

Health Literacy in African-American Communities: Barriers and Strategies

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Eighty-seven million American adults have low health literacy (LHL), costing up to \$238 billion annually in inefficiencies (Vernon, Trujillo, Rosenbaum, & DeBuono, 2007). Yet, the highly complex United States health care and health insurance systems require advanced health literacy for effective navigation (Kindig, Panzer, & Nielsen-Bohlman, 2004; Quincy, 2012; Somers & Mahadevan, 2010; Villaire & Mayer, 2009). For instance, health information is often written at or above a high school level; hence, inaccessible to people with LHL (Rudd, 2007). With respect to health insurance, consumers must navigate technical guides, understand cost-sharing terms, determine whether their provider is in- or out-of-network, and calculate co-pays, deductibles, and co-insurance (Quincy, 2012). Ultimately, LHL prevents optimal health system and insurance navigation, affecting health care access and health outcomes (Ingram, 2012; Long et al., 2014; Parker, 2012; Quincy, 2012; Volandes & Paasche-Orlow, 2007).

Older adults, adolescents, people with low income and educational levels, and racial and ethnic minorities are disproportionately affected by LHL (Ingram, 2012; Kutner,

Greenburg, Jin, & Paulsen, 2006; Prins & Mooney, 2014; Rudd, 2007; Volandes & Paasche-Orlow, 2007). The 2003 National Assessment of Adult Literacy revealed that 58% of African Americans had basic or below basic health literacy, compared with 28% of non-Hispanic Whites (Kutner et al., 2006). LHL is an independent predictor of racial/ethnic disparities in health behaviors (e.g., smoking, adherence to HIV treatment), access to health care resources, and health outcomes (Al Sayah, Majumdar, Egede, & Johnson, 2015; Berkman et al., 2011; Hossain, Ehtesham, Salzman, Jenson, & Calkins, 2013; Lanning & Doyle, 2010; Mantwill, Monestel-Umaña, & Schulz, 2015; Sentell & Halpin, 2006; Stewart et al., 2015).

Despite the disproportionate LHL among African Americans, there is limited evidence on its determinants and on effective health literacy interventions in African-American populations (Weekes, 2012). This article explores health literacy barriers and strategies among African Americans, drawing from the literature and the authors' experiences with community-engaged research in African-American communities.

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HEALTH LITERACY BARRIERS

The disproportionate LHL among African Americans is rooted in historically unjust power structures (Estacio, 2013; Gee & Ford, 2011; Noonan, Velasco-Mondragon, & Wagner, 2016; Volandes & Paasche-Orlow, 2007). Discriminatory policies and practices have systematically limited African Americans' access to the resources and skills needed to obtain, understand, and apply health information (Foult, Carroll, & Wood, 2001; Prins & Mooney, 2014; Rajaram & Bockrath, 2014; Smith, 2003; Wallace, 2015). Systemic factors such as limited educational opportunities, racism, health system mistrust, and a lack of culturally tailored health information and services are health literacy barriers for this population (Bhattacharya, 2013; Goodman et al., 2012; Kutner et al., 2006; Ownby et al., 2014; Politi et al., 2014; Prins & Mooney, 2014).

Education is positively correlated with health literacy (Lee et al., 2014; Ownby et al., 2014; Rudd, 2007) and differences in educational opportunities mediate the relationship between race/ethnicity and health literacy (Ownby et al., 2014). Racial residential segregation and discrimination perpetuate inequities by limiting access to quality education among African Americans (Goodman et al., 2012; Kutner et al., 2006; Ownby et al., 2014; Prins & Mooney, 2014; Rudd, 2007; Wallace, 2015).

Additionally, African Americans are less likely than other racial/ethnic groups to trust the health care system due to negative past experiences including abuse by health researchers (Bhattacharya et al., 2013; Politi et al., 2014; Prins & Mooney, 2014). One of the most egregious examples was the Tuskegee Study of Untreated Syphilis in the Negro Male from 1932 to 1972, wherein a curative treatment (penicillin) was withheld from hundreds of Black men to examine the effects of untreated syphilis (Tuskegee University, n.d.). Mistrust interferes with health literacy development as it affects interactions with the health care system, access to health-related resources, and health-related decision-making (Bhattacharya, 2013; Politi et al., 2014). The health care system has played a role in creating disparities in health literacy by historically failing to accommodate racial and ethnic minority populations' needs and preferences in the delivery of services and health information (Saha, Beach, & Cooper, 2008).

Moreover, health care providers may not recognize the extent of this health literacy gap. One study reported that physicians overestimated the health literacy scores of 54% of African-American patients, compared with 11% of non-Hispanic White and 36% of patients of another race/ethnicity (Kelly & Haidet, 2007). The failure to identify people

with LHL is a missed opportunity to tailor patient-provider communications, thus affecting patients' understanding and application of recommendations (Kelly & Haidet, 2007).

HEALTH LITERACY STRATEGIES

While adopting universal precautions of health literacy simplifies health communication and information processing for all consumers (DeWalt et al., 2010; 2011), studies suggest that reaching African Americans with LHL more effectively also relies on adopting culturally tailored, interactive, and community-engaged health literacy approaches (Bertera, 2014; Broussard, Radkins, & Compton, 2014; Rikard, Thompson, Head, McNeil, & White., 2012; Ross, Ashford, Bleechington, Dark, & Erwin, 2010). This is based on the premise that health information is processed through multiple lenses; thus, the interpretation of health-related concepts and images varies across cultures and other social markers (e.g., language, generations) (Kindig et al., 2004; Scrimshaw, 2019).

Culturally tailored and interactive approaches such as storytelling and culturally appropriate graphics have been reported to improve health literacy related to diverse health conditions in African-American samples (Bertera, 2014; Broussard et al., 2014; Rikard et al., 2012; Ross et al., 2010). For instance, oral storytelling slideshows on diabetes and hypertension that featured community members' voices and photographs were developed and administered to a group of predominantly older African-American women (Bertera, 2014). Exposure to these slideshows produced significant pre-post increases in diabetes (8.8%, $p < .000$) and hypertension (5.6 %, $p < .001$) knowledge and self-efficacy (11.3% and 13.2% respectively; $p < .000$) in the intervention group, with the greatest effects among those with LHL (measured by a Veteran's Administration instrument) (Bertera, 2014). Print materials containing real-life stories, culturally appropriate concepts and images, and practical, action-oriented steps have also been well received in African-American samples with LHL (Broussard et al., 2014; Rikard et al., 2012).

In addition, interactive and user-friendly digital platforms such as mobile health applications present considerable opportunities for reaching African Americans with LHL more effectively (Anderson, 2015; Fox and Duggan, 2012; Krebs & Duncan, 2015; Perrin, 2017; Pew Research Center, 2018). Although there is a dearth of literature on the use of digital health literacy interventions among African Americans with LHL, reports suggest that the ownership and use of mobile technology for accessing online health information has increased among racial/ethnic minorities,

particularly African Americans (Anderson, 2015; Choi & Dinitto, 2013; Fox & Duggan, 2012; Krebs & Duncan, 2015; Perrin, 2017; Pew Research Center, 2018). However, these reports do not stratify mobile technology or internet use by health literacy levels, yet online health information is often written at higher reading levels and the ability to effectively process and use such information varies by health literacy levels (Meppelink, Smit, Diviani, & Van Weert, 2016). For instance, African Americans with LHL are less likely to use computers or the internet for health information (McCleary-Jones et al., 2013). Thus, to reach a large number of people with LHL, online or digital health literacy interventions should incorporate features that tailor health information to individuals' health literacy needs, technical skills, health needs, as well as personal and cultural values (Bickmore & Paasche-Orlow, 2012; Hur, Lee, & Schmidt, 2015).

On the other hand, some traditional health communication channels have received support in African-American samples of varying age groups (Ali, Combs, Muvuka, & Ayangeakaa, 2018; Lariscy, Reber, & Paek, 2010). For instance, along with the internet, television and radio were identified as preferred health communication channels in a sample of African-American youth (Lariscy et al., 2010). Furthermore, a qualitative study by our research team examined health insurance literacy among 87 residents (young, middle-aged, and senior adults) of a predominantly African-American community and found that participants preferred in-person health insurance navigation delivered by culturally competent community health workers who are from or familiar with the community, trustworthy, nonjudgmental, and knowledgeable about health insurance (Ali et al., 2018).

Engaging African-American community members in developing health literacy interventions has shown promise in ensuring their cultural and linguistic suitability, acceptability, usability, and effectiveness (Bhattacharya et al., 2013; Mullen, 2013; Rikard et al., 2012; Smith, 2003). Participatory approaches help capture diverse and shared cultural values, beliefs, and experiences in African-American communities (Rikard et al., 2012). In addition, such approaches can mobilize collective action to improve health literacy policies and practices (Bhattacharya, 2013; Estacio, 2013; Freire, 1970; Gillis, 2004; Mullins, Blatt, Gbarayor, Yang, & Baquet, 2005; Rikard et al., 2012).

There are several promising examples of community-engaged health literacy interventions. A group comprising African-American community members, university researchers, and a community-based organization developed a culturally tailored HIV/AIDS toolkit with culturally appropriate images and skill-based information in plain lan-

guage to improve HIV-related health literacy in an African-American community (Rikard et al., 2012). Community members perceived the toolkit as acceptable, easy to use, and effective in raising awareness and dialogue on HIV (Rikard et al., 2012). In another study, two interactive low-literacy educational workbooks were developed for African Americans with psychotic disorders in collaboration with service users, providers, and graphic designers (Broussard et al., 2014). These workbooks were written at the fifth-grade level and contained storylines with comic-strip illustrations featuring African-American characters, which service users and providers found useful and understandable (Broussard et al., 2014). Similarly, over a 2-year period, our team used Boot Camp Translation, a novel community-based participatory research (CBPR) tool, to engage community members, academics, and health professionals in a predominantly African-American community facing extensive health and social inequities. Through facilitated group discussions and consensus building, we developed and disseminated culturally targeted health communication campaigns to improve health literacy on depression ("Depression is Real"), HIV ("We're in Control Now!"), and childhood asthma ("Every Child with Asthma Needs an Asthma Action Plan") (Community Research Louisville, n.d.; Muvuka, Combs, Ali, Scott, & Williams, 2020). The CBPR examples also highlight that health literacy needs can be more effectively addressed by multidisciplinary teams comprising community stakeholders, diverse health professionals, and academics, among several others.

In African-American communities, the Black church is a powerful resource for health literacy initiatives. Using CBPR, Tucker et al. (2019) trained church leaders and selected church goers from 21 Black churches to deliver a 6-week church-based health promotion intervention comprising individual coaching, group discussions, and physical activity. At post-test, this initiative significantly increased nutritional health literacy (measured using the Newest Vital Sign; mean difference = 1.20, $p < .001$) and health behaviors (e.g., nutrition and physical activity) in the intervention group (mean difference = 0.76, $p < .001$) (Tucker et al., 2019). Similarly, Dulchavsky, Riffin, Johnson, Cogan, and Joseph (2014) installed health information touchscreen kiosks in four Black churches to improve health literacy and found self-reported changes in at least one behavior in more than 85% of users 1 to 2 years later.

CONCLUSIONS

There are significant gaps in the literature concerning health literacy barriers and interventions in African-

American communities. We conclude, as do D'Eath, Barry, and Sixsmith, (2012), that research on effective approaches for improving health literacy in populations that experience health disparities should be prioritized. Specifically, the health information delivery preferences of African Americans in diverse settings warrants further exploration (D'Eath et al., 2012; Spruill et al., 2015). Of particular interest would be examining the role of technology or digital platforms in reaching African Americans with LHL. Additionally, because many health literacy interventions are health system-focused, more research on community-based health literacy interventions is needed (Logan et al., 2015). Furthermore, we need to examine the determinants of LHL, particularly in racial/ethnic minority populations, and the mechanisms through which they interfere with health literacy development.

Given the multidimensional and multifactorial nature of health literacy, collaborative and multipronged solutions are necessary to ensure sustainable improvements. Health literacy barriers should be addressed on both supply (i.e., health system) and demand side (i.e., consumers). Examples of supply-side interventions include establishing user-friendly and culturally sensitive health system navigation processes, engaging consumers in developing interventions, and tailoring health communication approaches. In addition, health care providers and organizations should be trained to identify and accommodate consumers with unique health literacy, cultural, and linguistic needs.

Ultimately, achieving sustainable improvements in health literacy among African Americans requires tackling broader systemic barriers. This requires developing supportive institutions and policies to eliminate systemic racism and reduce inequities in access to quality education, employment, income, and health-related resources (Wallace, 2015). Considering that health literacy "crosses multiple boundaries, professions and jurisdictions" (Mitic & Rootman, 2012), there is a need for multisectoral and participatory health literacy approaches that engage diverse stakeholders such as community members, faith leaders, the health care sector, nonhealth sectors, policymakers, and academic institutions (Mitic & Rootman, 2012; US Department of Health and Human Services, 2010). Improving health literacy among African Americans should be a critical component of strategies to achieve health equity (Logan et al., 2015).

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