

Promoting Healthy Seafood Choices In Asian Communities



Susan Buchanan, MD, MPH



Mary Turyk, PhD, MPH

The University of Illinois at Chicago

Project Overview

- Characterize exposure to Hg and PCBs from fish consumption among Asians in Chicago
- Develop public health messages to decrease exposure to contaminants while maintaining consumption of healthy nutrients in fish



Epidemiology of Exposure to MeHg among Asians

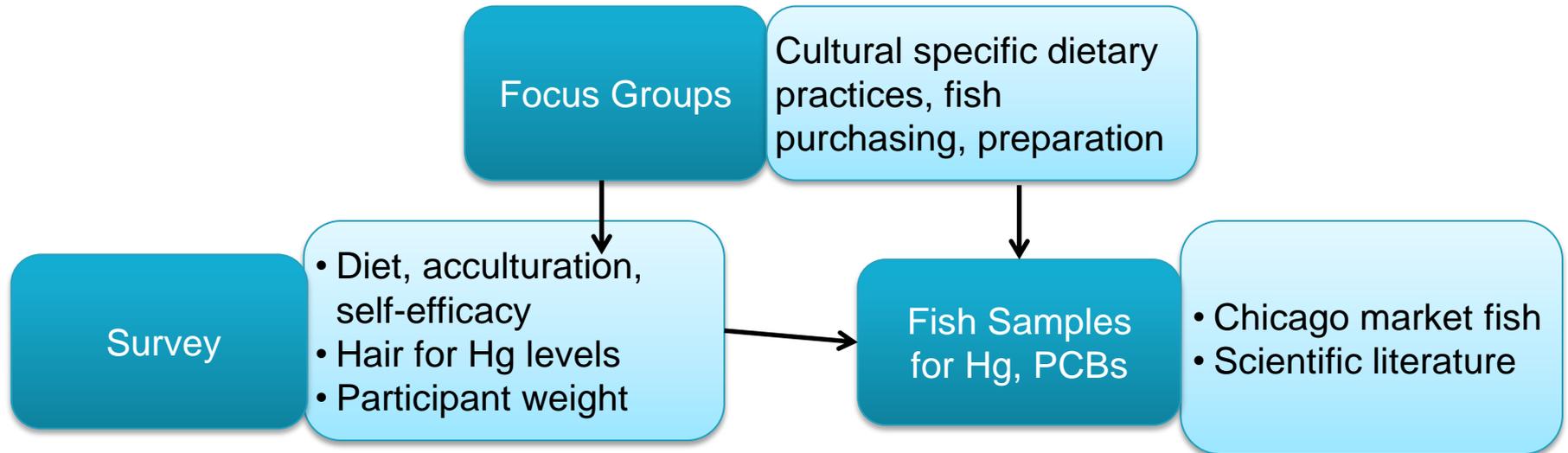
STUDY LOCATION	ETHNIC GROUP	AGE (yrs)	GENDER	N	HAIR Hg (µg/gm) Geo. Mean (95% CI)	BLOOD Hg (µg/L) Geo. Mean (95% CI)	% WITH ELEVATED Hg
Chicago	Asian or PI	≥18	Both	71	0.58 (0.44, 0.76)		28%
	Asian or PI	18-44	Female	14	0.65 (0.40, 1.06)		29%
Seattle (Tsuchiya)	Japanese/Korean	18-45	Female	214	0.86 (0.72, 1.00)		33%
New York City (McKelvey)	Asian	≥20	Both	231		4.11 (3.24, 5.21)	46%
NHANES 2011-2012	Asian	18-44	Female	191		1.69 (1.32, 2.16)	12%
	Asian	≥18	Both	729		2.20 (1.84, 2.65)	19%
	Non-Asian	18-44	Female	1049		0.65 (0.56, 0.75)	2%
	Non-Asian	≥18	Both	4582		0.81 (0.71, 0.92)	3%

Cultural aspects of fish consumption

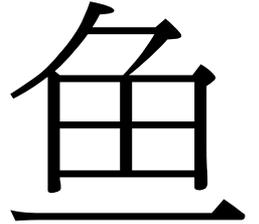
- Frequency
- Species
- Where fish is obtained
- Parts of fish consumed
- Types of preparation
- Special occasions/holidays when fish consumption frequency or species of fish consumed is increased



Aim 1: Community Assessment



Focus Group Themes



- Frequency of seafood consumption varies
 - 2-3 times/month to 2/day
- Eat many species of fish and shellfish
- Eat many fish parts: head, eye, maw, roe, skin, whole fish, bones
- Diverse cooking methods, may differ by region of birth
- Obtain seafood from Asian markets, supermarkets and by sport fishing
- Decisions about types of seafood purchased are made by self, spouses, parents and children

Quotes from Chinese Focus Group

“Cantonese believe crab is not good for (baby’s) skin. However, when I got pregnant with my daughter, I liked eating the crab the best. My father-in-law steamed a plate (of crab) for me every week. And my daughter looks so beautiful.”

“I think pregnant women could have lobster and crab, but not too much. I did the research and it suggested to avoid tuna during pregnancy. Eating tuna will affect baby’s nervous system.”

“I suggest don’t eat raw fish (during pregnancy) for the concerns of parasitic infections that will pass on to the baby, and also heavy metals. It (is) reported that there is a high level of uranium in the Great Lakes, Lake Michigan.”

Aim 1: Community Survey

Target population

- adults ≥ 18 yr, predominantly reproductive age women
- Chinese, Korean, Vietnamese

Survey Domains

- Demographics and cultural/dietary acculturation
- Attitudes/knowledge of risks and benefits
- Fish consumption



Fish Directory

Promoting Health Seafood Choices in Asian Communities Fish Consumption
 在亚裔社区中推进健康的海产品选择河海鲜类的食用

110 types
 of fish and
 shellfish

	English Name	Chinese Name Korean Name Vietnamese Name	Picture of the fish	Picture of the fish dish
	鱼类 Fish			
1	Anchovies	凤尾鱼 앤초비 cá cơm		
2	Bass True basses & black basses Chilean sea bass is not included	鲈鱼 包括黑鲈, 海鲈, 条纹鲈等等 智利海鲈不属于此类 베이스 Bass		

Aim 1: Exposure Characterization

- Hair Mercury Testing
- Fish Contaminant Assessment
 - Hg, PCB, and omega-3 levels from lit and IL DNR
 -
 - Hg and PCB measurements in unusual fish species, fish tissues and fish preparations
 - *Hg: 200 tests*
 - *PCBs: 100 tests*



Aim 2: Intervention

5 Ways to Limit Mercury

1

Choose fish that are **lower in mercury**.

2

Don't eat fish that have the most mercury.

3

Eat **fewer – or smaller – servings** of fish.

4

Choose **smaller fish**.

5

Eat a **variety** of fish.



More Information

Environmental Protection Agency:
www.epa.gov/ost/fish

Food and Drug Administration:
www.cfsan.fda.gov or call the FDA's Food
Information Hotline toll-free at:
1-888-SAFEFOOD (1-888-723-3366)

New York State Fish Advisories:
[www.health.state.ny.us/environmental/
outdoors/fish/fish.htm](http://www.health.state.ny.us/environmental/outdoors/fish/fish.htm)

Call 311 or visit nyc.gov/health
for more copies of this brochure.



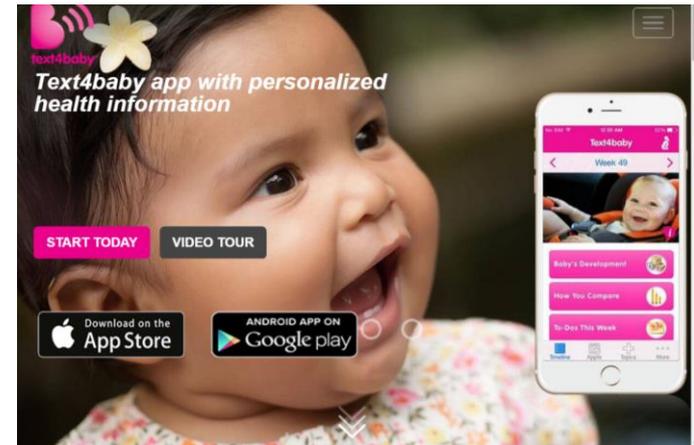
Eat Fish, Choose Wisely

Protect Against Mercury

A Guide for
Pregnant and Breastfeeding
Women and Young Children

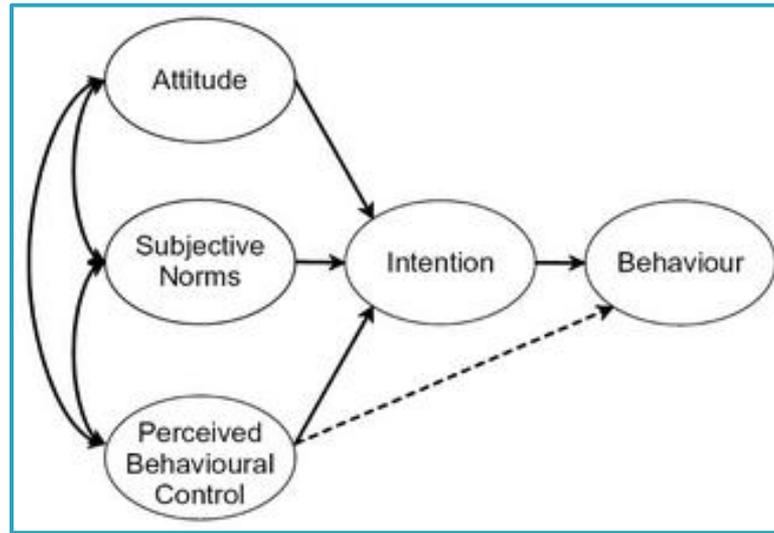
Aim 2: Intervention

- Text messages to promote healthy fish consumption



- Women of reproductive age
- Tailored to the individuals' dietary patterns and culturally-specific dietary practices

Intervention Based on Theory of Planned Behavior



Text messages will include:

- Reminders
- Tips
- Positive reinforcement
- Queries regarding satisfaction with the program

Aim 2: Intervention Design

Target Population

Women ages 18-45; Chinese, Korean or Vietnamese
Eat >2 fish meals/week

Intervention Group

N=150 from 10 randomized clusters

Control Group

N=150 from 10 randomized clusters

0 months

- Receive general information on healthy fish consumption
- Hair sample for Hg
- Survey on fish consumption, etc

Receive 3 texts/week

Receive 1 text/month re: non-fish related dietary advice

6-9 months

- Hair sample for Hg
- Survey

Hypothetical Community Profile for Hg and EPA/ DHA Intake from Fish

Species	% of community's total fish consumption	Hg (µg/kg)	% of community's total Hg intake	Allowable servings* (per EPA RfD)	% of community exceeding allowable servings	EPA & DHA (g/kg)*	% of total EPA & DHA intake
Crabs	25%	17	2%	≤5/wk	0%	3.6	5%
Salmon	20%	35	15%	≤5/wk	0%	15.9	68%
Bass	15%	105	29%	≤2/wk	3%	6.4	18%
Flatfish	40%	95	53%	≤2/wk	25%	1.5	9%

*Data from McKelvey 2010 and Mahaffey 2008

Community Partners



➤ Midwest Asian Health Association (MAHA)



- Located in Chinatown neighborhood of Chicago
- Mission: to reduce health disparities for AAPIs in the Midwest
- Community outreach education, health screening and immunization
- Research and policy advocacy
- ED: Dr. Hong Liu, co-Investigator

➤ Hanul Family Alliance (Hanul)



- Founded in 1987 as a Korean American senior center
- Now serves over 7,000 from multiple ethnicities
- The main office is located in Albany Park, Chicago
 - Suburban satellites in Mt. Prospect and Mundelein

➤ Vietnamese Association of Illinois (VAI)



- Facilitates resettlement and citizenship
- Builds community, helps those seeking employment, healthcare issues
- Raises political awareness, strengthens cultural heritage

➤ Chinese Mutual Aid Association (CMAA)



- Originally formed by ethnic Chinese immigrants from Vietnam
- Now also serves Filipino, Burmese, Ethiopians, and Russians
- After-school youth programs
- Adult education programs
 - ESL
 - Financial literacy
 - Computer skills



OUR MISSION

Chinese Mutual Aid Association (CMAA) is a community-based 501(c)(3) social service agency that serves low-income immigrants, refugees, people from all socioeconomic and ethnic backgrounds, all generations from youth to seniors, and people of all abilities.

OUR HISTORY

Community members who had adapted to American life counseled individuals with culture shock, helped families find housing, referred job seekers to employment opportunities, and translated information for those who had not yet acquired new language skills. These community-minded individuals joined together to start a social service agency.

In 1981, CMAA formalized its activities with government funding and was established as a non-profit organization. Since then, CMAA has evolved into a multi-faceted social service agency supported by the state and local government, foundations, corporations, and private individuals.



Bilingual Staff (Project coordinator, focus group facilitators, translators, field workers, CAB)

- Two RAs – Chinese grad students in public health
- Focus group facilitators - UIC graduate students (2 Mandarin Chinese speaking, 2 Korean speaking, and 2 Vietnamese speaking)



- Field Workers (MAHA, VAI, and Hanul)



Community Outreach Education

- Public health campaign led by MAHA to reach WORA and older adults.
- Design outreach tools including calendar, magnets, and posters.
- Media spots in Asian newspapers of fish consumption health messages.

Educational messages will be created for each ethnic community based on our findings in the community assessment

