressed or upset or sad because you were treated differently?
4	Is there a time you remember when you felt as if you were treated differently related to where you were born?
Prompt	Can you tell me what it was like? Did you feel depressed or upset or sad because you were treated differently?
5	Have you ever felt frustrated because you struggled to read something?
Prompt	Did you feel depressed or upset or sad because you were treated differently?

At the completion of the brief questionnaire, they were asked whether they would like to answer further discussion questions regarding feelings of being discriminated against due to various factors, such as age, reading ability, sex at birth, sexual orientation (gender), years lived in the Glades (rural residence), and ethnicity. Due to the participants' potential sensitivity to being audio recorded, vigorous note taking by both researchers was used to record responses to interview questions.

Analysis

Descriptive statistics were used to summarize sociodemographic data and the number of "yes/no" responses for the types of discrimination (gender, sexual orientation, area of residence, ethnicity, ability to read). Chi-square and Pearson's correlations were conducted to investigate potential relationships among variables in the overall sample. Specifically, Pearson's correlations were employed to investigate potential relationships among the continuous independent sociodemographic variables of age, years of formal education, and health literacy level. Chi-square was used to test for relationships among the independent categorical variables of gender, sexual preference, ethnicity, years lived rural, and health literacy, with health literacy scores recoded as a categorical variable into lower or higher literacy scores: The cut point for health literacy was 4, with scores of 0 to 3 indicating lower health literacy and scores of 4 to 7 indicating higher health literacy. Tests were conducted using SPSS26 (IBM Corp., 2016).

Saldaña's model of cyclical coding (Saldaña, 2015) was used in guiding the investigators during the qualitative analysis of the open-ended responses. After reading the transcripts twice to gain a sense of participant meanings, the investigators read the transcripts again. Memoing was used, defined by Glaser (1978) as "writing up of ideas about codes and their relationships as they strike the analyst during coding" (p. 3). Next, codes were determined using in vivo word coding, which is defined as using the stakeholder's own keyword or phrase to create a coding category (Manning, 2017; Saldaña, 2015). Using an in vivo method is advantageous because it helps to prevent researchers from infusing their own meaning into the data (Saldaña, 2015). Finally, the researchers independently looked for recurring themes, using the conventional method of content analysis, in order to elicit, organize, and understand meanings from the data to draw realistic conclusions (Bengtsson, 2016).

Results

Of the 25 participants, 72% identified as female and 28% identified as male, and 76% reported prior farm or field work. Only one person was married, and 96% identified as non-White (68% African American, 24% Haitian Creole, and 4% Hispanic American). Ages ranged from 59 to 84 years (M = 71.6, SD = 6.4). The average number of years of formal education was 8 (SD = 4.4). The average number of years lived in Belle Glade was 40.7, but with a considerable SD (29 years). The average health literacy score, as measured by the REALM-SF (Arozullah et al., 2007), was 2.5 (SD = 2.4), indicating that the average participant could read at a fourth- to sixth-grade level (Table 3).

Table 3

Sociodemographic Characteristics Sample (n =25)

Variable	*f*	%
Gender		
Male	7	28
Female	18	72
Ethnicity		
African American	17	68
Afro-Caribbean	6	24
Hispanic American	1	4
White, non-Hispanic	1	4
Marital Status		
Married	1	4
Single	12	48
Widowed	7	28
Divorced/Separated	5	20
Farm/Field Worker	76	19

Variable	*M*	*SD*	Minimum	Maximum
Age (years)	73.1	6.4	59	84
Education (years)	8.0	4.4	0	18

REALM-SV	2.5	2.4	0	7
Years Rural	40.7	29	0	80

For scoring of the questions regarding perceived discrimination, *yes* responses were assigned a point value of 1 and *no* answers were assigned a point value of 0. There were no responses of *I'm not sure* or *I don't know*. Affirmative responses were followed by further exploration with open-ended questions.

Incidence of Perceived Discrimination

When asked about experiencing discrimination due to their health literacy level, 44% (*n* = 11) reported discrimination and 56% (*n* = 14) reported nondiscrimination (Table 4).

Table 4

Frequency of Perceived Discrimination Reported in a Rural Older Adult Subsample (n = 25)

Discrimination Type	Yes (%)	No (%)
Sex at birth	4 (16%)	21 (84%)
Ethnicity	5 (20%)	20 (80%)
Ability to read	11 (44%)	14 (56%)
Sexual preference	1 (4%)	21 (96%)
Rural residency	6 (24%)	76 (19%)

When asked whether they had experienced gender discrimination, 16% (*n* = 4) said yes and 84% (*n* = 21) said no. As for experiencing discrimination due to their ethnicity, 20% (*n* = 5) said that they had experienced it and 80% (*n* = 20) said that they had not experienced it. Only one participant (4%) reported experiencing discrimination due to *sexual preference*. When asked about experiencing discrimination due to living in a rural area, 24% (*n* = 6) said *yes* and 76% (*n* = 19) said *no*.

Correlational Analyses

To conduct a chi-square analysis, the health literacy (REALM-SF) score was dichotomized: lower (score 1 to 3) and higher (score 4 to 7). These two groups were compared in a 2x2 table, with the "yes/no" responses to feeling discriminated against due to reading ability as rows and the lower/higher literacy scores as columns. The relationship was significant: X^2 (1, N = 25) = 4.9, p = .038. This indicated that participants with the subjective report of feeling discriminated against based on their reading ability scored lower on the objective measure of health literacy. Those who felt discriminated against because they were female were more likely to report ethnic discrimination.

Based on Pearson correlational analysis, there was a negative relationship between age and education (r = -.32; p = .01), indicating that, as age increased, the number of years of education decreased (Table 5). Similarly, a negative correlation was found between age and health literacy (r = -.27; p = .01), indicating that, as age increased, health literacy decreased. There was a positive correlation between education and health literacy (r = .61; p = .01).

Table 5

Pearson Correlation Analysis in a Rural Older Adult Cohort

	Years in rural	Years of education	Literacy Level (REALM-SF)	Depression risk (CES-D)	Age in years
Age in years	.145	-.321**	-.266**	-.232**	
Years in rural		.066	-.073	-.025	.145
Years of education			.606**	.065	-.321**
Literacy level				.107	-.266**
Depression risk					-.232**

Note: ** Correlation is significant at the 0.01 level (2-tailed).

Age was negatively correlated with perceived health literacy discrimination (r = -0.46, p = .05) and rural residency discrimination (r = -0.43, p = 0.05). This indicated that older residents perceived less discrimination with regard to reading level or rural residence than did younger residents. Gender discrimination was strongly associated with ethnicity discrimination (r = 0.6, p = .002).

Narrative Inquiry

For the qualitative inquiry (N = 25), perceived discrimination was explored through open-ended questions after the "yes/no" questions. Two researchers read and then analyzed the narrative transcripts prior to meeting to share results of their independent analyses and found that no reconciliation of major differences was needed. To establish trustworthiness and rigor, in addition to bracketing of any preconceived ideas, use of memoing, and review of transcripts independently by two reviewers, member checking was conducted by returning the interview transcript to participants (Morse, 2015). This allowed participants to confirm their narrative and prevent researcher bias. Enhancing rigor in qualitative research is important because it increases credibility and accuracy of the researcher's interpretation of phenomena (Birt et al., 2016).

Using in vivo coding (Saldaña, 2015), as described earlier, which calls for selecting participants' own words as codes, two key concepts emerged from analysis. The first major concept was identified by recognizing frequent participant statements such as, "I know a lot of my neighbors," "many folks like me," and "here not a problem." Researchers interpreted this finding to be linked to the rural, homogenous area in which the participants resided. These statements alluded to the possibility that they may have experienced discrimination in the past but it was no longer something they needed to worry about in the area where they lived. The resulting in vivo code identified independently by both researchers was "many folks like [similar to] me" (with

"like" being an adverb, not a verb). The overarching theme that became evident was "belonging" (Table 6).

Table 6

In Vivo Coding Examples of Participant Responses regarding Perceived Discrimination*

Participant Statement	In Vivo Coding	Concept
"Being alone is peaceful."	"Peaceful here."	Peace
"I don't let [living alone] bother me."		
"I relax, I play music, I read."		
"I worry about me."		
"I read the Bible."		
"It is peaceful here."		
"I'm more peaceful here."		
"Every woman needs something and I ain't got nothing, but I don't worry about it, if God meant for me to have it, I'll have it. Everything is in His hands."		
"I know a lot of my neighbors."	"Many folks like me."	Belonging
"Where I lived before there were not many folks like me."		
"…Here not a problem. Many folks like me."		
"Here, no; not here."		
"I just moved here."		
"I got involved and serve the lunches down here."		
"It wasn't pleasant. I try to forget about it. But not here; I haven't felt it."		
"Sometimes they discriminate against you because you come here from another country."		
"I'm treated differently by other women."		
"Not here, but where I lived before there were not many folks like me."		
"If you're not from here, you are looked at differently."		
"I don't let it [living in the Glades] bother me."		

Participant Statement	In Vivo Coding	Concept
"Sometimes I am treated different because I am from Haiti."		

***Note:** *Saldaña, 2015*

The second concept was defined by participants who named religious practices that aided them in coping with feelings of experiencing discrimination. Through participant statements such as, "I go to church all the time," "I read the Bible," and "Everything is in His hands," the importance of spirituality in this sample became clear to the researchers. Being involved in local churches appeared to be the most common outlet for these residents to remain active. The in vivo code from participant statements chosen for this concept was, "I go to church" and summarized as "religiosity" by the team (Table 6 above). Both themes were verified through member checking with five residents, although for the term *religiosity*, those participants referred to their spiritual practices as "I am religious."

Discussion

The discussion was guided by the key principle in Register and Herman's (2006) theory of generative quality of life for the elderly, in that holistic assessments of health are needed to advance inclusivity among older adults who are experiencing disparities. It is simply not sufficient to measure vital signs. Psychosocial assessments are essential to determine gaps in quality of life. In this study, we attempted to do that through assessing for perceived discrimination.

The most frequently reported perception of discrimination was that of reading ability. Using Chi-square analysis, this finding correlated with the participants' objectively measured level of health literacy. Therefore, asking participants to reflect on feelings regarding such discrimination could be an added indicator of low health literacy. In any case, health care providers should consider the health literacy level of older adults and adjust care accordingly by speaking clearly

and slowly, using brief sentences, and providing visual information when available (Geboers et al., 2018; Wittenberg et al., 2018). Health professionals should take time to ensure that their patients understand information related to their health care experience and the state of their health (McKenna et al., 2017; Ratna, 2019). If providers take necessary steps to address this gap in education, patients are more likely to enjoy more autonomy and practitioners are more likely to receive *actual* informed consent. Health care providers may want to assess health literacy with the REALM-SF survey (Arozullah et al., 2007) as used in this study or seek similar resources. After adjusting health terminology accordingly, providers can confirm that their patients understand by using the teach-back method, a technique endorsed in the literature (Farris, 2015).

No unique factors in this study were found to be associated with discrimination, which stresses the importance of taking a holistic approach when caring for patients. Investigating all aspects of a patient's life may identify multiple factors that inform why some patients experience discrimination. Therefore, it is essential for health care providers to ask the "hard questions" when interviewing a client who may be at risk for discrimination due to stigma related to background or preferences. Even when persons have less access to health information or services, a provider who addresses socioemotional needs may make a critical difference by listening, demonstrating respect, and decreasing the sense of discrimination (Fernández-Gutiérrez et al., 2018).

Several research areas that were not discussed in this study should be included in future studies. First, we did not include sexual preference in the sociodemographic questionnaire, a variable that would have offered insight into the diversity of the study sample and better determination of the relevance of one of the qualitative questions, "Is there a time you remember when you felt as if you were treated differently because of your sexual preference?" Even if it had been included in the demographic questionnaire, patients might have hesitated to answer honestly.

The Diagnostic and Statistical Manual of Mental Disorders (DSM) included homosexuality as a mental illness until 1973 (Drescher, 2015), which means that, for a significant portion of our participants' lives, homosexuality was known as a disorder, a deviance from the norm that should be cured. Therefore, if any participants had identified with the LGBTQIAP+ community, there would have been an increased likelihood for withholding information.

As the average health literacy level for the study sample was a fourth- to sixth-grade reading level, we found anecdotally that this question regarding sexuality discrimination was often misunderstood. Consequently, we had to rephrase the question as, "Has anyone ever treated you differently because of who you love?" Reflecting on this rephrased version, it could be interpreted as referring to interracial relationships rather than same-sex relationships. Therefore, future research should attempt to clarify *sexual preference* to participants with a lower health literacy level.

Only one participant had gone to college and now held a graduate degree. This African American woman was the only participant in the sample to be taken aback by the qualitative interview and ridiculed the researchers for asking what she perceived to be obvious questions. "Of course," she often replied to whether she had experienced various kinds of discrimination. The researchers had to explain to her that, throughout all of our interviews, she was the only one to express such views, which we perceived was surprising to her by her response. Reflecting on this particular interaction, we wonder whether education level has an impact on one's perception of discrimination. Unfortunately, because she was the only participant to hold an advanced degree, we were not able to explore this relationship further. Therefore, future research should include participants with various levels of education when investigating perceived discrimination.

This study examined data from one rural community in Florida, which prevents generalizability and does not offer comparison with urban communities. Another limitation was difference in race and gender that sometimes occurred between the interviewer and participant. Including urban populations and targeting older adults in various rural communities, and pairing race/ethnicity of interviewers with participants in future studies, could expand understanding of these issues. The sample population was largely homogenous (96% non-White); further research should be conducted to investigate the extent to which–if any–this affects one's chances of experiencing discrimination. The majority of the participants in this study were at risk for dementia due to the prevalence of dementia risk factors such as age, low education levels, increased rates of cardiovascular diseases and diabetes, air pollution, and smoking history (Chen & Zissimopoulos, 2018; H. Chen et al., 2017; Grande et al., 2020; Rasmussen et al., 2020). For future studies, including this as a variable and comparing the findings based on cognitive function may yield insightful findings. A researcher could also include a predetermined level of cognitive function as an inclusionary criterion, which would require screening prior to collecting data. Finally, data were collected through voluntary, nonrandomized self-report, so, as with all interview-based studies, any dishonesty among the participants would skew the data. Dishonesty is particularly a risk in face-to-face interviews because discrimination is a sensitive subject that not everyone may wish to discuss. To improve on this in future studies, randomization would be necessary and single or double blinding the study could encourage openness and honesty.

New Contributions to the Literature

In a study conducted among adults in South Korea, lower health literacy was associated with older age (Lee et al., 2017). This U.S. study echoes their findings of a negative correlation between age and health literacy, indicating that, as age increases, health literacy decreases. Cutilli et al.

(2018) offered a discussion of this phenomenon by explaining that older adults in the United States with lower health literacy are more likely to have fewer years of education. The current study supports this explanation through the positive correlation between education and health literacy. Another factor of primary concern is that health disparities are often prevalent in underserved older adults and likely to exacerbate discrimination (Fernandez et al., 2016). Mantwill et al. (2015) conducted a scoping literature review of five databases that showed mixed results regarding the relationship of health disparities and health literacy and called for more research. The current study included an underserved cohort, consisting primarily of retired and ethnically diverse farm workers who scored low on the REALM-SF literacy scale (Arozullah et al., 2007). There was a mildly significant correlation with perceived discrimination based on reading ability. Although we did not identify any factors that uniquely predicted discrimination risk, gender discrimination was strongly associated with ethnicity discrimination. While the literature provides evidence of increased discrimination risk for non-Whites (Cano et al., 2016; Nadimpalli et al., 2015), this study suggests that non-White older women may be at an especially increased risk of experiencing discrimination.

The moral and societal imperative to treat persons with respect should never be minimized by ethnicity, place of residence, sex, gender, age, or ability to read. Nurses and other health care providers are in a unique position to minimize discrimination by advocating for respectful treatment of all persons.

Compliance with Ethical Standards

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