Rigor in Qualitative Methods: An Evaluation of Strategies Among Underrepresented Rural Communities

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Abstract

Achieving rigor using selected criteria to determine trustworthiness using qualitative methods has been without critical evaluation. In this article, strategies such as prolonged engagement and thick, rich description; negative case analysis; peer review or briefing; clarifying researcher bias; member checking; and, investigator triangulation and intercoder reliability are evaluated for appropriateness among an African American Appalachian rural population. Achieving rigor using qualitative methods among participants living in rural communities is time intensive requiring attention to quality versus quantity of time spent in interviews, building trusting relationships, an awareness of interviewer bias and assumptions, and appropriately evaluated strategies that enhance validity. Strategies to achieve rigor in qualitative methods should not be used as a one size fits all approach as this practice might actually diminish rigor. Among underrepresented populations, strategies should be adapted or not used at all.

Qualitative methods are frequently used to explore issues of relevance to underrepresented populations. Among community-dwelling African American populations, qualitative methods have been used to garner input to develop or tailor interventions that are culturally relevant (Garner & Faucher, 2014; Holliday, Wynne, Katz, Ford, & Barbosa-Leiker, 2018; Mudd-Martin, Martinez, Rayens, Gokun, & Meininger, 2013), to improve participation rates in intervention studies (Bowers, Jacobson, & Krupp, 2017; Buseh, Stevens, Millon-Underwood, Kelber, & Townsend, 2017), to better understand influences on outcomes of faith-based health programs (Stewart, 2015), and to develop and adapt instruments that are appropriate (Lee et al., 2015). Included in research reports using qualitative methods are discussions of strategies that are widely used and accepted as necessary to achieve rigor with qualitative methods. The list of strategies frequently include strategies such as prolonged engagement, audit trail, member checking, peer debriefing, triangulation, and intercoder reliability (Maxwell, 2013). Strategies to achieve rigor may be inappropriately applied in qualitative research and treated similar to a checklist or a standard for quality regardless of the intent of the research (Morse, 2018). Few scholars, however, have critiqued the usefulness or appropriateness of these strategies to the design and quality of research using a qualitative approach to inquiry (Morse, 2015).

In this report, I reflect on and critique the usefulness and appropriateness of strategies to achieve rigor in qualitative research that I have conducted among underrepresented minority and rural populations. The philosophical positioning of my program of research with African Americans is grounded in the social constructionism paradigm (Guba & Lincoln, 1994; Schwandt, 2000). Social constructivism aims to discover the experiences of individuals as lived, taking into consideration the cultural and historical norms of a population (Guba & Lincoln, 1994). Guided by this philosophical stance, the overall goal of my research with this population is to give voice to the social support experiences among older African Americans with life-threatening illness, to capture the strengths of this population, and to conduct research using a process that is trustworthy and authentic. However, I realize that I have been using a prescribed list of strategies to enhance rigor was blindly used without thought to their relevance or appropriateness. Therefore, in this critique, I reflect on and evaluate the strategies used to enhance the trustworthiness of the qualitative studies that I have conducted among African Americans

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residing in the Appalachian regions of Western North Carolina.

African Americans residing in these regions have been described as an underrepresented and understudied population (Easterling, 2014). According to the U.S. Census Bureau, the percentile for individuals who identify as Black or African American alone ranges from a low of 1% to just under 10% in counties located in these geographical regions (U.S. Census Bureau, 2010). African Americans residing in the Appalachians of Western North Carolina have been described as a relatively invisible and neglected minority within a minority (Cabbell, 1980). That is, Appalachian populations overall are understudied (Dorgan, Hutson, Gerding, & Duvall, 2009), whereas African American Appalachian populations are rarely studied (Easterling, 2014; Ramirez et al., 2015). Appalachian culture is recognized as unique, isolated, in that the advances in science, health care, and governmental policies may not have not reached many of these rural populations (Kruger et al., 2012; McGarvey, Leon-Verdin, Killos, Guterbock, & Cohn, 2011). However, storytelling through oral traditions is a familiar method of communicating knowledge among Appalachian population populations (Easterling, 2014). Therefore, a qualitative methodology is a useful and important in advancing our understanding of the perceptions and role of cultural and historical influences on health outcomes among these populations. Research among these "invisible" populations is critical, however, strategies to enhance their rigor are equally important.

The use of completed research among this African American Appalachian population permits an evaluation of the appropriateness of strategies to achieve rigor in qualitative research among participants who varied in age (18–90 years), educational levels, and geographic region. The strategies evaluated include (a) validity, (b) reliability, and (c) transferability. Strategies to enhance validity include prolonged engagement, persistent observation, and thick, rich description; negative case analysis; peer review or briefing and researcher bias; member checking; triangulation; and, intercoder reliability. Strategies to enhance reliability during coding include thick description; coding; member checks; and, triangulation. Enhancing transferability includes strategies to enroll diverse participants with characteristics similar the larger population (Carminati, 2018; Schensul, Schensul, & LeCompte, 1999b). Given that the strategies to enhance rigor among the categories of validity, reliability, and transferability are overlapping, discussions of strategies appearing in more than one category will not be repeated.

Prolonged Engagement, Persistent Observation, and Thick, Rich Description

In combination, these strategies are generally used to ensure that the findings of a qualitative study are "data rich," trustworthy (Morse, 2015), and transferable (Creswell, 1994). The attainment of thick, rich data includes a consideration for quality time spent with participants, developing trusting relationships between interviewer / interviewee, research burden, and recruitment of a sample that is adequate and appropriate for the purpose of the study (Morse, 2015). These strategies are discussed in the following sections.

Quality Time Spent and Interviewer / Interviewee Trusting Relationships

In the conduct of research with African Americans residing in rural Appalachian geographical areas of Western North Carolina, time to generate data that are information rich largely depended on quality time and the development of trusting relationships between interviewer / interviewee. Rural and Appalachian populations have been described as conservative, people oriented, and fatalistic (McGarvey et al., 2011). Scholars have also characterized African American and non-Appalachian rural populations as distrustful of health care systems and research (Corbie-Smith, Isler, Miles, & Banks, 2012; Haynes-Maslow et al., 2014; Scharff et al., 2010). This mistrust has been attributed to the abuses from the Tuskegee syphilis or Henrietta Lacks studies where the human rights of African Americans were violated (Haynes-Maslow et al., 2014). The Tuskegee syphilis study was a U.S. government funded study that violated the human rights of African American men (Ponterotto, 2010; White, 2003). The purpose of the Tuskegee study was to study the natural history of syphilis, however, men in this study were never informed that they had syphilis and also denied treatment long after a cure became available. Henrietta Lacks's human rights were violated when U.S. scientists used her cancer cells in research without her consent (Gamble, 2014). However, these characterizations of African Americans in Western North Carolina as fatalistic and distrustful based on these racial injustices are based on findings from research among populations living outside of Western North Carolina and therefore may reflect stereotypes among African American Appalachian populations rather than reality (Easterling, 2014).

Scholars familiar with Appalachian populations in Western North Carolina have reported that these populations are not necessarily fatalistic or even aware of these high-profile racial injustices (Easterling, 2014). Rather, the illness experience and access to health care for African Americans living in these geographically isolated regions is influenced by a history of reliance on home remedies that stem from low wages, lack of insurance, and the limited access to health care practitioners and facilities in their towns (Behringer & Krishnan, 2011; Coyne, Demian-Popescu, & Friend, 2006). Mistrust among African Americans in these geographical regions is likely

attributed to a reluctance to share their personal stories with strangers who might have different values and belief systems (Behringer & Krishnan, 2011). Mistrust might also be attributed to personal experiences with racial discrimination through the receipt of poor health care (Behringer & Krishnan, 2011). The fatalism perceived to exist among this population likely has originated from assumptions about the population. For example, the religious culture in the Appalachians of Western North Carolina is strong, and a reference to faith as "God's will" is not uncommon with participants still seeking health care (Easterling, 2014). However, scholars and health care practitioners assume that expressions related to "God's will" from research conducted among African Americans living outside of the Appalachians are indices for fatalism and mistrust for all African American populations (Corbie-Smith et al., 2012; Mathews, Lannin, & Mitchell, 1994).

Quality time and trusting relationships needed for thick, rich data among this underrepresented minority population consisted of a variety of strategies. In addition to ensuring that participants were informed of study procedures, the majority of time interacting with participants was to develop a trusting interviewer / interviewee relationship. Quality time was also enhanced through listening to participants stories in an unhurried and relaxed manner. Also important to quality time are efforts to convey to the participants that what they have to say is important and understood. I have been fortunate to have interviewed Appalachian African Americans in the 80- to 90-year-old range. During these interviews, I was extremely grateful to have spent my formative years in a small rural town in Western North Carolina which provided me the skill set to understand the vernacular used among this population. Follow-up or probing questions used during interviews were "Tell me more about that," to encourage participants to continue a story line important to them and to provide assurance that their stories were valued.

Trust in interviewer–interviewee relationships can never be assumed. Although I grew up in one of the rural towns from which I was attempting to access and had visited church congregations in neighboring towns, I had not maintained ties with these individuals. I could not assume that being African American or a former member of the community would make the conduct of research among this racially and ethnically similar population easier (Fryer et al., 2016). I had moved away from this geographical region years ago to attend college and since that time I have only occasionally returned for short visits. The development of a trusting relationship was critical to open dialogue during interviews and to elicit quality data (Dale, Grimes, Miller, Ursillo, & Drainoni, 2017).

A primary strategy used to enhance a trusting interviewer / interviewee relationship included those that connected me to the population through kinship (close and extended family) ties (Presley, 2013). For example, when recruiting participants, I frequently revealed to participants my affiliations to family members who were long-term residents from the Western North Carolina Appalachian Mountains and surrounding rural areas of South Carolina and Georgia. I was cautious with sharing my religious affiliation as this information could inhibit open conversation related to expected social behaviors related to religious doctrine. I shared with participants, my academic qualifications to conduct the research, affiliations with educational institutions, publications and church newsletters showcasing my research, and assured participants of my commitment to improving health outcomes among African Americans. As a show of respect for the cultural traditions and religious holidays of the population, recruitment and data collection was never scheduled to occur during the Sabbath and any other religious or major holiday associated with family gatherings. Especially important to a trusting interviewer / interviewee relationship was a show of respect for their values and personal space, through wearing appropriate attire and salutations of the interviewees, addressing participants as Mr. or Mrs. and last name, casual business dress, and punctuality in appointments. Finally, conveying a sincere interest in the issues or stories of the population was critical. I frequently listened to stories that veered away from the intended focus of the research. The participant has benefited from the ability to express themselves, and I as a scientist have benefited from learning about topics or issues I would not have arrived at otherwise.

In addition to a consideration for developing trusting interviewer / interviewee relationships, quality of time spent during interviewers must consider the burden of the research to participants. Strategies to enhance rigor should include considerations for low reading levels or when participants are experiencing illness symptoms such as pain or fatigue. Thus, generating quality data required interview times that were brief, focused, and when participants were well rested. Rather than conduct one long interview, I incorporated into the study design to collect data over one or more interviews of shorter durations. The first interview was always in person with the option for a second telephone follow-up. A limited number of participants requested a second interview to add information they had forgotten to mention during the first interview. The strategy of short and more frequent interviews served the purpose of minimizing the burden of the interview to participant, permitting the interviewee increased time to respond to thought provoking questions and allowing the interviewer to follow-up or probe on topics possibly missed during the initial interview. Understandably, this strategy is not feasible or even necessary for all studies but would likely enhance rigor in studies that require the sampling of seriously ill participants.

A final strategy to building trusting relationships with interviewees is to permit them to have input into how their stories will or will not be used. In the consent forms or fact sheets, I inform participants that I may use their stories in future intervention studies or to educate students, I also elicit participant feedback. Participants have reported their opposition to having their stories appear on social media but provided input into specific ways they would like their stories used to benefit the community.

Sampling Adequacy and Appropriateness

In qualitative reports, adequacy of sample size is generally determined by whether the data was saturated rather than some a priori number based on statistical power analysis (Morse, 2015). Data saturation implies that during the process of sampling and analysis, no new information appears and theoretical concepts are well-developed (Morse, 2015). Although generalizability is not the focus of qualitative inquiry, another consideration for sampling adequacy is whether the participants enrolled in the study are representative of a larger population or at a minimum capture the range of variables known to influence a particular experience (Merriam, 2000).

African Americans in any geographical region are not homogeneous, and this is true even in Appalachia. Therefore, sampling strategies should include a consideration for a range of demographic characteristics and variables that possibly influence participant experiences and therefore sampling adequacy (Carminati, 2018). For example, when the focus of my research was to understand the social support experiences not emphasized in existing research, sampling strategies included a consideration for demographic and theoretical variations analytically important to coping and social support experiences (Hamilton & Sandelowski, 2004; Lazarus & Folkman, 1984). During the conduct of research with African Americans, I purposefully recruited participants who varied on demographic variables (person factors), that is, gender, income, education, and marital status (Hamilton, Best, Wells, & Worthy, 2018; Hamilton, Moore, Johnson, & Koenig, 2013; Hamilton, Sandelowski, Moore, Agarwal, & Koenig, 2013; Hamilton, Worthy, Kurtz, Cudjoe, & Johnstone, 2016). In addition to demographic variations, I also purposefully recruited participants based on theoretical (situational) variations. For purposes of this social support research, situational variations were conceptualized as clinical variables (i.e., type and stage of cancer) as markers for severity of illness that could possibly influence appraisal of one's illness as threatening or not and subsequently their social support experience (Hamilton & Sandelowski, 2004).

Variations in demographics and clinical variables promote expanded understandings of the patterns of supportive exchanges among network members as well as the types of social support involved in those exchanges (Hamilton & Sandelowski, 2004; Sandelowski, 1995). As interviews progressed, demographic variations were expanded to include type of stressful life event, proximity to family (whether individuals lived alone or not) and geographic location (rural vs. urban Appalachian geographic locations; Hamilton et al., 2018; Hamilton, Moore, et al., 2013; Hamilton, Sandelowski, et al., 2013; Hamilton et al., 2016). Finally, during data analysis those additional variations that became apparent were prominent cultural influences that included racism, religion, and spirituality. These cultural variations were important considerations in illuminating not only the influences on trusting relationships and supportive experiences among participants in previous research but also the future direction of subsequent qualitative studies that I have conducted. Important considerations when conducting research among African Americans and any minority population, therefore, is to recognize the diversity with respect to demographic, situational, and cultural influences on a particular experience. This diversity is essential to accurately portraying the voice of this population.

Sampling appropriateness is not always immediately obvious when the focus of the research question is relatively unknown. Initial segue into isolated and rural African American communities may appear highly unorganized and begin with a combination of available volunteers known to the researcher, participants recruited from churches, and snowballing. Once recruitment is under way and patterns emerge from the findings, sampling strategies may be refined to capture the experiences necessary to generate information-rich data focused on the topic. This fine-tuning during sampling and data analysis also might be necessary to fully capture and saturate the data. For example, in a study to understand the ways in which religious songs are used in response to stressful life events, initial sampling strategies included targeting those individuals with known religious affiliations and having had the experience of the loss of a loved one or life-threatening illness (Hamilton et al., 2018; Hamilton, Moore, et al., 2013; Hamilton, Sandelowski, et al., 2013; Hamilton et al., 2016). My assumption was that these were stressful life events that would result in participants' use of a religious song as a coping strategy.

As this *Religious Songs* study progressed, it became apparent that information-rich cases were from those participants who believed they might die as a result of a life-threatening illness or the deaths of a spouse, parent, or child. Once these stressful life situations became apparent, sampling focused on a purposive sample of individuals whose stressful life experiences included the death of an immediate family member or an illness with a high likelihood of death (Hamilton, Sandelowski, et al., 2013).

As the study expanded to younger age groups, it was determined that the stressful life experiences shifted to the death of a parent or the day to day experiences with racial discrimination (Hamilton et al., 2017). The need to sample based on these specific stressful life experiences was not readily apparent during the initial phases of sampling. My initial inclusion criteria had been too broad and needed to be adjusted throughout the study and particularly as the study expanded to incorporate a wider range of age groupings.

Negative Case Analysis

In qualitative inquiry, the tendency is to focus on identifying and understanding those cases with quotes that can be readily identified as connected to the topic and frequently occurring and to discard negative cases with quotes that appear infrequently or are inconsistent with the overall study purpose (Morse, 2015). However, these negative cases might be critical to understanding subpopulation differences and the "whole" of the experience being studied (Morse, 2015). In an earlier study that focused on the social support experiences of older African American cancer patients, one negative or outlying case was of a survivor who described bargaining with God for survival (Hamilton & Sandelowski, 2004). Although it would have been optimal to fully explore whether bargaining with God had been an experience with other participants during data collection, the reality was that this exemplar quote was not apparent until I was in the process of coding the data for a manuscript. During recruitment, I had only requested a one-time interview, so there was no opportunity to return for an additional interview. Rather than discard the quote as not relevant, I included this quote in the reported findings and explored whether this was an experience of participants in subsequent research. Interestingly, the experience of bargaining with God emerged more frequently during interviews among middle aged and younger African Americans (Hamilton et al., 2017). Bargaining with God was expressed through prayers of participants as a request for God to extend the life of a loved one (Hamilton et al., 2017).

Peer Debriefing and Researcher Bias

Peer review and debriefing are strategies that when used might assist the researcher to manage interviewer bias or bring clarity to the conceptualization of the experience and related themes (Mitchell, Boettcher-Sheard, Duque, & Lashewicz, 2018). I have over 20 years of research expertise with explorations of social and cultural factors influencing health outcomes among rural and community-dwelling African Americans using qualitative methods, yet I use peer debriefing to manage interviewer bias

and to assist with conceptual clarity during data analysis and manuscript writing. For peer debriefing, I have collaborated with African American cancer survivors and caregivers, racially diverse health care providers (oncologists, nurses, social workers), and theologians with expertise in religion and culture. I selected these individuals for their clinical expertise with the population, expertise on the topic of race and religion, and their ability to provide an additional lens to the findings, conclusions, and/or implications. More importantly, is the benefit to scholars and the research generated from representation of the target population as key collaborators. These individuals participate in the research from the point of study design, giving input into interview questions, interpretation, and dissemination of findings.

Another benefit of peer debriefing was to manage the tendency for bias created from overlooking the obvious or lacking a neutral stance on findings that emerged during interviews similar to that reported in ethnographic research (Mitchell et al., 2018; Schensul, Schensul, & LeCompte, 1999a). For example, as I had grown up attending a Southern Baptist Church where singing and testimonies were common, it was difficult for me initially to see the uniqueness of this practice or relevance to health outcomes outside of that environment. However, peer debriefing with racially diverse collaborators helped to clarify my thinking of the novelty of this spiritual practice as a type of complementary and alternative therapy in patient care. A second bias originated from my tendency to highlight the positives of spirituality on health outcomes. Although the overwhelming majority of participants in these completed studies recalled positive experiences in the use of spiritual practices as mental health promoting strategies, there were interviews with participants during which the recall of a religious song evoked sad memories of the death of a loved one. Peer debriefing with a diverse team of collaborators encourages an awareness of bias and the need to be open to positive and negative aspects of spiritual practices.

Finally, peer review is used to manage interviewer bias inherent in the selection of interview questions. Interview questions generally originate from investigators who are sensitized by their own experiences or through literature which results in a tendency to overlook issues of importance to the population (Schensul et al., 1999a). Years ago, research focused on African American cancer survivors was extremely limited, and conceptualizations of social support had not incorporated diverse perspectives of the Divine and God as a source of support (Hamilton & Sandelowski, 2004). During this early phase of developing my program of research, I was open to participant discussions and input into the incorporation of interview questions related to God as a source of social support which led me to put aside my own bias that only mortal beings were sources of social support.

Member Checking

This is another strategy frequently requested among journal reviewers as a strategy to enhance rigor in qualitative research. A conceptualization of member checking to enhance rigor is that interviewers should return to participants for verification of the accuracy of either transcribed interviews or the interpretations of those interviews (Creswell, 1994). As a strategy to enhance rigor, member checking using this conceptualization assumes that individual memory and meanings ascribed to an experience are constant. Member checking post interview also assumes that participants are willing to recall or engage in subsequent interpretive discussions of an experience (Sandelowski, 2008). However, the recall of a stressful life event for the purpose of interpretive validation might be burdensome to participants. In research to explore the uses of religious songs, participants were relieved to be able to talk about issues in a "safe" nonjudgmental context (Hamilton, Sandelowski, et al., 2013; Hamilton et al., 2016). Participants in the Appalachians have had fewer opportunities for a formal education (Behringer & Krishnan, 2011; Cabbell, 1980) and might find telling their story enjoyable but have no interest in engaging in discussions related to interpretive meanings of their stories. Rather, validation of emerging findings might be through probing for clarity of a thought or idea during the actual interview. Member checking might also be conducted using a grounded theory approach (Birt, Scott, Cavers, Campbell, & Walter, 2016). For example, the interviewer might validate interpretations of experiences in subsequent interviews with participants. Probing for clarity and interpretive validation during an actual interview requires a level of skill and experience that may not be realistic in the conduct of qualitative research with underrepresented populations.

Investigator Triangulation and Intercoder Reliability

Using multiple methods, sources of data, investigators, or theories to confirm emerging findings are other strategies to enhance validity (Carter, Bryant-Lukosius, DiCenso, Blythe, & Neville, 2014; Merriam, 2000). In comparison to intercoder reliability, I found investigator triangulation more useful in the development of categories of religious songs and Bible verses that emerged from a previous qualitative descriptive study (Hamilton, Moore, et al., 2013; Hamilton, Sandelowski, et al., 2013). In this study, two members of the research team independently read transcripts of the interviews to clarify and to come to an agreement on definitions of emerging themes for the categories of religious songs (Merriam, 2000; Patton, 1990). Critical to this process is

clear, concise definitions for the emerging themes which may require several meetings.

At the request of journal reviewers, intercoder reliability has been used to further quantify the percent agreement. A second collaborator (of a different age, gender, and geographical region) was requested to engage in a series of face to face meetings to discuss categories of emerging themes until there was a consensus on the categories of songs, bible verses, and their definitions. An initial meeting resulted in a relatively low (<60%) agreement. During this second meeting, we determined that adding the perspective of time (i.e., whether participants referred to past, present, or future time) and person (i.e., God, self, or others) brought clarity to the definitions. In a third and final meeting, we conducted intercoder reliability for a more robust evaluation of consistency in coding (Hamilton, Sandelowski, et al., 2013). Using an additional random sample of 20% of participants, Cohen's kappa was calculated using SPSS v. 24 and deemed satisfactory (Burla et al., 2008). However, qualitative analysis programs are also useful with this process.

The contribution of intercoder reliability to rigor is controversial and frequently applied to qualitative research indiscriminately (Morse, 2018). Moreover, although the process of intercoder reliability is likely to contribute to clarity and simplify the codebook, the richness of the data might be lost in the iterations between coders (Morse, 2018). However, revisions to the codebook in the *Religious Songs* study likely enhanced rigor and the replicability of coding for the following reasons. Although the study used semistructured interviews, open-ended questions were used to encourage participants to talk more about the meanings derived from songs during life-threatening illness. Open-ended probing questions were necessary given the limited literature at that time on the use of religious songs during clinically diagnosed illness. Given the open-ended interviews to probe for meanings derived from songs, the data analysis became more interpretive and therefore an appropriate use of intercoder reliability.

Discussion

In this article, I evaluate strategies that are generally accepted and promoted as standards for claiming rigor or quality in qualitative research among an underrepresented African American population residing in the Appalachian region of Western North Carolina (Morse, 2015). Of those strategies, the most critical to generating "data rich" findings are those that enable participants to tell their stories and hence be understood. As this population is geographically isolated and characterized as having a unique culture and with limited access to clinical research studies (McGarvey et al., 2011), I cannot overstate the value

of spending quality time with participants to gain entry into their personal space and require respect for customs and traditions of importance within the community. Similar to other studies conducted among participants in underrepresented communities, time for data collection therefore is an extremely time intensive process (Fryer et al., 2016). The added time often includes travel to isolated communities, identification of community leaders with explanations of why their stories are needed and how the information will be used among populations with limited educational opportunities. Time to gain trust is also likely very dependent on disclosure of any ties the interviewer has to the community through close or extended family linkages that permits potential participants to evaluate the character and trustworthiness of the interviewer (Cabbell, 1980). Gaining trust is also applicable and necessary even when the interviewer is from a similar background, culture, or racial / ethnic group (Fryer et al., 2016).

Findings that are "data rich" should also capture the heterogeneity among rural community-dwelling participants. Although African Americans share a cultural history, their beliefs, values, and attitudes toward health and health care are individually shaped through variations on age, gender, educational level, religious affiliation, and geographical location. African Americans in these rural isolated communities have their own unique culture, with little to no experience participating in research (McGarvey et al., 2011). The lack of participation in research among this population is therefore the result of not being asked to participate in research rather than prior and negative experiences with researchers and health care systems (Holzer, Ellis, & Merritt, 2014).

Additional strategies appropriate and useful to enhance rigor among this rural African American population focused on those that minimized researcher bias, promoted conceptual clarity, and ensured that conclusions are based solely on findings. This was best achieved with a diverse research team (i.e., race, age, gender, educational levels) that also included a member of the target population who provided input into the study design and interpretation of findings. In the analysis of findings and reporting of results, those negative cases or that single quote that did not seem to fit was not excluded but rather a consideration for further exploration in future studies.

Increasingly, journal reviewers are increasingly requesting information on member checking and intercoder reliability. Member checking done with participants in rural and isolated communities where access to participants is time intensive and educational levels are low might require a deviation from the norm of returning the participants with transcripts for their validation. Validation of interpretations of findings might include member checking during the process of data collection or follow-up focus groups with other members of the target population (Kruger et al., 2012).

Finally, intercoder reliability may a useful strategy to enhance rigor when more than one coder is involved in qualitative content analysis (Burla et al., 2008). When sample sizes are small and the principal investigator has the responsibility for recruiting, interviewing, and analyzing the data, intercoder reliability with a collaborator is useful to enhance rigor with the interpretive process. In small qualitative studies, collaborators are useful to intersubjective interpretation through agreement with themes and definitions of themes that were initially generated by one coder (Burla et al., 2008). However, intercoder reliability is not always appropriate (Morse, 2018). The process of intercoder reliability is not appropriate when interviews are semistructured, when participants are asked the same questions in the same order, or when a second coder is involved for the purpose of determining agreement of an existing codebook (Morse, 2018). However, a second coder may not have read all of the transcripts and not involved in the interpretive work of constructing the initial codebook. Furthermore, although the work of achieving agreement may enhance clarity, this process downplays the richness and creativity of the findings and invalidates the interpretative aim of qualitative research (Morse, 2018).

Conclusion

Achieving rigor using qualitative methods among participants living in isolated and rural geographical communities requires the judicious use of strategies to enhance rigor. The use of strategies from a checklist is not appropriate and might even diminish rigor in qualitative reports. The conduct of qualitative research among African American Appalachian populations is time intensive, requiring attention to quality versus quantity of time spent in interviews; attention to building trusting relationships; an awareness of interviewer bias and assumptions; and appropriately evaluated strategies that enhance rigor.

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