Using Photovoice to Understand Cardiovascular Awareness in Asian Elders

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Photovoice, a qualitative methodology using photography by study participants, is an ideal tool for collecting information on awareness of cardiovascular health from the perspective of persons of different cultural backgrounds and English-speaking abilities who are often subject to health disparities. Participants of Chinese, Vietnamese, and Korean ethnicity were provided disposable cameras to photograph their perceptions of scenes promoting or acting as barriers to cardiovascular health. After the pictures were developed, they returned for a discussion in their native languages to contextualize the stories told in their photographs. Group facilitators spoke the respective native languages and transcribed sessions into English. Twenty-three adults participated (7 to 9 persons per ethnicity), ranging in age from 50 to 88 (mean 71.6) years; 48% were women. The photographs stimulated conversations of knowledge, beliefs, and concerns regarding heart disease and stroke. Issues surrounding food and exercise were most dominant across ethnic groups, focusing on fat and salt intake and the need to remain active. Cultural beliefs and issues of emotional health, including stress and loneliness related to living in a new country, were also depicted. Photovoice provided insight into perceptions of cardiovascular health that is vital for developing health promotion and education interventions in limited–English-speaking communities.

Keywords: *Photovoice; photographs; ethnicity; cardiovascular; multicultural; awareness*

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Cardiovascular disease (CVD) is one of the leading causes of illness and death in the United States, accounting for more than one in three U.S. deaths in 2005 (Lloyd-Jones et al., 2009). This disease particularly affects older adults, with more than one third of people currently living with CVD older than 60 years (Centers for Disease Control and Prevention, 2008). Among Asian American ethnic groups, CVD risk factors are generally low when compared to generic racial/ethnic group categories typically used in national health statistics. This picture is misleading as it masks the disparate health burden on specific Asian American ethnic groups (Asian & Pacific Islander American Health Forum, 1999; U.S. Department of Health and Human Services, 2003). For example, although Asian Americans have lower prevalence rates for cigarette smoking, ethnic group–specific and regional rates suggest elevated rates in Vietnamese males and Korean adults (National Heart, Lung, and Blood Institute, 2000). These ethnic health disparities persist for other CVD risk factors and morbidity and mortality rates, indicating a social justice

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issue in conflict with our national ethics (Brach & Fraserirector, 2000).

The health of U.S. ethnic minorities, especially immigrants, is known to be poorer than their White counterparts living at similar socioeconomic levels and geographic regions (Ku & Matani, 2001; Liao et al., 2004; Singh & Hiatt, 2006; Williams, 2005). Foreign-born families are at even greater risk of health disparities than their native-born ethnic counterparts (Cohen & Christakis, 2006; Ku & Matani, 2001; Salant & Lauderdale, 2003; Singh & Hiatt, 2006). Issues related to poverty as well as heath care access greatly affect rates of morbidity and mortality once immigrants arrive in this country (Huang, Yu, & Ledsky, 2006; Lasser, Himmelstein, & Woolhandler, 2006). Ethnic disparities in quality of care persist as well for those communities who do have access to care (Betancourt, Green, Carillo, & Ananeh, 2003). Given this context, there is increasing recognition that health promotion programs will be more effective when they are culturally appropriate (Brach & Fraserirector, 2000). The data are complex and very dependent on a number of factors including time living in this country and socioeconomic status (Williams, 2005). Thus, it is important to try to understand the cultural context in which immigrants to the United States view their health and their perceptions of risk factors from a disease-specific perspective.

To design culturally appropriate, effective cardiovascular health promotion and disease prevention efforts, greater understanding is needed about current knowledge, beliefs and practices regarding cardiovascular health outcomes, including risk factors, prevention, and treatment (Kreuter, Lukwago, Bucholtz, Clark, & Sanders-Thompson, 2003). Little is currently known about perceptions of cardiovascular health from older adults who identify themselves as Vietnamese, Korean, or Chinese American; much of the research is focused on middle-aged adults and hypertension.

Photovoice is an ideal method for assisting researchers to develop health promotion efforts that are driven by the understanding of the community. Photovoice is a process in which people can identify their unique perspectives on a topic by taking pictures that are significant for them (Wang, Burris, & Xiang, 1996). Photovoice allows participants to record and reflect their community's strengths and concerns and to promote critical dialogue and knowledge about important health and well-being issues through group discussions of photographs (Wang & Redwood-Jones, 2001). Photovoice also addresses some of the stereotyping that may occur when conducting research with specific cultural groups. It elucidates different perspectives and provides an opportunity to start the discussion from the participants' points of view using photos as a starting point for discussion (Clark & Zimmer, 2001).

To our knowledge, Photovoice has not been used to improve understanding of perceptions about cardiovascular health in older Asian adults. This pilot study aimed to explore the use of Photovoice to examine older Chinese, Vietnamese, and Korean immigrants' experiences and perception of the prevention, management, and treatment of cardiovascular diseases. The overarching goal was to gain a fuller understanding for developing appropriate CVD health promotion and disease prevention programs for these communities. This study is part of a nationally funded network of prevention research centers focused on improving the effectiveness of programs to promote cardiovascular health and the translation of these findings into local, state, and national practice.

METHOD

This Photovoice project was developed as a part of the Cardiovascular Health Intervention Research and

Translation Network (CHIRTN) funded by the Centers for Disease Control as a Special Interest Project (SIP) under the University of Washington's (UW's) Health Promotion Research Center (Farris et al., 2008). The CHIRTN is made up of six centers including the UW, University of Colorado, University of North Carolina–Chapel Hill, University of Illinois–Chicago, University of Rochester, and University of West Virginia. We chose this activity as one of the national demonstration projects of the network designed to address the overall theme of "perceptions of cardiovascular health in underserved populations."

Bilingual facilitators fluent in each of the selected languages, Cantonese, Vietnamese, and Korean, were instructed in the Photovoice methodology by an experienced trainer at a central training session. It was explained that the process would involve recruitment of participants to two sessions, one instructional and one to discuss the photographs after they were taken. Disposable cameras and a PowerPoint presentation to be used at the first session were provided to facilitators at this training. The facilitators had access to the trainer throughout the study should there be questions. All materials were translated into Cantonese, Vietnamese, and Korean for this project.

Recruitment

Recruitment of participants was done via fliers placed at strategic places frequented by persons of the targeted ethnic groups for this study as well as by word-of-mouth communication. These included the Chinese Information Service Center, a community-based organization in Seattle's international district for Cantonese participants; use of a social worker from a local community center for Vietnamese participants; and a Korean Catholic Church. Seven to nine participants were recruited for each group with the understanding that they would be expected to attend two sessions. Implementation of the group meetings was done at a UW office suite within the Seattle International District, a community center, and a church for Chinese, Vietnamese, and Korean participants, respectively.

Photovoice Sessions

During the first session, which lasted about 60 to 75 min, informed consent was obtained via IRB-approved translated consent forms. With the developed presentation materials, facilitators explained the Photovoice process and methods highlighting the following themes: (a) goals for the Healthy Heart project; (b) an introduction to Photovoice; (c) the power of photography, including privacy, ethics, and legal issues; (d) basics for using the camera and taking good pictures (including lighting, holding the camera steady, and composition); (e) and instructions for returning the camera for film development. It was emphasized that these photographs were to help "your voices be heard" requesting them to use photos to share their thoughts about heart health. Specific themes were explained with questions to help guide them, such as (a) Heart Health: What does it mean to have a healthy heart? What does this look like? (b) Supports of heart health: What helps your heart be healthy? What hurts your heart? and (c) Barriers to care and education: What gets in the way of having a healthy heart? Questions from participants were answered prior to closing the session. All sessions were conducted in the native language of the participants.

Participants were allowed approximately 10 days to take their photographs. They were asked to return the exposed cameras to a central location or the site of their Photovoice session. Research staff developed the film in each camera, made two hard copies of the photos, marked each with an identification number, and sent one set of photos back to the participants by mail. Participants were telephoned and asked to select their two favorite photos, provide a brief title, and prepare their thoughts on how the photos represented heart health to him or her.

The second session was structured to present the selected photographs to the group using a projector. The photographer of each picture was asked to explain why the photograph was selected (motivation), the story behind the photograph (contextualizing), and identification of any issues or themes that may have emerged (codifying). The entire group was then allowed to comment on the photograph. Facilitators led each group discussion similarly to a focus group in which the themes were highlighted, and input by all participants was encouraged.

RESULTS

Twenty-three adults participated in the Photovoice sessions, seven in the Chinese group, nine in the Vietnamese group, and seven in the Korean group (Table 1). Two individuals attended Session 1 but did not return for the second session (one each in the Chinese and Korean groups). The primary reason for dropping out was lack of time to participate. Participants ranged in age from 50 to 88 years with a mean of 71.6 (*SD* 8.4). Almost half (48%) were women. Although the majority of immigrants had been in the United States for 15 years or longer, there were several who had recently arrived within the past several years.

TABLE 1
Demographics of Older Asian Immigrants Participating in the Photovoice Cardiovascular Health Discussions

	Cantonese (n = *7*), no. (%)	*Korean* (n = *7*), no. (%)	*Vietnamese* (n = *9*), no. (%)	*Total* (N = *23*), no. (%)
Gender				
Men	4 (57.1)	3 (42.9)	4 (44.4)	12 (52.2)
Women	3 (42.9)	3 (57.1)	5 (55.6)	11 (47.8)
Age in years, *M* (*SD*)	75.1 (7.4)	63.7 (7.7)	75.0 (5.3)	71.6 (8.4)
Marital status				
Married	7 (100.0)	7 (100.0)	3 (33.3)	17 (73.9)
Single	0 (0.0)	0 (0.0)	4 (44.4)	4 (17.4)
Widowed	0 (0.0)	0 (0.0)	2 (22.2)	2 (8.7)
Years in United States				
<5	2 (28.6)	1 (14.3)	0 (0.0)	3 (13.0)
5-15	0 (0.0)	1 (14.3)	2 (22.2)	3 (13.0)
16-25	2 (28.6)	0 (0.0)	7 (77.8)	9 (39.1)
>25	3 (42.9)	5 (71.4)	0 (0.0)	8 (34.9)

The photographs stimulated conversations of knowledge, beliefs, and concerns regarding heart disease and stroke. The most common theme depicted across all groups involved dietary intake, both healthy and unhealthy for the heart. Pictures of fatty meat were taken by all ethnicities with the common message that this is not good for the heart or for people with high cholesterol. Participants of all groups were also aware that low-fat foods such as vegetables and fish were a better choice to eat as shown in pictures including one of collard greens and onions (Chinese), tomatoes (Chinese), a vegetable aisle at a grocery store (Vietnamese), and salmon (Korean). Two individuals mentioned sodium intake as being risky: a Korean man who noted that salty side dishes commonly eaten as a part of Korean meals and a Chinese man who commented that the lunches he had at the local community center did not taste very good (low fat, low salt, low sugar) but that he ate them anyway because they were healthy. Although food pictures were common in all sessions, it was clear that even in this area more information was needed. For example, a 71-year-old Chinese woman presented a picture of a food pyramid noting she liked it because it explained what she should be eating. Similarly, an 85-year-old Chinese man presented a picture of red rice stating that he believed it lowered cholesterol but wanted to learn more about it. Pictures of food demonstrated that word of mouth was the primary means by which information on health was received in these communities, and that other trusted media would be welcome.

Pictures showing scenes of physical activity were also portrayed in each ethnic group. Both Chinese and Vietnamese participants described walking stairs as being healthy for the heart. However, several unique perspectives were described. A Chinese woman explained that Tai Chi was a popular activity for Asians to get exercise; however, other activities were not often considered, such as walking stairs. An 80-year-old Chinese man noted that when weather was bad, he began walking on stones he had placed in a tray so that he could simultaneously get exercise and a foot massage which he considered critical to "prevent death". A 68-year-old Korean man displayed a picture of two persons in wheelchairs exercising outdoors and questioned why persons with two good feet did not follow suit. A 78-year-old Vietnamese woman described a picture of a playground noting that this was healthy for children, and that physical activity is important "so the blood can flow regularly."

Stress was the third theme presented in all three groups, although different perspectives emerged. Stress induced by "fear" or "anxiety" was presented by both Vietnamese and Chinese participants. Although a Vietnamese man showed dangerous traffic intersections stating that they caused panic, the Chinese participant showed men working on his roof and which caused him much anxiety thinking that his roof would collapse. He stated that being "anxious" is not good for the heart. A recent immigrant in the Korean group provided two examples of living conditions in his new country relating to stress that he felt promoted heart problems. He

explained his feeling that the speed at which Americans live was too fast, and he represented this with a photograph of speeding cars. A very touching scene unfolded when he presented a photograph of a lone seagull in a parking lot. He said that although he had moved to the United States for his children's education, he missed his old home and felt that the loneliness is not good for his heart. On the positive side, a Vietnamese woman described the need for good social support and how essential it was in helping the oldest old remain healthy. She showed a picture of a smiling 90-year-old woman with her daughter, who provided her care. A Korean woman also showed pictures of her friends mountain hiking and stated that the camaraderie and exercise both contributed to heart health. Another Korean woman, age 80 years, similarly expressed how good emotions benefited the heart by showing a picture that her granddaughter had drawn for her that made her feel happy.

A number of the discussions surrounding the photographs gave rise to specific cultural beliefs that individuals held regarding heart health. Within the Chinese session, a man noted that vinegar is very healthy because it "kills germs and helps digest fat in our body." Another participant in that same group believed red rice reduced cholesterol, and a third praised the health qualities of tea, an important part of Chinese culture, for which evidence of beneficial effects is accumulating. A Korean man spoke of the negative impact of meat in terms of the time that it remained in one's system, stating that it was "1 week for pork, 2 weeks for beef, and 10 days for chicken." A Korean woman described seafood as being "blessed by the Creator" describing references to seafood throughout the Bible. This brought up spiritual relationships that may be associated with some foods. Only one person brought up medications as a problem with older adults, showing a picture of an Asian pharmacy and stating that it was important to stay healthy and not take so many medications. In addition, one Chinese participant brought up the economics of eating vegetarian, explaining that the tomatoes in his picture were "cheap." These pictures of cultural beliefs usually initiated much discussion from group members as others spoke of their own perspectives on the food or activity depicted in the photos. Sessions closed on a positive note, with participants requesting more information on hypertension, diabetes, and cardiovascular disease, preferably in their native language.

DISCUSSION

To date, Photovoice or related photographic research methods (e.g., photo novella) have been used with older adults in the United States for studies of the experience of chronic pain (Baker & Wang, 2006); leisure behaviors of older women living with HIV/AIDS (Gosselink & Myllykangas, 2007); environmental facilitators of and barriers to walking (Lockett, Willis, & Edwards, 2005); elderly, community-dwelling women following hospital discharge (LeClerc, Wells, Craig, & Wilson, 2002); and housing, health, and personal needs of low-income African American elderly women (Killion & Wang, 2000). These studies highlight the strength of using this method with underserved older adults, giving voice to underrepresented populations and issues, and prove feasible and acceptable to research study participants. This is the first study to our knowledge to explore using photographs to explore issues related to heart health among older Asian American immigrants.

In our review of the literature of cardiovascular disease in Asian immigrants, we did find some studies reporting quantitative information that was suggested by our photographs. A recent study of knowledge, beliefs, and behaviors about blood pressure control in 455 middle-aged Korean American hypertensives found gender differences for clinical characteristics and antihypertensive medication use, with women more likely than men to have controlled blood pressure (Han et al., 2007). More than half were receiving antihypertensive therapy, and less than one third had controlled blood pressure. One fourth of participants identified cutting down on salt as the most important behavioral factor for controlling blood pressure, with exercise and medication identified as the next most significant behavioral factors. It is not surprising that these findings differed from our study of older Korean Americans who were not exclusively hypertensive. In our discussion groups, sodium intake was identified by 2 or the 23 participants as important to control for a healthy cardiovascular lifestyle. In addition, we did not see differences of themes by gender although the sample size in our study sessions was small.

Several other studies with Vietnamese middle-aged adults had larger samples. Duong and colleagues surveyed 200 Vietnamese Americans in a rural Gulf Coast community. Participants believed that hypertension was inherited, it presented symptoms, was caused by stress and lack of daily exercise, and had no cure (Duong, Bohannon, & Ross, 2001). They also found that of the factors correlated with high blood pressure, knowledge as measured by a total score was the most significant predictor. A related study with a similar population found that 29% had a very low level of knowledge about cardiovascular health risks, and almost half did not see a doctor annually (Ross, Duong, Wiggins, & Daniels, 2000). Another study of an urban

Vietnamese community in Philadelphia found that although awareness of hypertension was higher than expected, it was low for heart disease awareness, understanding of the cause and primary prevention of CVD, and health care utilization (Pham, Rosenthal, & Diamond, 1999). Participants held the belief that Western medicine is "stronger, faster, and curative" whereas folk medicine is "weaker, slower, but preventive." Our immigrant groups, overall, were interested in receiving more information from allopathic medical sources although they held firmly to some of their cultural beliefs regarding heart disease.

Surprisingly, no studies were available regarding older Chinese Americans' attitudes and knowledge about CVD, although some research has been conducted with Chinese Canadians with mixed findings. A survey of Cantonese- and Mandarin-speaking adults who had been in Canada for less than 10 years found relatively low awareness of the warning symptoms for common cardiovascular emergency situations (Chow, Chu, Tu, & Moe, 2008). In another study, interviews on management of CVD risk with 15 Chinese immigrants demonstrated incredible diligence in seeking multiple sources of information to better enable them to manage their health (King, LeBlanc, Carr, & Quan, 2007). As noted above, this latter theme was suggested by Chinese participants in our study.

This study has several strengths and weaknesses to be considered. The primary advantage of using the Photovoice method is to replace words for initiating discussion with visual images not dependent on language. This was obviously a success in our sessions as these limited–English-speaking participants enthusiastically undertook the task of portraying their ideas of heart health with photographs. Another strength concerned the traditional gender disparities that sometimes emerge in focus groups; this did not occur here as each individual was given equal opportunity to present and explain his or her picture selections and allowed to comment on pictures and ideas of others. The photos provided an excellent stimulus for discussion and aided the facilitator in delving deeper into some of the issues that were depicted. Several limitations existed, including the use of low-technology disposable cameras. Several participants told us the photos would have been much better had they been allowed to use their own digital cameras. Several others found the camera's manual winding mechanism to be confusing. Another issue in these sessions involved the abstract theme of this Photovoice study on heart health; more concrete topics may have been easier for participants to visualize. And although we had discussed ethics and the need to obtain written permission from subjects if identifiable features were captured in a photo (plus providing a form for this), it was generally not done.

Our experience with Photovoice has led us to reflect on ways to not only improve data collection for research but to increase the impact that this methodology may have on our target population. It was obvious that study participants enjoyed these Photovoice sessions and would have liked to have them continue. It would have been quite possible to extend these sessions into an interactive educational process to not only gather more information on beliefs, but to provide feedback on how healthy habits can be incorporated into their lives building on these beliefs. For example, the economical aspect of food, that is, cost, was discussed at one session. A follow-up to this knowledge might be an educational class offered to the community on low-cost healthy foods and low-salt alternatives for preparing them. In this way, an exchange of ideas can lead to dissemination of knowledge on topics brought up by participants. Photographs can continue to be a part of the sessions, that is, a closing session for the previous topic might include photographs of the foods that each had cooked based on the educational class. These and other ideas may be useful in further developing Photovoice into a positive and effective means of improving the health of these and other disparate communities based on input provided from their cultural context.

Healthy People 2010 exemplifies recent national attention to eliminate racial and ethnic and other health disparities when setting a national public health agenda (U.S. Department of Health and Human Services, 2000). Given these goals, it is important for public health professionals to be inclusive of vulnerable populations whose health issues are traditionally not addressed in the public health arena (Kirschstein & Ruffin, 2001). CVD prevention and treatment can be particularly amenable to public health promotion efforts given the various modifiable risk factors that are known to contribute to this disease (i.e., high blood pressure, high cholesterol, cigarette smoking, poor diet, and physical inactivity; National Heart, Lung, and Blood Institute, 2000). It is clear that cultural beliefs such as those elucidated in this study need to be addressed for culturally appropriate public health programs to succeed among ethnic minorities.

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