

# Why Culture Matters in Health Interventions: Lessons From HIV/AIDS Stigma and NCDs

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## Abstract

Theories about health behavior are commonly used in public health and often frame problems as ascribed or related to individuals' actions or inaction. This framing suggests that poor health occurs because individuals are unable or unwilling to heed preventive messages or recommended treatment actions. The recent United Nations call for strategies to reduce the global disease burden of noncommunicable diseases like diabetes requires a reassessment of individual-based approaches to behavior change. We argue that public health and health behavior intervention should focus more on culture than behavior to achieve meaningful and sustainable change resulting in positive health outcomes. To change negative health behaviors, one must first identify and promote positive health behaviors within the cultural logic of its contexts. To illustrate these points, we discuss stigma associated with obesity and human immunodeficiency virus and acquired immune deficiency syndrome. We conclude that focusing on positive behaviors and sustaining cultural and personal transformations requires a culturally grounded approach to public health interventions, such as that provided by the PEN-3 model.

## Keywords

behavioral theories, culture, global health, HIV/AIDS, obesity, PEN-3 model, social determinants, stigma

Theories about health behavior abound in health promotion and public health. They often frame health behaviors as problems arising from the individual's failure to heed preventive messages or engage in recommended treatment actions. An alternative perspective is that public health interventions encounter difficulties sustaining behavior change because of inadequate attention to the role and influence of culture. Writing about culture and health, Dutta (2007) suggested that employing a culture-centered approach to health means working from within a culture to identify the health issues that a community considers important. Culture can be thought of as the building blocks that make up institutions, shared normative values, and ways of knowing and relating. Culture shapes how personal understandings of health and illness are constructed and normalized by influencing health perceptions and health seeking practices.

Airhihenbuwa (1989, 1995) developed the PEN-3 model to place culture at the center of public health and health education programs. The model consists of three primary domains: (a) Relationships and Expectations (RE), focusing on Perceptions, Enablers, and Nurturers; (b) Cultural Empowerment (CE), including Positive, Existential, and Negative; and (c) Cultural Identity (CI), focusing on the Person, Extended Family, or Neighborhood. Together, these domains create a cultural lens for addressing health issues.

PEN-3 incorporates both assessment and intervention (see Airhihenbuwa, 2007; Airhihenbuwa et al., 2009). During the assessment phase, the RE and CE domains are crossed in a 3 × 3 table to produce 9 cells. During the intervention phase, the qualitative data are checked with community members, who, together with researchers, determine the intervention entry point(s) or CI (i.e., the person, extended family, and/or neighborhood).

In the 23 years since its emergence, PEN-3 has been applied in more than 100 studies globally (Airhihenbuwa & Iwelunmor, 2012) to explore the social and cultural contexts influencing health beliefs and practices as well as to guide the design of culturally focused health interventions. Recently, the model was used to explore management of type 2 diabetes (Barbara & Krass, 2012), perceptions of HIV stigma (Okoror, Belue, Zungu, Adams, & Airhihenbuwa,

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2012), childbearing decisions making of HIV-positive women (Sofolahan & Airhihenbuwa, 2012), knowledge and beliefs about cervical cancer screening in Ghana (Williams & Amoateng, 2012), as well as the design of culturally relevant interventions on diabetes prevention (Cowdery, Parker, & Thompson, 2010), cervical cancer prevention (Scarinci, Bandura, Hidalgo, & Cherrington, 2012), and depression interventions for youth living in Chicago (Saulsberry et al., 2012). As evidenced in all the available literature, the most important emphases of the model are the following: (a) all cultures have positive attributes, which is particularly important when health promotion efforts occur outside of an interventionist's own culture; and (b) family and community contexts are important determinants of health behaviors. Whereas conventional models of health behavior change focus primarily on the need to change negative health behaviors and practices, the PEN-3 model encourages health educators and other health interventionists to examine the values and beliefs that either promote, or pose threat to, the desired health behaviors. This approach forces health interventionists to situate any negative values or beliefs within their broader cultural contexts. Far from considering culture to be a barrier or an obstacle, this approach considers culture to be an asset, because it shows how collective identities influence what individuals think or do in relation to their health. PEN-3 shifts away from an exclusive focus on individuals and places greater emphasis on the relationships and expectations of individuals within their cultural contexts. Finally, the model emphasizes that every context includes positive, unique, and negative attributes; it is the responsibility of health behavior interventionists to identify and address them.

Public health interventions should focus on the cultural contexts that nurture the adoption of certain identities and behaviors. Interventions that focus on cultural context from an assets perspective may encourage health promoting actions. Moreover, they may help a community establish a good foundation for addressing determinants of poor health. In this perspective, we highlight the role culture can play in the design of interventions to reduce the global burden of noncommunicable diseases (NCDs) such as obesity, diabetes, and hypertension, while drawing on examples from human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS)-related stigma research.

### **The Global Burden of Noncommunicable Diseases**

In 2011, global participants in a United Nations high-level meeting cited NCDs such as diabetes and hypertension as “a threat to the achievement of internationally agreed upon goals” (United Nations General Assembly, 2011). In 2008 alone, NCDs and their risk factors were responsible for 36 million deaths, with nearly 80% occurring in low- and middle-income countries (WHO, 2011b). For example, available

evidence from the World Health Organization (WHO) global database on body mass index, which contains the most comprehensive global data on obesity, suggests that rates of obesity among adults have roughly tripled in Korea (from 0.8% in 1995 to 3.2% in 2001), Malaysia (from 5.8% in 1996 to 16.3% in 2005/2006), and the United States (from 11.6% in 1990 to 33.9% in 2005). Overall, global projections indicate that by 2015, more than 700 million adults will be obese (WHO, 2011a). More than 600 million people currently are hypertensive (Sacco et al., 2011), and that number is predicted to increase to 1.56 billion people by 2025 (Lago, Singh, & Nesto, 2007). Diabetes also is a key global health burden, and related deaths continue to increase in many African countries. As of 2011, 366 million people were living with diabetes, and that number is expected to increase to 522 million by 2030 (Whiting, Guariguata, Weil, & Shaw, 2011). Obesity is considered to be a key modifiable risk factor for diabetes.

Death and disability due to NCDs are rising rapidly in sub-Saharan Africa, where it is projected that these diseases will soon outpace infectious diseases, resulting in a “double-burden” of disease (Alwan, Galea, & Stuckler, 2011). The underlying causes of these diseases are preventable risk factors related to lifestyle. Obesity is a key modifiable risk factor, and unhealthy diets and physical inactivity are “cultured” by social and physical environmental factors and unprecedented consumption of sugar and salt. Indeed, research indicates that consumption of foods high in fats, salt, and sugar is responsible for 40% of annual deaths from NCDs (Beaglehole et al., 2011; Sacco et al., 2011). To mitigate the global burden of NCDs, a major paradigm shift in current intervention strategies is urgently needed. Moreover, it has long been recognized that it is time to move beyond individual-level, lifestyle-focused policies and interventions to address the collective contexts (i.e., culture) that influence individual behaviors (Airhihenbuwa & Iwelunmor, 2012).

### **Why Culture Matters in Obesity Reduction**

The rise in the number of obesity cases globally is well documented in the literature (WHO, 2011b). Obesity interventions often prioritize individual-level risk behaviors (Adler & Stewart, 2009); however, this approach assumes individuals are responsible agents with the power to make the rational, informed choices needed to change their dietary and activity patterns (Adler & Stewart, 2009). As a growing number of studies show, factors operating at higher levels of a socioecologic framework may affect obesity more fundamentally than individual-level factors do. One alternative to the individual-oriented understanding of obesity is that it is a cultural production located at the intersection of institutions (restaurants) and systems (agriculture and food industries) that have normalized and sustained obesity-causing factors

such as large portion sizes. Fast-food restaurants, which are disproportionately located in neighborhoods where healthy foods are difficult to obtain (Morland, Wing, & Diez Roux, 2002), initiated the supersize culture. Family restaurants have sustained it by increasing the sizes of dishes and utensils such that a dinner plate of yesterday is the size of a salad plate of today (Airhihenbuwa, 2010).

Studies confirm that cultural context is important in shaping beliefs and practices related to food and eating patterns, as well as attitudes and perceptions about weight and health (Dietz, Story, & Leviton, 2009) and the perceived need for weight control (Fitzgibbon & Beech, 2009; Kumanyika, 2008; Kumanyika & Obarzanek, 2003). Culturally appropriate obesity interventions require that interventionists understand not only individual-level factors but also the cultural norms surrounding patterns of eating and activity, and attitudes and beliefs about food, body size, shape, and weight status (James, 2004).

A culture-centered approach to studying behavioral determinants of obesity has been shown to promote healthy eating among African American women (Kannan, Webster, Sparks, Acker, & Turner, 2009). Using the PEN-3 cultural model, Kannan et al. (2009) identified supportive factors and barriers to healthy eating among women living in Flint, Michigan. The findings showed that the family system plays an important role in enabling and nurturing healthy eating habits. Furthermore, actively engaging community participants facilitates the development and dissemination of culturally tailored nutrition and health programs (Kannan et al., 2009) that can help reduce the burden of obesity and hypertension.

### Why Culture Matters in Hypertension Reduction

The available evidence suggests that culture plays a vital role in determining how individuals interpret and manage their hypertension risk, particularly as it relates to dietary patterns (BeLue et al., 2009). For example, to reduce the burden of hypertension, many in the public health community prioritize primary prevention to reduce population-wide salt consumption (Beaglehole et al., 2011). In the United States, reducing salt intake may focus on reducing consumption of processed canned foods, juices, and sodas. In West Africa, however, it must target the taste for bouillon cubes (e.g., Maggi cubes or Knorr) that many West Africans have acquired (Akpanyung, 2005; Nnorom, Osibanjo, & Ogugua, 2007). These taste enhancers were not always part of African cultures. Now, however, more than 90% of households in many parts of West and Central Africa use bouillon cubes in food preparation (Airhihenbuwa & Iwelunmor, 2012; Henry-Unaeze, 2010; Kerry et al., 2005). Their centrality to contemporary food cultures is a reminder that culture is never static (Kagawa Singer, 2012). The main ingredients in bouillon cubes, salt, and monosodium glutamate (Elemo &

Makinde, 1984) are the link between high levels of dietary salt intake and hypertension (Elemo and Makinde, 1984; Nnorom et al., 2007). Systemic and structural changes can help reduce the burdens of hypertension and diabetes; addressing the cultural basis for the widespread use of bouillon cubes should be a part of those efforts.

Lay persons do not lack knowledge about NCDs like hypertension and diabetes. Indeed, culture often reinforces the existing knowledge. For instance, this is evidenced by the various ways different groups refer to diabetes: *sugar* by African Americans (Cowdery et al., 2010); *fumbgwuang* or *shugar* with the prefix *nighoni* (sickness, disease) in Bafut, Cameroon (Awah, Unwin, & Phillimore, 2009); and *esikyere yare* in Twi, which literally means “sugar disease” in Ghana (Aikins, 2003, 2004). Transforming the social and physical environment that encourages consumption of food taste enhancers like Maggi cubes in West Africa and soft drinks with high sugar content in the United States may be more important than individual-level knowledge or behavior change efforts. Policy intervention in the form of cultural transformation proved effective in reducing smoking tobacco in the United States (Livingood et al., 2011). Policies in the United States against smoking in confined spaces such as airplanes, restaurants, and buildings, coupled with tax increases on cigarettes, proved effective in reducing morbidity and mortality related to smoking, and in the process reaffirmed being a nonsmoker as an American cultural norm. Recent efforts to draw attention to the role of bottled soft drinks and juices are examples of attempts to transform cultures by influencing institutions that normalize bad eating and drinking habits. New York City Mayor Bloomberg’s successful ban of supersized soft drinks exemplifies a cultural transformation of shared values that goes beyond the levels of control individual consumers have. As rates of hypertension and obesity grow around the world, such efforts will become increasingly important in achieving national and global health objectives.

### Why Culture Matters in the Future of Global Health

At the 2012 World Health Assembly in Geneva, Switzerland, obesity was a key health problem on the minds of many of the health ministers from resource-poor countries. Several delegates called for culturally grounded approaches to reducing obesity, high blood pressure, and diabetes. During his panel presentation, the first author noted that although obesity is a modifiable risk factor for diabetes and high blood pressure in many countries, this is not true in some African countries. In Senegal and Nigeria, for example, many who suffer from diabetes are not obese: they are of normal body weight. Therefore, effective prevention strategies in these regions cannot solely focus on weight management. Understanding the role of culture within the context of food

consumption patterns is important for understanding the relationships between obesity, weight gain and loss, diabetes, and high blood pressure from one culture to the next.

Applying a cultural lens to a different health problem, Erwin et al. (2010) found that focusing on the family was a culturally compelling strategy to increase cancer screening among Latinas. An additional finding that emerged after applying the PEN-3 model was that the cultural term *machismo* (which has negative connotations outside Latin culture) actually has positive connotations for many Latinas, who said the term refers to a man who is strong and provides for and protects his family (Erwin et al., 2010). As a result, the researchers suggested reanalysis of stigmatized concepts such as *machismo*. This cultural expectation does not suggest that women are weak or need a man to validate them. Rather, it redefines *machismo* as potentially positive, existential, or negative, depending on what aspect of the identity is being addressed.

### Culture and HIV/AIDS Stigma

In the foregoing, we have briefly illustrated the implications for the new global pandemic of obesity and other NCDs. Another health problem in which culture is central to a solution is HIV/AIDS. As in the cultural contexts of obesity and other NCDs, understanding HIV/AIDS requires enhanced cultural knowledge. Culturally grounded research can help reduce negative effects on communities and inform development of appropriate interventions.

In the last decade, much has been written about how stigma has contributed to the spread, detection, and management of HIV disease (Herek, Capitano, & Widaman, 2003; Kinsler, Wong, Sayles, Davis, & Cunningham, 2007; Petros, Airhihenbuwa, Simbayi, Ramlagan, & Brown, 2006; Poindexter & Shippy, 2010; Takahashi, 1997). Stigma has been discussed as a series of interrelated components and processes by which certain identities are devalued and defined as deviant from those considered normative (Goffman, 1963; Link & Phelan, 2006). Goffman's (1963) classic work on stigma inspired a plethora of social psychological studies attempting to understand the components, consequences, and implications of stigma. As applied to public health, social psychological perspectives suggest that stigma is an umbrella concept with several interrelated components: labeling, stereotyping, separation, status loss, discrimination, and the exertion of power (Link & Phelan, 2001). The focus tends to be on how stigma affects individual sufferers, paying close attention to cues that highlight their unique appraisal of undesirable characteristics that lead to the devaluing of their identities, their range of coping responses, and the negative impact of stigma on their psychological well-being (Yang et al., 2007). This is a highly individualistic approach to stigma that is neither practical nor adequate in societies where individuals are not isolated entities (Smith & Mbakwem, 2010). The individual "self"

belongs to or is part of a family or community and cannot be changed in isolation from the larger entity (Muula & Mfusto-Bengo, 2005).

In these contexts, it is important to understand not only the social psychological constructs, but also the cultural processes by which stigma is manifested in the lived experience of stigmatized people (Kleinman & Hall-Clifford, 2009). Accounting for familial and community contexts in which individuals have little or no control must be the first step toward reducing HIV/AIDS stigma in non-Western and other contexts (e.g., close immigrant communities in the United States; Choi, Yep, & Kumekawa, 1998). In an HIV prevention intervention aimed at reducing HIV stigma in China, Li and colleagues found that because strong bonds exist between families and communities, tackling HIV-related stigma requires action by these groups, not just by individuals (Li, Liang, Lin, Wu, & Rotheram-Borus, 2010).

Stigma may have multiple sources (e.g., HIV status, sexual orientation), and multiple sources may interact in ways that influence HIV prevention-related behaviors. In a study in Nigeria, the stigma of not having children was found to be much stronger than the stigma associated with HIV/AIDS (Smith & Mbakwem, 2010). Smith and Mbakwem (2010) presented four case studies of persons living with HIV/AIDS and described how their reproductive desires were anchored in cultural expectations of having a child. The findings illustrate the complexity of stigma as deeply textured by culture. Examples were presented in which three HIV-positive women and one HIV-positive man emphatically expressed cultural reasons for nondisclosure. Even though their partners were not aware of their HIV status until they were engaged to be married, the most important concern of the HIV-negative partners was fulfilling their reproductive desires, not disappointment over a partner's nondisclosure or possible risk of contracting HIV. The cultural expectation for reproduction trumped any fear of contracting HIV from their partners (Smith & Mbakwem, 2010).

Similarly, in South Africa, Iwelunmor and colleagues examined the role of motherhood and the multiple agencies it occupies in the family (Iwelunmor, Zungu, & Airhihenbuwa, 2010). Motherhood was found to be central to disclosing HIV, seeking family support, and living positively with HIV and AIDS. Contrary to many conventional approaches to HIV prevention, which typically focus on mothers only when the health behaviors of their husbands and children are of primary interest, a cultural analysis revealed the importance of viewing mothers from a complex, empowering lens that situates their own health within the unique context of their multiple agencies as both members of and anchors for their families and communities (Iwelunmor et al., 2010).

A culture-based approach to HIV stigma also makes it possible to reexamine conflicts that result when policies collide with culture. For example, Airhihenbuwa et al. (2009)

found that a policy designed to protect the individual rights of persons living with HIV/AIDS conflicted with family expectations of elders in order to ensure the protection of any ill person within a family. Specifically, a policy that outlawed disclosing someone's HIV status without his or her consent conflicted with the cultural expectation that uncles and aunts should call a family meeting to discuss how to be supportive of a family member who tested positive for HIV. When good intentions result in bad outcomes (e.g., someone reacts badly and begins to verbally assault and stigmatize the family member), elders requested that they not be treated as ignorant people who must be educated about the disclosure policy; rather, they suggested that efforts focus on addressing the conflict between the policy and culture (Airhihenbuwa et al., 2009).

In conventional research, reference to culture is often made to emphasize the deficits of a group. Ford, Whetten, Hall, Kaufman, and Thrasher, (2007) observed that conventional social psychological discourse led to a singular view of the down-low (DL) as a self-destructive, African American cultural production linked to the spread of HIV. Not only has the term (i.e., "keeping it on the down-low"), which means to be discrete, been re-appropriated to mean deception with intent to harm, but also it has been described widely as a negative behavior signifying both HIV spread and Black men's inhumanity toward Black women. The down-low is neither in the exclusive cultural domain of Blacks nor is there epidemiologic evidence that it explains the disproportionately high rates of HIV among Black women (Millett, Flores, Peterson, & Bakeman, 2007; Millett, Malebranche, Mason, & Spikes, 2005).

To conceptualize stigma as something other than an individual-level phenomenon, it is helpful to consider how stigma affects members of specific social categories. Meyer's (2003) model of minority stress suggests that social stratification plays an important role in group marginalization and stigmatization. Chronic exposure to marginalization and discrimination generates stress among minorities (Meyer, 2003). Persons who have multiple marginalized social identities (e.g., racial minorities who are sexual minorities) may experience synergistic increases in stress that lead to substantially poorer health outcomes (Meyer, Schwartz, & Frost, 2008). This model suggests that it is not possible to fully capture the effects of stigma by targeting individual-level determinants of behavior change only.

When stigma is viewed through a cultural lens, the priorities for change originate from within the culturally defined group. Collective understandings of the major problems drive how groups identify priorities and decide on solutions. The collective discussions transform the cultural contexts of stigma and help groups identify ways to reduce it. They make it possible to focus on promoting positive behaviors and changing negative ones (Airhihenbuwa et al., 2009; Smith & Mbakwem, 2010).

## Conclusion

To reverse the increasing global burden of NCDs, as called for at the United Nations high-level meeting, and to address HIV stigma, it is time to focus interventions and policies on the cultural contexts that influence individual and family behaviors. Salt and sugar have become the "twin causes of the cause" of diet-related chronic diseases globally; hence, there is a need to examine their cultural influences both locally and globally.

Whether dealing with obesity, hypertension, diabetes, or HIV/AIDS related stigma, understanding cultural contexts remains the key to developing effective, sustainable solutions. New approaches are needed that offer direction on how to address the interplay between culture and health. In the 2008 WHO report on social determinants of health titled "Closing the Gap in a Generation," the three primary recommendations were to (a) improve daily living conditions, (b) tackle inequity in power and resources, and (c) develop new measures of social determinants focused on contexts (WHO, 2008). We believe that the third recommendation is the most critical, since programs and interventions aimed at the first two recommendations cannot be adequately measured without using a context-based approach.

PEN-3 offers a cultural lens for addressing the contexts of health issues and problems by first identifying the positive aspects of a culture. Since its introduction (Airhihenbuwa, 1989), PEN-3 has guided efforts to address problems associated with cancer, hypertension, diabetes, malaria, food choices, smoking, and other issues requiring an understanding not only of behavior but also of related cultural contexts. Public health and health promotion intervention goals cannot be fully realized by focusing on the individual alone. An understanding of the cultural contexts that form and nurture health behaviors and health decisions is crucial.

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