AN INSIDE VIEW: USING PHOTOVOICE TO STUDY SMOKING IN RURAL LOW-INCOME WOMEN

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ABSTRACT

Star A. Mitchell: An Inside View: Using Photovoice to Study Smoking in Rural Low-Income Women
(Under the direction of Shawn M. Kneipp)

Cigarette smoking is the leading cause of preventable disease, disability, and death in the United States. Disadvantaged populations, such as low-income rural women, continue to have higher than average smoking rates and are disproportionately affected by smoking related diseases, death, and an elevated financial burden. The purposes of this dissertation were to explore social and cultural factors that give meanings to being a smoker in rural low-income women and further explore the relationships between social support, social networks, social identity, and the meaning of smoking as they relate to the women's decisions to smoke and attempt smoking cessation.

This dissertation consists of three separate, but related, papers. They are: 1) a systematic review of the literature which identifies the disconnect between desired forms of social support for smoking cessation and interventions that have been offered; 2) a methodology paper on the philosophical underpinnings of a relativist approach to photovoice as a method to study smoking in rural low-income women; and 3) findings from a qualitative study using ethnographic methods and photovoice to explore meanings and behaviors related to smoking in this population of women.

Focusing on the social and cultural context of smoking, 13 rural low-income women smokers from geographically homogenous regions completed this study. Data collected from community assessments, participant produced photographs, and semi-structured interviews

discovered patterns of experiences, which included isolation, struggles associated with living in rural areas, the use of smoking as a means of relaxation and stress management, family support and expectations, the role of being a good mother, and hope for a better life. Unexpected in the findings is the consistent expression of hope for a better quality of life for themselves and their families before smoking cessation is reasonably attempted.

This study suggests that future research and interventions address the economic, social, and cultural environments of rural low-income women that impede improving their quality of life. In addition, smoking cessation research and interventions for this population should explore creative approaches that realign methods of stress management and relaxation with behaviors that decrease negative health outcomes.

To my family for their love, patience, and support.

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CHAPTER 1: INTRODUCTION

Outline of Dissertation

In addition to this introductory chapter and a summary chapter, this three manuscript dissertation includes: 1) a published systematic review of the literature focused on the limited congruency between factors related to smoking in low-income rural women and the inadequate utilization of these critical factors in smoking cessation interventions that have been developed and implemented in this population 2) a manuscript on the philosophical underpinnings and methodologies which frame the use of photovoice in health research on overlooked, marginalized populations such as rural low-income women who smoke, and 3) a manuscript with findings from a qualitative study, using ethnographic methods and photovoice, to understand social meanings associated with smoking in rural low-income women.

Introduction

Cigarette smoking is the leading cause of preventable disease, disability and death in America (Centers for Disease Control and Prevention [CDC], 2014). Research on smoking provides descriptive statistics, theories, and results of numerous tested interventions (CDC, 2014; US Department of Health and Human Services [USDHHS], 2014). Yet, despite the knowledge gains and the financial expenditures related to smoking, disadvantaged populations continue to bear a higher level of smoking related diseases, death, and an elevated financial burden (CDC, 2014; Dwyer-Lindgren, et al., 2014; USDHHS, 2014). Living in poverty, lower educational achievement, and rurality of residence are linked to

higher rates of smoking with little evidence of successful rate reduction (American Lung Association [ALA], 2012; CDC, 2014; Eberhardt, & Pamuk, 2004; Hartley, 2004; Laaksonen, Rahkonen, Karvonen & Lahelma, 2005; Stevens, Colwell & Hutchison, 2003; Tseng, Yeatts, Millikan & Newman, 2001; United States Department of Agriculture [USDA], 2011).

Although the term rural has different definitions, which are based on either a subjective state of mind, or objective quantitative measures, for the purposes of this dissertation, rural is defined as an area outside urban areas of 50,000 or more people (United States Department of Agriculture [USDA], 2014; USDHHS, 2015). Smoking rates in women are declining; however, smoking is increasingly concentrated in lower income women with persistently higher rates of smoking in rural women where poverty rates exceed national averages (Amos, Greaves, Nichter & Boch, 2012). Approximately 21% of the nation's population resides in rural areas (Housing Assistance Council [HAC] b, 2012) with 17.7% of this group living in poverty (as defined by the U.S. Census Bureau [USCB]), which exceeds the national average of 15% (USCB, 2012). Poverty affects more rural women than men, with 18% of rural women living in poverty compared to a poverty rate of 15% in rural men (HACa, 2012). In addition, using data from the Behavioral Risk Factor Surveillance System Survey (BRFSS), Doescher, Jackson, Jerant, and Hart (2006) found smoking rates to be higher in rural residents when compared to their counterparts living in urban and metropolitan areas of the United States (U.S.). The connection between higher poverty rates in rural geographic locations, a higher percentage of low-income women who live in rural versus urban or metropolitan areas, and the lack of decline in rural smoking rates justifies

further investigation that may lead to successful targeted interventions for smoking cessation in this population.

In light of the current lack of emphasis and data on smoking in rural populations, additional research is needed that explores the relationships between being a low-income rural woman, sociocultural norms of smoking, concept of self, availability and quality of social networks, and the decision to smoke. This qualitative study will provide insight into the experiences and feelings of being a smoker from the perspective of disadvantaged and marginalized rural women where the social acceptability of smoking is not well understood (Stuber, Galea, & Link, 2008; Thompson, Pearce & Barnett, 2007). Focusing on the unique perspectives, experiences, and feelings of low-income rural women who smoke and how these are situated within the sociocultural context of their lives will provide data to inform the design of future targeted smoking cessation interventions in this population.

Background and Significance

The Centers for Disease Control and Prevention (2014) currently estimates that 18.1% (42.1 million) of the adult American population smoke cigarettes and that cigarette smoking accounts for more than one in every five deaths (480,000) per year. In addition, disease caused by smoking affects more than 16 million Americans (CDC, 2014). The cost of smoking impacts not only quality of life for many, it also increases financial burden for individuals and the government. Recent reports from the USDHHS (2014) estimate health care costs directly related to smoking cigarettes is approximately 133 billion dollars annually with an additional loss of 156 billion dollars as a result of lost productivity associated with smoking.

Women and smoking

In 2001, the CDC recognized smoking as a women's issue, identifying that females are more likely to smoke as a means to control weight and negative moods, and that female smokers are more likely than male smokers to be diagnosed with depression (CDC, 2001). Women are more likely than men to initiate smoking as a sense of rebellion against conventional values, as a means of establishing independence from authority figures, or as a means of feeling socially accepted within a peer group (American Cancer Society [ACS], 2012; CDC, 2001). From 2005-2010 smoking rates for women declined 60% less than that of men (CDC, 2006; CDC, 2011). Notwithstanding the decline of women smoking rates between 2010 and 2012, smoking in women with a General Education Development (GED) as their highest level of education remains higher than in their more educated counterparts (CDC, 2014). Studies find that women have greater difficulty with successful smoking cessation, relapse more often, and respond less favorably to nicotine replacement therapy than men (CDC, 2001; Bohadana, Nilsson, Rasmussen & Martinet, 2003). It has also been suggested that physical dependency on nicotine may be less intense in women, pointing to the primacy of psychosocial influences in smoking addiction for this group (Perkins, 1996).

Rurality

When compared to national smoking averages, smoking rates continue to be higher in populations with less education (41.9% in persons with a GED), those living below the federal poverty level (27.9%; CDC, 2014), and in those residing in rural areas (22.2%; CDC, 2011). Although national smoking rates in adults has shown a slight decrease between 2005 (20.9%) and 2012 (18.1%; CDC, 2014), higher rates of smoking in disadvantaged

populations create a heavier health burden of smoking-related disease in disadvantaged populations (Amos, et al., 2012).

Geographically, rural areas comprise 90% of the United States and 16% of the population (ALA, 2012). The rate of smoking among women and men in rural areas is twice the target rate of 12% identified in Healthy People 2020 (USDHHS, 2014) and nearly 5-6% higher than smoking rates in suburban or urban households (Doescher, et al., 2006). In rural households, 22.2% of adults smoke compared to 17.3% and 18.1% in suburban and urban households, respectively (Weg, Cunningham, Howen & Cai, 2011). Rural smokers are also more likely to start smoking at an earlier age and consume a greater number of cigarettes per day than their urban counterparts (ALA, 2012). Moreover, smoking rates in low-income rural women are not declining as they are in suburban and urban populations (CDC, 2011). An analysis of the National Survey of Drug Use and Health data from 2010 showed that 25.1% of rural women smoke compared to 20.8% in urban women and 27.4% of rural women smoke during pregnancy compared to 11.2% in urban pregnant women (ALA, 2012). Although differences in rates of smoking may appear marginal between rural low-income women and women living in suburban and urban areas, the consequences of smoking are realized with a greater health burden of smoking related disease outcomes in rural settings. For example, smoking-related lung cancer deaths are actually increasing in women living in heavily rural states (Alabama, Arkansas, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Kansas, South Dakota, Indiana, Michigan, and Iowa) (Jemal, et al., 2008).

Sociocultural factors

The literature documents that smoking in low-income rural women presents a current and future health problem (ALA, 2012; Hutcheson, et al., 2008). In addition to low socioeconomic status, less education, and a decreased level of success with smoking cessation; rural populations have less access to primary medical care, emergency services, have a higher incidence of mental health problems, and must travel longer distances to meet the needs of daily life (Gamm, Hutchison, Dabney, & Dorsey, 2002; Jones, Parker, Ahearn, Mishra, & Variyam, 2009; Wewers, 2012). For the poor, rural geographic location increases the cost of transportation, which further challenges their ability to maintain work status, access medical facilities and retail services, and maintain social relationships. These physical limitations influence rural low-income women's access to, shape of, and extent of social networks that provide social support and a means of social connectedness; factors that are linked to health status and health behaviors (Berkman & Glass, 2000; Cassel, 1976; House, Landis, Umberson, 1988; Michael, Colditz, Coakley, & Kawachi, 1999; Uchino, 2006).

Berkman and Glass (2000) conceptualize social networks as structural mechanisms embedded within a larger social and cultural context, which influences the nature of an individual's social interactions within their environment. The structure and function of an individual's social networks and the characteristics of network ties are influenced by *upstream factors*, such as culture, socioeconomic elements, political elements, and social change (Berkman & Glass, 2000; Heaney & Israel, 2008; House, 1987; Mitchell & Trickett, 1980; Smith & Christakis, 2008). In turn, the structure and function of the individual's social networks influence social and interpersonal opportunities, or downstream factors. Downstream factors include social support, social influence, social engagement, access to

resources and material goods; and provide the individual with opportunities for social connectedness, reinforcement of meaningful social roles, and provide a sense of bonding or attachment to social networks or groups (Berkman & Glass, 2000). How these *downstream factors*, are received and processed by an individual, whether actual or perceived, influences their physiologic functioning and reactivity; their psychological pathways such as self-esteem, self-efficacy, effectiveness of coping, and sense of well-being; and their health behaviors such as smoking, diet, exercise, and alcohol intake (Berkman & Glass, 2000; Uchino, Carlisle, Birmingham, & Vaughn, 2011). Understanding the influence this *upstream-downstream* reciprocal relationship has on smoking behavior in rural low-income women will improve our ability to design effective interventions that target smoking cessation in this population of disadvantaged women (Schnittker & Mcleod, 2005).

Cultural norms related to smoking can marginalize smokers and create a stigma that negatively labels them as acting in a manner that is outside group norms (Stuber, et al., 2008). Stigmatization leads to social distancing, which diminishes the smoker's social power, or social capital (Link & Phelan, 2001; Stuber, Galea, & Link, 2009). Smokers are increasingly labeled as different from the social majority and are often stereotyped as inconsiderate, low class, lacking in self-control, and irresponsible (Stuber, et al., 2009; Thompson, et al., 2007). Being a smoker interferes with employment, access to affordable health insurance, interferes with access to beneficial social networks, and potentiates status anxiety (Wilkinson, 2006). In addition, there is evidence that implementation of public policies and laws on public smoking encourage continued smoking in disadvantaged populations (Stuber, et al., 2009; Thompson, et al., 2007). Stereotyping and stigmatization is dependent on perceived power of advantaged and disadvantaged groups (Link & Phelan,

2001). Interestingly, holding of power can be a reciprocal position whereby the more advantaged group, which initially stigmatizes and labels the disadvantaged group, are in turn labeled and stereotyped, or stigmatized, by the disadvantaged group (Link & Phelan, 2001). Each group becomes resistant to the desired behaviors of the other group. This may explain the unintended consequences of smokers becoming more resistant to quitting when approached by nonsmokers and further support the need to study the reciprocal relationship between *upstream-downstream* factors and smoking in marginalized populations.

Consistent with theories of symbolic interaction (Blumer, 1969; Mead, 1934; Stryker, 2008), as the meaning of being a smoker changes within socially structured positions, the smoker assesses and reacts to how society responds to "a smoker." Social identities are constructed from group memberships within an individual's social structure and provide the basis for group identification and role behavior (Hogg, Terry, & White, 1995). Social identity is that part of an individual's self-concept generated from a cognitive awareness of membership in a social group combined with emotional attachment to membership in that group (Tajfel, 1974). As social meaning of being a smoker evolves within cultural norms, there is potential for detrimental effects to self-concept, sources of social support, and social connectedness as smokers face changing membership requirements within their social networks. Changes to self-concept have the potential to influence health behaviors and other psychological pathways associated with the ability to stop smoking (Berkman & Glass, 2000). Understanding the social nature of smoking in this population is a necessary step in planning future programs that aide smoking cessation, otherwise we continue on the same path, perpetuating smoking and the resulting health disparities in disadvantaged populations.

Statement of the Problem

Research has provided us a clear picture of how many people smoke, who smokes and how much they smoke. That said, questions remain unanswered relative to *why* certain demographic groups of people continue to smoke and *how* to effectively reduce cigarette use in populations that embrace smoking. We know the demographic characteristics of low-income smokers, have theories that provide a framework of antecedents to explain the behavior that drives an individual to start and continue smoking, and have developed smoking cessation interventions. Despite these efforts, smoking rates in low-income rural women are stagnant while rates in non-poor and non-rural populations continue to decline, disproportionately increasing the tobacco-related disease and health burden of rural communities when compared to other sectors of society. High rates of smoking-related chronic disease in low-income rural women and limited access to and use of quality health care creates a challenge to tobacco cessation efforts and suggests that a targeted research approach is needed in this group of women who are not responding to or have no access to current smoking cessation interventions.

The Purpose Statement

This study explored the meaning of smoking from the perspective of rural low-income women and its affect on the relationship to social identity, sociocultural factors, and smoking behavior. Using a qualitative approach, the purposes of the study were to (a) explore cultural and social factors that give meaning to being a smoker in rural low-income women and (b) explore the relationships between social support, social networks, social identity, and the meaning of smoking in rural low-income women's decision to smoke and attempt smoking cessation. Three manuscripts are written to achieve these purposes.

Manuscripts

Chapter 2. Systematic Review of the Literature

Chapter 2 of this dissertation is a systematic review of the literature limited to studies on rural North American women who were current or former smokers, and who identified as poor, low-income, or living in poverty (Mitchell, Kneipp, & Giscombe, 2015). Given the considerable amount of research on smoking, the study was limited to a 15 year period from 1997to 2012 with each study reviewed for its study design, quality of methods applied, and major findings. The process of review followed the Preferred Reporting Items for Systematic reviews and Meta-Analyses process (PRISMA; Moher, 2009). A literature matrix (Garrard, 2011) organized findings from the review process, which focused on the social endeavor of smoking and identity-driven behaviors unique to rural low-income women. Careful attention was given to the extent to which study findings from descriptive, qualitative, correlational studies, and theoretical frameworks used to inform the interventions tested in randomized controlled studies. Findings from this review strongly suggest a misalignment of what rural low-income women smokers desire from social support that is generated from within their personal social network and that which is available from more distant and peripheral support programs that lack personal connection. Results from this systematic review serve as the foundation for the following chapters in this dissertation. *Public Health Nursing* accepted this manuscript for publication on August 21, 2015. doi:10.111/phn.12233.

Chapter 3. Manuscript on Philosophical Underpinnings and Methodologies of Photovoice

Chapter 3 is a manuscript that presents constructivists philosophical underpinnings of photovoice as an effective method of inquiry to conduct research on rural low-income women who smoke (Appleton & King, 2002; Lincoln, Lynham, & Guba, 2011).

Emphasizing the use of photovoice from a relativist perspective, this manuscript provides a methodological foundation for photovoice studies that are less restrictive with researcher established rules for participants, implement individual interviews in lieu of focus groups, and have the intention of understanding meanings and experiences that surround smoking behaviors in overlooked populations. As a form of participatory research, photovoice is an arts-based method, which offers a creative approach to social inquiry as it encourages dialogue with marginalized and underserved research participants (Duffy, 2011; Fleming, Mahoney, Carlson, & Engebretson, 2009; Grosselink & Myllykangas, 2007; Rapport, Wainwright, & Elwyn, 2005; Teti, Pichon, Dabel, Farnan, & Binson, 2013; Valiquetter-Tessier, Vandette, & Gosselin, 2014; Wainwright & Rapport, 2007; Wang, Cash, & Powers, 2000). Participant-generated photographs and photo-elicited interviews discover meanings, beliefs, behaviors, and experiences' surrounding the problem of smoking in low-income rural women and provide foundational understanding and awareness this social phenomena has to the health of rural low-income women who smoke (Gaskins & Forte, 1995; Haines-Saah, Oliffe, White, & Bottorff, 2013; Hansen-Ketchum & Myrick, 2008). A relativist approach to photovoice exposes small elements within the social context of this group of women who have historic and cultural roots, filling knowledge gaps unique to this population of smokers that have not attempted to quit smoking or been unsuccessful in their attempts with cessation (Koh, et al., 2010). The *Methods* section of the third manuscript in this dissertation, *Finding Hope: A Photovoice Study on Smoking In Rural Low-Income Women,* provides details on the procedures and methods of implementing this methodological approach in a study using photovoice as a method to discover meanings associated with decisions to smoke or stop smoking in rural low-income women.

Chapter 4. Manuscript of Study Findings

This manuscript presents the findings of a photovoice study, which explores cultural and social factors that give meaning to being a smoker in rural low-income women who smoke, and how relationships between these meanings, social support, social networks, and social identity affect their decision to smoke or attempt to quit smoking. Observation of local artifacts in combination with photo-elicited semi-structured interviews explores relationships between smoking behavior and the participant's contextual determined experiences surrounding smoking. Findings in this study suggest that rural low-income women who smoke are aware of the social cost of that being a smoker has within their social context, creating discourse in their social identity and decreasing access to social support systems within their social network, which diminishes their social position and power. Smoking, as previously established, is used as an operational tool, or resource, for coping with daily struggles. Embedded in narratives and photos are themes situated within social identity, social support, and social networks that include hardship, struggles, isolation, family, empowerment, motherhood, and hope. Hope for a better life is a thread that moves throughout the interviews and is surrounds criteria they described as necessary before being able to realistically pursue smoking cessation. Implications for health care providers surrounds developing individuated interventions designed to diminish feelings of isolation and stress, while enhancing the women's sense of agency and resource pathways associated with their goals for a better life.

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CHAPTER 2: SOCIAL FACTORS RELATED TO SMOKING AMONG RURAL, LOW-INCOME WOMEN: FINDINGS FROM A SYSTEMATIC REVIEW[1]

Background

Smoking research has a long history. We have extensive descriptions of demographic characteristics of low-income smokers, theories that provide a framework of antecedents to explain the behavior that drives an individual to start and continue smoking, and tested cessation interventions that are built on this collective material. Despite this body of knowledge, smoking rates in low-income rural women are not decreasing as they are in other sectors of society, and tobacco-related diseases are disproportionately affecting the health burden of rural communities. This systematic review focuses on the limited congruency between the behavioral, social, and emotional factors related to smoking in low-income rural women; the predominant theories applied to explain smoking in this population; and the inadequate utilization of these critical factors in smoking cessation interventions that have been developed and implemented in this population. Further assessing the congruency of findings across studies, study designs, and smoking cessation interventions may help to explain lack of progress in this population and provide a framework for continuing research that mitigates smoking in this vulnerable population.

Each year approximately 480,000 deaths occur from smoking, one of the most preventable causes of death and disease in America (Centers for Disease Control and

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Prevention [CDC], 2014). The CDC (2014) estimates that 18.1% (42 million) of the U.S. population smoke cigarettes, impacting quality of life for many while increasing individual financial burden and government expenditures related to health care. Health care costs directly related to smoking are approximately 133 billion dollars annually with an additional 156 billion in lost productivity (United States Department of Health and Human Services [USDHHS], 2014).

National smoking rates in adults have shown little change between 2005 (20.9%) and 2012 (18.1%) (CDC, 2014). In addition, a disproportionate distribution of smoking has created heavier health burdens of smoking-related disease in specific populations. Smoking rates are higher among people with less education (41.9%), those living below federal poverty level (27.9%), and residents of rural areas (27.8%) (American Lung Association [ALA], 2012; CDC, 2014). This information should encourage health care providers to look beyond national smoking rates and focus on subpopulations of smokers such as low-income rural women.

Geographically, rural areas comprise 90% of the United States and 16% of the population (ALA, 2012). Smoking among women and men in rural areas is twice the target rate of 12% identified in Healthy People 2020 (USDHHS, 2011) and nearly 5–6% higher than smoking rates in suburban or urban households (Doescher, Jackson, Jerant, & Hart, 2006). In rural households, 22.2% of adults smoke compared to 17.3% and 18.1% in suburban and urban households (Weg, Cunningham, Howren, & Cai, 2011). Rural smokers are also more likely to start smoking at an earlier age and consume a greater number of cigarettes per day than their urban counterparts (ALA, 2012). Despite knowledge of the negative health consequences from smoking and a national emphasis on reducing cigarette

smoking, smoking rates in low-income rural women are not declining as they are in suburban and urban populations (CDC, 2011). An analysis of the National Survey of Drug Use and Health data from 2010 showed that 25.1% of rural women smoke compared to 20.8% of urban women and 27.4% of rural women smoke during pregnancy compared to 11.2% in urban pregnant women (ALA, 2012). Although differences in these points of prevalence rates of smoking may appear marginal between rural low-income women and women living in suburban and urban areas, the consequences of smoking are realized with a greater health burden of tobacco-related disease outcomes in rural settings. For example, smoking-related lung cancer deaths are increasing in women living in heavily rural states (Jemal et al., 2008).

In 2001, the CDC recognized smoking as a women's issue, identifying a number of important factors that impact smoking behavior differences between women and men. Specifically, women smokers are more likely to be diagnosed with depression and more often smoke to control weight and negative moods (CDC, 2001). Smoking initiation in women is more often associated with a sense of rebellion against conventional values, a means of establishing independence from authority figures, and enhanced feelings of social acceptance within a peer group (American Cancer Society [ACS], 2014; ALA, 2012; CDC, 2001). Although it is not entirely clear what has driven trends in smoking over the past several years, from 2005 to 2010 smoking rates for women declined 60% less than those of men (CDC, 2001, 2006). While women's rates of smoking have continued to decline between 2010 and 2012, rates remain higher in women with a General Education Development (GED) as their highest level of education than rates in their more educated counterparts (CDC, 2014). Women have demonstrated greater difficulty with successful cessation than men, relapsing more often and responding less favorably to nicotine replacement therapy

(Bohadana, Nilsson, Rasmussen, & Martinet, 2003; CDC, 2001). Physical dependency on nicotine may also be less intense in women, pointing to the primacy of psychosocial influences in smoking addiction for this group (Perkins, 1996). Further studies with low-income women living in rural areas are needed to provide a more specific picture of underlying behavioral, social, and emotional reasons for smoking in this population and will be beneficial in developing targeted smoking interventions.

Methods

A systematic search of the literature for relevant studies published after 1997 using PubMed, Medline, EBSCO CINAHL, and Web of Science was conducted to evaluate the current state of knowledge on smoking in low-income rural women. Given the extensive amount of research on smoking, a 15 year time frame from 1997 to 2012 was chosen to best reflect statistical, social, and scientific currency in studies focusing on smoking in rural low-income women. The MeSH terms "low-income OR poverty OR poor" were combined with combinations of the following terms using the AND command; "rural AND women OR female AND smoking OR smoking cessation OR tobacco". One search removed the term rural to view limitations produced by the term but was returned to the search MeSH after studies listed did not reflect the focus of this study. For example, studies focusing on urban, global, or specific minority populations, global aspects of smoking, or smokeless tobacco were not included in this literature review. References cited in articles that met the search inclusion criteria were reviewed and searched using the Web of Science. Web of Science was also used to search for other publications by authors of studies that met initial inclusion criteria. Other database searches such as the Cochrane Report and the CDC publication on *Best Practices for Comprehensive Tobacco Control Programs— 2007* were reviewed for

relevant reports of study findings that were not identified in the initial search strategy (CDC, 2007).

Design and Sample

PubMed search criteria were specific to clinical studies on cigarette smoking and smoking cessation in rural low-income women. Studies were selected for inclusion if they were printed in English and conducted in the United States or Canada. Originally, 50% was set as the minimum level of low-income rural women to be included in the sampled population; however, an exception was made for one intervention study that provided valuable information on this topic and had 49.4% of the sampled women completing the study. Studies including men were included due to the relevant information they provided on this overlooked population of women and the very limited number of smoking studies identifying rural low-income women as a focus of interest. The population of interest was also limited to rural North American women identified as poor, low-income, or living in poverty, and who were identified as current or former smokers at the time the study was conducted. This review did not seek to directly distinguish factors associated with health care access, which may vary according to national, state, or local resources, but focused on the social endeavor of smoking and identity-driven behaviors unique to rural low-income women. Each study was reviewed for its study design, quality of methods applied, and major findings. In randomized controlled studies, careful attention was given to the extent to which study findings from descriptive, qualitative, and correlational studies, and the theoretical frameworks were used to inform the interventions tested.

Analytic strategy

Using Microsoft Excel, a detailed literature matrix following Garrard's (2011) methodology was constructed that identified study author(s), title, data source, sample information, and major findings. Each study was classified as a randomized controlled trial, qualitative, descriptive, correlation, or a study that compared group differences. Patterns examined related to conceptual classification of participant experiences, attitudes, behaviors, emotions, or barriers/facilitators to cessation attempts and/or success, and supporting theoretical frameworks. The first two authors met bi-monthly to evaluate the search process, review search results, deliberate inclusion or exclusion of studies, discuss appropriate classification and coding, and confer regarding the synthesis of findings. The few differences during this process were resolved after joint review of inclusion criteria and careful review of the study by the authors.

Results

Despite the higher risk of smoking-related health sequelae among lower income rural women, there has been little research that targets this disadvantaged population. Searches through PubMed, EBSCO CINAHL, Web of Science, and other references yielded 389 records with an additional 32 records identified through article reference lists, journal reviews, and Internet searches. After duplicate studies were removed, there remained 274 records to be screened (Figure 1). After applying inclusion and exclusion criteria, 23 studies remained relevant to the focus of this search and were included in this review. Of these studies, 2 were qualitative, 16 were descriptive, 1 was a correlation/comparison, and 4 were randomized interventions. Analysis of these 23 studies provides a basis for the following review findings.

Findings from qualitative studies

Only two qualitative studies reported findings and were based on focus groups comprised of low-income rural smokers from Kentucky and the Midwest (Butler et al., 2012; Hutcheson et al., 2008). Although these two studies included both men and women, the majority were women. Seventy-nine percent (79%) of the 21 participants in Butler et al. (2012) were females recruited from economically distressed counties in Eastern Kentucky with poverty rates at least 1.5 times the national average; 63% of the 63 participants enrolled in Hutcheson et al. (2008) were female from a sample with 56% unemployment. Focused on smoking and smoking cessation, these studies identified social support and the individual's social network as significant factors in the decision to stop smoking and individual success with long-term smoking cessation. A finding of both of these studies was that barriers to cessation are strongly associated with a smoker's social network and the type of support received from significant group members. Emergent themes related to previous smokers no longer feeling included in their social groups that continued to smoke, leaving the nonsmoker with less access to social support when facing stressors. The support of family, friends, professional, peers, and group support meetings was identified as a key facilitator for those attempting to quit (Butler et al., 2012; Hutcheson et al., 2008).

Findings from descriptive studies

Sixteen of the 23 published studies, or 70%, were descriptive, providing demographic data on age, race, ethnicity, socioeconomic status, educational level, marital status, employment, access to health care, and information related to smoking cessation programs provided by primary care providers (CDC, 2007, 2010, 2011, 2012; Pleis, Ward, & Lucas, 2010; Tseng, Yeatts, Millikan, & Newman, 2001). Others focused on national and rural

trends in smoking or used data and literature reviews to support development of conceptual frameworks to understand tobacco-related health disparities (ALA, 2012; Bottorff, Haines-Saah, Oliffe, & Sarbit, 2012; Doescher et al., 2006; Eberhardt & Pamuk, 2004; Jones, Parker, Ahearn, Mishra, & Variyam, 2009; Moolchan et al., 2007; Sorensen, Barbeau, Hunt, & Emmons, 2004; Voigt, 2010; Weg et al., 2011; Westmaas, Bontemps-Jones, & Bauer, 2010). Descriptive data were also presented in randomized controlled trials and qualitative study findings.

Among the descriptive findings, higher smoking rates, higher rates of poverty, and less access to health care were found among women living in rural areas (CDC, 2012). Low-income rural women were also identified as having less health insurance, less access to health care services, and traveling farther to participate in smoking cessation programs (Hutcheson et al., 2008). In addition, this population is less likely to receive smoking cessation information from health care providers or too frequently, have inadequate financial resources to pay for nicotine replacement therapy (Hendryx, 1993; Hutcheson et al., 2008).

Doescher et al. (2006) described how lower levels of education and unemployment are associated with higher smoking rates and contribute to smoking in rural women who are poor. An estimated 28.9% of people living below the poverty level smoke compared to 18.3% of those who are at or above the poverty level (CDC, 2012). Poverty in rural areas has been estimated at 16.6% compared to 13.2% in nonrural areas (United States Department of Agriculture, Economic Research Service [USDA], 2011). With a poverty rate of 38.1%, female-headed rural families have a higher poverty rate than any other family structures in the United States (USDA, 2011). This is approximately 10% higher than the 29.4% of nonrural female-headed families living in poverty (USDA, 2011). Relatedly, having a GED

as one's highest level of education is correlated with the highest smoking rate of 45.2% in 2011, with women having only 9–11 years of education comprising the group with the second highest smoking rate at 33.8% (CDC, 2012).

Chronic stressors associated with living in poverty are coupled with high smoking rates. Socioeconomically disadvantaged women experience chronic stress due to limited social support, financial insecurity, heavy child-care responsibilities, high rates of domestic violence, and a state of chronic unemployment (CDC, 2011; Doescher et al., 2006; Hutcheson et al., 2008; Sorensen et al., 2004). National survey reports and fieldwork studies have clearly documented that women use cigarette smoking to manage stress associated with these factors and to aid with relaxation (CDC, 2001).

Findings from correlational/association studies

Findings from this group of studies suggest that social aspects of smoking may be key to successful cessation efforts, and are consistent with those from descriptive and qualitative studies. For example, Christakis and Fowler (2008) used social network analysis and longitudinal statistical methods to follow the interconnected social networks of 12,000 participants in the Framingham Heart Study from 1971 to 2003. This study found clusters of former smokers quitting in concert according to their social network. If a spouse, friend, or sibling stopped smoking, the chances of a person continuing to smoke decreased from 67% to 25%.

One comparative study focused on differences in smoking cessation practices of rural and urban health care providers (Scott, LaSala, Lyndaker & Neil-Urban, 2003). Health care practitioner assessment of patient smoking patterns and emphasis on prescribing interventions occurred less frequently in rural settings when compared to urban settings.

These findings are consistent with those from qualitative studies, suggesting greater information about and access to smoking cessation programs would facilitate smoking cessation in rural populations. Randomized controlled trial studies implementing professional support programs have not shown success in rural smokers (Bullock et al., 2009; Cupertino et al., 2007; Stoops et al., 2009).

Findings from randomized trials/intervention studies

There have been four randomized controlled trials that have focused on rural women who smoke or had a sample with a significant number of rural women smokers. The earliest study in the time frame of this search tested an 18 month community- designed intervention in rural African-American churches located in Virginia with 45.1% of initial participants and 49.4% of follow-up participants that completed the study being women (Schorling et al., 1997). Recognizing that African-American rural churches have a strong base of social networks, this study tested a community based smoking cessation intervention through health-oriented church coalitions. The intervention consisted of training one or two smoking cessation counselors in the church, who then provided counseling and self-help materials to members who desired to quit. Findings from this study did not demonstrate significant differences in 1-month cessation rates between the intervention and control group participants. Smoking cessation outcomes were better in church members than in nonchurch attenders, which may suggest that social support delivered through church coalitions influenced smoking cessation rates. Of significant interest in this study is that despite community smoking rates exceeding national rates, during initial identification of community-based health problems, neither county identified smoking as a primary health concern. Smoking cessation was included in the community- designed health program once

church coalition members became aware that funding was contingent on including smoking cessation.

Three of the four studies provided social support using the telephone or Internet to test cessation interventions, change in readiness to quit, and/or engagement in cessation management. Two studies tested an intervention structured around social support through telephone counseling; one study sampled smokers from rural primary care practices in Kansas, two thirds of whom were female with an annual income less than $40,000, and focused on long-term engagement in cessation counseling and readiness to quit (Cupertino et al., 2007). The other study sampled pregnant and/or postpartum smokers recruited from rural Midwest Women Infant and Children Nutritional Supplement clinics (Bullock et al., 2009). Neither intervention resulted in a significant change in smoking rates, though Cupertino et al. (2007) found that participants with lower income, lower educational attainment, and those lacking insurance were less likely to remain engaged in the 2-year telephone cessation intervention in this study. The third study had a total sample size of 68 which included 51 women (75%) and tested short-term effectiveness of an Internet-based abstinence reinforcement of smoking cessation in rural Kentucky smokers (Stoops et al., 2009). Results supported the feasibility of using the Internet to promote smoking cessation and suggest effectiveness in initiating and maintaining smoking abstinence during the active 6-week intervention but did not show prolonged effects after the intervention concluded. These three studies indicate that social support provided through unfamiliar, outside resources have not proved effective in low-income rural populations.

Discussion

Discrepancies in social support attributes

One might expect that research on smoking cessation had been exhausted. However, this search indicates the sparse amount of information and randomized controlled trials (RCTs) that focus on what might be successful for developing smoking cessation programs specifically for low-income rural women. To date, there has been little exploration of the experiences of rural women who smoke and what they believe might increase their success if they attempt to quit. As a result, of the four RCTs testing interventions, there was little success beyond recognizing the need for additional research that assists future design of targeted interventions with this population.

Qualitative findings have clearly identified that smokers desire support from family, friends, peers, or "buddies" from their support system or social network. The few randomized trials that met the focus of this study used conceptual frameworks of social support; providing external or peripheral sources of support. Specifically, interventions failed to show significance when testing the use of telephone counselors or study nurses/counselors external to participants' social networks and primary social support systems. The noted possible outlier among these studies used community church coalitions with trained local church members as counselors, and found the rate of smoking cessation was greater from church members and less in nonchurch attenders (Schorling et al., 1997). Although this intervention did not reach statistical significance, results suggest that social support provided by church members to other church members could influence smoking cessation in African-American communities; however, further research into the use of interventions using coalition models in targeted social networks is needed to better assess efficacy.

Although peripheral support resources provide general social support for smokers, conceptually this specific type of social support does not reflect what rural women have indicated as their desired source of support for cessation in qualitative findings, or in the relevance of social network influences found in correlational studies. Thematic findings from studies reviewed clearly point to the desire for social support from the individual's friends, family, and peer networks: there is little mention of desire for social support from individuals outside one's personal social network (Butler et al., 2012; Hutcheson et al., 2008).

Of significance is the finding that within the social network of low-income rural women, attempts to stop smoking can lead to conflict in their social support systems and those social networks that view smoking as a social norm (Christakis & Fowler, 2008). Finding a supportive social group during smoking cessation attempts can be challenging and stressful without the support of family and friends, regardless of whether sources outside this personal network are used as substitutes (Hutcheson et al., 2008). These social factors influence the smoking behaviors of rural low-income women that hold membership in communities with high smoking rates and little support from friends, family, and peers. Efforts of previous intervention studies have provided social support from trained counselors, telephone contacts, Internet based reinforcement, and home health visits from care providers (Bullock et al., 2009; Cupertino et al., 2007; Stoops et al., 2009) but without attention to the importance that personal social networks have in this population. The literature reviewed in this study repeatedly references the desired social network as interconnected friends, family members, and coworkers as the type of social support that can impact smoking cessation in low-income rural women. Situating these review findings into social network literature,

however, may shed light on how to use a more targeted social support approach to develop successful interventions for smoking cessation with low-income, rural women.

The nuances of "the social": Networks, meanings, and smoking

Herbert Blumer (1969) proposed that human beings act on the basis of the meanings things have for them and that these meanings arise from the social interactions that occur between people. Meaning, which is formed in the context of social interaction, is subject to modification based on people's interpretation of surrounding situations at hand and the direction of action. In low-income rural women, significant social interactions take place in networks of family, friends, and coworkers (Butler et al., 2012; Hutcheson et al., 2008).

Based on this theoretical framework and other findings in the literature related to the lives of low-income rural women, it is plausible that efforts to cope with daily stressors of poverty, unemployment, low education, and family responsibilities, cigarette smoking is assigned social meaning when engaged in through social networks that provide emotional support, information, affirmation of social norms, and a sense of belonging (Hartley, 2004; Westmaas et al., 2010). This socially embedded meaning of smoking, therefore, can have positive and negative effects on low-income women's self-efficacy, self-image, and strategies used to cope with multiple psychosocial stressors (Sorensen et al., 2004). Unfortunately, positive rewards of belonging to a social network may be outweighing negative effects of smoking on health, thereby rendering interventions based on external sources of support ineffective.

Decisions to start or stop smoking, and chances of staying smoke-free are influenced by the individual's systems of social support and relationships within their social networks. Studies suggest the predictive and causal associations between individual social relationships

and the individual's health has linked the lack or limitation of social support to disease and clearly distinguishes one's social network from the support that might be received through various sources (Cohen, 1988; House, 2001; House, Landis, & Umberson, 1988). Specifically, one's social network is comprised of the density, range, and multiplicity of one's social groups, while social support references the support one receives, its sources, and perceived adequacy. The pivotal role of social support and social networks in smoking has been documented in fieldwork studies with smokers (Cohen, 1988; Stewart et al., 2011). Social networks create a strong connection between individuals based on shared social capital, which places the social relationship, or connection, above what the individual perceives as their own attributes (Christakis & Fowler, 2009). An individual's social network functions to reinforce, maintain, and give meaning to one's social behaviors. Christakis and Fowler (2009) have interpreted social networks as encouraging a type of social contagion, where spread of a behavior begins with one person copying another person's behavior; others follow the behavior until it becomes pandemically accepted with new social meaning and social capital (Edge, 2008).

Social support that is received through social networks among low-income rural women differs from those of urban and suburban women (Hutcheson et al., 2008; Stevens, Colwell, & Hutchison, 2003). Smoking is common and expected in many rural communities (Eberhardt & Pamuk, 2004). Through fieldwork, Hutcheson et al. (2008) found that smoking in rural communities provided entry into a strong connection with desired social networks of family, friends, and community. Choosing not to smoke reduced individual's social capital and threatened acceptance in the network (Poland et al., 2006). Fear of being disconnected and isolated from one's social network hindered people's desire to quit smoking and

reinforced smoking behavior. Incentives to stop smoking are inhibited by having few social networks available in rural communities to support nonsmoking. Also, inadequate recreational resources available as substitutes for smoking increases relapse. Lack of social support in poor populations, including rural women has a negative affect (Blaylock & Blisard, 1992; Christakis & Fowler, 2008). Although increased exposure to social support and social networks predict successful smoking cessation in higher socioeconomic populations, increased exposure to social networks where there is smoking, may encourage smoking in low-income rural women (CDC, 2001; Christakis & Fowler, 2008; Tseng et al., 2001). For example, Hutcheson, et al. (2008) found that communal norms in rural areas included social pressure among peer groups to engage in or continue smoking, and a perceived lack of social resources necessary to encourage quitting. Smoking during leisure activities, at the workplace, with family members, as well as having limited access to nonsmoking support systems reinforced smoking in their social network (Butler et al., 2012). Low-income rural women also have a greater likelihood of living in a household with other adults who smoke, further reinforcing smoking behavior (Sorensen et al., 2004; Stevens et al., 2010; Tseng et al., 2001; Weg et al., 2011).

The greater the number of smokers in the woman's social network, the greater the likelihood that women will smoke and have difficulty quitting for good (Christakis & Fowler, 2008; McLeroy, Bibequ, Steckler, & Glanz, 1988). Smoking in low-income rural women is more commonly considered a social norm, are more likely to have friends who smoke and they often participate in social activities that involve smoking (CDC, 2001; Christakis & Fowler, 2008). And smoking with coworkers and friends creates a sense of belonging and less isolation for this population of women (Butler et al., 2012; Hutcheson et al., 2008). In

addition, in response to moral condemnation of smokers that can arise from more affluent or socially elite groups, many smokers have assumed a defensive posture that maintains smoking as a means of belonging and acceptance in their social groups and social networks. Smokers in disadvantaged and marginalized social groups are becoming resistant to tobacco control and defiantly opposing any pressure to quit (Poland et al., 2006). Taken together, these findings suggest a more nuanced approach to understanding the social meanings embedded in the cultural and social support networks of low-income rural women. These may play a key role in developing successful cessation and prevention interventions. Public health nurses practicing in rural communities are often challenged with assimilating clinical knowledge, understanding unique characteristics of local communities, and the life experiences of their patients with strategies aimed at improving health care outcomes. Unfortunately, most of the knowledge available on smoking in low-income rural women comes from studies that focus on smoking trends in the general population or smoking among women. The lack of smoking assessment and cessation interventions by rural health care providers (Hendryx, 1993; Hutcheson et al., 2008; Scott, LaSala, Lyndaker, & Neil-Urban, 2003) are two findings from this review that public health nurses can address in their practice; however, the findings also strongly suggest that these interventions must be developed to address the unique social and cultural needs of rural women.

Results of this review strongly suggest a disconnect between findings that identify one's personal social network as the desired form of social support and interventions that have implemented social support provided by distant, alternative, more peripheral, or substitute sources of support. The role of social support in smoking cessation is nothing new; however, information from this review emphasizes that we pay attention to the type of social

support and how variations can impact smoking cessation outcomes. Public health nurses must realize the social and cultural meanings associated with smoking in rural low-income women and take into account that social and personal consequences of being a nonsmoker may outweigh the health benefits of quitting. For rural, low-income women a change in smoking status may involve a transformation of social ties and relationships that the public health nurse should anticipate and plan for prior to initiating smoking cessation programs in rural communities. It is important to work with these women to identify other nonsmoking family members, friends, and identify social activities that will support shared social and cultural ties when considering and planning smoking interventions. Considering the importance of these social and cultural factors has potential to reduce tobacco-related diseases that are disproportionately affecting the health burden of rural communities.

As public health nurse researchers develop new smoking cessation interventions that implement theories of social support for low-income rural women, we must account for these nuances to move the field forward and provide interventions that target the smoker's personal social networks and understand the culture that surrounds smoking in low-income rural women. From an intervention development point of view, it is useful to reflect on findings that depict the personal meaning and social value that smoking has in this population before effective interventions that support smoking cessation can be developed. Further research in this area is foundational to developing interventions that aim to provide healthier alternatives and provide necessary social support systems with greater specificity around influential sources in social networks. Further exploring the meaning and value smoking has for rural low-income women may provide options for change that are more acceptable and realistic.

Without effective intervention, chronic illness that results from smoking will continue to burden this group of women and perpetuate the leading preventable cause of poor health and increased mortality in rural communities.

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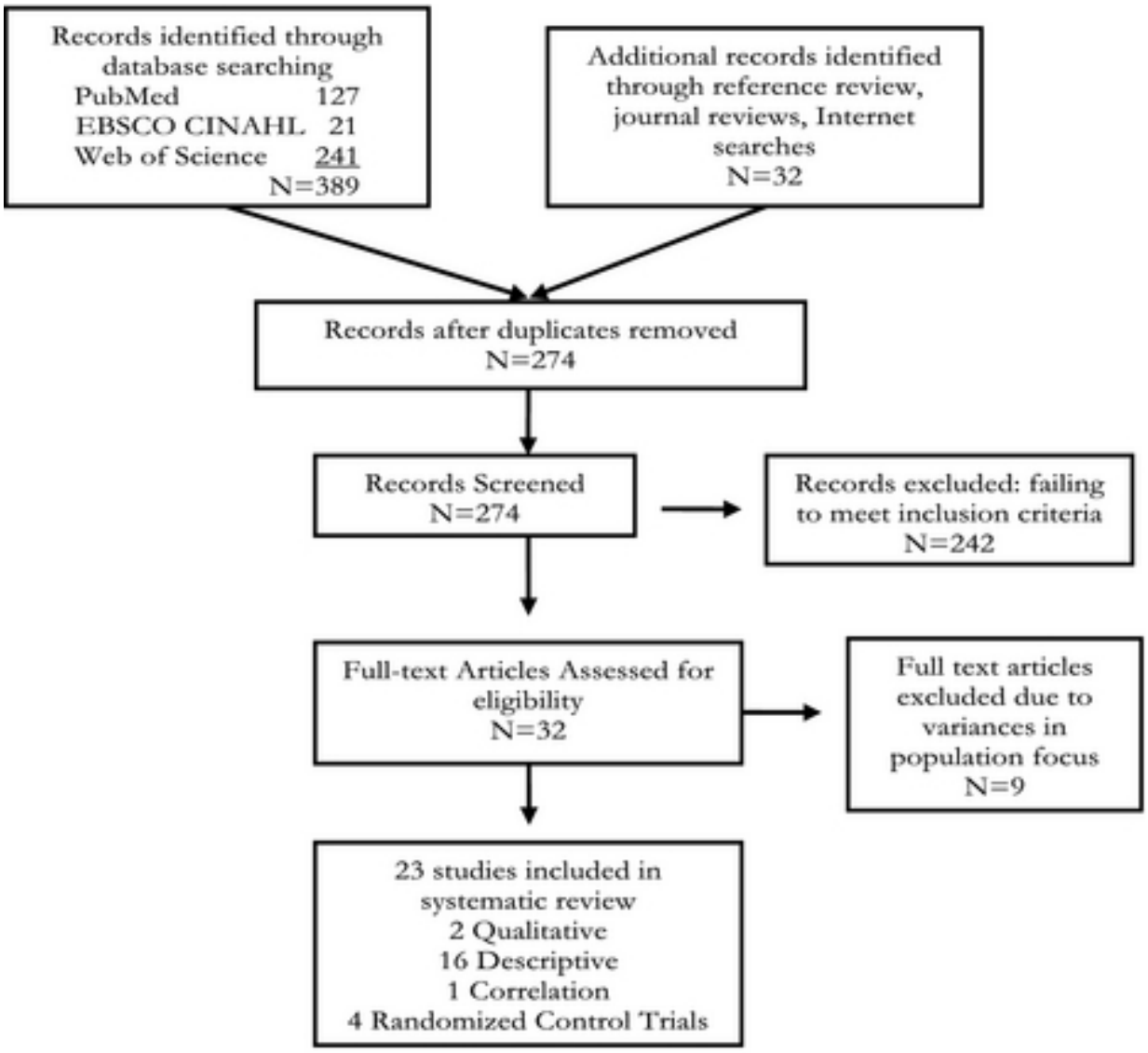
Figure 1: Results from systematic review



Adapted from PRISMA flow diagram. Moher D, Liberati A, Altman DG, The PRISMA Group (2009)

CHAPTER 3: SMOKING IN RURAL LOW-INCOME WOMEN: THE METHODOLOGY OF PHOTOVOICE FROM A RELATIVIST PERSPECTIVE

Introduction

This paper presents philosophical underpinnings that support the use of photovoice as an effective method to conduct health research on smoking in rural women living at or below U.S. federal poverty levels. Photovoice has merits when used in studies that focus on overlooked, marginalized populations, or those excluded from mainstream cultural, economic, social, or political life within their social or cultural context (Cook, 2008). Marginalized populations often experience disproportionate levels of chronic illness and mortality linked to socioeconomic conditions such as place, socioeconomic status, education, and gender. Photovoice has shown promise in marginalized populations as it emphasizes the representation of participant perspectives (Patton, 2002). This method has been used to increase our understanding of women with HIV (Grosselink & Myllykangas, 2007; Teti, Pichon, Dabel, Farnan, & Binson, 2013), patients with mental illness (Fleming, Mahoney, Carlson, & Engebretson, 2009), disadvantaged single mothers, (Duffy, 2011; Valiquetter-Tessier, Vandette, & Gosselin, 2014) and the homeless (Wang, Cash, & Powers, 2000).

The use of arts-based methods and approaches to social inquiry, also known as performance inquiry, offers a creative means to step outside common patterns of data collection, expand epistemic positions, and open possibilities of discovering the unexpected as multisensory expressions of meanings are revealed (Rapport, Wainwright, Elwyn, 2005; Wainwright & Rapport, 2007). Photovoice, also known as *photo elicitation* with origins from

photo novella, is an arts-based method of inquiry that encourages research participants to share their perspectives of their world through photographic imagery and interviews. It is an effective tool used to gain knowledge of small elements within society that have historic and cultural roots, and offers a paradigmatic shift that broadens qualitative methods (Boydell, Gladstone, Volpe, Allemang, & Stasiulis, 2012; Knoblauch, 2005; Morse, 1994). This paper will present the need for new methods of healthcare research focused on smoking in low-income rural women, philosophical underpinnings of photovoice, role of reflexivity and empowerment in the study of marginalized populations of women smokers, and describe how photovoice, as a form of participatory research, provides opportunities for expanding knowledge of smoking in this disadvantaged population.

New Approaches to an Old Problem

A call for change

As access to comprehensive health records, death records, and demographic trends have improved, the ability to populate statistical information and models related to causal factors of morbidity and mortality have increased. The availability of this detailed information provides health researchers with data about place of residence and risk factors associated with vulnerable, or at-risk, groups that lack access to or have not responded to current interventions aimed at reducing mortality and morbidity. Understanding how social structures and economic systems affect the health of at-risk populations is a challenge due to the wide social and cultural diversity in the United States (U.S.). Social determinants of health, or overlapping social structures and economic systems that shape differences or disparity in health outcomes, are influenced by distribution of money, power, and available resources (Whitehead, 1991; WHO, 2008). Recent published findings from the *IOM*

Workshops on Measuring the Risks and Causes of Premature Death, 2015 conclude that socioeconomic conditions such as poverty, limited social mobility, and lower education are clearly linked to poor health outcomes. Socioeconomic conditions are also contributing factors as Americans face a decline in health status and higher death rates when compared to other high-income countries (National Research Council & Institute of Medicine [NRC/IOM], 2015). This challenges researchers to develop creative data collection methods and design targeted interventions for high-risk populations to obtain a more comprehensive understanding of the contextual factors, causes, and potential solutions for health disparities (Wang, Schumacher, Levitz, Mokdad, & Murray, 2013). Future studies must expand on multifactor socioeconomic causes of mortality and morbidity within high-risk populations and address how choices available to people within their social and physical environments are affecting their health outcomes (Braveman & Egerter, 2008; Koh, Piotrowski, Kumanyika, & Fielding, 2011; WHO, 2008). In addition, recognizing that socioeconomic factors such as income, employment, and education are interrelated to power, prestige, resource distribution, and health inequities, the World Health Organization (2010) recommended innovative approaches to investigate the association between the broad roots culture, socioeconomic, and politic; and individual "proximal" behavioral determinants that are geographically distinct and unique.

For example, in the U.S. the implementation of a comprehensive approach to smoking cessation has diminished the normality and glamour of smoking by targeting social-structural factors through media campaigns, price increases, and smoke free policies while also targeting psychosocial factors with nicotine replacement programs, group cessation programs, and individual counseling for cessation (Bell, Salmon, Bowers, Bell, &

McCullough, 2010; Berkman & Glass, 2000; Stuber, Galea, & Link, 2009). Although this approach has produced an overall reduction in national cigarette use, smoking rates remain higher than the national average in lower socioeconomic groups, the less educated, and other disparate groups (Koh, et al., 2010). Moreover, although smoking rates in the U.S. have shown a steady decline over the past 20 years, smoking rates in women have become stagnant, dropping only 3.3% from 2005-2014 (CDC, 2011, 2015; Wang, et al., 2013). This widening disparity of smoking between socioeconomic groups and gender is linked to social and economic factors that are specific to conditions in which people live, characterized by unequal distribution of power, income, resources, and employment opportunities that often result in unhealthy living conditions (Centers for Disease Control and Prevention [CDC], 2015; Garrett, Dube, Babb, & McAfee, 2015). So pronounced are widening health disparities, such as smoking, linked to poverty, limited education, and social structure that the fourth edition of *Healthy People 2020* established a goal focused on creating social and physical environments with equal health opportunities (Koh, et al., 2011). To facilitate achievement of this goal, the Task Force on Community Preventive Services proposed that future research designs use creative methods to increase knowledge of the relationship between local community socioeconomic factors and health practices specific to high-risk populations within those communities (Koh, et al., 2011).

Research related to tobacco use is rich with quantitative studies that provide descriptive statistics on smoking and report results of randomized control interventions focused on gender, race, and ethnic populations. Qualitative studies provide information on the social nature of smoking and have strengthened empirical evidence linking smoking to social engagement, especially in women. However, there is a gap in knowledge addressing

the sociocultural nature and symbolism that shapes smoking within the unique contexts of lower socioeconomic women (Mitchell, Kneipp, & Giscombe, 2015).

Smoking as a problem in rural low-income women

In rural areas, we know that smoking rates and poverty levels are higher, educational level is lower, and access to health care is inadequate, yet rural research is limited compared to research on other geographic areas in America, resulting in fewer rural healthcare resources and higher rates of health disparities (Council, 2012; Hartley, 2004; Probst, Moore, Glover, & Samuels, 2004). Research on the health of rural populations is largely homogenous, giving little attention to important heterogeneous factors such as racial/ethnic minority groups, socioeconomic levels, and accessibility to health care resources, which have implications for different outcomes in rural populations (Probst, et al., 2004). Moreover, upstream cultural, political, policy, and socioeconomic factors have an epidemiological relationship with *downstream* factors such as health behaviors and health outcomes (Berkman & Glass, 2000).

In addition to higher smoking rates, low-income rural Americans engage in lower levels of physical activity and practice poorer dietary patterns when compared to urban residents, resulting in higher rates of diabetes and vascular disease in rural areas (Cooper, et al., 2000). In a study, which trended smoking rates, Doescher, et al. (2006) found that in 1994-1996 and 2000-2001, in over 10 states, smoking rates actually rose by 2 percentage points in rural residents when compared to urban counterparts. In addition, Wewers, et al. (2012) in a study of smoking in low-income rural Appalachian women found 48% had smoked at some point in their life, and 27.5 percent identified as current smokers. Chronic illness and death rates associated with smoking are disproportionately higher in rural

populations where chronic lung disease is more prevalent than in urban areas and more women die than men from the disease (American Lung Association [ALA], 2011; Eberhardt & Pamuk, 2004). Moreover, lung cancer deaths related to smoking have shown a decline in men while increasing in rural women (Jemal, et al., 2008).

The stigmatization and denormalization of smoking has successfully reduced national smoking rates (Bell, et al., 2010). Unfortunately, this strategy has also led to further stigmatization and marginalization of an already disadvantaged population of smokers experiencing social and health inequities (Antin, Lipperman-Kreda, & Hunt, 2015). Inequitable power relationships that already exist due to inequities in education, gender, race, and socioeconomic status are further exacerbated with the additional burden of tobacco stigmatization, raising ethical questions surrounding the use of shame and guilt as tools of social control in tobacco cessation programs (Antin, et al., 2015; Bell, et al., 2010). Stuber, Galea, and Link (2009) argue that increasing stigmatization of smoking in disadvantaged groups will only lead to further disempowerment, secrecy, and social withdrawal.

Philosophical Underpinnings of Photovoice

The relationship between philosophical assumptions and research method is essential to understanding how participant-produced photographs and photo-elicited interviews produce new knowledge that is useful when addressing the growing disparity of smoking in rural low-income women. As an approach to knowing, photovoice has been associated with differing paradigms of inquiry that require clarification. Philosophical assumptions about reality and knowledge frame methodology, which determine the nature of truth within a given study (Denzin & Lincoln, 2011; Guba & Lincoln, 1994). The interpretive framework, or paradigm of inquiry, is determined by the ontological positioning of the researcher (the

nature of reality), their epistemological stance (the relationship between the knower and object to be known), and methodology (the process of knowing) (Creswell, 2013; Crotty, 1998; Denzin & Lincoln, 2011). Notably, paradigms are starting points for inquiry that are not absolute, and given that they are human constructions, are subject to error, weakness, and alteration (Guba, 1990). This implies that research findings merely provide a reasonable way of seeing what is occurring at the moment in relation to the situation under inquiry and that findings will change as situations and ways of seeing, or paradigms, evolve (Crotty, 1998). Another critical issue in the process of inquiry is axiology, or the ethical nature of human inquiry and intrinsic value of the knowledge generated (Lincoln, Lynham & Guba, 2011). That said, the health researcher studying underserved populations is called to maintain balance between the need for knowledge and the responsibility of seeking knowledge that improves human lives through practical benefit (Heron & Reason, 1997).

Methodology, or the process of obtaining knowledge, assumes a path of objectivity or subjectivity dependent on the researcher's epistemologic assumptions surrounding the relationship between the knower and the known (Crotty, 1998). On one end of the ontological spectrum, the realist's path seeks absolute objectivity, accepting that truth is in facts that are scientifically observed, proven, and can be replicated while maintaining aperspectival objectivity (reflexivity), eliminating any internal or external biases, interpretation, or emotional commitment to the object of study (Case, 2003; Denzin & Lincoln, 2011; Daston, 1992). Natural science, the science dealing with objectively measurable phenomena, employs sophisticated methods that measure reliability and validity in an attempt to illustrate facts that exist independent of the subjective mind, or knower bias (Merriam-Webster's online dictionary, n.d.). Conversely, on the other end of the spectrum is

the subjective idealist perspective that dismisses facts for beliefs. This subjectivism seeks human meaning by accepting that no realities exist outside the consciousness; reality consists of ideas (Crotty, 1998). There are, however, variations within this continuum. In relativism, reality is dually constructed when the conscious mind, the subjective, interacts with worldly objects (Crotty, 1998). In practice, qualitative studies are most often hybrids that combine varying degrees of objectivity and subjectivity in a manner that is consistent with ontological position, epistemologic stance, research question, and purpose of the inquiry (Creswell, 2013). As ontological positions move from realism, to relativism, and then to idealism, the continuum moves from objectivity toward subjectivity and the nature of reality moves from existing only outside the mind, to something constructed by the mind, to only existing in the mind (Crotty, 1998).

Social inquiry seeks to understand the nature of social phenomena, like smoking in disadvantaged and marginalized populations that continue to have high smoking rates, and may assume a realist or relativist perspective. A realist approach to social inquiry seeks to explain phenomena, or actions, through cause-effect relationships with variables and processes that yield generalizations that are context free and enduring. In contrast, a relativist approach recognizes social phenomena as temporal and contextual in nature, making generalizations impossible. Moreover, a realist's position assumes a distant and unattached relationship with phenomena, which generates findings that are empirical in nature. Conversely, the relativist acknowledges the influential reactivity that exists between the phenomena and the investigator. Multiple temporal and contextual patterns are uncovered with interactive relationships that lead to more questions being raised about the phenomena (Guba & Lincoln, 1982).

A relativist approach to photovoice

Some studies approach photovoice from a realist perspective, seeking to operationalize theory into practice by using photographs to explore common similarities and differences in the experiences of individuals, or validate information previously limited to objective observations, interactions, or documents (Hansen-Ketchum & Myrick, 2008; Lockett, Willis, & Edwards, 2005; Wang & Burris, 1997). This paper describes the use of photovoice from a relativist perspective, using participant-generated photographs and photo elicited interviews to discover meanings, beliefs, behaviors, and experiences' surrounding the problem of smoking in low-income rural women; providing a foundational understanding and awareness this social phenomenon has to the health of this group of women (Gaskins & Forte, 1995; Haines-Saah, Oliffe, White, & Bottorff, 2013; Hansen-Ketchum & Myrick, 2008). Foundations of understanding this phenomenon are built as participants select photographs of smoking experiences and interpret them; giving meaning to the experiences they have chosen to share. This provides insight and meaning to the relationship the smoker has with their socio cultural environment (Hansen-Ketchum & Myrick, 2008).

Photovoice has been linked to both constructivists and participatory paradigms of inquiry (Appleton & King, 2002; Lincoln, et al., 2011). Constructivists hold a relativist position in designing studies aimed at understanding people's socially constructed realities within their natural settings and how these constructed realities affect lives and relationships (Crotty, 1998; Patton, 2002). Given that numerous local and specific mental constructions occur that originate from social and experiential encounters, constructivists recognize the simultaneous existence of multiple realities (Guba & Lincoln, 1994). Participatory inquiry also assumes a relativist perspective, holding a worldview of reality that recognizes we are

part of a whole with the rest of creation and that knowledge expands beyond a Cartesian mind-body perspective, which views human reason and feelings separate from each other and man independent of his environment (Hepworth & Grunewald, 2014; Heron & Reason, 1977). Being and knowing is grounded in everyday metaphysical experiences that are products of interactions between the individual and collective mind, and what "is" (Appleton & King, 2002; Heron & Reason, 1977). Although both constructivist and participatory paradigms of inquiry are served when using photovoice in health research, there are differing philosophical assumptions in the purpose, design, and implementation of studies using photovoice (Appleton & King, 2002).

Reflexivity, power, and participatory research

Research is not value free, unbiased, or free from personal history but is itself a social phenomenon to be acknowledged (Guba & Lincoln, 1994). Selection of methodology in research has been morally questioned, having potential to determine how the world is represented, who determines how it is represented, and to what purpose the world is represented (Case, 2003). That said, prudent qualitative studies begin with researcher reflection and awareness of the role that reflexivity plays in finding truth in the discovery of knowledge. Personal reflection influences the process of inquiry. Mantzoukas (2005) argues that the act of being reflective prior to beginning the research process has a reflexive outcome by influencing how the study is shaped or re-shaped. Reflexivity involves the ability of the researcher to recognize, accept, and evaluate the effect their personal history, biases, and emotionality will have on the process of inquiry (Crotty, 1998). This creates the ongoing challenges of owning personal perspective and maintaining the responsibility of authentically representing the voice of study participants (Mantzoukas, 2004; Patton, 2002). Patton (2002)

also recognized those participating in the study, or audience, as a third presence in reflexive questioning, creating a reflexive triangulation that includes those studied, those receiving the report, and the researcher. Underlying philosophical assumptions of the study determine how the researcher balances and represents the actors within this triangle of voices (Mantzoukas, 2004; Patton, 2002). Vigilant self-questioning and self-awareness by the researcher of his or her own cultural, ideological, moral, political, and social origins are necessary when balancing the multiple perspectives of participant, self, and audience.

How these perspectives are balanced, or positioned, affects the balance of power, which affects the development of knowledge. The act of inquiry creates a hierarchy of power between the knower and the known, or the self and other, as construction of reality becomes a claim to power (Heshusius, 1994; Noblit, Flores & Murillo, 2004). Recognizing that positionality may influence the manner in which data are collected, analyzed and findings are presented, the researcher must continue to examine their position, or distance from the researched. How the researcher is positioned may privilege one position over another, creating a power differential (Salzman, 2002). The subjective nature of positionality is reflected during interaction with that being studied and is unconsciously beyond our control "like a garment that cannot be removed," originating from the researcher's social class, status, and values (Peshkin, 1988 pg 17). Although it cannot be stripped away, awareness of subjective-objective representation is critical to the aim of most qualitative studies (Mullings, 1999; Rose, 1997; Salzman, 2002). Acknowledging one's own presence and influence within the research process and written text does not guarantee a lack of bias or prejudices and may still evoke ethical and moral questions surrounding the selection and collection of data, methods of analysis, and representation (Lynn & Lea, 2005; Mantzoukas, 2005). Even the

researcher that claims to present data in an objective manner by using statistical software is not free from bias, personal history or political influence since it is the researcher's socially constructed history, bias, and values that have subjectively selected the form of analysis, and possibly the original research questions and research context, to meet the purpose of inquiry (Mantzoukas, 2005; Peshkin, 1988). Positionality is not fixed; it remains fluid and relational as our construct of reality changes within the context of inquiry.

The use of participant-produced photographs and photo-elicited interviews does not eliminate questions of bias, or the standpoint of the researcher. Being reflections and refractions of the subject matter, photographs are visual representations of situated knowledge offered as reflections of reality and products from within the context of a situation (Banks, 2001; Lynn & Lea, 2005). Although the images may portray inanimate objects or places, it is the social relationships represented in the images that make them meaningful and provide for conversation between the person taking the photo and the audience that views the photo (Banks, 2001). Without reflexive restraint the interpretation of that conversation, or socially constructed meaning, is subject to positional bias of the researcher. A collaborative method of inquiry provides opportunity to balance position and power between participant and researcher (Lincoln, et al., 2011).

Participatory research

Wadsworth (2011) maintains that participants in research studies are the incubators of new meaning, placing them in the center of establishing new situated knowledge. This situated knowledge is constructed within a specific social arena where stakeholders, who hold equal position and power in the research process, bring their own understanding of the circumstances and social phenomena to the research process (Genat, 2009). Participatory

research creates meaning of phenomena that is within the local context through collaborative efforts between the researcher and those being researched (Genat, 2009). From the perspective of participants, context includes, "how people have lived their lives; who and what else is part of those lives; what else they have done in the past or hope to do in the future; who and what impinges on, shapes and effects them" (Wadsworth, 2011, pg 46). Context also includes activities, histories, community programs, and services that influence why and where meanings originate and give substance to participants' realities (Wadsworth, 2011). Participant realities are best reflected and understood when varieties of techniques are used that check for context, meanings, understandings, and allow for reflexive examination (Genat, 2009). Type and method of data collection, data recording methods, and the process of analysis and interpretation are significant elements in the process of discovering knowledge that empowers and benefits participants in this form of inquiry (Denzin & Lincoln, 2011). Participatory research emphasizes producing knowledge that benefits participants (Denzin & Lincoln, 2011; Genat, 2009; Wang, 1999).

Use of Photovoice to Empower Overlooked Populations

Historically, visual methods have been used in ethnographic research to substantiate empirical discoveries in the natural sciences and anthropology, recognizing that meaning is socially constructed (Harper, 1998). As early as 1925, Margaret Mead used interviews with photographed subjects in Samoa to gain insight into cultural meanings as elicited by study participants (Hammond, 2003). The interviewing method known as photo-elicitation became popular in 1957 when Collier (1957) recognized that participant-generated photographs followed by photo-guided interviewing positioned the study participant as a key informant of native knowledge in visual methods of inquiry. Harper (1987) further defined the subjective-

objective dualism that photographs and photo-related interviews offered in the construction of knowledge in his visual ethnographic narrative of *tramp life* in America. Just as the photographs of *tramps* in his study objectified information through categorization, comparison, counting, and were used to substantiate reliability and validity, they also elicited different meanings for different viewers. The process of uncovering these subjective meanings that were associated with cultural tones and textures of tramp life crossed textual limitations and produced "taken-for-granted cultural knowledge" (Harper, 1987, p. 4).

Understanding, or knowing, originates from multisensory interactions with our world (Pink, 2013). Within a social constructionist perspective, visual images provide rich data and represent relationships between text and context with less ambiguity while narrowing subjective interpretation (Lynn & Lea, 2005). These socially constructed interpretations, or meanings, are expressed as ideas or beliefs through language and presented, or performed, in photographs as patterns of behavior, rituals, or social interactions within the cultural structure of the group being studied (Creswell, 2013). Often referred to as performance inquiry, this type of study accepts an art/science binary where the researcher is audience to the realities presented in participant-produced photographs of communal experiences (Gergen & Gergen, 2014). Visual images provide substance for understanding the production of text, lessening questions surrounding how we have come to our findings, and serve to lessen issues of bias, or reflexivity (Lynn & Lea, 2005). Photo-generated interviews provoke richer data than interviewing alone as participants react to visual cues that trigger recall and maintain the focus of the interview (Dempsey & Tucker, 1991; Gergen & Gergen, 2014).

The aims in visual ethnographic research are to look at patterns of interaction within the natural settings of cultural sharing groups from the perspective of those being studied and

to reflexively interpret findings for shared meanings, values, and behaviors (Schultz, Bottorff, & McKeown, 2009). For the researcher, not only do photographs capture the momentary world of the photographer, they also provide opportunity to elicit nuanced feelings and experiences associated with the photographs (Harper, 1987). In addition, the expertise and collaborative role of the study participant is enhanced when given less guidance and greater autonomy to determine image content (Collier & Collier, 1986; Packard, 2008; Pink, 2013). As a form of participatory research, participant-produced photographs are taken during meaningful moments, disclose contexts that would otherwise be inaccessible, create an opportunity to engage participants in conversation surrounding their material, social, and cultural experiences that may otherwise be untouched or difficult to express, and cross boundaries that typically confine purely textual interviews (Harper, 1987; Pink, 2013). Subjectivities, interpretation, and intentionality of images are riches revealed during photo-elicited interviews (Collier & Collier, 1986).

Empowerment

Use of visual methods in qualitative health research is an accepted form of inquiry used to generate knowledge, make sense of social phenomena, and empower participants in the research process (Emmison, et al., 2012; Lynn & Lea, 2005; Riley & Manias, 2004). Photovoice has effectively integrated participant-produced photographic images with participant interviews to expand knowledge of health behaviors and social meanings within the social contexts of overlooked populations (Hergenrather, Rhodes, & Bardhoshi, 2009; Magilvy, Congdon, Nelson, & Craig, 1992; Wang & Burris, 1997). When used to investigate health behaviors in marginalized groups, photovoice contributes valuable knowledge of social meanings within participants' realities while simultaneously providing study

participants a sense of emancipation and empowerment (Oliffe, Bottorff, Kelly, & Halpin, 2008). In their study of rural Chinese women, Wang and Burris (1994) assert that photovoice stimulates a change in consciousness and serves as a means of social action, or empowerment. Rural Chinese women were able to "document, discuss, and organize" health interests, positioning themselves as important social actors and co-participants in developing knowledge of their overlooked community (Wang & Burris, 1994, pg 179). The collaborative nature of photovoice empowers participants to share meaningful moments in their lives, experiences, and identities that are relevant to health behaviors and targeted health care interventions. This makes photovoice a useful method for studies aimed at understanding cultural and social meanings associated with rural low-income women who lack access to or have not responded to current smoking cessation efforts (Emmison, et al., 2012; Morse, 1994; Wang, 1999; Wang & Burris, 1997).

Implications for Use of Photovoice in Studies with Rural Low-Income Women Who Smoke

Place, an essential construct of social context and experiences, is an important facet of visual images that often sets the stage for performative qualities within the photograph (Emmison, et al., 2012; Gergen & Gergen, 2014; Pink, 2013). That said, photos taken by low in-come rural women who smoke provide contextually dimensional images of where a woman smokes, when they smoke, and with whom they smoke as participants become actors within their social world when they select the content, context, and timing of the pictures (Wang & Burris, 1997). As in other photovoice studies of health behaviors, photos produced are personal, and provide the outsider, or researcher, with an inside views of cultural and social perspectives of those studied and expose unique group ritual practices. Photovoice allows the researcher to step into the social context of the women's world; to understand, or

know, shared meanings, values, behaviors, and beliefs associated with their smoking (Harper, 1987; Schultz, et al., 2009).

Digital cameras and smart phone technology are new friends to photovoice, especially in rural settings. Photographs taken at the discretion of the participant using a small digital camera or a camera and texting equipped smart phone have been shown to support spontaneity with picture taking and "anytime" dialogue between the participant and researcher (Nemer & Freeman, 2015; Tiidenberg, & Cruz, 2015). "Selfies," considered to be both a depiction and explanation of control over one's embodied self, are forms of visual communication that will encourage new ways of seeing and knowing in this population of women (Nemer & Freeman, 2015). As a new form of sociotechnical artifact, the "selfie" is a powerful means of self-representation and empowerment for marginalized groups, which will be useful in reflecting the daily lives of rural low-income women (Nemer & Freeman, 2015; Tiidenberg, & Cruz, 2015).

The embedded power relations that occur in everyday life and practices affect social conditions, conceptualizations of normalization, and the marginalization of particular groups (Genat, 2009). The empowerment and sense of emancipation that photovoice allows participants can be advantageous in the study of smoking in low-income rural women, giving this underserved and marginalized population a voice and power that might otherwise maintain silence (Oliffe, et al., 2008). Allowing for variations in ways of knowing, it honors the perspectives and experiences within the reality of participants that are outside the social mainstream (Patton, 2002).

Although arts-based methods and approaches to health-related social inquiry have shown promise, controversy remains over ethical protection of participants, ownership of

images, practical application of results, and philosophical assumptions (Balmer, Griffith, & Dunn, 2015; Riley & Manias, 2004). Researchers must work closely within legalities of property rights and moral rights surrounding established codes of conduct for protection of participants (Prosser, Clark, & Wiles, 2008). Although protection of participants may appear to be straight forward, if participatory research is the method used in the study, concealing images meant to disclose physical, emotional, psychological, and social meanings or experiences may in fact violate the participants agreed upon collaborative position and diminish their sense of empowerment in the research process (Balmer, et al., 2015). Participatory researchers aim to empower participants and marginalized groups through collaboration, reflexivity, and representation of voice, which can be ethically controversial. In order to assure the acceptance and dissemination of knowledge, clarification of epistemological stance and associated ethical responsibilities must be clarified prior to beginning visual research (Prosser, et al., 2008).

Conclusion

Evidence shows that health outcomes are linked to socioeconomic conditions such as poverty, limited social mobility, and lower educational outcomes, which are interrelated to power, prestige, resource distribution, and health inequities (WHO, 2008, 2010). This acknowledgement comes with a challenge to develop and implement innovative methods of inquiry that focus on the vulnerable high-risk populations that fall outside the social mainstream. Rural low-income women who smoke fall into this vulnerable population and are overlooked in health research (Mitchell, et al., 2015). There is a need to expand our understanding of social and cultural meanings women attach to smoking as we aim to design cessation interventions that target underserved populations.

As a research method, photovoice provides opportunity to engage rural, low-income women who smoke as partners in the research process and effectively generate reciprocal dialogue that fills knowledge gaps unique to this population of smokers that have not responded to available cessation interventions (Koh, et al., 2010). The combination of participant-generated photos, photo-elicited interviews, and researcher observations can offer valuable insight and understanding of smoking, as this under-represented group of women are given a voice and empowered to share perspectives and experiences within their cultural, economic, and social realities (Patton, 2002). Through this arts-based form of human inquiry, participants hold control, have opportunity to share experiences and feelings within hidden dimensions of their world, and find their feelings and experiences valued by the researcher (Leavy, 2009). Use of this creative, arts-based approach can provide an inside view of the social and cultural meanings and practices of smoking that are unique within the sociocultural context of rural low-income women who smoke and offer new ways of knowing and seeing what is right in front of us.

There are situations and study designs that should not assume a relativist perspective. Ultimately, the purpose of the study should guide the design, mapping philosophical assumptions and modes of engagement that frame the paradigm of inquiry. A relativist approach for example is not suitable for studies seeking to maintain objectivity in data collection by assuming detached observational methods. Studies focused on observation or description of a phenomenon would find a realist perspective more appropriate. In addition, the population or phenomenon being investigated must be able to communicate their interpretations of reality to the researcher in some manner.

The interpretive framework, or paradigm of inquiry, is determined by the ontological positioning of the researcher (the nature of reality), their epistemological stance (the relationship between the knower and object to be known), and methodology (the process of knowing) (Creswell, 2013; Crotty, 1998; Denzin & Lincoln, 2011). Notably, paradigms are starting points for inquiry that are not absolute, and given that they are human constructions, are subject to error, weakness, and alteration (Guba, 1990). This implies that research findings merely provide a reasonable way of seeing what is occurring at the moment in relation to the situation under inquiry and that findings will change as situations and ways of seeing, or paradigms, evolve (Crotty, 1998). Another critical issue in the process of inquiry is axiology, or the ethical nature of human inquiry and intrinsic value of the knowledge generated (Lincoln, et al., 2011). That said, the health researcher studying underserved populations is called to maintain balance between the need for knowledge and the responsibility of seeking knowledge that improves human lives through practical benefit (Heron & Reason, 1997).

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CHAPTER 4: FINDING HOPE: A PHOTOVOICE STUDY ON SMOKING IN RURAL LOW-INCOME WOMEN

Introduction

Smoking is well recognized as one of the most preventable causes of death and disease in the United States (U.S.), accounting for approximately 480,000 deaths each year (Centers for Disease Control and Prevention [CDC], 2014). Associated annual healthcare cost of smoking are approximately133 billion dollars, with the additional cost in lost productivity estimated at 156 billion dollars annually (CDC, 2014; United States Department of Health and Human Services [USDHHS], 2014). Although national rates of smoking in adults have shown a slight decline from 20.9% in 2005 to 18.1% in 2012, the rate of smoking in rural populations was 27.8% in 2012 (American Lung Association [ALA], 2012; CDC, 2014). In addition to higher smoking rates, factors such as poverty, diminishing employment opportunities, lower educational levels, and less access to healthcare resources contribute to rising health disparities and a declining quality of life in rural populations (Council, 2012; Hartley, 2004; Probst, Moore, Glover, & Samuels, 2004). Furthermore, rural women present a smoking rate of 25.1% compared to 20.8% of urban women and 27.4% of rural women smoke during pregnancy compared to 11.2% in urban pregnant women (ALA, 2012).

Although studies have shown that poor health outcomes in disadvantaged areas are related to socioeconomic conditions such as lower educational outcomes, poverty, and unemployment, few have addressed the social context of smoking in low-income rural women (Mitchell, Kneipp, & Giscombe, 2015). Within the scope of this paper, social context

refers to circumstances or events that form the environment within which smoking takes place, including cultural and social networks (Poland, et al., 2006). Social networks are the structural underpinnings within a web of social relationships that provide social support, social influence, companionship, or social capital depending on their structural characteristics (e.g., homogeneity, density, reachability, strength, density, directionality, and reciprocity) (Berkman & Kawachi, 2014; House, Umberson, & Landis, 1988). And, social support refers to the functional component of social relationships that is consciously provided and intended to be helpful to the recipient (Heaney & Israel, 2008). Social support may be in the form of emotional support (empathy, love, and caring), instrumental support (tangible resources and services), informational support (advice and suggestions), or appraisal support (constructive feedback for self-evaluation) (House, 1981). Findings of a photovoice study aimed at understanding the social meanings embedded in the cultural and social networks, central components within the social context of rural low-income women who smoke, are presented. Although the role of social support in smoking cessation research is not new, there has been a lack of emphasis on providing the desired type of social support within the unique social context of this group of women (Mitchell, et al., 2015). Photovoice is well suited for this study of disadvantaged and marginalized women, as it empowers participants and provides the investigator with an inside view of the social and cultural aspects of the realities facing rural low-income women who smoke.

Smoking and social context

Research has shown place to be an important contextual determinant of smoking behavior in populations that live in disadvantaged areas and experience feelings of exclusion and stigmatization (Stead, et al., 2001; Pearce, Barnett, & Moon, 2012). Place, it should be

noted, is not limited to location, or setting, but is a multidimensional set of 'situated' social dynamics that reflect the recursive power relations between agency and structure (Frohlich, Corin, & Potvin, 2001; Poland, et al, 2006). In a study on the social context of smoking, Poland, et al., (2006) assert, "distinctive cultures emerge in specific places that govern how people behave and the meanings that are derived from experience (p. 61)." Agency, or the ability of one to act on their own volition and sense of identity, is a process that analytically contextualizes past experiences with future and present possibilities to determine social engagement; and structure is the set of rules and resources within a social context (Emirbayer & Mische, 1998; Frohlich, et al., 2001).

Consistent with theories of symbolic interaction (Blumer, 1969; Mead, 1934; Stryker, 2008), meanings of smoking change within socially structured positions, motivating the reflexive self to reassess and react to different meanings. An individual's social identity is constructed from group memberships within these social structures, and provides the foundation for common identification, role behaviors, and emotional attachments (Hogg, Terry & White, 1995; Tajfel, 1974). As social meanings, rules, and resources surrounding smoking evolve within social structures, membership requirements in social networks that provide social support and social connectedness may change, altering the social identity connected to smoking. The impact of these changes on the smoker's sense of identity, or agency, has consequences on social engagement, access to resources, and position of power within their social context. In their study on smoking within the social context of marginalized and disadvantaged populations, Poland, et al. (2006) define power as the ability of a person or social group to act in a manner in which one set of interests prevails over another, playing a significant role in the control of material, human, and ideological

resources. Powerlessness, low-self esteem, and stigma are linked to poor rural populations with high rates of smoking and poor health outcomes (Cattell, 2001).

As health disparities remain significant in rural low-income women, research on how health behaviors are impacted by factors associated with social context will open doors to focused interventions that improve quality of life and an improved sense of well being for this group of women. Health researchers must remain open to innovative approaches that empower marginalized groups to identify needs and goals that are unique to their social context; and acknowledge research findings that expand ways of thinking in long standing health disparities. The aim of this study was to explore social and cultural factors that give meaning to smoking in rural low-income women and look deeper into the relationship these meanings, social support, social networks, and social identity have in their decision to smoke or to attempt smoking cessation.

Methods

This study was an interpretive focused ethnography using photovoice as the primary method of inquiry (Cruz & Higginbottom, 2013; Oliffe, Bottorff, Kelly, & Halpin, 2008). Considered a form of participatory action research, photovoice provides a glimpse into the participant's world, providing opportunity to collect rich verbal data as individuals reflect on their photographs during semi-structured interviews (Drew, Duncan, & Sawyer, 2010; Oliffe, et al., 2008; Wang & Burris, 1997). Participants are acknowledged and empowered as experts when producing photographs that are reflective of their reality; and are more inclined to share deeper social and cultural meanings (Patton, 2002; Prosser, 2011). Combining self-titled photographs that participants produced within the context of their smoking experiences with verbal dialogue provided insight into how being "a smoker" create social identity within

their socially structured positions (Blumer, 1969; Mead, 1934; Packard, 2008; Stryker, 2008; Wang & Burris, 1997). Using ethnographic methods, other significant data collected during this study included detailed field notes; local artifacts; investigator-produced photos; community observations, interactions with smokers at county and community events, meetings with public health and social services representatives in the communities, and conversations with vendors at local vapor rooms and tobacco stores.

Setting and Sample

After receiving approval from the Institutional Review Board at the primary author's university, 17 geographically homogenous women between the ages of 25 and 57 were recruited over an 8-month period using purposive sampling with complementary snowball sampling as a means of soliciting additional participants. Sampling was limited to three rural counties in a southern mid-Atlantic state with higher rates of smoking, poverty, and unemployment when compared to national and state statistics. Age and poverty level enrollment criteria for the women's were consistent with criteria used in the 2014 National Health Interview Survey annual smoking report published by the Center for Disease Control and Prevention (2014). Women who smoked, were between the ages of 25 and 64, reported household income at or below federal poverty level, and reported smoking at least 100 cigarettes during their lifetime were eligible to participate if they could read and speak English and were able to physically operate a camera. The primary investigator completed screening of participants. Recruitment activities included distribution and posting of flyers in local shopping areas and gas stations where cigarettes were commonly sold, local eating establishments, and healthcare facilities that serve this population of women. Public health nurses and social workers assisted with placement of flyers in their facilities. Women who

completed the study were given a 50 dollar gift card as compensation for their time and the information they provided.

Given the nature of the photos to be collected, as part of the consent process, the researcher was careful to explain that participant produced photos may be shared in print or electronic media as part of research presentations, professional conferences, and published manuscripts in peer reviewed journals. Any markings that identified the county of residence or other individuals in the photos would be blurred. The consent made clear that, in all cases, pseudo identifiers would be used as personal identifiers, and geographic identifiers that may be captured in photographs would be blurred, with pseudonyms used to refer to the geographic area. Participants were required to initial a separate area of the consent to acknowledge their consent. All participants agreed to the use of self produced photos for the study and most were eager to have others learn from the information they provided and expressed their eagerness to generate and send photographs.

As with most ethnographic studies, what is considered an effective sample size evolves once fieldwork begins (Miles & Huberman, 1994). Recruitment of participants for the study was a challenging. Initially, a sample size of 30 women was proposed; however, the sample size was adjusted based on the informational richness, fullness of the data collected, and the extent to which redundant thematic patterns emerged related to common experiences within the smaller sample (Geertz, 1973; Guest, Bunce, & Johnson, 2006; Onwuegbuzie & Leech, 2007; Sandelowski, 1995).

Data collection

This study was structured over 3 phases, following a naturalistic approach when gathering data (Angrosino, 2007; Fetterman, 2010). Within each of the three counties, Phase

I included observation of the physical and social environments, observation of resident activities and styles of communication, and collection of local artifacts. Phase II included the initial audiotaped semi-structured interview with screened participants (Table 1). To maintain anonymity and privacy, each participant selected a personal pseudo identifier to be used during interviews and was assigned a study identification number to be used by the researcher. During the initial meeting, participants were provided general guidelines for completing the study photographs and provided with a small inexpensive digital camera if they did not have a phone with photo-texting capabilities (Table 2). Women using phones titled and sent photos throughout the following 2-6 weeks, while participants using digital cameras contacted the investigator when photos and titles were complete. A second audiotaped interview to discuss the photos was scheduled once the participants completed taking pictures. Phase III included a second semi-structured interview between the investigator and participant using the photos as a means of eliciting deeper discussion and gaining insight into what it means to smoke and be a smoker.

Data analysis

Data analysis followed an iterative process, moving among observational fieldnotes, memos, narrative data, photographs, and researcher self-reflection to capture themes, patterns, and phenomenon (Angrosino, 2007; Fetterman, 2010). Interviews were transcribed by a professional transcriptionist from the audiotapes and each transcript was proofed a minimum of two times against the original recordings by the investigator. Initially the data were explored for nuances and complexity of participants' stories, focusing on the phenomenon of smoking in various aspects of their lives including identity development and the socio-cultural meaning of smoking (Goodall, 2000; Saldana, 2013). To aid with thematic

and theoretical coding, transcripts and participant photos were analyzed using ATLAS.ti version 7.5.6 for Windows (Friese, 2014). While reviewing the data, memos and notes were written on transcripts, in investigator notes, and entered into the analytic software. Descriptive, thematic, and theoretical coding were used to provide insight into variations and patterns reflective of the women's experiences, relationships, social and cultural beliefs, and behaviors within the social context of smoking (Saldana, 2013). Participant photographs were also analyzed for patterns of content, the context in which the photographs were produced, and any visible power relationships reflected in the images (Banks, 2007). Initial coding of transcripts and photographs in ATLAS.ti, was descriptive, resulting in numerous codes that were structurally merged into descriptive categories (Friese, 2014). Secondary coding was thematic, focusing on meanings within the data, which were then further analyzed for theoretical constructs (Saldana, 2013). To increase rigor, a doctoral prepared researcher experienced in qualitative coding independently coded five complete sets of participant data using ATLAS.ti, which was compared to the principle researcher's codes (Sandelowski, 1986). Codes from each of the coders were compared for consistency of patterns and themes. When differences in coding occurred, which were few, the context of the data were reviewed to assure that the participant's perspectives were represented instead of the coders' interpretation and agreement was achieved.

In addition, experiences within communities, especially in tobacco stores, vapor rooms, county fairs, and observations while in participants homes were used by the researcher to further explore meanings and experiences that participants described. The community observations and experiences throughout data collection were used during the

analysis portion of this study to validate findings or move back into the data for further discovery.

Findings

Seventeen women met the study enrollment criteria and were consented for participation by the investigator. Of these 17 women, 13 completed both interviews and submitted photographs, which resulted in 26 interviews and 196 participant-produced photographs used in the analysis of these findings. Demographic and smoking information on the 13 women who completed all phases of the study are provided in Table 3. Each woman was treated as an independent participant, interviews were conducted separately, and each woman provided photographs independently of other participants.

Seven themes evolved from the analysis that expand our understanding of what it means to be a smoker within the social context of low-income rural women (Table 4). Although the interview questions did not specifically ask about rural life (Table 1), patterns and themes disclosed during narratives and review of the photographs related to social engagement, social identities, and the meaning of the women's social relationships within the context of rural living. Feelings of isolation were associated with the geographic nature of rural living and the stigmatization they described when they discussed smoking. Prominent narrative themes include relationships between smoking and their roles associated with family membership, being a good mother, and their need to feel empowered within their social environments. As established in previous smoking studies, women in the current study described that smoking is used as a tool for relaxation and stress relief (CDC, 2001). In the following sections, these seven themes are described, using examples from women's narratives that are referenced using the women's self-selected pseudo identifiers.

Feelings of isolation

The social significance of smoking for low income women living in economically deprived rural areas were described within the context of the hardships associated with rural life. Predominantly, feelings of isolation and smoking were embedded in the women's narratives, whether discussing the geographic nature of rural living, their limited social engagement, or their smoking behavior. The lack of adequate transportation kept them physically isolated from socioeconomic and health resources, disenfranchised them from social support systems, and subjugated them to additional social isolation. Getting to a doctor's appointment or to a county agency that offered financial assistance was challenging, and required the women to have cash when paying another individual for transportation. Without money for transportation, the women were unable to access resources, which again perpetuated isolation. Lack of transportation, limited financial means, and unemployment were barriers for developing new social networks or sustaining established ones that provided much needed social engagement and social support. Ashley, a single mother who participated in the study and was struggling to get custody of her children had recently found a night shift job in the cafeteria of a soup company, described the added social benefit of having a job and taking a smoke break with her co-workers.

> So, we really don't have time to really communicate with each other (during work). So when we go outside and we get to smoke, we get to sit down, we get to relax and get off our feet, like our feet stop hurting for five minutes, then we get to have our cigarette and we get to chit-chat for a few minutes. So I like it, it's the highlight of my night pretty much and that's what it is. (Photo 1, Ashley)

As she described this picture as one of her favorite photos, her shoulders were back and she smiled while taking a drag from her cigarette. Another young single mother in this study with no job, who reported little social engagement outside her home stated, "I have one friend.

And I go to her house every once in a blue moon because she work and stuff. I really don't do nothin' but sit around the house and talk to my mom (Deasia)." For some women, church provides an opportunity to socially engage and keep them "out of trouble." Interestingly, participants did not speak of church as a social activity, but as a means of keeping out of trouble, a way to control "anger" that may have caused them to get into "trouble," or a mechanism they planned to use when they chose to quit smoking. As one participant explained, "Church, I love it ..... I try to be there when the door is open. *[chuckling]*.... Stay out of it (the drama), and other stuff (Missy)."

Smoking "by myself" is consistent throughout the women's narratives. Feelings of shame and isolation associated with the stigma of smoking, influenced where they smoked, when they smoked, and with whom they smoked. Their responses illustrated how the social identity of being a smoker affects social engagement and their feelings of isolation. For example, the women who did not live with their mothers were uncomfortable smoking around them. They voiced hesitancy about smoking around mothers, still fearing their mother's disapproval. Moreover, none of the women smoked at church, fearing that smoking on or near the church grounds would "defile" the church and be "disrespectful" to God. Embedded in their conversations about faith, church, and health, the women referred to their bodies as the "temple of God" and feelings of spiritual shame and possible rejection by the church. In addition, they avoided smoking while out in public places. Having "that hanging out your mouth" is "unladylike," "ugly," or "trashy." The women wished to be empowered by projecting a socially constructed identity of being a "lady," which they felt brought respect and social position in their community. Some women took extra effort to conceal smoking by

not smoking a cigarette when the smell might remain on their clothes, commenting it "stinks," "smells bad," and is "disrespectful" of others.

Struggling day to day

When asked "Tell me what it's like living here?" all the women, except for two who were new to the state, referred to the closure of industry in their county as having significant impact on their way of life. As industry closed, so did their towns and opportunities for employment. Local jobs that remained were less than ideal as described by one participant feeling frustrated by working conditions and the lack of jobs, "It's terrible. I was working at a little store and the roof fell in, I was working there three years. So last year.... I haven't worked none this year, I haven't found a job or nothin' (Missy)." With industry closing, women must often travel to surrounding cities and counties to find work, which adds transportation expenses and increases employment barriers when there is no car.

Unemployment in the community has increased the rate of poverty and created hardships. As described by one participant who drives a school bus part time, poverty in her county was pronounced for some women and children on her bus route.

> Well some of them, their clothes haven't been washed in days. They don't have coats, some of them get on the bus their shoes are too big. I mean, and that shocked me because I'm not used to seeing that, and that's just being honest..... It's like.. almost kind of like... this county is reverting back instead of progressing forward. (Bug)

In addition, local businesses that previously provided residents with social activities or opportunity for community involvement were closed, leaving little opportunity for local youth and residents to expand social networks and group memberships that fostered personal growth and community involvement. Youth and young adults expressed that there was "nothin' to do", which they believed increased the violence associated with drug use and

encouraged "rivalries" between groups of people from different areas of town. Journey, one of the participants describes how her community has changed;

> Like jobs, jobs, like jobs, like jobs a lot of gone jobs and then well, (sigh) when I was 24-25 it was kind of fun then cause there was like people much nicer, like we go to cook outs and stuff like that, with all the shooting stuff now... so that has changed, there is no jobs or nothin' for the kids to do, so you have to entertain them, near me there are a lot of kids smoke weed and smoke cigarettes and just a lot.. it's just, it's kinda boring, I think this town right here is like for retirement kind of really, it because there is nothing really to do but...(Journey)

As pictures were discussed between the researcher and the participants, smoking was described as a "way to fill the void" as a result of the economic and social void of "no job" and "nothin' to do." Smoking because "there's nothing else to do," or as a way of "dealing with the stress of worrying about bills" was a universal theme across interviews.

Beyond the struggle of unemployment and poverty, all of the women faced problems related to drug use, family health, housing, personal health, or safety that challenged their ability to cope. Many had mental health disorders such as depression, bipolar disorder, anxiety, and schizoid personalities that generated additional stress and they described to the researcher as triggering their urge to smoke. For example, Kim was an unemployed single mother of five young children who spent most of her day alone with her children and who smokes approximately 15-20 cigarettes per day.

> Yeah, when I'm upset *now* umh, I have anxiety, I have depression, I take Prozac for that, but sometimes when I get upset or I get nervous or I get excited I come smoke and it's like its calming me down. (Kim)

Family violence compounded issues of health and financial stress for Myoshi. After two weeks in the hospital for revascularization surgery, she explained to the researcher how she had returned home to become a victim of family violence; being "beat up" by one of her daughters for her pain pills, requiring a return visit to the hospital. Although she responded

poorly to the physical attack and emotional turmoil, she remained hopeful that she could stop smoking.

> You know, so, when I left the hospital then, I just gave up, I am tired of the people treating me in that way. You know that stress and depression set in on me so bad. For the next three, four days I was just like stressed, just stressed, and depressed because this was a family member and then I just started smoking again, like crazy. So, that's how I started back this time, but me and my daughters are working on me quitting again. We really are working on that. (Myoshi)

The concern and struggle for safety was clear. Most of the women lived in neighborhoods or county areas where violence is a familiar. Missy shared her experiences of the day her 14-year-old son was shot five times while walking through a neighbor's yard and the shooting death of his 13-year-old friend during the same event. Big Mama revealed that her "homeboy" was shot in the hand during a "drive by" one evening while sitting on the porch. Deasia described a domestic quarrel with her boyfriend and "busting his eye" as she hit him with his phone. The women spoke of hearing sounds of gunshots and routine shootings from "rivalry" groups in their communities. Some women relocated to safer neighborhoods but could still hear distant sounds of gunshots, others were actively looking for safer housing for their families, and some made no mention of changing residence. With little opportunity for outside social engagement or social networking, the women stayed close to home, often inside, safe, and smoke for "something to do to fill the void."

It's relaxing

Smoking was described by every participant as "relaxing," something that "calms my nerves," or "a stress reliever." Throughout the study, women provided descriptions of situational experiences that provoked the need for a cigarette. For example, many women described needing "the taste" of the cigarette at specific times of the day or during stressful events. After one or two puffs, the "taste" was satisfied and the need for the cigarette was no

longer physically present. However, during periods of isolation, boredom, or situations that were interactively stressful, they found themselves "smoking just to smoke."

The calming, relaxing, and stress relieving aspects of smoking as a breathing technique were described. For example, during our second interview, when asked to describing what she liked most about smoking Kim responded; " Yeah when I am stressed and I am smoking I get the nicotine and the breathing in and out I guess it is some kind of relaxation for me…" Another participant describes the relaxing feeling of breathing and smoking when under the stress of completing an exam for school;

> Yes, it was a timed test as well. So I was sitting there I was looking for the answer and I was searching through notes and I was like oh my god, I'm never going to find this answer. I got five minutes. I need this answer. I'm not sure about this. I need this one to be right and I was like …"just breath, just breathe, you can do this". And I was like, you know what, just light a cigarette and take a pull and I'm seeing and keep looking, take another pull and then there was like "boom". There was the answer because I calmed down and take my mind off the time, which at the end of it, I did find the answer, I still had one minute left, so I was like okay, shew…good (Sarah).

And, as Ashley described smoking as the "highlight" of her day she emphasized the breath; "Stress, anxiety, whatever, it just – it helps, you actually stop and learn how to – (takes a deep breath) and just take a breath in even if it's cigarette breath in it's still a breath in for you to like to sit collect your thoughts, you know, get yourself together and it just, it helps, it helps me at least, it helps a lot (Ashley)."

"Looking good" and empowerment

Looking good was feeling good to the women in this study. When asked to select photos "most liked," most women quickly selected photos that projected "looking good," "happy," having a "good hair" day, or in general having a "good day." The uplifted tone of voice, smiles, straightened body posture, and engaging mannerism the women projected during conversations of their favorite photos reflected moments of confidence, feelings of

belonging, increased sexuality, empowerment, and personal satisfaction. On the other end of the spectrum, the women's "disliked photos" elicited comments such as "bad hair," "unladylike," looking "ugly," and described feelings of being "stressed," "tired," or "worried" as they attempted to meet the expectations of others while struggling to find the energy necessary to provide for themselves and their families. The task of looking good not only encompassed physical appearance, it was an "attitude", and knowledge of sociocultural rules for "looking good." For the older women in this study, smoking was something considered unacceptable in public settings and not to be spoken of in front of select family members, friends, or at church. When asked if her great grandchildren knew she smoked Myoshi responded;

> No, because I was brought up, like you know, my grandparents, they drank. We never knew or saw them drink, I mean, my grandmother. My grandfather, we knew that he had been drinking, but to this day, and he's dead and gone, I can tell anyone that I never saw him drink. So, uhm... It was just instilled in me, it's not what you do, it's how you do it. (Myoshi)

Embedded in this statement are meanings associated with Myoshi's social identity as a smoker, the value she placed on keeping "it" from her young family members, and the temporal nature of the stigma associated with smoking. For many of the women, seeing pictures of themselves with cigarettes in their mouth brought sighs, frowns, and descriptive comments such as "trashy," "ugly," and "I'm not proud of it." Again, the reference to smoking as "it" carries meaning, being an act that cannot be called by name. The embedded meanings of "it" carried over to expectations of self- respect and respect for others when smoking.

Family support and expectations

Favorite pictures from participants reflected the value of maintaining close family relationships, often taken during social engagements with family, friends, and activities they describe as "fun," "nice," or "relaxing." For example "most liked" photos included images of trips to the beach with family members, cookouts with family, social activities with family or friends, enjoying TV shows, and "just chillin" with neighbors or co-workers. Notably, family was the center of personal and social support for these women, which carried benefits and risks. Households were commonly described as mother-daughter, and often included a third generation of children. Other extended family members such as siblings, grandparents, aunts, uncles, and cousins lived within walking or driving distance and framed the participant's primary resources for social engagement, social systems, and support networks. Close relationships with families were personified through celebrations with family members, caring for each other's physical and emotional needs, assisting with financial aspects of maintaining the family, and daily interactions that reinforced shared socio cultural values and expectations (Photo 2). Most often, "friends are family members." This close family association crossed generations and geography, which provided the benefit of care and support during physical, emotional, social, and economic challenges.

Unfortunately, close family relationships were also associated with expectations that carried consequences, burdens, which the women felt obligated to fulfill in times they were struggling to endure their own situations. For example, one of the participants with the pseudo name *Journey*, selected a photo as "favorite" that involved an older aunt who had expectations of being cared for by Journey, who is currently struggling with her own failing health and cares for a disabled daughter. Journey mocked her aunt's comments as she looked

at the photo, "Yeah. And, like my aunt, she wants me to keep 'er..."I need somebody here to help me out. I want you to take care of yourself so you can help me out when I get old," (Journey)." In addition, since many of the women had family members who smoked, the social nature of smoking was reinforced by living with other smokers and during family gatherings as smokers gathered "outside" to smoke, away from the non-smokers.

Being the good mother

Being a good mother was a common theme throughout the women's narratives. The women were anxious about their ability to provide for the daily needs of the children, keep them safe, and secure a meaningful future for them. Most were single mothers or women who were involved with raising grandchildren. They expressed the distress they experienced as they struggled to meet the basic daily needs of the children, which included providing appropriate meals for the children, clothing them adequately, keeping a home that provided for warmth and space, and finding fun activities for their children to enjoy. Keeping their children safe was a daily concern for many of the women who lived in communities that experienced shootings, drugs, and domestic violence. Missy lived in "the projects" in her rural town and did not let her young daughter play outside after her 14-year-old son was shot last year while crossing through the back yard of an angry neighbor. Some women struggled between the need to set limits with their children's behavior and the desire to allow children to find pleasure in daily activities. They described visits to their homes from Child Protective Services and appointments with school officials to discuss their child's misbehavior. In one of Missy's favorite photos labeled "One reason why I smoke," she was readying her children for Halloween. Her description of the festive photo of children at Halloween provided nested

meanings of what it was like to be a good mother living in rural "project" housing who struggled to balance her children's need to be outside, and her desire to keep them safe.

> We had went to Wal-Mart and I bought my daughter a pumpkin. And she went and got her friends and carved it up, that was it"..... "It's all of the kids and they wreck my nerves"..... "They wreck em'. They're nerve wreckin'. They argue all the time."..... "It's cool. I like for them to be in instead of outside anyway, too rough out there. (Missy)

The women worried about their children's future within an environmental context with limited opportunities and resources for personal growth and encouragement. They recognized their own limitations, the limited resources within their communities, the negative consequences this held for the future of their children, and expressed their discouragement.

> Like, I feel sometimes – sometimes, I feel like giving up, but then I look at her and I'm like, I can't give up cause she lookin' at me, she dependin' on me. So I try to--- is like I'm holding back a lot of tears and stuff for her, cause I don't want her to feel the pain. I just want her to know everything okay. (Deasia)

In addition, women realized that continuing to smoking could affect their children's health and influence their children's decision to smoke in the future. Unfortunately, daily stress and the relaxation they experienced from smoking interfered with plans for quitting. One of Kim's favorite photos was driving with her children, taking note that her title was "windows down" (Photo 3).

Hope for a better life

Embedded throughout the pictures and narratives were visions, expectations, and plans for a better life. Bug hoped that one day she would not have to worry about her autistic adult son. Myoshi and Journey hoped they would regain their health and be able to enjoy more time with family. While they hoped to find new housing that was safe for their families, Melissa, Missy, Sandra, and Ashley were also struggling with parenting concerns that they hoped to resolve. Sarah had a vision of finishing school and opening a business that offered

opportunities for children in the community to reach goals that would provide for a better life. These were just a few examples of the many underlying hopes, dreams, and aspirations expressed by the women during this study. That said, many participants have planned, initiated, or are in the process of moving toward their goals.

> I'm hoping once I get on my feet, I become stable, I get an apartment, I get my kids, and I have a steady job and a steady income... I'm hoping then I'll be able to quit (smoking), it will fill my void with doing fun things with my kids and like regardless I do fun things with my kids but to fill that void of smoking, play a game or draw picture or color or dance around the house and sing songs (Ashley).

Discussion

Two unexpected findings emerged from this study; the socially isolating nature of smoking within the context of rural low-income women, and the hope for a better life expressed by the women when they described their smoking behavior. This information is valuable to researchers that are investigating smoking in rural populations and health care providers aiming to improve quality of life and health outcomes for rural low-income women who smoke.

The theme of hope for a better life was one of the unexpected findings in this study. Results from studies on smoking and health behavior support the relationship between social context, smoking, and health behaviors; however, the concept of hope in smoking studies is new. Hope is a human phenomenon that is positively associated with life satisfaction and a sense of wellbeing, which play important roles in human existence and feelings of achievement (Coughlin, 2006; Davis, 2005; Wrobleski & Snyder, 2005). Although there are several definitions of hope in the health literature, more recent constructs view hope as a temporal process focused on the future achievement of desired goals that are linked to positive physical, psychological, and social well-being (Morse & Penrod, 1999; Tutton,

Seers, & Langstaff, 2009; Snyder, Feldman, Taylor, Schroeder, & Adams, 2000). Hope is conceptualized by Snyder, et al., (1991) as an emotional and cognitively motivational process that emphasizes the identification of pathways, or resources, to achieve desired goals. More specifically, hope is a cognitive process that requires belief in one's ability to produce routes that lead toward achievable goals (also known as pathways) and the belief that one has the ability to move toward the desired goals (also known as agency). The sense of goal directed determination (agency) and the sense of planning ways to achieve the goal (pathways) are inter-related components that are essential for hope. Marsh and McKay (1994), in their report on poor smokers in Great Britain, state that disadvantaged smokers that are poor are so consumed with lack of opportunity, inequality, and poor self-esteem that there is no room for optimism, or hope, which they linked to the desire to quit smoking. In contrast, the results of this study suggest that there is optimism and hope for a better life that includes being a nonsmoker.

The findings in this study describe many things related to rural low-income women's sense of agency and pathways they use to sustain hope. Although they face tremendous challenges, and social engagement within their social context is often limited to family, they have found pathways, like smoking, to maintain hope for a better life. Hope for a better life assumes there is a hierarchy associated with quality of life, which gives reference to how well human needs are met and to what extent individuals or groups perceive satisfaction with life (Costanza, et al., 2007). Rural women project that they have learned to be survey situational needs and act accordingly within their hierarchy of needs. As lower level needs and goals are achieved, this enhances the woman's confidence in achieving goals, strengthening their sense of agency. This is important to conceptualize as rural women

express that they hope to stop smoking after other high priority hopes and goals are achieved. By articulating their hope to quit smoking in this temporal and cognitive manner, participants have initiated a plan, or pathway, toward cessation. Agency, or the belief that it is an achievable goal, becomes a dynamic factor in the phenomenon of hope as the women move toward achieving goals for a better life.

The socially isolating nature of smoking is a second unexpected finding in this study. Although the relationship between social networks and social support in health promoting lifestyle choices of rural women is complex and not well established, every woman completing this study recognized that smoking is stigmatized and had a negative influence on their social position and participation in community activities that offered opportunities for social support (Adams, Bowden, Humphrey, & McAdams, 2000; Mansfield, Preston, & Crawford, 1988; Pierce, 2012). Participation or involvement in community resources that offered possibilities of social support were limited as the women weighed their individual need to smoke with their feelings of rejection during encounters with family, church members, or other community residents.

How smoking affects social position is dependent on the number and value of an individual's resources and the agency they have, or, are willing to invest in to maintain or change. The stigma of smoking has costly layers; beginning with the visual and sensory acts (symbols) of smoking, which they perceive as unattractive, undesirable, and odorous. Underneath this outer layer is the moral discourse experienced in response to judgmental comments from family and members within their limited social networks. These comments carry undertones of social control and social responsibilities toward self and others; threatening consequences of social distancing for those not in compliance (Poland, 2000).

Flint and Novotny (1997) have proposed that the social isolation experienced by smokers, whether by self-choice or social distancing, may in fact perpetuate smoking. Staying isolated, the smoker is less exposed to social triggers that encourage cessation and has less exposure to resources that may assist with cessation.

Consistent with our understanding of smoking in disadvantaged populations, rural low-income women smoke as a means of coping with barriers related to feelings of isolation, limited access to social and economic resources, poverty, and unemployment, (Stead, et al., 2001). Of significance, is the universal theme and concern surrounding community violence. There is a widespread belief that little crime occurs in rural areas of the U.S., however, studies on the affect of social disorganization are challenging the assumption that rural communities are homogenously lower in crime (Kaylen & Pridemore, 2011; Lee, Maume, & Ousey, 2003). Rural women are more often victims of intimate violence when compared to their urban and suburban counterparts due to social normalization of domestic violence and limited social support available in rural areas (Rennison, DeKesesredy, & Dragiewicz, 2013). Observational and textual findings from this study suggest that community and domestic violence is a routine part of life for these participants. Researcher interactions with participants, family members of participants, and community members as well as researcher observations of neighborhoods and participant homes confirmed the participant's apprehensions about safety. This influenced the women's smoking by increasing feelings of isolation and limiting the women's social engagement with the community as a whole. Opportunities to receive social support and expand social networks were limited as the participants chose to stay at home, or inside, to keep themselves and their families safe.

Rural low-income women who smoke are extremely resourceful despite being socially marginalized, economically disadvantaged, and faced with smoking stigmatization from within their social networks and family support systems. These resourceful women identify and navigate through community and social resources using smoking as an operational tool; its "relaxing," "calming," and "allows me to stop and think it through." They have found islands, or networks, of other smokers in their family and friends that provide a sense of acceptance and social support through the sharing of cigarettes and smoking rituals. In addition, using the 'breath' in smoking, as a means of relaxation and stress relief is a noteworthy finding. Moments of focused breathing and relaxation should be further investigated as potential methods to aid smoking cessation in this population of women smokers. The use of 'breath' work and mindfulness in smoking cessation has shown promising results (Brewer, et al., 2011; Davis, Fleming, Bonus, & Baker, 2011; Carim-Todd, Mitchell, & Oken, 2013; Witkiewitz, Bowen, Douglas, & Hsu, 2013).

Findings related to poverty, unemployment, and increased environmental stress in disadvantaged populations who smoke are not new and it has been clear for some time that when designing smoking cessation programs "one size does not fit all." Results of this study suggest that *downstream* factors associated with smoking behavior and choices, such as social engagement, social identity, social support, and social networks, are influenced by *upstream* determinants of health, such as social, political, economic, and historical factors that shape the context of being a low-income rural woman. As the meaning of being a smoker changes within the social and cultural context, so does the social identity of being a smoker change. And, so does our understanding of how social determinants of health impact human determination.

Implications

The insight into the social and cultural meanings of smoking in rural low-income women and the relationship these meanings have in their decision to smoke or to attempt smoking cessation has implication for health professional working with disadvantaged populations of smokers who have not expressed a desire to quit or have been unsuccessful with their attempts to quit. Recognizing that smoking in this population is often hidden due to stigmatization should prompt rural healthcare providers to be more assertive in assessment of smoking habits and assist with personalized and affordable cessation options. Healthcare providers and organizations focused on providing access to health services in disadvantaged areas need to acknowledge and accept that this group of women use smoking as a means of coping with significant life struggles that must be resolved before smoking cessation is attempted. As a group, they are hopeful for a better life. For rural low-income women, successful achievement of quality of life goals, no matter how small, will be useful in elevating their social position and assist with self-confidence.

With a small sample size and data collected from three rural areas in a southeastern Mid-Atlantic state, the findings of this study are limited. Also limiting is the racial and age diversity of the women participating in this study. Future studies that focus on more socially homogenous groups of women in rural areas would be beneficial in expanding the findings. In addition, this study suggests exploring the use of creative approaches to stress relief and relaxation, such as mind-body interventions that expand on breathing and relaxation, which have shown promise in other populations of smokers.

There is a need to create safe environments for low-income rural women and their children. Future public health interventions must address the crisis surrounding the lack of

purpose experienced by this population, which will reinforce the hope for a better life expressed by the women in this study. Political and economic elements with the power to allocate and distribute resources have made little progress in addressing basic local needs such as community activity centers, extended day schools, and accessible healthcare facilities (Hartley, 2004). During this study, local public health officials and social workers worked diligently to provide many needed services to county residents, but efforts were met with limited financial and human resources that are barriers to improving health care outcomes in disadvantaged populations such as low-income rural women who smoke. Strong leadership at the state and national level are needed to draw attention to this growing inequity and seek adequate resources aimed at reducing smoking rates in this population of women.

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Table 1: Selected Interview Questions

Table 1
Selected Interview Question
Initial Interview Questions
Tell me what it's like living here?
When you started smoking, what was it like for you?
What is it like now?
Are there people in your social circle that don't smoke?
Imagine you were one of those non-smokers, how would living here be different?
What attracted you to this study?
How do you see yourself taking these photos?
Ending with questions/comments/information on contact and follow-up activities
Photo Follow-up Interview Questions
What was it like taking these pictures?
Show me your favorite three photos.
What was it about these photos that make them your favorites?
What do these photos tell me about you?
What about your least favorite photos?
Is there something you would change in them?
What do you want the photos to tell people about being a smoker?
Are there photos you took and decided not to share? Tell me about those.
What about photos you wish you could have taken, tell me about those and why you would have liked to take them.
Tell me a story about a situation where you found smoking most satisfying.
What about a situation where you felt uncomfortable being a smoker?
Look into the future, are you smoking? Has anything changed?
As a study participant, how do you feel taking photographs and discussing them compared to just completing an interview.
What have you enjoyed the most about being in this study? The least?
Any final thoughts or comments you'd like to add?

Table 2: Participant Guidelines for photographs

Table 2

Participant Guidelines for photographs

These photographs are being collected so you can share with me and others what it means to be a female smoker in rural settings. Please take photos that you do not mind sharing with me and others. The pictures you create will be discussed during our next meeting and shared with others that are interested in understanding smoking from your perspective.

Try to take some photos each day. Information will be more meaningful if photos are taken over time rather than all at once. Also, please give each photo a title, one that is meaningful. Just as most paintings and pieces of art have titles that represents the artist's vision, please title your photographs in a manner that gives them meaning.

Here are guidelines for the pictures I would like you to take. Please take pictures YOU feel will help with this study.

You **must always ask permission of other people included in your photographs who have not consented to be subjects in this study and inform them that they will be blurred as a means of de-identification.

- 3-4 Photos of yourself smoking
- 3-4 Photos of smoking with those closest to you
- 3-4 Photos of smoking during social activities
- 3-4 Photos smoking in community
- 3-4 Photos you think are important or valuable. Your Choice!

Please contact me if you have any questions. THANK YOU!
Star Mitchell, xxx-xxx-xxxx or xxxx@email.xxx

Table 3: Demographics of Participants

Table 3

Demographics of participants

ID	County	Age	*Race	Marital Status	Type brand of cigarette	Start age	Why start?	# smoke in house	Efforts to quit
1 Bug	B	43	AA	Married	Newport	21	Girlfriend suggested it during stressful divorce	2	Patches, Nicorette gum, Chantix
2 Myoshi	C	57	AA	Single	Newport	24	Desire to be part of surroundings in city life, practiced smoking	1	
3 Kim	C	33	AA	Single	Cool	16	Mom and dad both smoked, sneak them & go outside to smoke.	0	Patches; Chewing gum, mint & cinnamon candies, Stopped during 1st pregnancy & through part of 2nd pregnancy
4 Dee	A	48	AA	Divorced	Newport 100s	19	Lighting cigarettes for boyfriend; everybody was doing it	0	Patches; Pregnancy
5 Melissa	C	48	AA	Separated	Menthol	13	Started running the street & being rebellious when parents divorced.	0	Cold turkey: Quit during 1st pregnancy; quit shortly when 2nd child sick
6 Missy	C	34	AA	Single	Newport 100s	23	Hanging with wrong crowd; wanted to blend in & be like other folk thinking it was cool Didn't smoke in HS.	0	Quits when daughter out of state with father, Chews gum and eats hard candies
7 Journey	C	53	AA	Single	Newport 100s	13	Visiting family & experimenting with different things, got into drugs, and then smoking; sneaked cigarettes with other girls.	1	Patches, Now, try to slow down. Smoke 1/2 cig, put it out and smoke other half later.
8 Deasia	C	25	AA	Single	Newport.	14	Hanging out with "bad" girl; sneaked them from my mom. Thought I'd be cool if I smoked.	1	
9 Sandra	C	50	W	Divorced	Marlboro	15	Sneaked from father when 10-11 Unhappy childhood, running away smoked by myself growing up, no friends.	1	Nicorette gum; Wellbutrin; hypnosis; patches
10 Sarah	C	25	AA	Single	Newport	18	Others smoked at job, stress of customers; Social life,	1	Stress ball; rubber bands in hand; music.
11 Mary	C	63	AA	Single	Newport 100s	18	Hanging out with group of girls from work; partying; trying to look grown,	0	slow down
12 Big Mama	C	47	AA	Separated	Newport	17	Girlfriends and cousins encouraged during stress of father's death	2	none
13 Ashley	C	26	W	Single	Newport	17	Older cousin gave her first one when 8; trying to be cool; sneaked cig from mom	1	Quit 5-6 months during 1st pregnancy.

*Race/ethnicity: AA= African American, W=White

Table 4: Narrative Themes

Table 4 ***Common themes from narratives of rural low-income women who smoke***
° Feelings of isolation
° Struggling day to day
° It's relaxing
° "Looking good" and empowerment
° Family support and expectations
° Being the good mother
° Hope for a better life

Photo 1: "Me and my coworker on break"

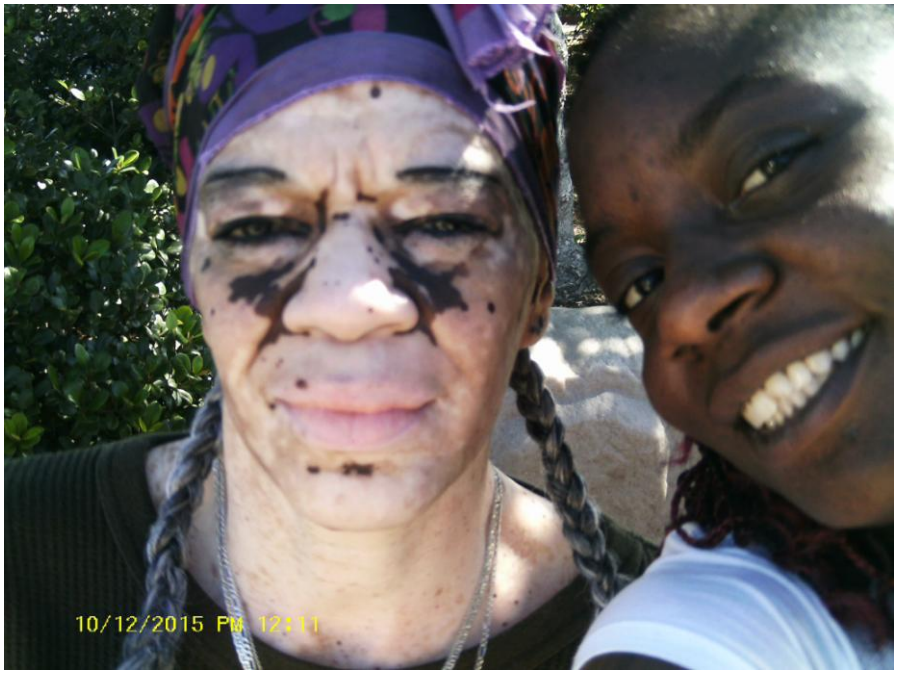
“Me and my coworker on break”

(Photo 1) “So when we go outside and we get to smoke, we get to sit down, we get to relax and get off our feet, like our feet stop hurting for five minutes, then we get to have our cigarette and we get to chit-chat for a few minutes. So I like it, it’s the highlight of my night pretty much and that’s what it is”

Photo 2: "Paying' bills"

"Payin' bills"

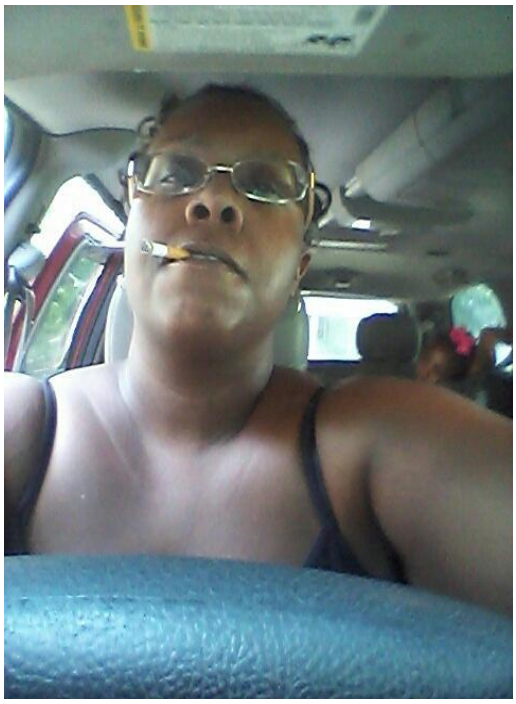
(Deasia & her mother Journey)



(Photo 2) What is it you like about the picture? "…because I like taking pictures of my mama because of her condition and I want her to feel just as pretty as I feel"

Photo 3: "Driving while smoking"

“Driving while smoking. Kids in the car. Windows down”



(Photo 3) Anything in the pictures you would change? “I wish I didn't smoke in the car with the kids but I try to always have the windows down, because I know the secondhand smoke……that’s about it, kids being in the car.

CHAPTER 5: SYNTHESIS OF THE DISSERTATION

Background

Smoking in rural low-income women is a disparity in health behavior that leads to negative health outcomes and affects the lives of the women smokers and their communities (Doescher, Jackson, Jerant, & Hart, 2006; Gamm, Hutchison, Bellamy, & Dabney, 2002; Laaksonen, Rahkonen, Karvonen, & Lahelma, 2005; Stevens, Colwell, & Hutchison, 2003). Rural low-income women who smoke are more susceptible to and experience increased levels of smoking related illness, isolation, and stigmatization (Council, 2012; Eberhardt, & Pamuk,2004; Hartley, 2004; Jemal, et al., 2008; Probst, Moore, Glover, & Samuels, 2004). As a result, rural communities with high smoking rates in disadvantaged low-income populations are burdened with proportionately higher financial expenditures allocated to smoking related illnesses and disabilities (American Lung Association [ALA], 2012; CDC, 2014). Moreover, the stigma and isolation associated with being a smoker reduce available human resources in communities as women smokers choose not to become socially engaged in their communities (Antin, Lipperman-Kreda, & Hunt, 2015; Bell, et al., 2010; Stuber, Galea, & Link, 2009).

How we live, where we live, and the conditions in which we live are important factors in determining health status (Braveman & Egerter, 2008; Koh, Piotrowski, Kumanyika, & Fielding, 2011; WHO, 2008). Social determinants of health (SDOH) have been identified by the World Health Organization (Garrett, Dube, Bann, & McAfee, 2015; WHO; 2008), the National Research Council & Institute of Medicine (NRC/IOM; 2005), and

are foundational to new goals that have been included in Healthy People 2020 (2016). Examples of SDOH include, poverty, safe housing, job opportunities, transportation options, safety from crime and violence, access to educational opportunities, culture, and social support, all of which are referenced by participants in this study and give meaning to their smoking.

This dissertation sought to add to our understanding of cultural and social factors that give meaning to being a rural low-income woman; and explore the relationships between social support, social networks, social identity, and their decision to smoke or attempt smoking cessation. This knowledge will be useful in the design of smoking cessation interventions that target low-income women living in disadvantaged rural areas.

Using ethnographic methods and photovoice to explore meanings of smoking was beneficial in capturing the cultural essence of being a low-income rural woman that smokes. Initial community assessments, interviews with local individuals, collection of local artifacts, and attendance at community functions provided a foundational understanding of local culture and traditions, and the sociocultural context of the study participants. Women who participated in the study provided personal perspectives of smoking through semi-structured interviews, and the use of self-selected photographs provided meaningful and generous narratives that otherwise would not have been available. Narratives were rich, providing prominent themes and patterns that guided the interpretive findings.

Summary

The Disconnect in Descriptive Findings and Interventions Applied to Rural, Low-Income Women Who Smoke

Of the initial 274 articles identified for review through a database search and related reference reviews, 23 studies were initially retained after screening for inclusion criteria. A

detailed literature matrix following Garrard's (2011) methodology was constructed which classified each of the remaining 23 studies as a random controlled trial, qualitative, descriptive, correlation or comparative study. In addition, the matrix included detailed information on each study related to conceptual classifications, supporting theoretical frameworks, interventions, and sampling details. Of these 23 studies, two were qualitative, 16 were descriptive, one was a comparison, and four were randomized interventions. Findings indicated there are few studies with exploration of the experiences of rural women who smoke and what they perceive might increase success with attempts to quit smoking. In addition, qualitative studies identified social support from within social networks to be the preferred type of support system during smoking cessation. Unfortunately, most intervention studies had implemented external, or peripheral, sources of support that failed to show significant results when tested with the exception of one study of African-American communities that implemented social support through church counselors. Although results in this unique study did not show statistical significance, it suggests the value of community members in targeted smoking cessation programs. This manuscript also references the significance of social network literature, theories of social interaction, and social identity in studies that seek to expand our understanding of smoking behavior and smoking cessation (Mitchell, Kneipp, & Giscombe, 2015).

Results of this review suggest a disconnect between findings that identify the desire for social support from one's personal social network and the interventions that have offered more distant forms of social support. There are implications from this review that further studies are needed to investigate the social value and personal meaning of smoking in rural

low-income women as a precursor to designing effective cessation interventions that are targeted to this population of women smokers.

New Methods for Understanding Social Meanings of Smoking

The second manuscript in this dissertation described the use of photovoice from a relativist perspective as an effective method for understanding meanings associated with smoking within the social and cultural context of low-income women. With roots in participatory inquiry, this method was best suited for this study that explore social factors that give smoking meaning in this group of disadvantaged women with smoking rates that are not declining as in other populations of women. Participant-produced photos provided opportunities to visually and textually explore relationships between social support, social networks, social identity, and the meanings associated with smoking that influenced their decision to smoke or attempt cessation.

When operationalized in this study, the participants were provided a general guide for taking photographs of smoking over a two-week period, empowering them to select meaningful moments that reflected smoking within their social and cultural context. These participant produced photographs not only provided visual data, but were triggers for follow-up semi-structured interviews which produced rich textual data of smoking experiences and meanings, giving insight into the social nature and meanings of their smoking. Ethnographic methods were also used in this study that provided the researcher with information on the social and cultural environment of the participants. Information was collected on the local geography and agricultural industry, economic climate, availability of resources that offered opportunity for social connectedness, the presence of faith based resources, access and utilization of health care resources, and the presence of a tobacco culture in the communities.

Data obtained using the arts-based approach of photovoice proved to be abundantly rich, providing redundant themes and patterns, which provided ample data to support the study findings.

Uncovering Meanings associated with Smoking in Rural Low-Income Women

Seven predominant themes emerged from the women's narratives and photographs. Researcher observations and experiences within the communities, validated and enhanced themes and meanings discovered during semi-structured interviews with participants. All the women who completed this study were welcoming and offered personal views of what it meant to be a smoker within the context of their communities, expanding our understanding of how social support, social networks, and social identities are tied to smoking. The stigma associated with smoking limited the women's activities with church and significant family members, causing them to smoke alone or with a limited number of other smokers. Feelings of isolation connected to the stigma of smoking and the physical isolation associated with limited transportation and economic entrapment were barriers to expanding social networks and receipt of beneficial social support. This isolation also limited the women's exposure to social triggers that may have encouraged smoking cessation and provided social support for cessation.

The use of smoking as a means of stress reduction is a finding in this study that is supported in the literature. However, data in this study suggests relaxation and stress management was achieved during the rhythm of conscious 'breathing'' and the 'taste' gratification received when smoking. The use of the 'breath' in smoking is a finding that suggests additional research on mind-body smoking cessation interventions may be useful in this group of smokers. Despite the difficulties of poverty, unemployment, and increased

environmental stress, the women were hopeful of a better life. An unexpected finding in this study is the consistent presence of hope in the women's discussions of rural experiences and their future vision of being a nonsmoker. Although each of the women expressed the desire and hope of being a nonsmoker, each one also recognized that in order to be successful with smoking cessation they must first improve the quality of their life.

Findings in this study suggest the need for targeted interventions that address the social and economic needs facing low-income rural women. Interventions targeting this population must not only address smoking cessation but also quality of life, purpose, and maintain a sense of hope for current and future generations in these communities. Coughlin (2006) proposes that hope and hopefulness is an ethical construct that should be incorporated within the framework of public health practice as a means of lowering psychological distress and encouraging positive coping strategies that benefit health outcomes. That said, findings of this study also suggest there is a need for further research into the health benefits associated with encouraging and sustaining hope in disadvantaged populations, such as low-income rural women who smoke. Moreover, public health researchers are called to expand research using innovative smoking cessation methods, such as mind-body techniques, which address the need for stress management in this group of women smokers that have been less successful with other forms of smoking cessation.

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