Community Health Screening and Quality of Life of Elderly Chinese Living in St. Louis

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Abstract

Community health screenings provide both health care services and social networking opportunities among Chinese elders, and thus, affect their health-related quality of life. Older Chinese participants at a free monthly health screening hosted by Health Protection and Education Services were asked to explain why they visit health screenings and how do health screenings affect their health and social needs. Results show that free community health screenings are likely to lead to better quality of life in older Chinese attendees by reducing healthcare barriers, helping attendees to monitor their chronic conditions, and allowing them to strengthen their social connections.

Keywords: health screening; Chinese residents; health monitoring; health care of ethnic minorities

Asian Americans are less likely to have insurance, less willing to visit a physician and receive lower quality of health services compared to Hispanic white populations. [1-5] Difficulty accessing health care services is associated with four major barriers: financial, mobility, communication and cultural attitudes.[1]

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Financial Barriers

Financial barriers are associated with lack of health insurance and consequent expensive out-of-pocket payment for care. Asian Americans without health insurance generally forgo regular physical checkups, and thus don't realize their health condition and potential for diseases. Even when they purchase insurance, high co-payments and costs of prescription medications are more expensive than they believe they could afford[1].

Mobility Barriers

Mobility barriers occur due to difficulties associated with transportation. Many Asian elders do not drive and using public transportation such as buses requires a degree of English proficiency[1]. They have to rely on friends and family for transportation to health services.

Language Barriers

English proficiency and health literacy are essential for Asian Americans to communicate with healthcare providers. Even with a good command of English, many Asian Americans find it difficult to understand a physician's instructions and prescription labels[1]. Adults with limited English proficiency and their children are much less likely to have primary care physicians, fewer physician visits, and receive less preventative care such as cholesterol testing, than native English speakers. [1-6]

Cultural Barriers

"An individual's perspective on illness, health, health beliefs, and health practice is shaped by cultural and community context".[6] Health care choices are determined by the beliefs and perceptions of health management and the causes of illness. Most immigrants obtained early knowledge of health and medications from their family. In spite of assimilation and acculturation, patients often move towards treatment based on the cultural ideas and beliefs they

learned early in life [7]. First generation Chinese immigrants have the highest prevalence of complementary and alternative medicine (CAM) use among all Asian American subgroups.[8] Older Asian Americans are less compliant to routine doctor visits and cancer screenings and are at higher risks of cancer because they perceive routine cancer screenings as "a response to a specific symptom, rather than tests that are used prior to the development of symptoms".[2, 3] In addition to health beliefs, other cultural variables such as religion, region of origin, and length of residence are also significant in predicting health variations.[8] Previous research indicates that most respondents prefer taking western medicines when ill because they quickly reduce symptoms. Overall, though, their perceptions of medicine, the nature of sickness and of human body were heavily influenced by traditional Chinese culture and Traditional Chinese Medicine (TCM). With these differences in health beliefs, they can have difficulty communicating with doctors trained in the western biomedical model [7].

Due to these four barriers, some foreign-born Chinese populations travel back to China for medical services. Previous research that focused on the Chinese population in St. Louis MO established that respondents who hold a visitor or scholar visa are more likely to travel back to China for medical services than respondents who are permanent residents or citizens in United States [7]. One explanation is that temporary visa holders usually travel more frequently between China and the United States to visit family or renew their visas. Lee finds similar health seeking behaviors among Korean immigrants due to language and cultural barriers [9]. She concluded that Korean immigrants believed they could receive not only effective but "affective" care, in Korea, which contains trust and familiarly that promote feelings of well-being [9].

Past research focused on health-seeking behaviors of older Chinese people (50 years or older) living in St. Louis [7]. Results were consistent with Lee's overall findings regarding

financial, communication and cultural attitudes barriers. In addition, many respondents interpreted health screenings as a means of self-assessment and self-monitoring in lieu of seeing a physician. They indicated they prefer visiting free health fairs in the community rather than visiting doctor's offices. Reasons frequently mentioned by respondents for visiting health fairs include no fees, no appointments needed and presence of interpreters[7]. Other studies suggested that self-care orientation, interpersonal influences, and accessibility affect individuals' willingness of health fair participation [10].

Community health screenings are designed to identify individual health risks and promote early diagnosis and treatment, slow progression of disease, and educate the general public about prevention of disease.[6] Free community health fairs sponsored by non-profit organizations and religious associations provide free lab, tests, and medical interpretations to immigrants and remove the barriers of transportation, language and financing. These health fairs are sources of healthcare information for immigrants. Having a source of care is associated with better access to the general health care system, better control of chronic conditions, an increase in patients' satisfaction with care and an increase in the use of preventive care[11].

There are several health screenings hosted in the St. Louis MO area that target Asian populations, especially the Chinese population. Health Protection and Education Service (HPES) hosts one of the largest health screenings in this area. Physicians, nurses, dentists and other professional health care providers offer free lab testing on the third Saturday of each month at the city library in University City. This location is conveniently located to the two largest senior residence facilities for Chinese elders. In addition to HPES, medical school students collaborate with a church serving a large Chinese population to offer free health clinics each month. Physical exams and lab tests provided in these free health screenings usually include measuring blood

glucose, blood pressure, pulse, cholesterol, skin inspection, hemoglobin, EKG, hearing, vision and eye pressure, BMI, stool and urine. Other services provided at free health fairs and clinics include insurance counseling, referral assistances and free prescriptions to patients.

HEALTH-RELATED QUALITY OF LIFE

The definition of *quality of life* is complex because individuals' foundations of culture, personal values, and current social status will affect their perspectives. The perceptions of health-related quality of life likely vary in different populations. Studies of populations with different cultural backgrounds and health status consistently show that gender, social support and economic conditions are significantly associated with health related quality of life. [10,12-15]

Health related quality of life (HRoQL) is a broad, multidimensional measure that consists of physical, mental, emotional and social functioning. On the individual level, this concept also includes "health risks and conditions, functional status, social support, and socioeconomic status."[16] Self-assessed health status is also a more powerful predictor of mortality and morbidity than many objective measures of health.[8] Perceived physical and mental health conditions have become important components of health surveillance and are generally considered valid indicators of service needs and intervention outcomes. [16]

Differences in self-perceived health related quality of life are found by gender. For example, Asian men tend to report higher quality of life than women despite poorer health behaviors, older age, and more adverse health outcomes. This phenomenon may be explained by the different perception of socialization between women and men. Since men report more close friends compared to women, they may have more social support and thus, are express more satisfaction in life.[13]

Physical health is an important determinant of health related quality of life. Presence of co-morbidities associates with low quality of life. Patients with co-morbidities are required to take more medications and are at higher risk for drug-drug interactions, adverse effects and drug-disease interactions. Such interactions and adverse effects may discourage patients from adhering to their medication therapies, thereby worsening their health status.[12] The general processes of aging also are considered to have negative effects on both physical and mental dimension of quality of life due to reduction of physical function.[10]

Research has consistently found that social support has positive effects on physical and mental dimensions of health related quality of life.[10,12-15] Poor social support is associated with diminished physical functions among elders with chronic conditions such as cancer and visual impairments.[12,15] In Asian culture, most elders live in extend family structures with deeply rooted family ties. Friends and family support help elders overcome barriers to self-care. Patients with social support are more likely to have better physical function, fewer role limitations, and a greater sense of independence. In addition, social support helps patients to adapt to lives with chronic disease, which may result in better self-reported quality of life. [12]

The overall task of the larger project, from which this report is generated, is to examine effects upon health-related quality of life associated with public health screenings targeting a specific immigrant ethnic group.

THE RESEARCH PROBLEM

Health fair participation is associated with better overall health [17]. Ness suggested that elders who obtained information on fall-risk at community health fairs had fewer falls. If they were identified as high risk for falls at the health fair, they are more likely to change their behaviors. [18] Free health fairs are also social occasions for participants to communicate and bond

with people with similar social backgrounds. Respondents attended screenings with their friends and family and shared a social experience [7]. Factors of accessibility to these health fairs include convenience, location and cultural and linguistic appropriateness, which are strong motivators for participants.[19]

Chinese immigrants constitute the largest group of foreign-born Asians living in the United States[1]. However, knowledge of their health-seeking behaviors and health needs is limited. Understanding immigrants' motivators, expectations and experiences associated with use of health screenings would improve insights into health promoting behaviors, strengthen health screening programs, and better address underserved populations' health needs.

Since community health screenings provide both health care services and social networking opportunities among Chinese elders, it would be interesting to explore the direct and indirect effects of these screenings on the health-related quality of life of participants. The goals would be to provide additional insight into their health-seeking behaviors and stimulate improvements of screening services. Thus, the intent of this research is to examine the relationship(s) between the use of free health screenings by foreign-born Chinese and their social and health-related aspects of quality of life. This research has three questions to answer:

1. Why do Chinese elders go to free community health screenings?
2. Are community health screenings related to Chinese elders' quality of life?
3. Do community health screenings respond to social and health needs of older Chinese patients?

METHOD

Respondents to this research are older foreign born Chinese living in St. Louis (≥50 years old) and have lived in United States for a least 3 months and participated in at least one public

health screening. Approximately 60 people visit the HPES community screening every month. This project was assigned to a station in the health screening area. As attendees passed through this station, they were asked to respond to a (structured) survey. Respondents are given surveys written in Chinese at the screenings from February through September 2016. The first part of the survey accesses quality of life of respondents (Appendix A- quality of life assessment) and the second part assesses their use of health screenings (Appendix B- screening location assessment). The second part of the survey will provide information on patients' expectations on health screenings to the program sponsors and directors. All responses are anonymous as there is no way to link respondents' identities with their specific responses to the survey.

Figure 1. Demographic values: age, gender, social class, income, living arrangements

Independent variables		**Dependent variables**
Health service access	Health screening participation	Health-related quality of life
-Immigration status -Health insurance -Use of paid healthcare services -English proficiency -Social support -Transportation	-Use of health screening -Satisfaction with screening services -Interests in networking -Activities at the screenings -Tests and services interested	-Self-perceived health -Physical health: -Psychological well-being -Medical needs -Current medication -Current medical conditions

All survey paper and information provided by participants has been kept confidential in a locked file cabinet with access only to the two researchers on this project. It will be impossible to identify patients with their responses to the survey. These materials and information have been filed with no individualized/ identifiable information for analysis and presentation and/or

publication. The St. Louis College of Pharmacy IRB has reviewed this protocol on February 12, 2016 and determined it to be "Exempt from IRB review".

The measure of health fair participation is based on the frequency of health fair visits. The measure of subjective health status is based on subjects' responses to whether health is excellent, very good, good, fair, or poor. The measure of objective health status include their responses to the number of chronic conditions diagnosed at the time they completed the survey, the number of physical difficulties they experience in every-day life, and the number of mental difficulties and satisfactions experienced in their every-day life. The level of socializing includes questions that asked whether respondents traveled to the screening with others, would stay after finishing all screening tests to socialize; ate at the food station, would wait for friends, and whether they visit health screening in order to meet other Chinese people. Information obtained *via* the surveys was sorted into 3 categories: health service access, use of health screenings, and health-related quality of life (Figure 1).

Data collected was entered into and analyzed by using SPSS® software application. Cross tabulation has been used to examine the relationships between respondents' self-perceived health conditions, socialization behaviors and their participation at health screenings. Frequency statistics have been used to examine reasons for health fair visits. The small number of respondents (N=30) limits the application of higher order multi-variant statistical analysis.

RESULTS

A total of 30 respondents, consist of 43% male and 57% female, responded to surveys from February to September 2016. All respondents are above 50 years old with an average age of 67 years old. Most respondents hold green cards (75%). About 63% respondents live in senior apartments. And two-thirds respondents who live in senior apartments are female. A majority of

respondents (80%) disagree that they can speak, understand or read English. More than 90% of respondents report they have sufficient financial resources for daily expenses. Almost most 40% of respondents report they have no medical insurance in China or in U.S. Only 30% of respondents have medical insurance in U.S. and half of the respondents are not willing to pay out-of-pocket for regular check-up.

Blood tests such as hemoglobin, cholesterol tests and blood sugar tests have the highest demands among Chinese elders, followed by EKG, hearing tests and vision tests as shown by Table 1. On the other hand, hypertension and hyperlipidemia are the most common diagnosis among respondents (Table 2).

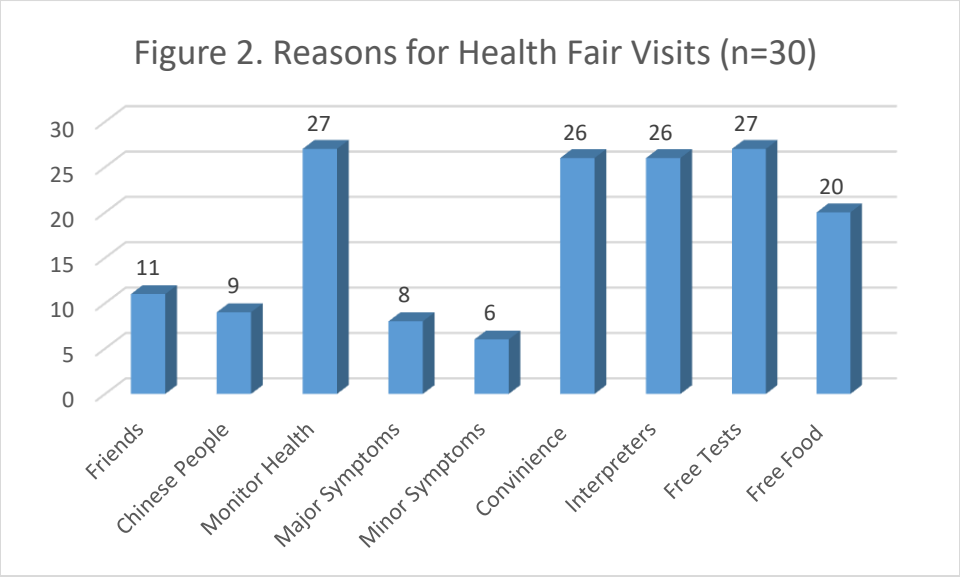
Tests interested	Frequency
Blood tests	23
EKG	18
Hearing test	17
Vision tests	13
Physician counseling	13
Blood Pressure	12
Dental exam	12
Urine tests	12
BMI	11
Mental health	10
Insurance	9
Referral	9
Pharmacist counseling	9
Breast cancer screening	8
all tests	8
Dermatology	7
LFT	7
Joints	3
Fecal tests	2

Table 1. Tests interested

Diagnosis	Frequency
HTN	9
Hyperlipidemia	8
Joint pain	5
Heart disease	5
eye disease	5
lung disease	4
No disease	4
Diabetes	4
dental disease	3
Obesity	2
Dermatologic condition	2
Allergies	2
Thyroid disorders	2
Gout	1
Liver diseases	1
Cancer	1
Neuropathy	1
hearing disease	1
BPH	1
Muscle pain	1

Table 2. Current Diagnosis

Respondents indicate that they visit health screenings for free tests (27 out of 30), presence of interpreters (26 out of 30), and convenience (26 out of 30). Only a few respondents (6 out of 30 and 8 out of 30) reported that they visit health screenings for minor symptoms such as headache or major symptoms such as chest pain.



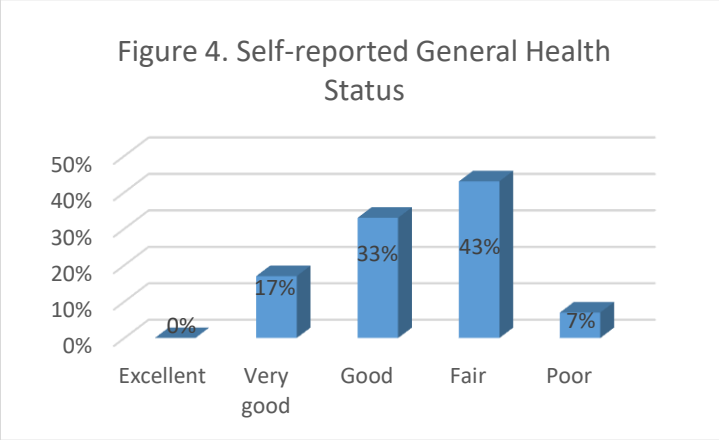
Quality of life indicators in this study include self-reported general health, physical health, mental health, and social behaviors. Table 3 below shows the average numbers of chronic conditions, physical difficulties, poor mental health conditions and social behaviors reported.

Figure 3. Quality of Life Indicators Summary

Quality of Life Indicators	Maximum	Mean	Std. Deviation
Total number of chronic conditions reported	5	2	1.363
Total number of physical difficulties reported	1	0	0.479
Total number of poor mental health conditions reported	3	1	1.177
Total number of social behaviors reported	6	3	1.502

Health fair participants report an average of 2 chronic conditions, 0 physical difficulty, 1 poor mental health condition, and 3 social behaviors.

When asked for their general health status, a majority of respondents reported “fair” (43%) or “good” (33%) health (figure 4). Only a few respondents believed they had “very good health” (17%). And no respondents reported “excellent” health.



Most respondents reported at least one diagnosed chronic health condition. Overall, there are no gender differences. However, more female (6 out of 7) than male respondents reported two chronic conditions and more male than female respondents reported four chronic diseases (4 out of 4).

More than one-half of respondents (67%) reported no physical difficulties and all respondents have only one physical difficulty or less. There are no differences between male and female respondents. Physical difficulties are defined as “much difficulty taking medications”, “much difficulty shopping for groceries”, “much difficulty doing light housework such as washing dishes”, “much difficulty doing heavy housework” and “much difficulty sleeping well at night”.

Respondents indicate various levels of mental health conditions. Almost 60% of respondents reported at least one poor mental health conditions, such as “rarely or never look forward to my daily activities”, “rarely or never have close friends”, believing that “I must be careful most of the time so people won’t cheat me”, “feeling insecure” most of the time. More female than male respondents reported two or three poor mental health conditions (4 out of 5 and 4 out of 6, respectively).

Social behaviors in this study include coming to health fairs because my friends want to come, waiting for friends after done with screenings, staying to talk to people after done with screenings, checking out the food station at the health fair. About 40% of respondents indicated two social behaviors. And only one respondent did not report any social behaviors. Overall, there are no differences of social behaviors noticed between genders although more female than male respondents reported 4 chronic conditions (4 out of 5).

DISCUSSION

Why do Older Chinese People Visit Free Health Screenings?

Health screenings seem to reduce financial barriers and language barriers and thus increase healthcare access. Most Chinese elder visit free health screenings mainly due to free tests, no appointments needed and presence of interpreters. Another main reason to visit health screenings indicated by respondents is to monitor chronic conditions rather than treating current acute symptoms or meeting new people. This finding is inconsistent with a study that collected data at health screenings hosted at a Chinese church in St. Louis[7], which suggested that health fair participants went to health screenings in order to socialize and network with other Chinese elders in the community. Such difference may be due to different sponsors of the health screenings. Participants at health fairs hosted by religious groups tend to be members of the group; they have

been bonding though frequent church activities. In this case, they tend to consider health fairs as a church event, which encourages meeting new people and interacting with church members. Participants at health fairs that are hosted by professional health organizations, on the other hand, are more diverse. They have different cultural backgrounds and speak various languages. And thus, they do not consider health screenings as social occasions and tend to focus more on health services rather than socializing with other participants because they are not familiar with.

Do Health Fair visits Associate With Good Quality of Life?

The relationship between frequency of health screening visits and self-reported general health is not significant ($p= 0.158$). Most respondents report good or poor general health despite they have various chronic condition levels. No respondents indicate excellent self-perceived health. This may be due to "Doctrine of the Mean" by Confucius, which suggests "the virtues of balance, moderation and appropriateness and one should take the neutral and plain position". (The Oxford Handbook of Process Philosophy and Organization Studies by Jenny Helin et. all) Foreign-born Chinese elders are more likely to be influenced by traditional Confucius belief and avoid extremes. And thus, they tend to choose "good" or "fair" health, which are the two intermediate choices given on the survey. Although there is no significant relationship between frequency of health fair visits and self-reported general health, most health fair attendees seem to have good self-perceived physical health regardless of various levels of medical conditions. A majority of respondents reported no physical difficulties even though many of them suffer from at least one chronic condition (26 out of 30). One explanation is that respondents are able to monitor their health by attending health fairs and thus, they learn how to manage their chronic conditions and how well they control their chronic conditions. If respondents learn that their

conditions were well controlled at the screenings, they are likely to report good quality of life even though they are diagnosed with chronic conditions.

Do Community Health Screenings Affect Social and Health Needs of Chinese Older Patients?

Community health screenings meet patients' health needs by reducing health care barriers and allowing attendees to monitor their health status. Respondents tend to take tests that are relevant to their diagnosed chronic conditions. For example, patients who are diagnosed as diabetes are interested in blood tests. Blood test is the most demanded test because it could be used to detect and monitor multiple chronic conditions such as hyperlipidemia, diabetes and cardiovascular diseases. One apparent inconsistency is blood pressure exam. Although hypertension is reported as the most frequent chronic conditions, interests of blood pressure screening is ranked as 9^{th}. This inconsistency may be due to these patients would measure their blood pressure at home and thus, they do not believe it is necessary to do the same test at health screening. This phenomenon further suggests that attendees of health screenings are likely to monitor their chronic conditions.

Attendees do not tend to go to free health screenings when they have acute symptoms. If they have minor symptoms, they will usually self-treat. If they have major symptoms, more than half of respondents will usually go to doctor's offices or hospital. These results are consistent with Chinese elders at health fairs sponsored by Chinese Church[7]. Foreign-born Chinese population are largely affected by financial barriers and tend to avoid using health care services unless absolute necessary (me). In order to avoid large costs of treatments, physician's visits and regular check-ups, they would self-treat minor symptoms and monitor chronic conditions at community health screenings.

Free health screenings in community also seem to strengthen participants' existed friendships rather than developing new relationships. Most respondents are found to come to health fairs with spouses or friends and indicate one social behavior at health fairs. In group effects may explain this phenomenon. Immigrants tend to "maintain and develop in-group contact and interactions and express in group-favoritism in order to share their own cultural elements."[20] In this case, respondents tend to interact with friends and family at the health fairs rather than meeting new people. In this case, health fairs encourages interactions among attendees and their friends and thus strengthen existed social bonds and affect positively on the social aspect of their quality of life. This finding is consistent with Kim's study of Korean immigrants.

CONCLUSION

To conclude, free community health screenings are likely to lead to better quality of life in older Chinese attendees be reducing healthcare barriers, helping attendees to monitor their chronic conditions, and allowing them to strengthen their social connections. This project could be further developed by increasing sample size and repeating the study in other ethnic groups.

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